Longitudinal and spatial perspectives on the mismatch of tertiary educated migrant workers in the Czech labour market: The case of Ukrainians

Ondřej VALENTA [a] [*], Dušan DRBOHLAV [a]

Abstract

The topic of an education-occupation mismatch of tertiary educated migrant workers in receiving countries is an important issue in contemporary research in international migration, especially in the context of growing international economic competition. In this article, we analyse the level of mismatch of tertiary educated migrant workers in the Czech labour market, with a particular focus on Ukrainian workers. Using a unique set of statistical data, several conclusions can be drawn from a longitudinal approach, as well as multiple regression analysis in order to identify possible determinants of the mismatch at a district level. First, the mismatch of tertiary educated migrants does exist and is growing over time. Second, it seems that the level of mismatch is higher in economically progressive districts with higher numbers of qualified domestic and foreign workers, which creates a higher level of competition in the labour market. As a result, a relatively higher share of tertiary educated migrant workers end up over-educated in professions they find in the secondary labour market in these districts. Using the example of Ukrainians, the progression of tertiary educated migrants into the Czech labour market over time faces rather limited vertical mobility, with a slight progression to more skilled occupations. This can be related to the complexity of factors from individual to institutional levels of analysis.

Keywords: educational mismatch, labour market, foreign employment, Ukrainians, Czech Republic

Article history: Received 28 March 2018, Accepted 8 November 2018, Published 31 December 2018

1. Introduction

International migration driven by economic motives dominates other types of migration. Both "pushes" and "pulls" in countries of origin and destination come into play. In fact, economic migration has been and remains an everyday experience of past, current, and likely future eras – in all parts of the world. While "from the late 19th to the early 21st century, skilled workers have been a major dynamic in migration" (Kuptsch, 2013, p. 2757), most international labour movements currently occur at the high and low ends of the employment spectrum.

Nevertheless, international migration of skilled workers gradually has gained more importance by being perceived as a facilitator of economic growth, promoting international competitiveness and innovation performance in destination countries (Saxenian, 2006; Cerna, 2016). Not all skilled human capital on the move is finally used. With the exception of a privileged class of top, highly educated and skilled expert migrant employees ("the best of the best") and very talented (but often also rich) entrepreneurs, some well-educated and skilled immigrants face a very difficult and rather unfriendly environment in the local labour markets of destination countries. Skilled immigrants enter different sectors of the host labour market and are forced to choose between different career paths (Liversage, 2009), often in low-status, low-paid, deskilled positions or unemployment (Man, 2004).

In this paper, we will draw upon the complicated environment for skilled immigrants entering host labour markets, as well as the currently scarce research aimed at the analysis of educational mismatch of migrant workers in the Czech labour market. The most relevant studies in this area are that of Leontiyeva (2012), which concluded that the risk of being over-educated grows with increasing levels of education, and of Valenta and Drbohlav (2018), which revealed different rates of educational mismatch across selected citizenship groups due to particular forms of integration strategies into the Czech labour market. We intend to provide insights into the group of migrant

[a] Department of Social Geography and Regional Development, Faculty of Science, Charles University in Prague, Czech Republic (*corresponding author: O. Valenta, e-mail: valenta1@natur.cuni.cz)

workers at the "highest risk", and examine the level of educational mismatch among tertiary educated (highly skilled) migrant workers in greater detail.

In particular, we will also focus on Ukrainian workers as representatives of traditional Eastern European migrant workers and, at the same time, the largest third-country citizenship group (see Section 2). Due to its size, the Ukrainian diaspora in the Czech Republic is composed of individuals with various educational and professional backgrounds and, as such, it represents an excellent "lab" for studying the education-occupation mismatch of tertiary educated migrant workers. Simultaneously, in comparison with other selected migrant workers' groups, Ukrainians face an even higher risk of being over-educated, resulting especially in their over-employment in a limited number of industries with prevailing lower skill level occupations (Valenta and Drbohlav, 2018). At the same time, we consider the spatial manifestation of the education-occupation mismatch to be an equally important issue, having significant implications on integration, social or regional development policies. Considering the extensive international research in this field, the spatial organisation of the mismatch has rarely been a subject of research inquiry.

For the first time, a unique set of anonymised individual data on foreign employment in the Czech Republic allows for a comprehensive analysis and assessment of the educational mismatch by adopting the following approaches:

i. a longitudinal approach, allowing us to assess migrants' different trajectories of labour market succession over time; and

ii. a macro-analytical perspective, dealing with aggregate characteristics of individual migrants in a broader structural environment, within particular region-specific differences.

Based on these approaches, our paper will seek answers to the following inquiries:

• we will verify the results of qualitative insights (e.g. Valenta, 2015; Leontiyeva, 2012) as to whether there is a mismatch between the migrant employees' attained (tertiary) and required education in their occupations in the Czech labour market, with a special focus on Ukrainian employees;

• we will test whether the trajectories of Ukrainian tertiary educated migrant workers in the Czech labour market developed over time follow the expectations of theoretical approaches derived from previous research; that is, whether Ukrainian workers eventually improve their position in the labour market and decrease their educational mismatch; and

• using a macro-level approach, we will test whether the level of educational mismatch at the regional level is associated with specific opportunities in regional labour markets and/or by other factors related to aggregate migrant characteristics.

After this introduction, we frame the topic with a description and explanation of the Czech migration 'reality', followed by a review of existing research on over-qualification and an outline of a relevant theoretical framework. A presentation of the sources of the statistical data is then followed by a description of the methodological approaches used here. A more general picture of educational attainment and the

employment of skilled foreign migrant workers in the Czech labour market follows, with a special focus on Ukrainian workers, providing a basis for the consequent assessment of the level of mismatch. The section focusing on a longitudinal approach provides further insights through an analysis of the individual progresses of skilled Ukrainian workers in the Czech labour market over time (between 2009–2016); subsequently, a multiple regression analysis of the mismatch (at the district level) seeks to identify its possible determinants. The findings are summarised and discussed in the concluding section of this article.

2. Czech migration context

In the Czech Republic, economic migration has always had a significant impact on the structure of the labour market and overall national economic performance after 1989. The Velvet Revolution, which occurred in the Czech Republic at the end of 1989, signalled the start of robust societal transition in the entire society. Since then, along with political, social and economic transformation, steady streams of international migration (with its emigration and immigration flows and stocks) appeared and started functioning. This was further reinforced by the rapid integration of the Czech Republic into "Western structures", after becoming a member of NATO, the European Union (EU) and entering into the Schengen Agreement. The Czech Republic gradually changed from an emigration and transit country to an immigration country (Drbohlav, 2011), and quickly acquired migratory patterns (in terms of its quantitative parameters, the conditionality of migration and the character of its migration policies and practices) resembling those typical of many advanced immigration countries (Drbohlav, 2002).

In a broader comparative perspective, the Czech Republic represents an exception within the post-socialist countries of Central and Eastern Europe due to its low emigration but mainly massive immigration stock (in absolute terms). The numbers of immigrants have been increasing over time, reaching some 78,000 in 1993, 240,000 in 2003, 439,000 in 2013 and 524,000 in 2017 (in 2017, 42% came from the EU and males represented 56%). Two main migratory types have dominated: economic migration and migration based on family ties. By contrast, for example, asylum seeker/refugee inflows have always been marginal. Despite many challenges, the Czech Republic has developed probably the most systematic way of migration and integration management (including involvement of the non-governmental sector): for further details, see Drbohlav et al., 2010; Drbohlav, 2012; Górny, 2017.

The increasing number of international migrants in the Czech Republic, and the growth of their diversity in terms of their citizenship and integration practices, have resulted in a wide range of different forms of integration into the Czech labour market. It is shaped by individuals' and migrant groups' efforts as well as by the dynamics of specific economic developments in the Czech Republic, captured in this article by the selected time-period (2009–2016)[1].

The most numerous immigrant group has been Ukrainians (117,000 in 2017), followed by Slovaks (112,000), Vietnamese (60,000) and Russians (37,000) (Czech Statistical Office, 2018). It is not at all by accident that Ukrainians

---

[1] The Czech economy was heavily impacted by the 2009 global economic crisis. This period was followed by a slight recovery leading to robust economic progress in 2013 – continuing through 2016, and beyond.

dominate over other immigrants in the Czech Republic. First, there is a long tradition of Czech-Ukrainian relations dating back to the Austro-Hungarian Monarchy. There are, however, other important "pushes" that attract Ukrainians to the Czech Republic; these are common Slavic roots and culture, similar language and geographical proximity. The pushes were further reinforced by a rather unstable social and economic context in the Ukraine, a very low standard of living, high prices and a lack of well-paid jobs. The pushes have been complemented by "pulls" – a strong demand for a cheap and flexible (and mainly low-skilled) labour force in the Czech labour market (Drbohlav and Valenta, 2014a). Hence, Ukrainians came and worked mostly as employees in the secondary labour market, predominantly in construction, services or agriculture, while chiefly taking unskilled, low paid, labour-intensive and not intellectually demanding jobs.

3. Theoretical framework

The concept of over-education is closely connected to the more general term over-qualification. In ORU[2], however, these concepts are ambiguously defined. For the purposes of this article, the term can – in a simplified way – be defined as a state in which an individual possesses a higher level of education than is required by their job position, or requirements connected with acquiring a new job (Koutná, 2016; Green and Zhu, 2010). On the basis of a literature review, it seems that over-qualification, discrimination, and inequality have become inseparable parts of immigrants' working activities in the labour markets of many destination countries (see the examples in: Chiswick and Miller, 2009; Aleksynska and Tritah, 2013; Spoonley, 2006; Nowotny, 2016; McDonald and Valenzuela, 2016; Garrido and Codóc, 2017; Gupta and Man, 2014; Lagana, 2011; Man, 2004; Spielvogel and Meghnagi, 2018). Though many factors may be behind this situation, Ho and Alcorso (2004) and others (e.g. Mattoo, Neagu and Özden, 2008) write about a 'transferability gap' that often prevents migrants from being fully rewarded in destination countries for their "overseas-gained skills and work experience". The transferability gap means that migrants, including highly-skilled workers, often suffer from downward occupational mobility. Chiswick and Miller (2009) also state that some knowledge and capabilities are hard to transfer internationally due to employers' frequent discounting of foreign credentials and training (Batalova and Fix, 2018). This also includes difficulties in the recognition of foreign qualifications and diplomas (Trevena, 2013).

Immigrant over-qualification is primarily studied in more developed immigration countries. Over-qualification studies, after migrants have returned to their country of origin, represent interesting research exceptions and challenges (Anda and Nordman, 2017). A migrant's success in the labour market of the destination country, including utilisation of their attained education, depends on many different factors. For example, Weller (2017) stresses the intertwined effects of migrants' "region of origin, gender and migration pathways". Viewed from another angle, innate qualities, personality traits, newly adopted capabilities and experience of a local culture (localised knowledge) are highlighted (McDonald and Valenzuela, 2016; Nowotny, 2016; Aure, 2013). Also, language skills, as one of the key factors of a possible improvement of one's position in the labour

market, are accentuated (Cerna, 2016; Spoonley, 2006; Sert, 2016; Iguchi, 2012). At the level of individual migrants, over-qualification is caused by their specific migration aims, motives and strategies in the labour market. Some foreign workers may pursue a professional career, while others may take on the most easily accessible and best paid employment to earn a sufficient sum of money for a given purpose (Trevena, 2013).

Over-qualification among immigrants is also influenced by the economic conditions in the destination country, including the impacts of business cycles, a lack of suitable jobs in the labour market, levels of unemployment, the overall scale of grey economy and the effect of institutions operating in the labour market (including trade unions) (e.g. Kahanec et al., 2017; Cangiano, 2014; Aleksynska and Tritah, 2013). The characteristics of applied policies also play an important role (Cerna, 2016; Aleksynska and Tritah, 2013; Kuptsch, 2013). Conversely, Kuptsch addresses human capital mercantilism, which is characterised as the rush for more skilled workers, increasing their number without considering the needs of the labour market (Kuptsch, 2013). This "no-policy policy" can easily lead to the deskilling of migrants and "brain waste" (Kuptsch, 2013, p. 2758). Also related to policy, Sert (2016) and Kuptsch (2013) address the above-mentioned issues regarding accreditation, more specifically, non-recognition of qualifications connected either to a particular education or profession. Furthermore, the role of intermediaries (whose operations are also policy-based) mediating relationships between employers and current and future employees, has been pinpointed (e.g. Harvey et al., 2018).

Other studies examine further the role of education and training courses for overcoming the mismatch between education levels that are required and those that are offered (Bussi and Pareliussen, 2017). Moreover, access to local non-migratory social networks has been highlighted (Aure, 2013), including the function of social networks (Cerna, 2016; Webb, 2015; Plöger and Becker, 2015; Chort, 2017; Munshi, 2003). Recently, more attention is being devoted to the over-qualification mismatch in the labour market and its specificities in relation to gender (Bender and Roche, 2013; Arbeit and Warren, 2013; Aure, 2013; Raghuram and Kofman, 2004; Webb, 2015; Gupta and Man, 2014; Pecoraro, 2011; Man, 2004).

In the Czech context, however, research on the educational mismatch of foreign workers has rarely taken place. The pioneer study in this field is presented by Leontiyeva (2012), who concluded that non-EU migrant workers face a considerably higher level of mismatch in the Czech labour market than migrants from EU countries. According to her research, the determinants of the likelihood of educational mismatch are personal factors (age, sex and family), personal experience (length of stay, current occupation and work history at home), and national origin, which has been partly confirmed by the research of Valenta (2015) for Ukrainian workers.

Some of the above-mentioned determinants of the educational mismatch of foreign workers do indeed have an implicit spatial dimension, in the sense that they create particular arrangements or patterns in space. Nevertheless, no explicitly geographical inquiries focusing on educational mismatch and its determinants in space were found in our

[2] Here, we follow an acronym posted by Li (2013) standing for "Overeducation, Required education and Undereducation literature".

research. It appears that the research activities have arrived only at the point of examination of the spatial distribution of (highly skilled) migrants, which we are drawing upon in this article: see, for example, Gross and Schmitt, 2010; Docquier et al., 2013; Nowotny, 2016; Aure, 2013; Musterd et al., 2016, to name a few international representatives; and Schovánková (2013), as a Czech pioneer in this field.

Various theories and concepts aim at conceptualising the above-mentioned research findings on the over-qualification or over-education phenomenon. Despite the fact that the theories or concepts are often applied, a more compact picture or review is still missing. Due to the exploratory character of this article and its focus on tertiary educated Ukrainian workers, our intention is not to test the validity of the concepts, but rather to present the most relevant ones, highlighting selected aspects of the issue and linking them to our findings.

When focusing on highly skilled migrants, one cannot avoid studying the manifestations and impacts of the brain drain, brain gain, brain waste or brain exchange phenomena (Ness, 2013; Docquier and Sekkat, 2006; also for example, Vavrečková et al., 2008; Rakovcová, 2017). Broadly defined, analyses of migrants' human capital contribute to enriching our knowledge in the field of migratory gains and losses. For that matter, it is the area that requires rich and varied data arising from empirical research (e.g. Nijkamp, Poot and Sahin, 2012; Collier, 2013). Nevertheless, in this article, we borrow Chiswick and Miller's (2009) characterisation, in a general sense, pinpointing three basic theoretical/conceptual perspectives:

1. Search and match theory explains the given mismatch as a consequence of imperfect information in the labour market. This mismatch is seen as temporary when migrants take up jobs for which they are overeducated when entering the labour market for the first time. It fades over time, however, as migrants climb the social ladder and their positions gradually begin to match their original educational level (see more in Chiswick and Miller, 2009);

2. Human capital theory recognises the existence of several alternative attributes of human capital, including formal schooling, job experience and skills acquired through formal on-the-job training; these could be substitutes in many jobs (Chiswick and Miller, 2009, p. 163). The theory acknowledges the possibility of using various tactics, for example, positive prospects for the future at the expense of an intentionally difficult start. The theory also pinpoints difficulties related to the transferring of human capital transnationally, namely formal schooling and work experience. Such transfers may lead to situations where immigrants substitute schooling for (non-recognised) labour market job experience. Moreover, the theory also discusses over-education and its inverse, under-education. Generally, a diminishing mismatch between the migrant's attained and required educational level in the labour market is connected with the length of stay in the destination country. Commonly, the length of stay in the destination country correlates to a diminishing mismatch between the migrant's attained and required educational level in the labour market; and

3. Technological change theory accepts that there is a tendency to gain skills and knowledge attained through schooling which then allows one can keep up with technological progress in a given country. Those who have recently obtained their education are considered more educated when compared to those who attended the same schools earlier. Furthermore, newly educated migrants from less developed countries are often considered more over-educated in the labour markets of destination countries than migrants from more developed Western countries. The importance of this theory increases in technologically dynamic economies. Naturally, the theory depends on technological development in both the country of origin and the country of destination.

As seen above, a migrant's over-qualification (including over-education) is connected to their initial entrance into a labour market. Nevertheless, this situation should gradually disappear over time (Chiswick and Miller, 2009; Anda and Nordman, 2017; Aleksynska and Tritah, 2013). On the other hand, there are also opinions adhering to the claim that "the longer the stay, the smaller the immigrant's chances of ever moving up the occupational (hence, also the educational) ladder" (Kuptsch, 2013, p. 2758). This assertion is in harmony with macro-level historical-structural theoretical approaches, or Marxist theories of migration: e.g. Vogel (2013) and Massey et al. (1993). In such a perspective, there is a focus on the exploitation of migrants in rich destination countries and their exposure to various constraints, limits and barriers. In fact, migrants are considered mere agents of social change, carrying the necessary attributes of labour to satisfy the abstract requirements of the general law of capitalist accumulation. As a corollary, migrants cannot change their inferior positions, including those positions in labour markets[3].

4. Data and methodological approach

Based on our review, quantitative approaches using various types of regression analyses primarily dominate research in the field of migrant over-qualification and over-education. On the other hand, qualitative studies have also begun to emerge. At a micro/individual level, such studies enrich knowledge in their attempts to better understand the conditionalities, mechanisms and impacts of immigrants' over-education, as well as the (non-)utilisation of their human capital, and more broadly, the international migration movements of highly-skilled persons (e.g. Rye and Andrzejewska, 2010; Aure, 2013; Raghuram and Kofman, 2004; Webb, 2015; Sert, 2016; Garrido and Codóc, 2017).

The situation in the arena of Czech research is quite the opposite. Qualitative insights into the topic of over-education dominate (Valenta, 2015; Leontiyeva, 2012), whereas quantitative approaches capable of mapping the issue in a representative manner have been absent so far due to the unavailability of proper data.

4.1 Statistical data and limitations of the analysis

In this article, we use the following statistical data on international migrants, bridging this knowledge gap in the Czech research:

---

[3] One must admit as well that some other conceptual approaches recognize both possible pathways – upward and downward on the social ladder in society – for immigrants, as in segmented assimilation theory (albeit applying this mostly to more complex integration issues of migrant second generations – e.g., Zhou, 1997).

- Data based on residence permits/visas, gathered in the Alien Agenda Information System (AICS), managed by the Ministry of the Interior (Drbohlav and Lachmanová-Medová, 2009). From this source, we use the following indicators: citizenship and type of residence (permanent and temporary); and

- Data on foreign workers and their employment status (i.e. all Czech and foreign economically active persons registered at the local and regional public employment service offices). These data will serve as the primary source of information in this article for both macro-level and longitudinal approaches. The management of the data and operation of the database OKpráce has been outsourced by the Ministry of Labour and Social Affairs of the Czech Republic (CR) to a private company, OKsystem[4].

The data on international migration are compared with the respective data describing educational attainment of the Czech labour force and its structure of employment in the Czech labour market. Finally, for the purpose of identification of spatial differentiation and determinants of the educational mismatch, relevant data describing social and economic performance were collected from various sources at the level of Czech districts. The primary sources of these data are publications of the Czech Statistical Office.

As international migration is a highly complex issue, there are a number of limitations that hinder the ability of the data to capture the migration 'reality', and thus preventing us from a straightforward interpretation. Although the data are subject to systematic and gradual development, they are still far from comprehensive.

Most importantly, regulations and legal frameworks significantly impact the resulting nature of economic activities (and the ability of the data to capture it appropriately) by establishing an uneven position for migrant workers in the Czech labour market based on their citizenship as well as type of residence permit[5]. The administrative burden, as well as bribery practices in obtaining employment permits – for example in the case of Ukrainian workers – has led to an increased number of Ukrainian workers in the Czech Republic holding a Polish visa/employment permit (Drbohlav and Jaroszewicz, 2016). Another strategy is to obtain a trade license and become an entrepreneur, as the Czech Act on License Trade does not distinguish between EU/EEA citizens and third country citizens regarding requirements in the procedure of obtaining a trade license and operation in the Czech labour market. This practice can lead to bogus self-employment, known as the Švarc system, which is (albeit illegal now) prevalent (in various "masked forms") in the Czech context: migrants (but also a large share of the economically active Czech population) are classified as entrepreneurs, but they often, in fact, perform regular employment activities (e.g. Drbohlav and Valenta, 2014a).

Moreover, several databases exist, designed for particular purposes, which are supplied with data from different sources, and are therefore incomparable. Also, regarding the economic activities of immigrants, comparing the numbers among the databases from the three Ministries stated above can lead to misleading conclusions (e.g. Drbohlav and Lachmanová-Medová, 2009; Drbohlav and Valenta, 2014b). In addition, with respect to the type of residence permits of foreign workers, the focus of our analysis only considers mismatch of foreign citizens due to incompatibility of the data, and our analysis was not capable of examining the development of mismatch after a foreign worker acquires Czech citizenship[6].

The nature of the analysed time-period (2009–2016) is also thought to have an effect on the outcomes of our research inquiry. The nature of economic development throughout the period (see above: Section 2) had an inevitable impact on the dynamics of the labour market. The level of Czech districts as a principal reference area that we used in our analyses represents another limitation. The district level already has a considerable internal heterogeneity[7].

4.2 Methodological approach

We believe that the combination of the macro-level and longitudinal approaches provides a valuable primary overview of the relationships between factors and processes in the given topic. Nevertheless, in order to acquire a more thorough understanding, additional qualitative approaches at lower levels of abstraction (for example, that of Liversage, 2009), or more sophisticated quantitative space-sensitive models[8], capable of identifying a range of possible determining factors occurring in different groups of districts, may be further included.

4.2.1 Measuring the level of educational mismatch

The literature focused on the mismatch between occupation and education provides several ways of measuring this phenomenon (Groot and Maasen van den Brink, 2000). In this article, the analysis will be based on the job analyst's method. This method assumes that for each specified occupation there is a recommended minimum level of education. This relationship is generally assessed by a relevant expert (Chevalier, 2003). More specifically, we utilise available data on the educational attainment of migrant workers, as well as the required levels of education connected with certain job positions based on the professional judgement of the labour office authorities.

Levels of education applied in this article are based on a classification of education used by the Czech labour office. This classification is compatible with the International Standard Classification of Education (ISCED, 2011; UNESCO, 2012). In this article, we use a four-group classification, as shown in Table 1.

[4] The Department of Social Geography and Regional Development of Charles University purchased this more-detailed and non-public anonymous individual data file on foreign employment (hereinafter referred to as 'Internal Data').

[5] Migrant workers with citizenship of EU countries and European Economic Area countries possess the same legal status as Czech nationals in the labour market, whereas third-country workers are eligible to work only (i) with respect to the situation in local/regional labour markets, and (ii) after undergoing an administrative procedure by applying for an Employee Card, a Blue Card, or for an Employment Permit, prior to entering the territory of the Czech Republic (Ministry of the Interior of the Czech Republic, 2018).

[6] Information such as 'place of birth' is included in the census data, but such data do not allow either an examination of the development of an education-occupation mismatch over time, or applying a longitudinal approach.

[7] Due to the nature of the statistical data, it was not possible to perform the analyses at geographical levels lower than the district level.

[8] Such models control for spatial autocorrelation, which is an inevitable part of the analysis of the spatial organization of the phenomena (Spurná, 2008).

Categories of Czech Labour Office		ISCED Classification		Classification used in this article	
Level	Title	Level	Title	Level	Title
A	No formal education	ISCED 0	Pre-primary education	1	No education
B	Incomplete primary	ISCED 1	Primary education	2	Basic education
C	Basic, practical school			3	
D	Lower secondary	ISCED 2	Lower secondary education	4	Secondary education without GCSE
E	Lower secondary vocational			5	
H	Secondary vocational with a certificate			6	
J	Secondary or secondary vocational without GCSE[9] or certificate			7	
K	Complete secondary education			8	
L	Complete secondary with school leaving exam (technical)	ISCED 3	Upper secondary education	9	Secondary education with GCSE
M	Complete education with GCSE	ISCED 4	Post-secondary non-tertiary education	10	
N	Higher technical	ISCED 5	Short-cycle tertiary education	11	Tertiary education
P	Higher technical (conservatory)			12	
R	Bachelor's degree	ISCED 6	Bachelor's or equivalent level	13	
T	Master's degree	ISCED 7	Master's or equivalent level	14	
V	Doctoral degree	ISCED 8	Doctoral or equivalent level	15	

Tab. 1: Comparison of classifications of education (Note: The educational levels 1–15 in column 5 refer to levels A–V in column 1). Source: UNESCO 2012, internal data

The availability of individual data allows for a more detailed insight into the level of mismatch, or more specifically, the waste of qualification as a difference between the educational attainment (highest education) and the level of education required by certain occupations or job positions (i.e. mismatch = [attained education – required education]). For this purpose, levels of education were transferred into a numerical scale, 1–15 (1 = No education, and 15 = Doctoral degree, see Tab. 1). The extent of mismatch can then be measured at the level of individual migrants as a relative distance between two levels of education in the scale. The resulting values indicate the following:

- Positive values (> 0) indicate that the level of attained education of a migrant worker is higher than the level of education required by a certain occupation, and thus represent an "over-educated" worker;

- (= 0): the level of attained education of a migrant workers corresponds to the level of education required by a certain job position (i.e. "well-matched" relationship); and

- Negative values (< 0) indicate that the level of attained education of a migrant worker is lower than the level of education required by a certain occupation; the migrant worker is thus "under-educated".

The distance for each migrant worker can consequently be aggregated into average values per skill intensity of a certain job position (ISCO), educational level (ISCED), or a region.

The levels of education classified by ISCED can consequently be referred to a more "applied" classification of level of skills connected with certain job positions. The International Standard Classification of Occupations

(ISCO) is an international classification, and a tool for organising jobs into a clearly defined set of groups according to the tasks and duties undertaken in the job (International Labour Organization, 2010). Based on the work of Leontiyeva (2012), the ISCO classification can be divided into three major groups of occupations according to skill level, each with a respective required general level of education, taking into account all of the shortcomings that are associated with this simplified transformation (for further details, see Leontiyeva, 2012).

The character of economic activities is assessed through the sectors of performance in which both Czech and foreign workers are active. For this purpose, the internationally compatible approach of the Statistical Classification of Economic Activities (NACE) (Eurostat, 2008) was fully adopted.

4.2.2 Longitudinal approach

The individual data on the economic activities of migrant workers allows us to assess their different trajectories in the labour market over time, from 2009 to 2016 in our particular case. In this study, we focus on tertiary educated Ukrainian workers. According to the data, from the pool of an estimated 2,100 tertiary educated Ukrainian workers in 2009 to more than 5,000 in 2016, there were 847 individuals active in the Czech labour market throughout the entire period, and this represents a convenient sample of our inquiry.

When assessing the possible trajectories, we follow a visual design, as well as the following typology of paths of labour market (non-)incorporation of skilled migrants at the individual level by Liversage (2009):

[9] GCSE refers to General Certificate of Secondary Education, a school-leaving exam/A-level examination (Leontiyeva, 2012; Czech Statistical Office, 2016a).

- Path of re-entry: A migrant enters into his/her former profession;

- Path of ascent: A migrant enters into lower-level work and moves to higher-level occupations over time;

- Path of re-education: A migrant enters higher-level work after obtaining a new level of education in a host country;

- Path of re-migration: A migrant leaves host country for the country of origin or for another immigrant destination; and

- Path of marginalisation: A migrant remains in unemployment or in low-level positions.

We are fully aware that this typology does not provide a comprehensive picture of the trajectories that migrants may undertake in the host country labour markets, as it was derived from a qualitative study focused on a limited number of selected migrant workers. For this reason, the typology is not capable of reflecting, for example, the position of a migrant within their life-cycle (Rakovcová, 2017), or the different ethnic affiliations of migrant workers and how these workers interact in broader social and economic contexts, resulting, for example, in implicit discriminatory practices (and their progress over time) towards particular ethnic/citizenship groups. As a result, the typology does not include, for example, a possible path where a migrant worker enters the labour market in a profession reflecting their qualifications, eventually moves downwards or becomes unemployed, and then starts again in low-level positions.

4.2.3 Macro-level approach

In order to identify determinants of the mismatch of tertiary educated migrant workers of both Ukrainians and the total number of tertiary educated migrant workers at the district level (i.e. the dependent variables), correlation and multiple regression analysis is performed, at the level of 76 Czech districts[10] (NUTS 4 level), by using SPSS Statistics 24.0 software. As there is a variety of potential determinants that can have an impact on educational mismatch, the selection of the appropriate independent variables was carried out on the basis of the following criteria:

- Inclusion criterion: possible social, economic, demographic as well as geographical determinants/variables describing the nature of districts, and aggregate migrant workers' characteristics. Some of them have been used in previous regression analyses with a similar focus (e.g. Schovánková, 2013; Nowotny, 2016);

- First exclusion criterion: high level of correlation (i.e. the value of the Pearson correlation coefficient is > 0.751 or $< - 0.751$) between two variables, leading to exclusion of redundant variables. The resulting set of nineteen independent variables including their description is presented in Table 2. The first group of variables describes the basic aggregate migrant characteristics – age, gender, and length of stay. The economic environment in Czech districts is described by variables focusing on progressive and qualitative aspects, such as value-added production or investment. Other sets of variables bring together selected characteristics of the population in districts in terms of

their citizenship structure and the structure of foreign employment. Labour markets in districts are characterised by their employment structure according to basic economic sectors, and by foreign employment through employment agencies. Geographical and migratory characteristics are represented by variables describing a district's place within the regional hierarchy, horizontal position (how peripheral or exposed districts are) in the Czech Republic, as well as their migratory attractiveness; and

- Second exclusion criterion: the level of correlation (measured by the Pearson coefficient) between a dependent and an independent variable being within the interval of 0.200 and $- 0.200$. In this way, only variables where two-dimensional correlation analysis indicated a significant relationship and unambiguous trend were included.

As a result, each dependent variable acquired its own set of possible explanatory variables (eight for overall mismatch and ten for Ukrainian mismatch – many of which were relevant for both dependent variables). The relevance of the variables was then tested in a multiple regression analysis. Specifically, we adopted a "stepwise" regression analysis: at each step of the procedure, a variable is considered for addition to, or subtraction from, the set of explanatory (independent) variables.

5. Results: Educational attainment and the skill-intensity of migrant workers' jobs

What is the educational structure of the migrant workers in the Czech Republic? Unfortunately, data on immigrants' education in general is very rare and not well explored (Leontiyeva, 2012). Based on the internal data of MLSA concerning educational attainment[11] in 2016, however, from the total number of approximately 380,000 migrant workers in job positions in the Czech Republic, the highest share (36%) is taken by lower secondary education workers (i.e. secondary education without GCSE). Migrant workers with basic education represent almost one third of all foreign employees in the Czech labour market. Tertiary educated foreign workers formed 18% of foreign employees (see Fig. 1).

When looking at the development of migrant educational structure over time, the overall trend towards lower levels of education has been noticeable since 2011, with a constant increase in the percentage of workers with basic education and a decreasing percentage of workers with higher levels of education. On the contrary, the development of the educational structure was the opposite from 2009 to 2011, mainly due to the consequences of the implementation of restrictive migration measures[12] put in force in response to the economic recession caused by the global financial crisis. It is thus apparent that the impact of the economic recession had a greater impact on semi-skilled and unskilled migrant workers. The decreasing trend in the educational quality of migrant workers since 2011 has been the opposite to the trends in Czech employment.

---

[10] The district of Mladá Boleslav was excluded from the list of regions, due to outlier values in Business Expenditure on Research and Development and Value-added.

[11] Unfortunately, no data are available indicating the thematic focus of the education of foreign workers.

[12] For example, these measures were the temporary interruption of issuing visas to citizens from selected important source countries (Mongolia, Ukraine, Moldova, Vietnam and Thailand). Consequently, the issue of visas and residence permits has been maintained at limited numbers. Another measure was the introduction of the project of "Voluntary returns", with the aim of assisting foreign workers who had lost their jobs, to return to their home countries (Drbohlav et al., 2010).

				Descriptive statistics	
DEPENDENT VARIABLES				Mean	St. Dev.
Level of mismatch of tertiary educated migrant workers (at the district level (N = 76) in the Czech Republic				2.63	1.25
Level of mismatch of tertiary educated Ukrainian workers at the district level (N = 76) in the Czech Republic				4.32	2.08
INDEPENDENT VARIABLES					
Variable	Description	Year	Mean	St. Dev.	
Migrants' characteristics					
Age**	Average age of migrant workers at 31.12.2016	2016	41.75	2.01	
Sex	Share of male Ukrainian workers of total number of Ukrainian workers	2016	0.67	0.07	
Length of stay*	Average number of years of economic activity of migrant workers in the Czech labour market	2016	2.88	0.80	
Economic environment					
Number of entrepreneurs**	Number of entrepreneurs per population	2016	0.08	0.01	
Value-added	Value-added in selected industries per employment in selected industries	2013	706.6	116.0	
Business Expenditure on Research and Development	Business expenditures on research and development per population	2014	2.15	2.38	
Foreign direct investment	Two-year average of foreign direct investment (inflow of capital + reinvestment of earnings + inflow of other capital) per population	2014/2015	0.12	0.15	
Population structure					
Foreign citizens*	Share of foreign citizens per population	2016	0.03	0.02	
Ukrainians* **	Share of Ukrainians on foreign citizens	2016	0.20	0.09	
Foreign workers* **	Share of foreign workers on total employment	2016/2011	0.06	0.05	
Ukrainian workers	Share of Ukrainian workers on total foreign employment	2016	0.13	0.06	
Labour market characteristics					
Tertiary education	Share of tertiary educated population	2011	0.10	0.08	
Agency employment* **	Share of foreign employment through agencies (NACE 78) on total foreign employment	2016	0.09	0.08	
Share of agriculture**	Share of employment in agriculture on total employment	2011	0.04	0.02	
Share of construction industry*	Share of employment in construction industry on total employment	2011	0.07	0.01	
Unemployment rate* **	Share of registered unemployed individuals on economically active population	2016	5.24	1.88	
Geographical and migratory characteristics					
Geographical position**	Average commute time (vehicular and train transport combined) from a district's capital to all other district capitals, based on ArcGIS Network Analyst approach	2016	2.56	0.44	
Migration effectiveness* **	Share of migration turnover on net migration (both national and international migratory movements included)	2016	0.01	0.11	
Urbanisation**	Share of inhabitants living in cities on total population in a region	2016	0.63	0.15	

Tab. 2: Complete set of variables for the stepwise regression analysis
*(Notes: The number of tertiary educated migrant workers at 31.12.2016 in the Czech Republic was 66,212. The number of tertiary educated Ukrainian migrant workers was 5,067 by the same date in the Czech Republic; *Variables entering the regression model for the first dependent variable, i.e. Level of mismatch of tertiary educated migrant workers at the district level; **Variables entering the regression model for the second dependent variable, i.e. Level of mismatch of tertiary educated Ukrainian workers at the district level)*
Sources: Internal data; CNB, 2015; Czech Statistical Office, 2016b; Czech Statistical Office, 2017a; Czech Statistical Office, 2017b; Czech Statistical Office, 2018; Ženka, Pavlík and Slach, 2017; Marada, 2018

When it comes to Ukrainian workers, only 10% of the total population in 2016 (53,942) possess tertiary education. Ukrainians make up the highest share of workers with basic education (49.5%).

Considering the educational structure of migrant workers, how did their educational structure transform into vertical occupational distribution? When compared with the figures of overall Czech employment in 2016, migrant workers tend to cluster more in the lower strata of the labour market (Fig. 2). Primarily due to their less favourable educational structure, migrant workers are over-represented especially in elementary occupations (with over 30%, compared to 5.5% for Czech employment), and in plant and machine operators and assembly jobs (19% vs. 13.7%). The share of skilled jobs (ISCO categories 1–3 marked in variations of green) is indicated as 22% of the jobs performed by migrant workers, compared to nearly 38% carried out by Czech workers. These differences are further accentuated in the case of Ukrainian workers.

During the selected period, the share of professions from the lower rungs taken by foreign migrant workers increased, while the share of skilled occupations decreased. In the case of Ukrainians, the development has not been that straightforward. With an overall decrease in absolute numbers, the share of Ukrainian workers in elementary occupations has declined. A slight increase in the share of jobs with low skill intensity can, however, be observed among Ukrainian workers since 2015.

5.1 Is there a mismatch?

According to the relation between attained education and the skill intensity of the occupation, we consider employment of tertiary educated workers in skilled professions (ISCO 1–3) to be a 'fair' education-occupation match. The data reveal that this fair match was achieved by almost 80% of tertiary educated migrant workers in the Czech Republic in 2016 (see Fig. 3), with professionals as the predominant class of employment. With the increasing number of tertiary educated migrant workers in the Czech labour market from 2009, however, we detect a consistent increase in the percentage of tertiary educated migrant workers facing an educational mismatch.

The fair education-occupation match is achieved by approximately 53% of tertiary educated Ukrainian workers (Fig. 4). We can, therefore, state that tertiary educated Ukrainian workers face a higher educational mismatch in
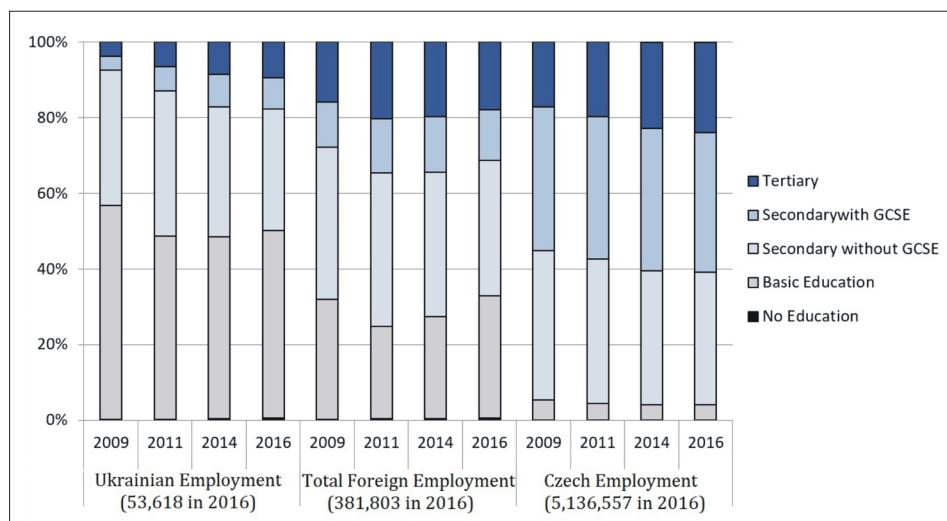

Fig. 1: *Development of the educational structure of foreign and Czech employment (2009–2016; The proportions are at 31ˢᵗ December of the respective year). Sources: Internal data; Czech Statistical Office (2017b)*
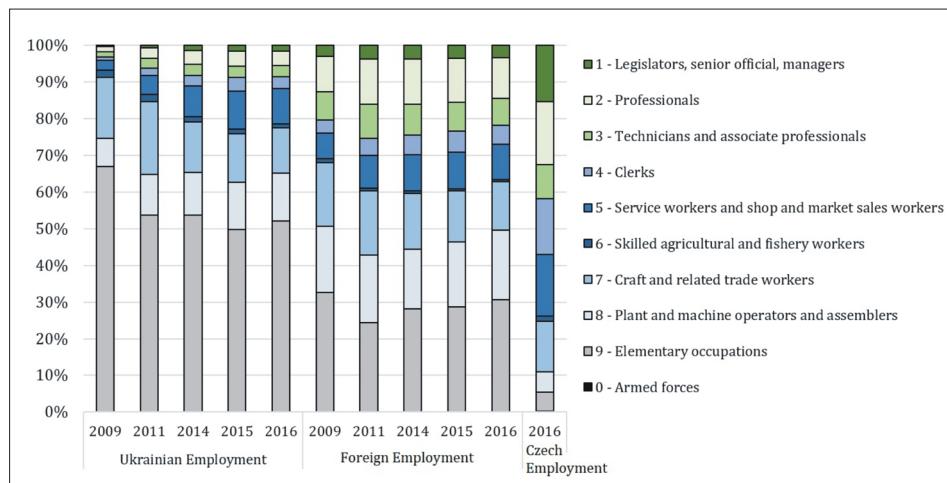

Fig. 2: *Development of the occupational status of migrant workers in the Czech Republic (2009–2016; The proportions are at 31ˢᵗ December of the respective year)*
Sources: Internal data; authors' calculations; Czech Statistical Office (2017c)

the Czech labour market when compared to the data for total foreign employment, with a substantial share of employment in elementary (ISCO 9), and service and shop professions (ISCO 5). Moreover, the share of fairly matched tertiary educated Ukrainian workers has been declining since 2011.

When combining the structure of employment of tertiary educated migrant workers across industries, with the skill-intensity of the jobs they perform, we are able to detect several sectors of economic activity in which the waste of their educational attainment is highest in both absolute and relative terms (see Fig. 5).

Nevertheless, at first the figure shows that the dominant sector of employment for tertiary educated migrant workers is in the information and communication industry (J). In this industry, the level of de-skilling is rather low as it consists mainly of skilled jobs. This holds true also in the other main industries of employment of tertiary educated migrant workers, specifically education (P), health and social work (Q), and in professional, scientific and technical activities (M).

Additionally, there are other skill-intensive sectors in which a majority of tertiary educated migrant workers are employed in skilled positions. Nevertheless, the absolute

numbers of these workers are considerably lower. This is the case of migrants employed in the electricity, gas, steam, and air conditioning supply sectors (D), the financial and insurance sectors (K), or public administration and defence (O). Conversely, this Figure depicts industries in which the probability for tertiary migrant workers to become over-educated is relatively higher, producing the highest level of waste of human capital. This is the case in the manufacturing industry (C), sales activities (G) and especially administrative and support services (N). These industries are also important occupational destinations for tertiary migrant workers.

When considering the development of de-skilling within individual industries, the most noticeable aspect is the gradually increasing level of de-skilling in the industries in which the tertiary educated workers are employed most frequently. This holds true especially for administrative and support service activities (N), sales activities (G) and manufacturing industry (C). In these industries, the rate of increase of the de-skilling is most obvious.

When assessing the level of educational de-skilling among tertiary educated Ukrainian workers across industries (Fig. 6), one can note a higher share of semi-skilled and
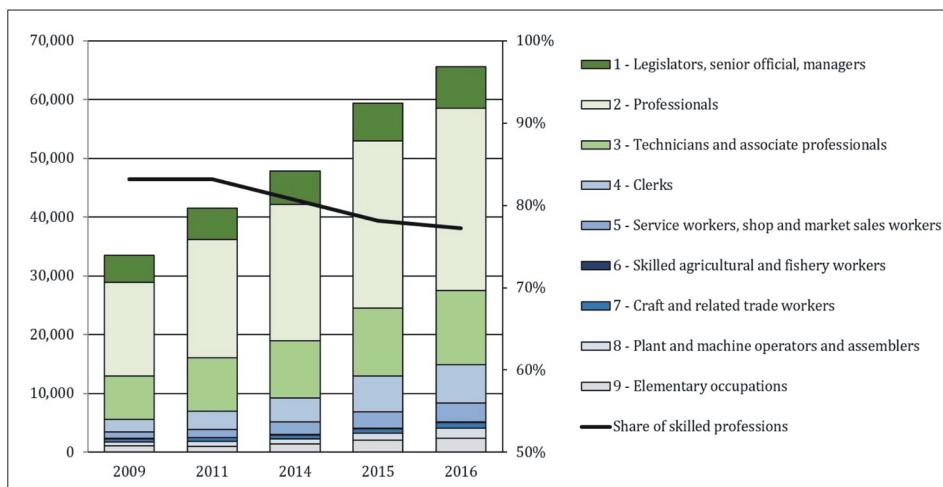

Fig. 3: Development of the skill-intensity of jobs performed by the tertiary educated migrant workers in the Czech Republic (2009–2016; The figures are at 31st December of the respective year)
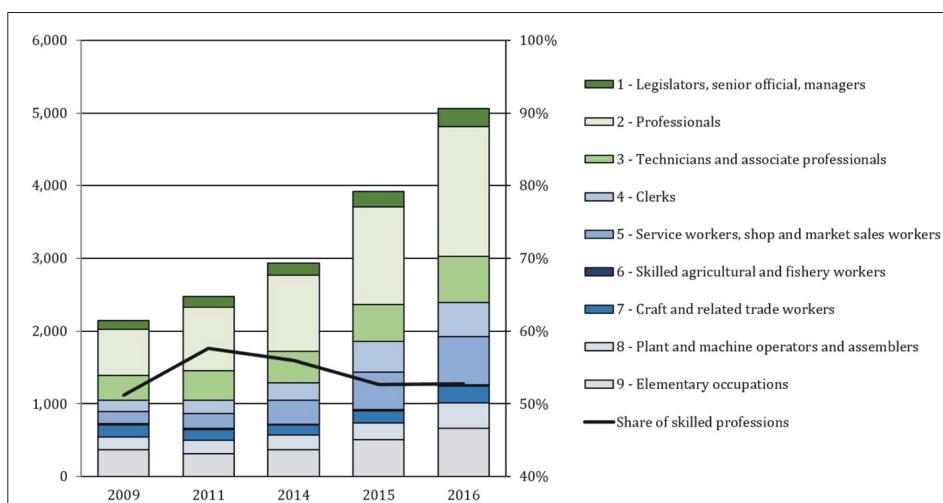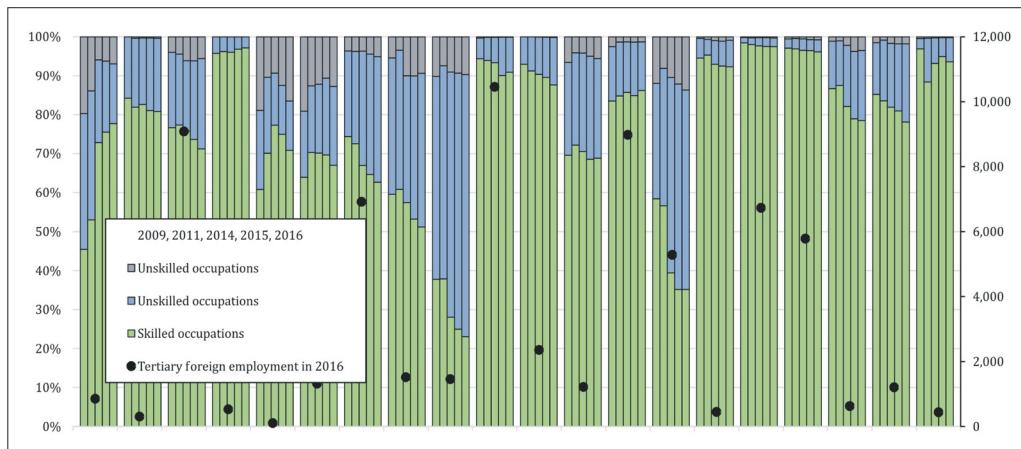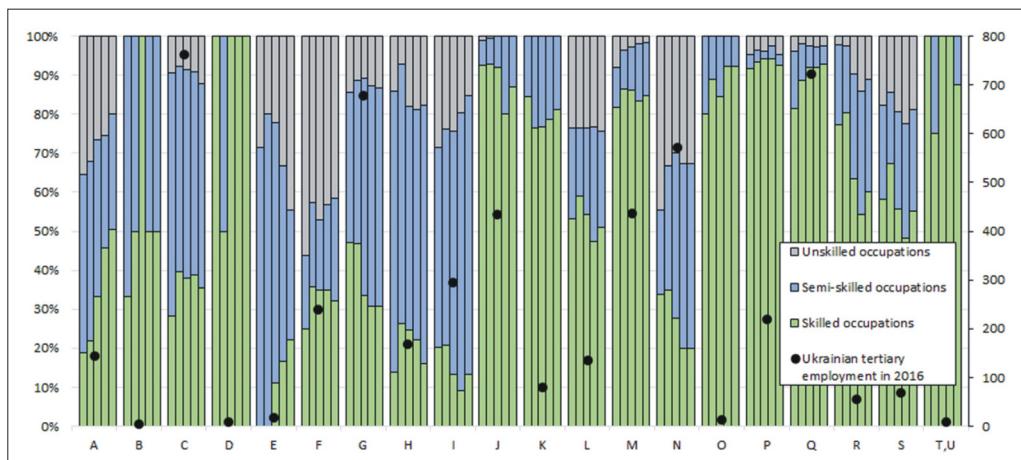*Sources: Internal data; authors' calculations*

Fig. 4: Development of the skill-intensity of jobs performed by the tertiary educated Ukrainian workers in the Czech Republic (2009–2016; The figures are at 31st December of the respective year)
Sources: Internal data; authors' calculations

Fig. 5: Development of the skill-intensity of occupations of tertiary educated migrant workers in the Czech Republic (2009–2016; The data are at 31ˢᵗ December of the respective year). Sources: Internal data; authors' calculations
Legend: A – Agriculture, forestry and fishing; B – Mining and quarrying; C – Manufacturing; D – Electricity, gas, steam and air conditioning supply; E – Water supply, sewerage, waste management; F – Construction; G – Wholesale and retail trade; repair of motor vehicles; H – Transportation and storage; I – Accommodation and food service activities; J - Information and communication; K – Financial and insurance activities; L – Real estate activities; M – Professional, scientific and technical activities; N - Administrative and support service activities; O – Public administration and defence; P – Education; Q - Human health and social work activities; R – Arts, entertainment and recreation; S – Other service activities; T – Activities of households as employers; U – Activities of extraterritorial organisations.

Fig. 6: Development of the skill-intensity of occupations of tertiary educated Ukrainian workers in the Czech Republic (2009–2016; The figures are at 31ˢᵗ December of the respective year).
Sources: Internal data; authors' calculations

unskilled positions compared to the general picture of foreign employment. The most frequent industries of employment for tertiary educated Ukrainians are the manufacturing industry (C) and health and social work activities (Q).

While the latter offers occupations matched to the level of acquired education by 90%, in the manufacturing industry the level of de-skilling is considerably higher (by about 65%), similar to other major areas of employment, sales activities (G), administrative and support service activities (N), as well as accommodation and food service activities (I), where the level of mismatch is considerable.

5.2 Longitudinal analysis

An important approach to assess the integration of foreign migrant workers (and tertiary educated Ukrainian workers in particular) into the Czech labour market is to analyse their individual progress (or trajectories) over time. Based on the individual data on foreign employment, 847 tertiary educated migrant workers were active in the Czech labour market throughout the entire period. As indicated above, this pool of 847 tertiary educated Ukrainian workers made up 39.4% of all such educated Ukrainians in 2009, and 16.7% of those in 2016. Their trajectories in the Czech labour market from 2009 to 2016 is presented in Figure 7.

From Figure 7, we note first that the examined pool of tertiary educated Ukrainian workers who managed to find a fair match vis-a-vis their educational attainment is similar to the overall figures for the total number of tertiary educated Ukrainian workers (i.e. about 55%).

Second, the rather extreme stability of the skill intensity of job occupations performed by tertiary educated Ukrainian workers throughout time is apparent. Only 10% have moved across the different vertical rungs of the labour market, predominantly in an upward direction. As we can observe, the semi-skilled and unskilled job positions at ISCO levels 5–9 (and also ISCO level 3) have gradually decreased their position on the employment ladder throughout the time period (with the exception
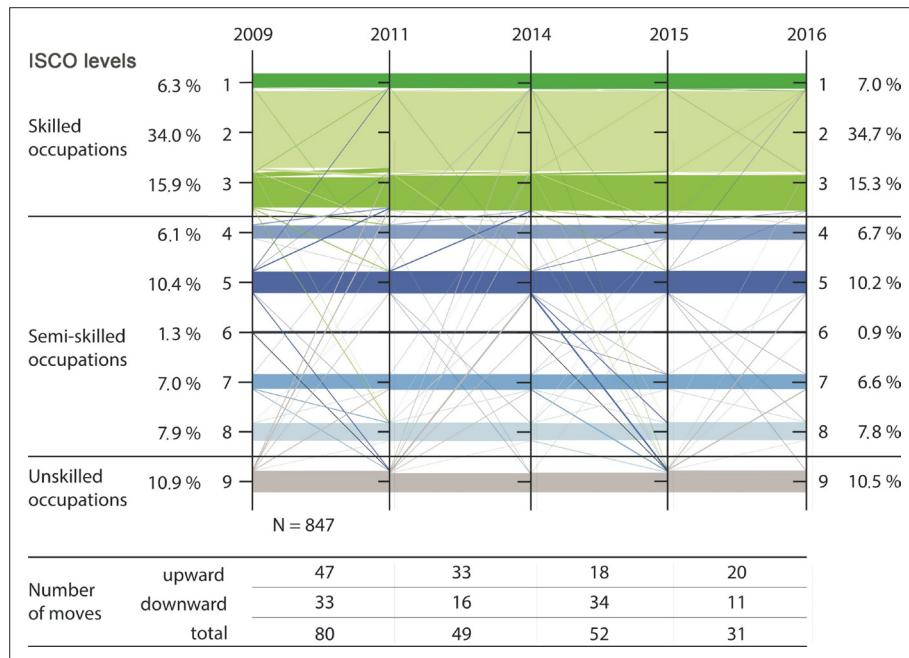
Fig. 7: Employment paths of tertiary educated Ukrainian workers in the Czech Republic (2009–2016)
Sources: internal data; authors' calculations

of ISCO level 4). Third, a decrease in the level of vertical mobility during the period can be noticed. The higher level of vertical mobility between 2009 and 2011 is assumed to be caused by higher dynamics in the labour market during the period of the global economic crisis, and it seems that the job structure of the migrant workers gradually consolidates over time.

Within the context of limited mobility between the job positions according to the skill level, the data further reveal that mobility also seems to be limited within each skill level, both in the upward and downward directions. The share of the most frequent job positions according to more detailed skill level, as well as industry, remains stable in each of the categories. Moreover, the affiliation to certain job positions seems to have a significant gender aspect. For example, female workers are heavily over-represented in clerk positions (some 70%, e.g. office assistants), services and shop sales positions (80%), but also in blue collar positions in the food and electronic industries (70%). Male workers form a significant majority in the top category (ISCO 1) as administrative, commercial, retail and service managers (67%), and also in positions of metal and machinery workers in the automotive industry and food processing (ISCO 7, 70%).

Looking at the overall picture, however, no significant progression in the labour market for over-educated Ukrainian workers takes place. This Figure provides convincing evidence that for tertiary educated Ukrainians, the position at which they enter into the Czech labour market is crucial, since their probability to gradually move up into occupations that would more suitably reflect their educational attainment is limited. This also means that when entering into skilled positions (ISCO level 1–3) from the beginning, it is likely that the migrant workers will keep these positions over time.

5.3 Macro-analytical perspectives: An explanation of educational mismatch at the regional level

The above descriptive analysis of educational mismatch and the resulting de-skilling of tertiary educated migrant workers, was based on an assessment of their educational attainment vis-à-vis occupations (defined by their skill-intensity, required level of education and industry), in which they are employed in the Czech Republic. Employment in certain industries seems to be one of the main factors that determines the level of risk of being over-educated for tertiary educated migrant workers. Nevertheless, does this assumption also work when assessing the level of mismatch at a higher geographical (district) levels, as presented in Figures 8 and 9? Alternatively, is the level of educational mismatch of tertiary educated migrant workers at the district level significantly influenced by other selected possible determinants, such as their demographic and social characteristics or other structural factors?

In order to reveal other possible determinants of the educational mismatch experienced by tertiary educated migrant workers, a multiple regression analysis was carried out with the level of mismatch being spatially distributed across the territory of the Czech Republic at the district level.

The stepwise procedure revealed that spatial educational mismatch is indeed a complex issue and that the employment of a single (quantitative) method, such as multiple regression analysis, only provides partial explanation. In our case (as shown in Table 3 below[13]), the variance in the dependent variable(s) is accounted for by the independent variables used in the model at the district level by some 32% (in case of total foreign employment) and by 41% in the case of tertiary Ukrainian employment[14].

---

[13] The table presents the most significant variables included using the STEPWISE method

[14] In addition to the STEPWISE method, we also used the ENTER method, in which all independent variables enter the equation simultaneously. In that case, the coefficients of determination reached 0.531 for mismatch of tertiary educated migrant workers in total, and 0.542 for mismatch of tertiary educated Ukrainian workers.
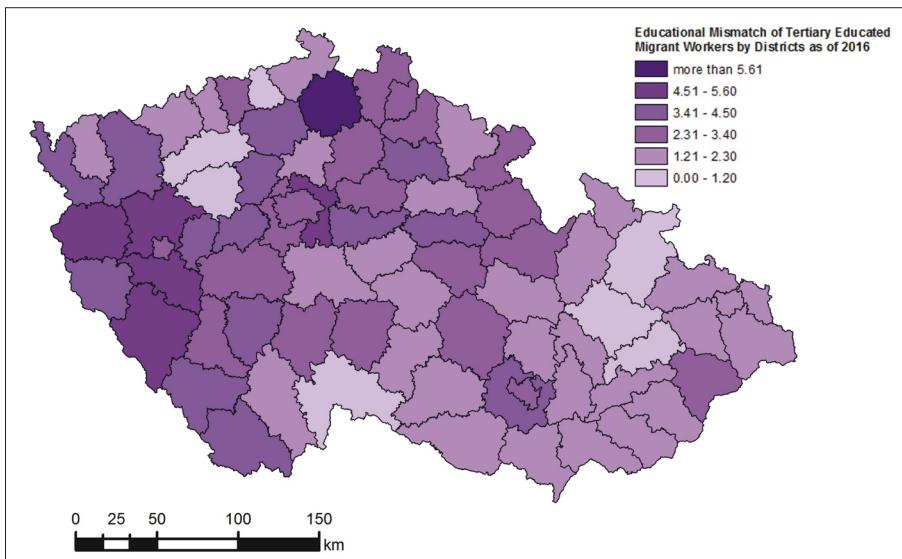
Fig. 8: Educational mismatch of tertiary educated migrant workers by Czech districts (2016)
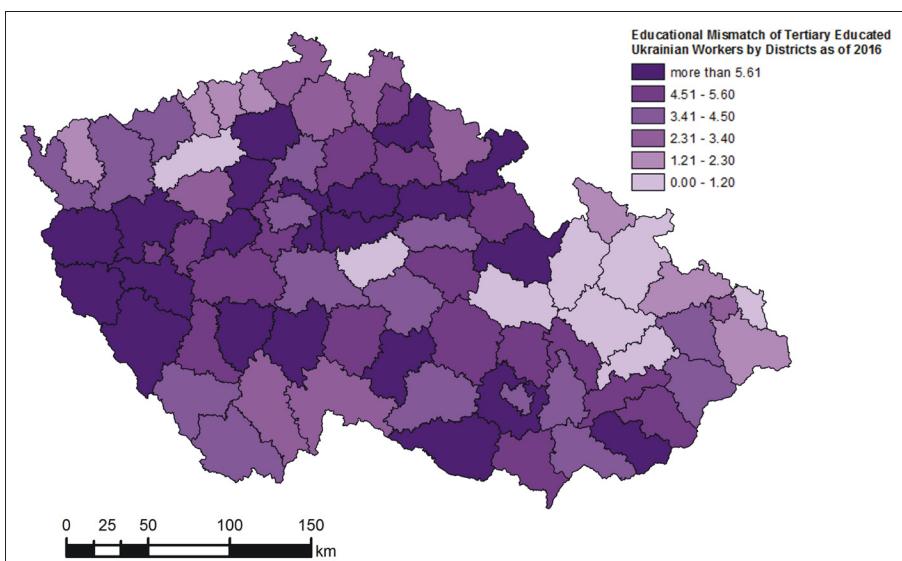*Sources: internal data; authors' calculations*

Fig. 9: Educational mismatch of tertiary educated Ukrainian workers by Czech districts (2016)
Sources: internal data; authors' calculations

The method also indicated that from the range of variables, there is a limited number of those that can significantly contribute to an explanation of the regional distribution of the mismatch.

When summarising the results, the model revealed that the level of mismatch is determined mostly by a mix of characteristics related to the labour market environment (unemployment rate and agency employment), population structure (share of foreign workers) and migratory characteristics (migration effectiveness). The most important factor seems to be the rate of unemployment, which proved to be statistically significant for both dependent variables. Importantly, neither the sectors of economic activity nor the nature of the economic environment (share of entrepreneurs, business expenditures on research and development, or foreign direct investment), nor the position of districts in a vertical regional hierarchy, proved to be significant predictors in the given models.

In comparison to the findings of previous research (e.g. Kahanec et al., 2017), the rate of unemployment in the Czech Republic seems to influence the rate of mismatch at the district level in a different way – the greater the level of unemployment, the lower the level of mismatch. We thus suggest that a low level of unemployment may be an indication of the economic standing or "well-being" of a district, attracting both Czech and foreign labour, as indicated by the share of foreign employment and migration effectiveness, and contributing to an increased saturation of the labour markets. In these districts, tertiary educated migrants face tighter competition and as a corollary, there are only a certain amount of jobs for qualified foreign workers that consequently take jobs in the secondary labour market[15] with limited future career prospects. As a result, this leads to higher levels of over-education.

On the contrary, the "poorer, high-unemployment areas" are characterised by low instances of foreign employment.

---

[15] This concerns especially workers from third-countries outside the EU, due to their uneven conditions to enter into the labour market, as discussed above in Section 3.1

	Dependent variable 1: Mismatch of tertiary educated foreign employment		Dependent variable 2: Mismatch of tertiary educated Ukrainian workers			
Models	1	2	1	2	3	4
R2	0.230	0.322	0.276	0.336	0.375	0.409
Std. Error	1.109	1.048	1.795	1.731	1.691	1.655
Independent Variables	Standardised Beta Coefficients (Std. Error)					
Age					0.200***	0.221**
					(0.098)	(0.096)
Foreign workers	0.480*	0.355*				
	(2.542)	(2.597)				
Agency employment						0.191***
						(2.533)
Unemployment rate		− 0.328*	− 0.525*	− 0.374*	− 0.338*	− 0.295**
		(0.070)	(0.110)	(0.125)	(0.124)	(0.123)
Migration effectiveness				0.288**	0.295**	0.287**
				(2.072)	(2.024)	(1.984)

*Tab. 3: Results of the multiple regression analysis using the stepwise method (Note: * Sig. 0.000; ** Sig. 0.01; *** Sig. 0.05). Source: authors' calculations*

In these districts, tertiary educated migrant workers seem to utilise their educational potential more easily and may obtain a job corresponding to their educational attainment (contributing to diminishing the mismatch). This may be due to a lower level of competition among qualified labour in the labour market caused by lower numbers of not only foreign workers, but possibly by shortages of qualified domestic labour, which tend to move to the more progressive districts.

A more specific model focusing on Ukrainian workers brings more variables into play. It appears that the mismatch increases with growing migratory stability (measured via migration effectiveness) and the role of agencies, such as employment intermediaries. Moreover, average age has a significant impact as well. The higher the average age of the group of Ukrainian workers in a district, the higher the risk of them being over-educated.

The explanations for the higher rate of mismatch in districts in the case of qualified Ukrainians may be due to several factors. The first is the already-mentioned uneven position of Ukrainians (as representatives of third country citizens) in the Czech labour market, diminishing their ability to compete with Czech as well as other EU qualified workers. The second factor may be the incompatibility of the Ukrainian and Czech economies in terms of industrial structure and its international competitiveness. As the Ukrainian economy and its educational system lags behind, qualified Ukrainian workers may often lack the necessary skills to succeed in the Czech labour market: this disadvantage may be further exacerbated by insufficient skill transfers across borders.

Third, as the character of Ukrainian migrant workers' economic migration is circular to some extent (e.g. Drbohlav, 2015), their primary motivation is to earn a sufficient amount of money in the short run rather than to pursue a professional career in the long term. This is also true for qualified workers. The relatively easier access to jobs in the secondary labour market (vis-à-vis qualified

jobs) may thus be more convenient. This explanation stems from the employment of tertiary educated Ukrainians through employment agencies as a significant variable. These agencies provide only temporary job opportunities, with limited prospects for future career paths toward more qualified positions.

As a result, and in addition to already-established citizenship-based segments or niches of employment in the Czech labour market with the relevant compatriots' support through ethnic networks (Valenta and Drbohlav, 2018), a considerably higher number of tertiary educated Ukrainians is channelled to their "typical" segments, predominantly in the secondary labour market, with variations at the district level.

6. Discussion and conclusions

In this article, we have addressed the issue of an education-occupation mismatch by providing empirical evidence on the level of mismatch of skilled migrant workers to the Czech labour market, with special emphasis on Ukrainian workers. By using a descriptive longitudinal approach, we aimed at providing a general picture of the temporal trajectories taken by Ukrainian migrants, and by means of a quantitative analysis to identify possible determinants of the level of mismatch of tertiary educated migrant workers at the regional level (using Czech districts).

The main findings spring from our conceptual and empirical analysis and are closely related to our three premises defined at the beginning of our paper. Based on individual (internal) data, we revealed firstly that the mismatch between the migrant employees' attained (tertiary) and required education in their occupations in the Czech labour market does exist, both at the general level of foreign employment, and in the case of Ukrainian workers. The mismatch is encountered by 21% of tertiary educated foreign migrant workers, and more specifically, by 45% of tertiary educated Ukrainian workers. The level

of mismatch in the case of Ukrainians has been gradually increasing over time (see Figs. 3 and 4), due especially to tertiary educated newcomers into the Czech labour market (since 2009)[16].

Second, the progression of tertiary educated Ukrainian workers in the Czech labour market over time (2009–2016) faced limited vertical mobility, with a slight progression to more skilled occupations, reflecting their educational attainment to a greater extent. The point of entry into the Czech labour market thus seems to be the most significant factor for tertiary educated Ukrainian workers in determining their future career in the Czech Republic – once they enter semi-skilled or unskilled occupations, they tend to follow this path of professional marginalisation to a large extent (even when the environment in which they operated was exceptionally dynamic). Only 10% of our research sample (skilled migrants) moved up or down the rungs of the labour market. Moreover, the share of vertically mobile workers seems to have decreased over time (see Fig. 7). The revealed stability is further supported by the two-dimensional correlation analysis, where the relationship between both the total population of tertiary educated migrant workers and the length of stay, and the specific tertiary educated Ukrainian workers and their length of stay, did not prove to be significant[17].

Linking these findings with the framework of Liversage's (2009) typology of migrants' progression trajectories, we can conclude that tertiary educated Ukrainian workers facing education-occupation mismatch in the Czech labour market, chiefly follow the path of marginalisation, remaining largely in semi-skilled and unskilled occupations. In relation to relevant theories and concepts, our results did not confirm the expected outcome that foreign migrants' positions (in our case of highly educated migrant workers) gradually begin to match their original educational level over time (Chiswick and Miller, 2009).

Third, when trying to explain the determinants of the mismatch at the district level, it seems that numerous factors are present. At the district level, a higher number of qualified domestic and foreign workers create a higher level of competition in economically progressive districts' labour markets (even if a broad range of qualified job opportunities is expected). As a result, a relatively higher share of tertiary educated migrant workers ends up over-educated in professions they find predominantly in the secondary (or ethnic) labour market segments. Conversely, in poorer, high unemployment districts, the lower levels of mismatch may be caused by the lower competition of domestic and foreign qualified labour. As the overall data on the mismatch represent a varied mosaic of backgrounds, as well as social and economic strategies of different citizenship groups in the Czech labour market, more valuable explanations therefore need to be identified at the level of an individual citizenship group, in our case Ukrainians.

The mismatch of tertiary educated Ukrainians follows a similar pattern, in juxtaposition to the rate of unemployment, as the economic progressivity of a district was indicated by positive values of migratory effectiveness, including both internal and international migrants. Moreover, the mismatch increases with the average age

of Ukrainian workers in a district. This pattern fits into the general observation on which the technological change theory is based: more recent graduates are considered to be more educated and flexible when compared to those who attended the same schools at an earlier time.

The more general factors that are perceived in the background range from particular motives and integration strategies of qualified Ukrainians in the Czech labour market, their disadvantaged position in regard to the incompatibility of both the Czech and Ukrainian economies, and their legal position in the Czech labour market. Also, the prevailing character of foreign employment in the Czech Republic, in terms of the existence of different ethnic niches predominantly in the secondary labour market maintained partly by ethnic networks, contributes to the overall higher levels of educational mismatch of qualified Ukrainians.

7. Recommendations and prospects for a future research agenda

The education-occupation mismatch of tertiary educated migrant workers is one of the important issues of international migration from the perspective of the international development nexus and labour force dynamics. We perceive our current inquiry as one of the cornerstones in the gradual development of macro-level empirical evidence in the given field in the Czech Republic.

Although we have worked with a unique set of statistical data that has never been used before in Czech research, we noticed that when attempting to capture the overall picture of the nature of the education-occupation mismatch in the Czech Republic, the inevitable process of generalisation reduces the number of particularities. The overall data on tertiary educated migrant workers represent a varied mosaic of different backgrounds, as well as social and economic strategies of different citizenship groups along with their processes of integration into the Czech society and economy. In order to reveal more specific patterns and factors behind the mismatch – and to verify our suggestions for comparative qualitative analyses regarding educational attainment – as well as the citizenship of a higher number of particular groups of foreign workers, further research needs to be carried out. Also, the mismatch in the regional dimension of differentiation should be considered at greater length.

In addition, we would highly appreciate undertakings in similar research, especially in the East Central European context, in order to achieve relevant comparisons. Research on the impact of the mismatch (and in general, on emigration of highly educated migrants) on the economic, social and cultural environments in sending countries would be equally significant. In this vein, more research is required since reduced mismatch can lead not only to "successful integration" and settlement in the destination country, but also to the potential return of migrant workers or to the increase in volume of their financial and social remittances, thus 'enriching' the sending countries.

Nevertheless, when considering the growing need for qualified labour in the context of growing competitiveness and innovation performance, our research revealed a considerable policy gap in the Czech Republic. Next to the

---

[16] The stability of the pool of tertiary educated Ukrainians and the growing mismatch of tertiary educated Ukrainians brings us to the conclusion that the decrease of the mismatch is caused by the new tertiary educated entrants into the Czech labour market.

[17] The demonstrated results are: r = 0.041, and respectively, r = − 0.096: non-significant correlations.

goal of attracting qualified labour from abroad, it is therefore our principal recommendation to valorise the educational and qualification potential of qualified migrant workers already present in the Czech labour market. We perceive that this extension of the efforts would, at the same time, lead to their higher efficacy. As the qualified migrant workers are already in the Czech labour market, there is no need to employ the current extensive immigration procedure. At the same time, a considerable amount of energy and time does not need to be spent on efforts to integrate the workers, as they are already at least partially integrated.

The potential policies to better utilise the present educational potential of migrants in the Czech labour market also need to be based on results of the above-proposed lines for further research in the field of migration. In addition, tailored inputs from research in region-sensitive labour market structures and needs, as well as from the assessment of capacities of the educational system, need to be included in order to further fine-tune the policies so that they address the issues of enhancing the international competitiveness and innovation performance of the Czech economy properly and more efficiently.

References:

ALEKSYNSKA, M., TRITAH, A. (2013): Occupation-Education Mismatch of Immigrant Workers in Europe: Context and Policies. Economics of Education Review 36: 229–244. DOI: 10.1016/j.econedurev.2013.06.001

ANDA, D., NORDMAN, C. J. (2017): Education Mismatch and Return Migration in Egypt and Tunisia [online]. [cit. 1.5.2018]. Space, Population, Society 2017(2). Available at: http://journals.openedition.org/eps/7110

ARBEIT, C. A., WARREN, J. R. (2013): Labor market penalties for foreign degrees among college educated immigrants. Social Science Research 42(3): 852–871. DOI: 10.1016/j.ssresearch.2013.01.001

AURE, M. (2013): Highly skilled dependent migrants entering the labour market: Gender and place in skill transfer. Geoforum 45: 275–284. DOI: 10.1016/j.geoforum.2012.11.015

BATALOVA, J., FIX, M. (2018): Tapping the Talents of Highly Skilled Immigrants in the United States: Takeaways from Experts Summit. Migration Policy Institute, Washington, D.C. Available at: https://www.migrationpolicy.org/research/tapping-talents-highly-skilled-immigrants-united-states-takeaways-experts-summit

BENDER, K. A., ROCHE, K. (2013): Educational mismatch and self-employment. Economics of Education Review 2013(34): 85–95.

BUSSI, M., PARELIUSSEN, J. (2017): Back to Basics – Literacy Proficiency, Immigration and Labour Market Outcomes in Sweden. Social Policy & Administration 51(4): 676–696.

CANGIANO, A. (2014): Migration Policies and Migrant Employment Outcomes. Comparative Migration Studies 2(4): 417–443. DOI: 10.5117/CMS2014.4.CANG

CERNA, L. (2016): The crisis as an opportunity for change? High-skilled immigration policies across Europe. Journal of Ethnic and Migration Studies 42(10): 1610–1630. DOI 10.1080/1369183X.2016.1162355

CHEVALIER, A. (2003): Measuring over-education. Economica 70(279): 509–531. DOI: 10.1111/1468-0335.t01-1-00296

CHISWICK, B., MILLER, P. (2009): The international transferability of immigrants' human capital. Economics of Education Review 28(2): 162–169.

CHORT, I. (2017): Migrant Network and Immigrants' Occupational Mismatch. Journal of Development Studies 53(11): 1806–1821. DOI: 10.1080/00220388.2016.1219344

CNB (2015): Foreign direct investment – annual reports [online]. [cit. 23.2.2018]. Czech National Bank Available at: https://www.cnb.cz/en/statistics/bop_stat/bop_publications/pzi_books/index.html

COLLIER, P. (2013): Exodus: How Migration is Changing Our World. Oxford University Press.

CWERNER, S. B. (2001): The Times of Migration. Journal of Ethnic and Migration Studies Vol. 27(1): 7–36.

CZECH STATISTICAL OFFICE (2016a): Klasifikace vzdělávání (CZ-ISCED 2011) [online]. [cit. 1.10.2018]. Czech Statistical Office Available at: https://www.czso.cz/csu/czso/klasifikace_vzdelani_cz_isced_2011

CZECH STATISTICAL OFFICE (2016b): Ukazatele výzkumu a vývoje – 2016. [cit. 27.2.2018]. Czech Statistical Office Internal data.

CZECH STATISTICAL OFFICE (2017a): Malý lexikon obcí České republiky – 2017 [online]. [cit. 7.3.2018]. Czech Statistical Office Available at: https://www.czso.cz/csu/czso/maly-lexikon-obci-ceske-republiky-2017

CZECH STATISTICAL OFFICE (2017b): Registr ekonomických subjektů. [cit. 1.3.2018]. Internal individual data.

CZECH STATISTICAL OFFICE (2017c): Statistická ročenka České republiky: 10. Trh práce [online]. [cit. 18.12.2017]. Czech Statistical Office Available at: https://www.czso.cz/csu/czso/10-trh-prace-ae9awbmrrq

CZECH STATISTICAL OFFICE (2018): Veřejná databáze [online]. [cit. 10.2.2018]. Czech Statistical Office Available at: https://vdb.czso.cz/vdbvo2/faces/cs/index.jsf?page=statistiky

DOCQUIER, F., MARFOUK, A., ÖZDEN, C., PARSONS, C. (2013): Geographic, Gender and Skill Structure of International Migration. Available at: http://mpra.ub.uni-muenchen.de/47917/1/MPRA_paper_47917.pdf

DOCQUIER, F., SEKKAT, K. (2006): The brain drain: what do we know? Working Paper No. 31, Agence Française de Développement.

DRBOHLAV, D. (2002): Migratory Trends in the Czech Republic: Divergence or Convergemce vis-a-vis the Developed World? Migracijske i etničke teme, 18(2–3): 167–176.

DRBOHLAV, D. et al. (2010). Migrace a (i)migranti v Česku. Kdo jsme, odkud přicházíme, kam jdeme? Prague, Sociologické nakladatelství.

DRBOHLAV, D. (2011): Imigrace a integrace cizinců v Česku: Několik zastavení na cestě země v její migrační proměně z Davida na téměř Goliáše. Geografie 116(4): 401–421.

DRBOHLAV, D. (2012): Patterns of Immigration in the Czech Republic, Hungary and Poland; A Comparative Perspective. In: Okolski, M. [ed.]: European Immigrations; Trends, Structures and Policy Implications (pp. 179–209). Amsterdam, Amsterdam University Press (IMISCOE Research).

DRBOHLAV, D. [ed.] (2015): Ukrajinská pracovní migrace. Karolinum, Praha.

DRBOHLAV, D., BAILEY, A., LUPTÁK, M., ČERMÁKOVÁ, D. (2017): Migrant values and social remittances across the contemporary migration-development nexus: the case of Moldovans in Czechia. Geografie 122(4): 526–553.

DRBOHLAV, D., JAROSZEWICZ, M. [eds.] (2016): Ukrainian Migration in Times of Crisis: Forced and Labour Mobility. Prague, Charles University, Faculty of Science.

DRBOHLAV, D., LACHMANOVÁ-MEDOVÁ, L. (2009): Country Report Czech Republic [online]. [cit. 5.1.2018]. Research paper Available at: http://www.prominstat.eu/drupal/node/139

DRBOHLAV, D., VALENTA, O. (2014a): Building an Integration System: Policies to Support Immigrants' Progression in the Czech Labor Market [online]. [cit. 11.12.2017]. Research paper, Migration Policy Institute Available at: https://www.migrationpolicy.org/sites/default/files/publications/CzechEmpl-Policy.pdf

DRBOHLAV, D., VALENTA, O. (2014b): Czechia: the main immigration country in the V4. In: Eröss, A., Karácsonyi, D. [eds.]: Discovering migration between Visegrad countries and Eastern Partners (pp. 41–71). Budapest, HAC RCAES Geographical Institute.

EUROSTAT (2008): NACE Rev. 2: Statistical classification of economic activities in the European Community [online]. [cit. 17.11.2017]. Luxembourg, Office for Official Publications of the European Communities. Available at: http://ec.europa.eu/eurostat/documents/3859598/5902521/KS-RA-07-015-EN.PDF/dd5443f5-b886-40e4-920d-9df03590ff91?version=1.0

FAIST, T. (2010): The Crucial Meso-level. In: Martiniello, M., Rath, J. [eds.]: Selected Studies in International Migration and Immigrant Incorporation (pp. 59–90). Amsterdam, Amsterdam University Press.

GARRIDO, M. R., CODÓC, E. (2017): Deskilling and delanguaging African migrants in Barcelona: pathways of labour market incorporation and the value of 'global' English. Globalisation, Societies and Education 15(1): 29–49. DOI 10.1080/14767724.2014.944757

GÓRNY, A. (2017): Eastwards EU enlargements and migration transition in Central and Eastern Europe. Geografie, 122(4): 476–499.

GREEN, F., ZHU, Y. (2010): Overqualification, job dissatisfaction, and increasing dispersion in the returns to graduate education. Oxford Economic Paper 62(4): 740–763. DOI 10.1093/oep/gpq002

GROOT, W., MAASEN VAN DEN BRINK, H. (2000): Overeducation in the labor market: A meta-analysis. Economics of Education Review 19(2): 149–158. DOI 10.1016/S0272-7757(99)00057-6

GROSS, D. M., SCHMITT, N. (2010): Low- and High-Skilled Migration Flows: Free Mobility versus other Determinants. Applied Economics 44(1): 1–20.

GUPTA, T.D., MAN, G. (2014): Class Borders: Chinese and South Asian Canadian Professional Women Navigating the Labor Market. Asian and Pacific Migration Journal 23(1): 55–83.

HAMPL, M. (2010): Reality, society and geographical/environmental organization: searching for an integrated order. Prague, Charles University in Prague, Faculty of Science, Department of Social Geography and Regional Development.

HARVEY, W. S., GROUTSIS, D., VAN DEN BROEK, D. (2018): Intermediaries and destination reputations: explaining flows of skilled migration. Journal of Ethnic and Migration Studies 44(4): 644–662. DOI: 10.1080/1369183X.2017.1315518

HO, C., ALCORSO, C. (2004): Migrants and Employment: Challenging the success story. Journal of Sociology 40(3): 237–259. DOI: 10.1177/1440783304045721

IGUCHI, Y. (2012): What Role Do Low-Skilled Migrants Play in the Japanese Labor Markets? American Behavioral Scientist 56(8): 1029–1057. DOI: 10.1177/0002764212441785

INTERNATIONAL LABOUR ORGANIZATION (2010): ISCO – International Standard Classification of Occupations [online]. [cit. 4.1.2018]. International Labour Organization Available at: http://www.ilo.org/public/english/bureau/stat/isco/

KAHANEC, M., EICHORST, W., COLUSSI, T., GUZI, M., LICHTER, A., NIKOLOVA, M., SOMMER, E. (2017): People to Jobs, Jobs to People: Global Mobility and Labor Migration. IZA Research Report No. 74, Bonn.

KOUTNÁ, M. (2016): Překvalifikovanost: Skutečný nebo umělý problém? Thesis. Prague, Charles University, Faculty of Social Sciences, Institute of Sociological Studies.

KUPTSCH, C. (2013): Skills and migration. In: The Encyclopedia of Global Human Migration. Blackwell Publishing Ltd. DOI: 10.1002/9781444351071.wbeghm486

LAGANA, F. (2011): Blocked mobility or unemployment risk? Labour market transitions of natives and immigrants in Switzerland. International Journal of Comparative Sociology, 52(4): 327–349.

LEONTIYEVA, Y. (2012). Brains versus Brawn: Comparison of the Educational and Occupational Status of non-EU Labour Migrants in the Czech Republic. Thesis. Prague, Charles University, Faculty of Social Sciences, Institute of Sociological Studies.

LI, I. W. (2013): Overeducation in the Australian Graduate Labour Market., Thesis. Curtin University, School of Economic and Finance, Perth, Australia. Available at: https://espace.curtin.edu.au/bitstream/handle/20.500.11937/1066/191524_Li.Ian2013.pdf?sequence=2&isAllowed=y

LIVERSAGE, A. (2009): Finding a Path: Investigating the Labour Market Trajectories of High-Skilled Immigrants in Denmark, Journal of Ethnic and Migration Studies, 35(2): 203–226. DOI: 10.1080/13691830802586195

MAN, G. (2004): Gender, work and migration: Deskilling Chinese immigrant women in Canada. Women's Studies International Forum 27(2004): 135–148.

MARADA, M. (2018): Internal materials based on based on calculations in ArcGIS Network Analyst. Prague, Charles University, Faculty of Science, Department of Social Geography and Regional Development.

MASSEY, D. S., ARANGO, J., HUGO, G., KOUAOUCI, A., PELLEGRINO, A., TAYLOR, J. E. (1993): Theories of International Migration: A Review and Appraisal. Population and Development Review 19(3): 431–466.

MATTOO, A., NEAGU, I. C., ÖZDEN, C. (2008): Brain waste? Educated immigrants in the US labor market. Journal of Development Economics, 87(2): 255–269.

MCDONALD, J. T., VALENZUELA, M. R. (2017): How Does Skills Mismatch Affect Remittances? A Study of Filipino Migrant Workers. Contemporary Economic Policy 35(1): 216–231. DOI 10.1111/coep.12167

MUNSHI, K. (2003): Networks in the Modern Economy: Mexican Migrants in the U.S. Labor Market. The Quarterly Journal of Economics 118(2): 549–599.

MUSTERD, S., SLEUTJES, B., BOTERMAN, W. R., BONTJE, M., ROUWENDAL, J. (2016): Stated residential preferences of highly skilled international migrants. Skills and Cities (95): 145–169.

NESS, I. (2013): Hospitality workers and migration [online]. [cit. 14.2.2018]. The Encyclopedia of Global Human Migration. DOI 10.1002/9781444351071.wbeghm274

NIJKAMP, P., POOT, J., SAHIN, M. [eds.] (2012): Migration Impact Assessment. Edward Elgar Publishing.

NOWOTNY, K. (2016): Are Overqualified Migrants Self-Selected? Evidence from Central and Eastern European Countries. Journal of Human Capital 10(3): 303–346. DOI 10.1086/687415

PECORARO, M. (2011): Gender, Brain Waste and Job-Education Mismatch among Migrant Workers in Switzerland. International Migration Paper No. 111.

PLÖGER, J., BECKER, A. (2015): Social Networks and Local Incorporation—Grounding High-skilled Migrants in Two German Cities. Journal of Ethnic and Migration Studies 41(10): 1517–1535. DOI: 10.1080/1369183X.2015.1015407

RAGHURAM, P., KOFMAN, E. (2004): Out of Asia: Skilling, re-skilling and deskilling of female migrants. Women's Studies International Forum 27(2004): 95–100.

RAKOVCOVÁ, D. (2017): Migration plans of the international PhD students. Geografie 122(1): 45–63.

ROZUMEK, M. (2012): Neregistrovaní migranti a zaměstnání. Paper presented at the conference The Future of Labour Migration in the Czech Republic 20.3.2012. Prague, Caritas Czech Republic.

RYE, J. F., ANDRZEJEWSKA, J. (2010): The structural disempowerment of Eastern European migrant farm workers in Norwegian agriculture. Journal of Rural Studies 26(2010): 41–51.

SAXENIAN, A.-L. (2006): The New Argonauts: Regional Advantage in a Global Economy. Harvard University Press, Cambridge.

SCHOVÁNKOVÁ, S. (2013): Determinants of the Spatial Distribution of Foreign Employees on Different Skill Job Positions: The Case of the Czech Republic. Danube: Law, Economics and Social Issues Review 4(2): 115–139. Warsaw, De Gruyter Open. DOI: 10.2478/danb-2013-0006

SERT, D. S. (2016): From skill translation to devaluation: the de-qualification of migrants in Turkey. New Perspectives on Turkey, 2016(54): 97–117. DOI: 10.1017/npt.2016.9

SPIELVOGEL, G., MEGHNAGI, M. (2018): The contribution of migration to the dynamics of the labour force in OECD countries: 2005–2015. OECD Social, Employment and Migration Working Papers, No. 203, OECD Publishing, Paris. DOI 10.1787/a301bef8-en

SPOONLEY, P. (2006): A Contemporary Political Economy of Labour Migration in New Zealand. Tijdschrift voor Economische en Sociale Geografie 97(1): 17–25. DOI: 10.1111/j.1467-9663.2006.00492.x

SPURNÁ, P. (2008): Prostorová autokorelace – všudypřítomný jev při analýze prostorových dat? Sociologický časopis 44(4): 767–787.

SUBEDI, R. P., ROSENBERG, M. W. (2016): High-skilled immigrants—low-skilled jobs: Challenging everyday health. The Canadian Geographer 60(1): 56–68. DOI: 10.1111/cag.12237

TREVENA, P. (2013): Why do highly educated migrants go for low-skilled jobs? A case study of Polish graduates working in London. In: Glorius, B., Grabowska-Lusinska, I., Kuvik, A. [eds.]: Mobility in Transition: Migration Patterns after EU Enlargement (pp. 170–191). Amsterdam, Amsterdam University.

TRLIFAJOVÁ, L. (2015): Cizinci ztraceni v počtech? Metodika práce s daty o cizincích ve veřejně dostupných databázích [online]. Research paper. Prague, Multicultural Centre Prague. Available at: https://aa.ecn.cz/img_upload/224c0704b7b7746e8a07df9a8b20c098/metodika-prace-s-daty-o-cizincich-ve-verejne-dostupnych-databazich.pdf

UNESCO (2017): International Standard Classification of Education ISCED 2011 [online]. [cit. 8.1.2018]. UNESCO Institute for Statistics Available at: http://uis.unesco.org/sites/default/files/documents/international-standard-classification-of-education-isced-2011-en.pdf

VALENTA, O. (2015): (Ne)využití lidského kapitálu Ukrajinců v Česku. In: Drbohlav, D. [ed.]: Ukrajinská pracovní migrace v Česku: Migrace – Remitence – (Rozvoj) (pp. 161–182). Praha, Karolinum.

VALENTA, O., DRBOHLAV, D. (2018): Míra (ne)využití vzdělanostního potenciálu zahraničních pracovníků v Česku. Fórum sociální politiky 12(2): 2–9.

VAVREČKOVÁ, J., BAŠTÝŘ, I., MICHALIČKA, L., DRBOHLAV, D., MUSIL, J. (2008): Riziko možného odlivu kvalifikovaných odborníků z České republiky do zahraničí. Final project report 13 019/04 DP2. Prague, Research Institute for Labour and Social Affairs.

VOGEL, R. D. (2013): Marxist theories of migration [online]. [cit. 14.2.2018] The Encyclopedia of Global Human Migration. DOI: 10.1002/9781444351071.wbeghm354

WEBB, S. (2015): The feminisation of migration and the migrants VET policy neglects: the case of skilled women secondary migrants in Australia. Journal of Vocational Education & Training 67(1): 26–46. DOI: 10.1080/13636820.2014.922117