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Local Labour Market Outcomes of Educational Migration

1. Introduction

Higher education in knowledge-based economies is a major channel for intergenerational upward mobility, allowing individuals to transcend class boundaries between generations (Kwiek 2015, Suchacek 2022). Moreover, universities play an important role in shaping the development of local economies and societies, which leads to the transformation of cities, even in the distant past (Brennan and Cochrane 2019, Sułkowski, Przytuła and Migdał 2020). This was not only the result of a strong city-university relationship as an institution, but above all of a strong city-university relationship as an academic community. At that time, cities hosted students and scholars played an important city-forming role. It is no different nowadays, as the transformation of cities has been a result of changes in the European education systems, consisting in the dissemination of higher education and its quantitative expansion. This process was also seen in Central and Eastern Europe (CEE) countries, which, in the early 1990s, was strongly associated with the all-embracing political, economic and

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social transformations (Dobbins & Kwiek, 2017), increasing educational aspirations, and growing population mobility (Adamska, 2020; Szewczuk-Stępień & Klemens, 2019; A. Zygmunt, 2020; J. Zygmunt, 2018). In Poland, the aforementioned phenomenon was further amplified by the liberalisation of the higher education market, enabling the establishment of new public and non-public (private) higher education institutions (HEIs) not only in traditional university cities, but also in towns that had not had a university function so far. In these times, the growing demand for access to HEIs, usually located at a distance from the place of residence, has had increasing internal migration driven by tertiary education across Poland. Nowadays, this phenomenon, defined by the authors as educational migration (Rokita-Poskart 2019), continues to reshape university cities. One of the most significant consequences of migration driven by tertiary education are economic implications. Recent studies have enumerated at least three channels through which students may affect area where universities are located. First is local commodity market (Moretti 2013; Steinacker 2005; Zasina 2021), second is local labour market (Munro, Turok, and Livingston 2009; Beblavý and Fabo 2015) and third is long-term development of cities (Valero and van Reenen 2019; Capello, Olechnicka, and Gorzelak 2013). However, there are several gaps in our knowledge about the effect of the inflow of students. Therefore, the main aim of the paper is to identify the nature of the local labour market implication driven by the inflow of students through the lens of particular local labour market in one university city in Poland – Opole. To explore this, two questions have been posed about the nature of local labour market outcomes of student migration. Firstly, what are the substantial details of students’ employment in Opole and what consequences does internal educational migration cause on the local labour market of the university city in the short run? Secondly, what are possible outcomes of internal educational migration on the local labour market of the university city in the long run?

In this paper, a mixed-method approach was adopted, combining both qualitative and quantitative research. A survey was conducted among 642 non-local students (educational migrants) at Opole universities and in-depth interviews among 19 local small and medium-sized enterprises. The findings were supported by complementary structured interviews conducted among managers of foreign investors located in Opole.

The paper is structured as follows. The second section presents the literature review devoted to the relation of the inflow of students and the local labour market while the third is devoted to the description of research area, applied

data and methods. The fourth section presents the most important findings on the labour market outcomes of student migration to the city and discussion on the topic as well. The paper ends with concluding remarks.

2. The literature review and research hypothesis development

The impact of internal migration driven by higher education on local labour markets is rarely the subject of public and academic debate. However, this aspect of migration should be regarded as a process of the influx of students to an university city; and it has a lot in common with the immigration process, which is far more frequently undertaken in the literature (Rokita-Poskart 2016). The presented literature review concerns at least four issues connected with student migration and the labour market – labour supply, labour demand in the context of jobs creation, wages and labour market equilibrium.

In the literature, much attention is paid to the effect of international students on the increase of labour supply in the host country (Hsieh and Kohler 2007; Oláh et al. 2017). It is implied in recent research that international students have been associated with highly skilled workers (Maury 2020). Thus, their migration results in the acquiring of talents who, if international students remain in the host country after completing education, augment the national labour force (Clarke, Ferrer, and Skuterud 2018; Mellors-Bourne et al. 2013). In the long term, as a result of migration and the retention of graduates, there are demographic and labour market benefits (Jończy and Rokita-Poskart 2012; Orrenius, Zavodny, and Gullo 2020). This may be particularly important in countries facing an ageing population and a significant decline in the working age population. Recent studies have described that international students are treated as a solution to work shortages (Hou & Lu, 2017; Weert 2011).

Overall, less attention is paid to the effects of educational migration on the meso level. One strand of the literature focuses on the impact of the influx of educational migrants to university cities on the labour supply. This is a result of a significant increase in students engaged in paid employment while attending a university (Munro, Turok, and Livingston 2009; Peri 2016; Peri and Yasenov 2021; Joensen 2011). In certain studies which analysed the relationship between student employment and the situation on the local market in the short run, it was found that working students cause an increase in the labour supply in university cities, but also push low-skilled urban residents out of the labour market (Munro, Turok, and Livingston 2009;

Beblavý and Fabo 2015; Kubiciel-Lodzinska and Maj 2020; Layne-Farrar 2017). Valid claims are increasingly being made about students who often work in trade and services, as they are more likely to work in the evenings, nights and at weekends (Kureková and Žilinčíková 2016; Pusztai and Kocsis 2019). In this way, students are understood to be workers who fill gaps, mostly in hard-to-fill vacancies (Munro, Turok, and Livingston 2009; Beblavý and Fabo 2015; Maury 2020; Kubiciel-Lodzinska and Maj 2020; Barron and Anastasiadou 2009). Gabriel and Schmitz (1995), supported by Korpi and Clark (2017), claim that the role of students in the sustainable growth of the local workforce and the accumulation of human capital is even much more important in the long run when they decide to stay in the city after graduation. This results in a number of other outcomes for the local labour market of university cities.

Another strand of the literature is concerned with the issue connected with immigration and the demand for labour. The effect of immigration on the labour demand is related to the influx of people who spend money in the local market, pushing the demand for goods and services, which in turn leads to an increase of local demand for labour (Constant 2014; Bae and Kochin 2018). Similar consequences bring the influx of students connected with educational migration – the increase of demand for goods and services consequently leads to job creation. These were most frequently confirmed by *Impact Studies* conducted by universities and cities in the USA (Valero and van Reenen 2019; Steinacker 2005; Fowler and Fuller 2005).

The relation between students working while studying and the local labour market might also be analysed in terms of wage level (Rosenzweig, Irwin, and Williamson 2006; Hou and Lu 2017, Gleason, 1993). While, current research shows very little on impact of the inflow of students to local wage effects in the university city (Hofman, Steijn 2003, Crawford 2008, Farbenblum and Berg 2020), there have already been studies devoted to the impact of low-skilled and high-skilled immigrants on wages in the general perspective. The theory might suggest that an increase of labour supply reduces the local wages of competing native workers (Dustman, Glitz and Frattini, 2008). However, the existing literature indicate that the relation depends on the substitutive or complementary nature of migrants' qualifications and their short-term or long-term effects (Ruhs 2020). Borjas (2009) suggests that the higher scale of migration as a substitution workforce should lower the wages of competing workers, while analyzes presented by Butcher and Card (Butcher & Card, 1991) demonstrated that even large-scale migration has no effect on wages.

According to Ma (2020), a large inflow of skilled immigrants has limited impact on natives with similar skills and in the same professions. However, possible effects of migration on wages remain core concerns in the public and academic debate as till now the economic literature has not reached a consensus on this issue.

Certainly, the relation between students' employment in the host city and the labour market flexibility has received even less attention. Before we proceed the literature review about the issue, the terms 'labour market flexibility' require explanation. Solow (1998) claim that much more common definition that exist in literature is 'labour market inflexibility'. Nevertheless, he wrote that the term "is never defined very precisely or directly in the context, but only by the enumeration of tell-tale symptoms" (Solow, 1998). According to Rubery and Grimshaw (2003) the term might be defined in the broad view as the ability and respond to market changes. In the existing literature, it is argued that by increasing the widespread availability of labour resources through student migration, the university city labour markets become much more flexible. The availability of students allows companies to adapt to market needs by adjusting the size of employment depending on seasonal patterns of customer demand (Beblavý & Fabo, 2015; Curtis, S., Lucas, 2001; Munro et al., 2009). This mechanism ensures that the imbalance in the local labour market is eliminated due to the availability of students as workers.

The presented literature review led to development of few hypotheses related to the short run:

- H1. Internal educational migration has increased the supply of unskilled workers in the local labour market of Opole.
- H2. Internal educational migration driven by tertiary education stimulates the flexibility of the selected firms in local economy.
- H3. The inflow of native students creates jobs in the Opole university city.

Based on the literature review, one hypothesis related to the long run has been stated as follows:

- H4. Migrants' retention by the city has determined permanent increase in the structure of the labour force and the demand for labour in Opole.

3. The area, data, research and analysis methods

The paper is based on the estimation of both quantitative and qualitative data collected in the study. It was conducted in Opole, which is the capital of the Opolskie region, located in south-western part of Poland. Opole has approx. 130,000 residents and fulfils a number of administrative functions (Heffner et al., 2019). One of these is a university function. Total of 20,000 students have enrolled in four HEI located in Opole (Local Data Bank, 2022). It is estimated that 90% of these students are non-local students who are defined as educational migrants. Opole is a good example of a city where there is a high student impact on the demographic, economic and social situation. It is not the result of the impressive total number of students engaged in tertiary education in Opole but the share of students, the majority of whom are educational migrants, per number of inhabitants. The value of this indicator puts the city in the first place among all nonmetropolitan provincial cities in Poland.

In the research, a mixed approach was applied, which integrated elements of quantitative and qualitative methods. The quantitative research was conducted in 2016 and 2017 among final-year students at universities in Opole by face-to-face auditorium technique within the paper questionnaire. Random-quota sampling was used in the research. Firstly, a simple random sampling of the fields of study offered by each Opole university was used. Afterwards, quota sampling on the two characteristics of total Opole students among the selected field of study sample was applied: gender (59.9% of females and 40.1% of males) and the mode of study (67.4% of full-time students and 32.6% of part-time students). The final dataset includes information about 730 students, of which 642 were non-local students. Because the research was mainly focused on the consequences of the inflow of students on the university city, only questionnaires filled in by non-local students were used in the analysis.

The questionnaire has already been adapted and developed from pilot study which were conducted among students in 2013 and 2015 to assess the data collection instruments, recruitment strategies and to identify potential problems areas before the full-scale studies. Its structure was organised around three primary themes enumerated by the literature (Curtis, Lucas, 2001, Steinacker, 2005, Moretti, 2013, Zasina, 2021) (figure 1).

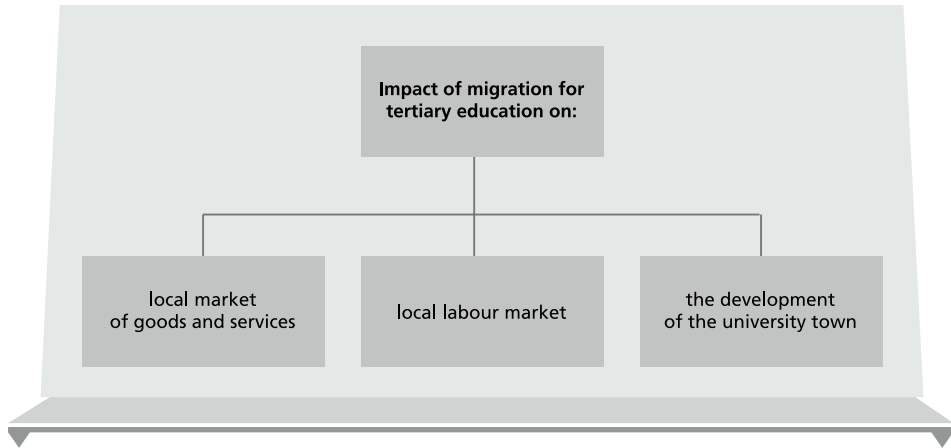


Figure 1. Areas in which migration for tertiary education are shaping cities

Source: own elaboration

Therefore, we ask students about their expenditures in Opole while studying, their work and place of residence and work plans after graduation. Data obtained during survey research was used to estimation of the consequences of non-local students on local commodity market, local labour market and the development perspective of Opole.

To present the consequences of educational migration on the labour supply, the dataset collected during the survey among students and local enterprises was used. In order to assess the effects of the inflow of native students on the jobs creation in the university city, the research results on students spending and statistical data were used. In the existing literature there are enumerated models on estimating the impact of a college or university on local economy which allow to estimate jobs creation. The most known are American Council of Education model (ACE) (Caffrey and Isaacs, 1971), Ryan 'shortcut' model (Ryan, Malgieri, 1992), REMI method, and RIMS–II model (Kotosz et al., 2015). Although researchers claim that typical economic models brought some difficulties as were based on American reality and requires many resources to obtain (Fernandes, Cunha and Oliveira, 2013). However, many similarities to the abovementioned model has Krzysztof Wiedermann's approach which correspond to the Polish context. In spite of the fact that it was originally used to determine the impact of investments on the socioeconomic environment, it

is complex and general enough that it can also be used in the evaluation of the number of jobs that are created by non-local students' spendings. Therefore, in the assessment of effects of non-local students on the local labour demand we adopted Krzysztof Wiedermann's approach (Wiedermann, 2008) on evaluation of income multiplier effects.

The basis of calculations was the dataset collected during the survey among students on the average amount and structure of migrants' expenditures in Opole and statistical data related to the share of labour costs in the revenues of local enterprises (Central Statistical Office 2017b; 2017a) in the different sections of the Polish Classification of Activities (PCA). In order to estimate the number of jobs created by migrants' expenditures, the following authors own mathematical method based on Wiedermann's approach was applied:

$$J = \frac{TRx \cdot Lc \text{ in } TRx}{Mlc \cdot 9} \quad (1)$$

where:

- J – the number of job created by students' expenditure,
- TRx – revenues of enterprises of particular sections of PCA,
- $Lc \text{ in } TRx$ – share of labour costs in revenues of enterprises of particular sections of PCA,
- Mlc – monthly cost of one job in enterprises representing particular sections of PCA,
- 9 – the number of months of academic year that non-local students stay in the city.

While identifying potential outcomes of city retention of students on permanent increase in the structure of the labour force and the demand for labour the results research were analysed. The first was related to the students plan after graduation and the second was obtained during the qualitative research conducted among 19 selected local enterprises: mostly entrepreneurs running businesses near universities, campuses and in the city center. In the research individual in-depth interviews were used. The interview scenario consisted of questions about the impact of students on business revenue, employment, and the development of the city. In addition, the qualitative research was conducted among representatives of 7 foreign investors located in Opole (Zubek, 2020). The survey was conducted by structured interviews. The vast majority of

respondents represented the Business Process Outsourcing companies located in Opole. The purpose of this research was to obtain information on the role of graduates' presence in the investor location decision.

4. Results and discussion

The research sample contain 642 non-local students. In terms of gender most of them were female (60.6%) and less men (39.4%). Regarding the information of respondents, there were 67.6% students who have taken up full-times study and 32.4% students of part-time study (table 1).

Table 1. The presentation of research sample

Characteristic		Frequency	%
Gender	Male	389	60.6
	Female	253	39.4
Mode of study	Full-time	434	67.6
	Part-time	208	32.4

Source: own study

4.1. Labour market in short run

Based on the literature review (Munro et al., 2009) and on pilot studies, it was assumed that (H1) the inflow of students to university city increases the supply of unskilled workers in the local labour market. In the Opole case study the research results seem to confirm this hypothesis. They indicate that 27.9% of non-local students were engaged in paid employment in Opole while attending university. When we extrapolated the results on the whole migrant population in the university city then we could assume that about 5,000 non-local students were working in the city while studying. The analysis has shown that the average educational migrant worked 40 hours for 45 weeks in Opole. Thus, it may be concluded that the total labour supply, measured by the number of hours of the average migrant who worked in Opole, was therefore 1,350 hours. It is noteworthy that migrants' willingness to work in the university city led to an

increase in the labour supply, which reduced the chronic shortages observed in some areas of the local economy which were reported by in-depth interviews conducted with all local entrepreneurs. Moreover, it is interesting, to what extent the structure of student's occupation in sectors like retail, trade, hotel and catering industry may substantially displace the occupation of lower-skilled workers. Thus, variety of studies show that employment rate of lower-skilled workers remains high due to students' employment in the secondary labour market (Hofman, Steijn, 2003, Delvin et al. 2014, Green et al. 2016).

What is important is not so much the availability of migrants on the local labour market but the nature of their employment. According to the survey results, about one fourth of the migrants engaged in paid work in Opole while studying was willing to take up a job in the city for a salary lower than the minimum wage in Poland. What is more, about two thirds of the migrants took up temporary jobs, and only one third permanent jobs. No less important is the concentration of educational migrants in selected industries and occupations. The collected data show that most students work in the wholesale and retail sector (41%) and in accommodation and catering services (23%). Less popular sectors for migrant employment in Opole were childcare and education, production, public administration, banking, construction, IT and logistics. For the nature of their employment and their concentration in only a few sectors of the local economy, three major aspects can be noted. First, the work offered by entrepreneurs in the retail, accommodation and catering sectors does not usually require high qualifications and work experience, which students usually do not yet have. Second, students are willing to work evenings and weekends – during hours that may be fitted in with university coursework. Third, students, because of the fact that they are often dependent on their parents, can cope better than other locals with lower earnings. In principle, all these criteria are met mainly by full-time students. There is some evidence that not only low wages, the willingness to work in evening hour and students flexibility are taking for consideration when recruiting students (Ralston, 1997, Ford, Bosworth, Wilson, 1995). Furthermore, other motives are related to their ability to learn and their communication skills (Hofman, Steijn, 2003, Green, et al., 2016).

There was evidenced by in-depth interviews with local entrepreneurs of Opole that the hypothesis that internal educational migration has increased the supply of unskilled workers in the local labour market (H1) and has stimulated the flexibility of the selected firms in local economy (H2) was also confirmed. The vast majority of respondents indicated that the availability of educational migrants in Opole, their wage preferences and willingness to work nonstandard

hours had a quantitative and structural impact on reducing mismatches in the local labour market. What is more, respondents claimed that the flexibility of educational migrants' work allows local companies to adapt the size of their employment to changes in market demand. In light of these considerations, this confirms the complementary and flexible role of migrants in the local labour market. These findings are with a line with the previous studies which noticed that part-time students' employment help with dealing with effects on recession, functional and financial stability (Green, et al. 2016). Curtis and Lucas (2001) findings also show that variety of feature of students' employment are generally considered positively and well recognised as beneficial for market stability and flexibility.

The third assumption that arose from the literature review is the hypothesis (H3) that the inflow of native students creates jobs in the university city. Mazzolar and Neumark (2009) show that the increase in the number of local populations raises demand for goods and demand for labour. These findings were also confirmed by other researcher (Longhi, Nijkamp and Poot, 2010, Bodvarsson, Van den Berg, Lewer, 2008). Moreover, the relation between migrants spendings and jobs creation were confirmed by variety of *Impact Studies* (Valero and van Reenen 2019; Steinacker 2005; Fowler and Fuller 2005) as well as the results presented in the article. This is due to the mechanism of relations between the goods and services market and the labour market. The inflow of students to the city and the fact that they become consumers in the university city results in an additional demand impulse, creating higher revenues, leading to an increase in the demand for labour and an increase in employment.

Based on the result of the survey conducted among the non-local students, their expenditure in Opole was estimated on about PLN 100 million in the local market of goods and services over the entire academic year. About 60 million non-local students spent in trading companies, more than 14 million in accommodation and catering enterprises, over 5 million in transport enterprises, 1.6 million in photocopying enterprises and more than 4.6 million in other service enterprises. Based on the formula presented in the previous section of the article, which use the dataset collected during the survey among students and statistical data, it was calculated that non-local students, contribute to an increase in enterprise revenues and create at least 355 jobs (table 2).

The presented estimation suggests that the significant role of job creation due to non-local students spending play trading enterprises (178) and accommodation and catering enterprises (105). There are mainly these that

are the most engaged in satisfying the consumption demand of students. Overall, other types of firms have less contribution in jobs creation in local economy - 'only' about 70 jobs have aroused in enterprises providing sport, arts and recreation services, transport enterprises and enterprises providing photocopying services. It is associated with lower students spendings in sectors of local economy.

Table 2. Estimation of the number of new jobs created as a result of educational migrants' expenditures in Opole

	A	B	C	D
	Estimated revenue of local companies deriving from expenditure made by educational migrants in Opole (based on the results of the research)	The proportion of labour costs to revenue of enterprises of particular sections of PCA (based on CSO data)	Monthly labour cost per employee in enterprises of particular sections of PCA (based on CSO data)	Number of new jobs created as a result of educational migrants' expenditures in Opole in enterprises of particular sections of PCA
Trading enterprises	60,905,693	8.0	27,298	178
Accommodation and catering enterprises	14,518,672	18.0	24,862	105
Enterprises providing services related to sports, arts and recreation	5,276,533	28.0	38,811	39
Enterprises providing transportation	4,533,160	8.0	36,631	10
Enterprises providing photocopying services	1,643,801	14.0	20,103	11
Other service enterprises	4,660,132	8.0	31,313	12
Total number of created jobs				355

Source: own study

4.2. Labour market in long run

The fourth hypothesis (H4), which was derived from the literature review, assumed that from the view of selected local investors educational migration causes permanent increase in the structure of the labour force and in the demand for labour in Opole. Not only results of interviews with managers of foreign investors located in Opole seem to confirm the hypothesis, but also results of the survey among students. The findings from local case study of Opole suggest that in terms of the educational migration and the permanent increase in the structure of the labour force, the non-local students' intention after graduation is of critical importance, in particular post-graduation intention for location of future employment. The research results conducted among students have shown that 28.2% of educational migrants anticipated to work in Opole after graduation from university. Thus, it can be estimated that the city could gain thousands of new workforces in just one academic year. It is essential to point out that the employment of educational migrants after graduation has a different impact on the local labour market than while attending the universities. This is because graduates have already looked for jobs which require more advanced qualifications confirmed by a university diploma and had higher expectations in terms of salary (Perales and Chesters, 2017). Therefore, the vast majority of graduates affect the primary labour market, not like in the case of employment during studies – the secondary labour market. In regard to wage expectations, the following conclusion is drawn. The research findings suggest that migrants expected on average PLN 1,000 more after graduation than their job during studies. Additionally, the average starting expected salary of graduates varies significantly according to the job location. Migrants expected a lower salary for doing the same job in Opole than in other parts of Poland. The lower salary expected in Opole refers to both jobs below migrants' qualification level and jobs which were relevant to their qualification.

An important positive consequence of the availability of university graduates in the university city is an increase in investment attractiveness, which drives the local economy (Correia et al., 2020, Hu Liu Y, Zhang and Dong, 2020, Sunley, Martin, Gardiner and Pike, 2020). There are many indications that a skilled workforce creates an important investment potential. Many studies confirmed that the availability of skilled labour who had been attracted to a city for education purposes is one of the most important factors affecting the ability to attract investors (Ali et al., 2018; Blanton & Blanton, 2006; Diebolt

& Hippe, 2019). Foreign investors permanent affect the local labour market, mostly through job creation and a tendency to pay higher wages. This might be confirmed by the results of interviews conducted among foreign investor managers located in Opole (Zubek 2020) – figure 2.

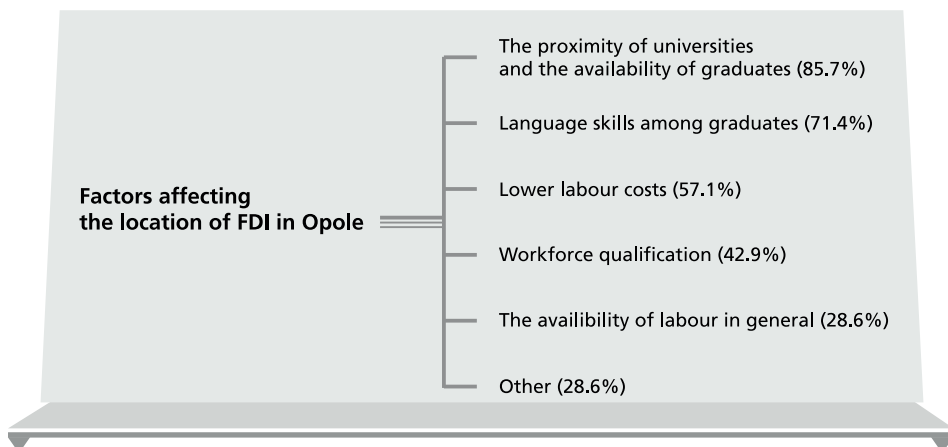


Figure 2. The determinant of business location in Opole

Source: own elaboration based on (Zubek, 2020)

The presented results indicated the significance of three factors affecting the location of foreign investors in Opole. The most important was the proximity of universities and the availability of graduates (85.7%), next was language skills among graduates (71.4% of respondents) and lower labour costs (57.1% of respondents). Slightly less important factors were workforce qualifications (42.9% of respondents) and the labour availability in general (28.6%), as well as other factors such as specific fields of study offered by Opole's universities (14.3%) and the mentality of the local society (14.3%).

If results confirm that one of the most important factors attracting foreign investors representing the BPO sector is the skilled workforce availability, the language skills among graduates and lower labour costs, therefore it can be concluded that educational migrants and their willingness to work in Opole after graduation create investment opportunities for the university city and in fact attract foreign companies. Consequently, the inflow of the investors to the university city creates new jobs in the local economy. This impulse stimulates

the local economy, affects the incomes of local society members and affects the development of not only the local labour market and the creation of jobs, but also contributes to the development of the local goods and services market. According to Sunley, Martin, Gardiner and Pike (2020, p. 112) “the significance of human capital has increased and become the key engine of city growth”. They claim that “there is a clear and strong relationship between the growth of more highly skilled occupations and total employment across these cities, reinforcing accounts of the recursive relationship between skilled labour accumulations and city economic growth”(Sunley, Martin, Gardiner, Pike, 2020, p. 127).

5. Conclusions

This paper explores the relationship between internal migration for tertiary education and local labour market outcomes. On example of Opole it has been shown that the inflow of students to the university city can lead to short-run and long-run effects for the local economy.

In regard to short run, it has been shown that the intensive migration flow connected with tertiary education may lead to increase the supply of unskilled workers in the local labour market of the university city. The willingness of students to work during term time affects the greater availability of labour resources in the university city, in particular in those sectors where hard-to-fill vacancies exist. It has been presented that the availability of students as workers in the university city, their willingness to take up work while studying, their salary preferences and students’ willingness to work flexible hours make it reasonable to assume that educational migration not only lead to increase the supply of unskilled workers but also provide flexibility for local enterprise. This makes it easier for local businesses to adapt to the changing market circumstances, in particular in the hospitality or retail sectors. Thus, working students can be considered a driving force for local economic activity, mainly when local business struggling to find workers. Additionally, the availability of students as consumers shift the local consumer demand, the revenues of local enterprises, thus creating new jobs. The presented estimations indicate that the expenditures of educational migrants create at least 350 new jobs in Opole in just one academic year. The findings related to the labour demand refer to enterprises directly satisfying the demand of students, located mostly near campuses, universities and in the city centre. However, it should be emphasised that through the multiplier effects, the students’ spending affects the creation of new jobs in other economic entities,

which does not directly participate in satisfying the demand of migrants. This reasoning is supported by the economic-base theory which the main assumption is the creation of indirect economic impact and increase of the overall economic activities by the development of primary sector in local economy (Krumme, 1968).

In the long run, it was shown that due to the migrants' willingness to stay and work in the university city after graduation, other labour market outcomes can be observed. It might cause a permanent increase in the labour workforce availability in the city and attracts investors to the local economy. Therefore, the retention of students in the university city can be perceived as a one of the main factors driving changes in the structure of the labour demand in the local economy.

Additionally, the limitations of the presented study should also be discussed. The presented estimation does not include two important groups that affected the labour market outcomes. The first are foreign students, whose availability in the university city creates similar consequences for the local economy as native students. However, there is at least one more important advantage of foreign students over native migrants. Nowadays, many university cities in Poland have been facing unfavourable demographic changes, and it is extremely important to attract foreign students in addition to native students in order to avoid draining other regions of the country of their human capital. The second group which was not included in the presented study are university employees, who have jobs due to students enrolled in the universities.

However, it has to be emphasised that the analysed outcomes of migration for tertiary education are only a small but vital part of the consequences of education migration. The global spread of the coronavirus has also stressed the importance of educational migrants in university cities. The lockdowns, the decrease in mobility, the absence of students in the university cities and remote learning have affected many businesses which are facing issues with revenue, costs, and income. At the moment, the exact local economic consequence of the pandemic is incredibly difficult to define, but it is certain that the longer distance learning lasts, the more difficult it will be to recover from this exceptional crisis and rebuild the student infrastructure, which has been depleted in many university cities during COVID-19 pandemic.

Summary

Thus far, the majority of studies have focused on international student migration. Less attention has been paid to internal

migration for tertiary education and even less to local effects caused by this category of migration. To redress this limitation, the paper determines the most important consequences of internal migration for university enrolment in the local labour market of a university city. This is shown through the example of the Polish university city with one of the highest student-to-population ratios – Opole. The study is based on the literature review and the result of qualitative and quantitative research conducted in Opole. The first was conducted among students and the second among owners and employees of local enterprises. Findings of the research suggest that the inflow of students to the university city can lead to short-run and long-run effects on the local economy. Findings of the research suggest that in the short run the inflow of students to the university city leads to structurally important changes in the labour supply and creates new jobs. In the long run, it leads to permanent changes in labour resources, attracts investors to the city and causes permanent changes in the labour demand.

The analysed outcomes of migration for tertiary education are only a small but vital part of the consequences of education migration. The global spread of the coronavirus has also stressed the importance of educational migrants in university cities. The impact of pandemic COVID-19 on university cities should be the subject of future research.

Keywords: *university cities, educational migration, local labour market, labour supply, labour demand.*

JEL: I25, O15

Streszczenie

Konsekwencje migracji edukacyjnych dla lokalnego rynek pracy

Do tej pory większość badań koncentrowała się na międzynarodowej migracji studentów. Mniej uwagi poświęcono migracjom wewnętrznym związanym z podejmowaniem studiów wyższych, a jeszcze mniej – lokalnym skutkom tej kategorii migracji. W związku z tym w artykule określono najważniejsze konsekwencje migracji wewnętrznych związanych z podejmowaniem studiów wyższych dla lokalnego rynku pracy

w mieście akademickim. Ukazano to na przykładzie Opola – jedno z miast o najwyższym wskaźniku studentyfikacji mierzonego liczbą studentów do liczby mieszkańców. Opracowanie opiera się na przeglądzie literatury oraz wynikach badań jakościowych i ilościowych przeprowadzonych w Opolu. Pierwsze z nich przeprowadzono wśród studentów, a drugie wśród właścicieli i pracowników lokalnych przedsiębiorstw. Wyniki badań sugerują, że napływ studentów do miasta uniwersyteckiego powoduje krótko- i długookresowe konsekwencje dla lokalnej gospodarki. W krótkim okresie napływ studentów do miast uniwersyteckich prowadzi do strukturalnie istotnych zmian w podaży pracy, a także do powstania nowych miejsc pracy. W długim okresie napływ studentów prowadzi do trwałych zmian w zasobach pracy, przyciąga inwestorów do miasta i powoduje trwałe zmiany w popycie na pracę.

Analizowane w artykule skutki migracji stanowią niewielką, ale istotną część zidentyfikowanych w trakcie badań konsekwencji migracji edukacyjnych. Wagę tego zagadnienia ukazała także pandemia COVID-19, która ograniczyła mobilność za wykształceniem i dostępność w miastach akademickich studentów stanowiących ważną część lokalnych zasobów pracy.

Słowa

kluczowe: *miasta uniwersyteckie, migracje edukacyjne, lokalny rynek pracy, podaż pracy, popyt na pracę.*

JEL: **I25, O15**

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