ECONOMIC MIGRATION AS AN OUTCOME OF GLOBALIZATION AND INTEGRATION PROCESSES AFFECTING THE COMPETITIVENESS OF REGIONS

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Abstract: Economic migration of adolescents is of global nature. The openness and free flow of goods, services, and capital within the EU facilitate migration movements. A region's competitiveness may be indicated by good health care within its limits (the lowest possible percentage of adolescents emigrating after graduating from nursing studies), especially in the ageing Polish population. A higher number of professionally-active nurses reduces the shortage of the mid-level staff at hospitals, which is of particular importance to the families with children and the elderly (grandparents). The primary objective of this study was to identify factors that encourage nursing graduates to leave the country, in order to eliminate them. In addition, factors encouraging nursing students to return from emigration were established as well, as this knowledge would facilitate the increase of the region's competitiveness, especially in the health care sector. The manuscript presents the results of a survey conducted among 181 students of the nursing major at the University of Rzeszów, based on an original questionnaire. A logistic regression model was developed to verify the strength of correlations between the inclination to migrate and the prospect of a better job and of having a family in the destination country. In addition, a correspondence analysis was employed at the observational-empirical level to depict a relationship between, i. a., the inclination to migrate and the push factors. The valuable human potential of nurses can be kept in the country through, primarily, increasing their salaries and improving their work conditions.

Keywords: globalization, European Union, migrations, nurses.

1. Introduction

Migrations mean the spatial mobility of populations associated with a relatively permanent change of the place of residence (Lee, 1966; Okólski, 2005; Kaczmarczyk, 2005a; Organiściak-Krzykowska, 2013). They may be driven by various reasons, e.g. these necessitated by the forces of nature like: floods, hurricanes, and volcanic eruptions, or by the anthropogenic activity such as: wars, political system transformations, or socio-economic changes. Individuals may

also strive to improve their life status in the areas of housing, wages, and education (Kaczmarczyk, 2008; Organiściak-Krzykowska, 2013). The neoclassical pull and push factors theory (Lee, 1966) distinguishes the pull and push factors of migration. A decision to migrate is taken when the push factors dominate in the country of origin and the pull factors – when they dominate in the destination country (Organiściak-Krzykowska, 2013).

The transformation of the Polish political system (in 1989), followed by Poland's accession to the European Union (in May 2004) have resulted in lifting the restrictions in international traffic. The free movement of capital, goods, persons, and the provision of services under the principles of the free market of the European Union (Article 26 item 2, Article 63 Consolidated version of the Treaty on the Functioning of the EU, 2016) have provided individuals with the freedom of choice, i. a. in the country of residence and work, and thus has affected the extent of the migration phenomenon. The number of persons staying temporarily abroad increased from 1 million in 2004 to 2.5 million in 2016 (GUS, 2016a). For this reason, due to their mass character, the economic emigrations abroad have become one of the most serious socio-economic problems of Poland after the year 2004 (Jończy, 2006). Emigrants are usually young and educated people aged 25-35 (GUS, 2018). Their mass migrations may disturb the development and competitiveness of the region they have left.

Migrations, especially these for economic reasons, pose a global problem that afflicts various countries, regions, as well as age and occupational groups. Competitiveness and further development of a region will entail keeping young persons in a given unit of the territorial government or persuading them to return from emigration. They will become an economic and social potential of the region in which they settle and start work. This refers in particular to nurses having specific skills and qualifications that are searched for on the domestic and international labour marker. In addition, while returning from emigration, they would bring (as an added value) their experience and knowledge acquired while working abroad. Because the Polish country has incurred great costs of their education, it would be worthwhile to consider how not to waste this valuable human capital. It may be successfully exploited to provide an appropriate health care. This is essential with respect to the ageing Polish population. The average lifespan in Poland is extending and is currently 82 years for women and 76 years for men (GUS, 2018). According to the data from Statistics Poland (GUS), the number of 60+ persons will increase to 37% of the Polish population by 2050 (GUS, 2014, 2016b). The number of nurses per 1 000 inhabitants in Poland is one of the lowest in Europe. In 2016, it reached 5.24, compared to 17.5, 13.1, and 7.9 in Switzerland, Germany, and Great Britain, respectively (Raport Naczelnej Rady Pielęgniarek i Położnych..., 2017; Leśniowska, 2005). This data indicates the need for a higher number of nurses in our country. Unfortunately, nursing graduates increasingly often migrate abroad to find a better paid job (Raport Naczelnej Rady Pielęgniarek i Położnych…, 2017; Raport Naczelnej Rady Pielęgniarek i Położnych…, 2015). This is an example of the so-called 'brain drain' phenomenon (Kaczmarczyk, 2005b; Makulec, 2013), i.e. emigration of well-educated specialists, who could find a job also on the Polish labour market. However, they emigrate because they can find a better paid job abroad, in which

they will perform the same duties. This applies to such groups as engineers, IT specialists, scientists (Mihi-Ramírez et al., 2015), physicians, and nurses (Leśniewska, 2005, 2008). The reasons for emigration include not only higher salaries, but also better working conditions or the existence of immigration networks (relatives and acquaintances) in the country of emigration (Wyrozębska, Wyrozębski, 2014; Smoleń, Kędra, 2018; Kowalewska et al., 2018).

This manuscript presents results of a survey conducted among the students of the nursing major (1st and 2nd degree) at the University of Rzeszów. Its main goal was to identify factors that encourage young people (nursing graduates) to migrate from the country, in order to eliminate them. In addition, factors encouraging nursing students to return from emigration were identified. Conclusions from the research can be treated by local governments as guidelines for creating a strategy that would enable increasing region's competitiveness, especially in the health care sector.

2. Research Methodology

The main goal of the survey was to identify the push factors. In addition, an attempt was made to establish their significance for respondents and to indicate which of them were of the greatest importance. The minimum sample size was computed, based on the following formula:

$$n = \frac{p\,(1-p)}{\frac{d^2}{z^2} + \frac{(1-p)}{N}} \tag{1}$$

where:

n – minimum sample size,

p – percentage of the phenomenon in the general population,

d – a standard estimated error,

z – value calculated from the adopted level of confidence (in this case: 1.96),

N – population size.

This manuscript presents a fragment of investigations conducted within a PhD thesis. The minimal sample size was established based on statistical data from the Statistics Poland (GUS), concerning the number of students in state higher education institutions (universities and medical universities) offering the 1st and 2nd degree studies of the nursing major in the Podkarpackie Voivodeship. The University of Rzeszów met the above criteria with its 207 students of the nursing major (GUS, 2016c). Subsequently, the minimal sample size reached 135 individuals. The research was conducted using the survey method (in the form of an auditorium survey), however, participation in it was not obligatory. The research tool was a survey questionnaire. The number of completed questionnaires was higher than the minimal sample size; ultimately 181 students participated in the survey.

The respondents were asked to, i. a., indicate and assess the effect of selected reasons for migration on the attractiveness of emigration. The assessment was made based on the Likert scale, using the following scores: 1 – unimportant factor, 2 – factor of little importance, 3 – factor of medium importance, 4 – important factor, and 5 – very important factor. However, in order to illustrate the results on graphs and to make the data presentation clearer, factors 1 and 2 were grouped as being of little importance, 3 – as one of medium importance, and factors 4 and 5 as important ones.

Statistica and IBM SPSS Statistics Viewer software was used in the quantitative analysis. The level of significance and Spearman's rank correlation coefficient were calculated for the pull and push factors, for an inclination to migrate, and for the willingness to migrate after graduation. Moreover, a logistic regression model was developed in order to test the strength of correlations between the inclination to migration, prospect for a better job, and having family in the destination country. In addition, a multiple-variable statistical analysis was employed at the observational-empirical level, i.e. correspondence analysis, to depict a correlation between the inclination to migrate and the push factors.

3. Research results and their analysis

181 students of full-time and part-time studies at the nursing major of the University of Rzeszów participated in the survey. The group of respondents included 96% of women and 4% of men, of whom 66% were single and 20% had children. 62% of respondents came from rural areas. In spite of the fact that as much as 87% of students estimated their chances for finding a job as very high and high, 84% of respondents considered emigration after graduating from studies. In the case of 85% of respondents, the reason for migration was finding a well-paid job, whereas 10% of respondents indicated continuing education and 4% reuniting with families. The will of returning from emigration was declared by 47% of respondents, however, 44% of students have not decided about that yet ('it is hard to say'). The most popular migration destinations turned out to be: Great Britain (28% of respondents), Norway (17%), the USA (14%), Germany (13%), Switzerland (5%), and Canada (5%).

The inclination to migrate results from a subjective self-evaluation of a respondent's will to emigrate to another country. Results of the survey demonstrate that as much as 79% of respondents declared their inclination to migrate as high and average. Data presented in Table 1 allow concluding that the inclination to migrate was statistically dependent on the push factors, i.e. low salaries, prospects for a better-paid job and promotion opportunities, as well as gaining professional experience. In addition, persons who declared that the inclination to migrate was important to them often indicated the will of migrating after graduation as

a significant factor in taking the decision about migration. A similar dependency was observed in the case of factors concerning better prospects for employment and promotion (Table 1).

Table 1.
*Spearman's rank correlations coefficients for the push factors*

	How do you evaluate your inclination to migrate to a different country?	Are you interested in migrating to a different country after graduation?	higher salary	better prospects for employment	better prospects for promotion	having acquaintances/relatives in a destination country	social security
How do you evaluate your inclination to migrate to a different country?	1.000	-.529**	.092	.229**	.189*	.210**	.100
Are you interested in migrating to a different country after graduation?	-.529**	1.000	-.230**	-.110	.031	-.026	-.150*
higher salary	.092	-.230**	1.000	.479**	.263**	.002	.216**
better prospects for employment	.229**	-.110	.479**	1.000	.562**	.073	.284**
better prospects for promotion	.189*	.031	.263**	.562**	1.000	.019	.254**
having acquaintances/relatives in a destination country	.210**	-.026	.002	.073	.019	1.000	.344**
social security	.100	-.150*	.216**	.284**	.254**	.344**	1.000

* Correlation significant at 0.05 (two-way).
** Correlation significant at 0.01 (two-way).

Source: Calculations in SPSS software based on own study.

The importance of the push factors in making decision about migration was depicted in horizontal bar chart (Figure 1). The most important factors in the decision-making process included: salary (97%), better prospects for employment (94%) and promotion (84%), as well as gaining professional experience (82%).
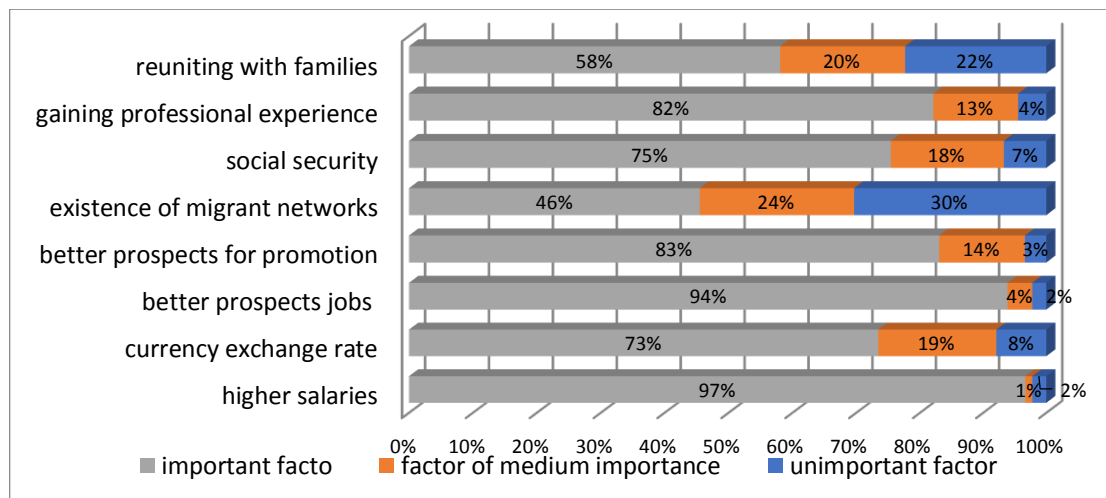
Figure 1. Factors encouraging students of the University of Rzeszów for migration (push factors). Adapted from: own research.

The correspondence analysis was employed to depict a correlation between the inclination to migrate (ItM) and the push factors (F1-F8). Row coordinates included: F1 – higher salary, F2 – currency exchange rate, F3 – better prospects for employment, F4 – better prospects for promotion, F5 – existence of immigrant networks, F6 – social security, F7 – gaining professional experiences, and F8 – reuniting with families.

Column coordinates included: ItM (h/m/l) high, medium or low inclination to migrate for which the pushing factor is important or highly important (h), is of medium importance (m), and is of little importance (l).
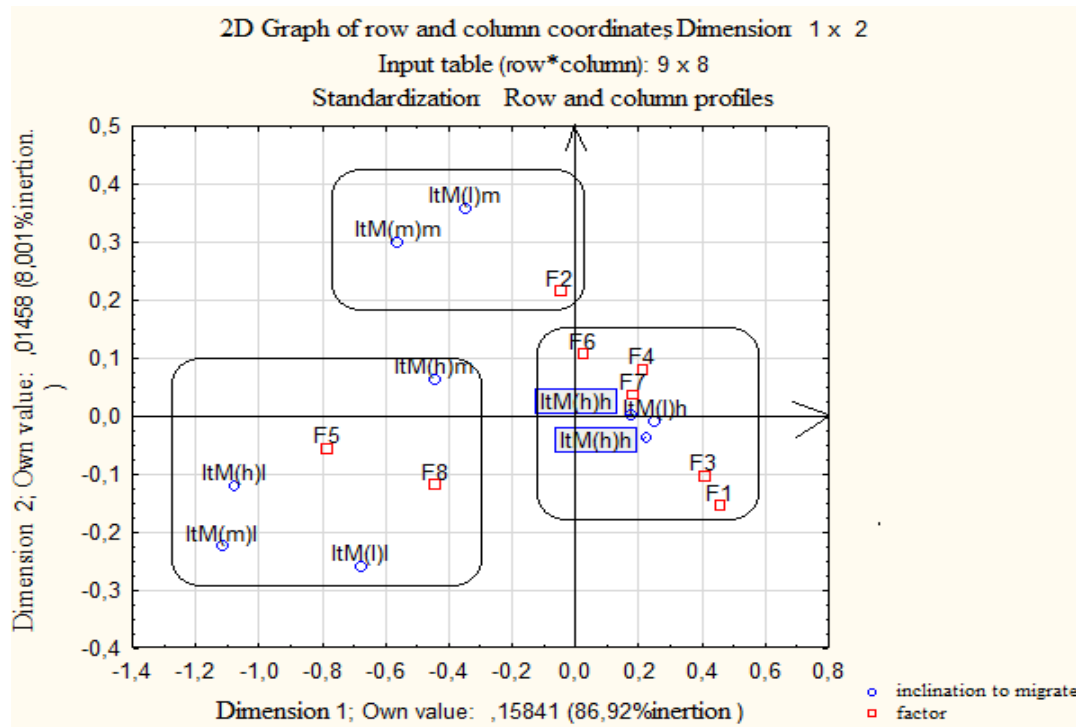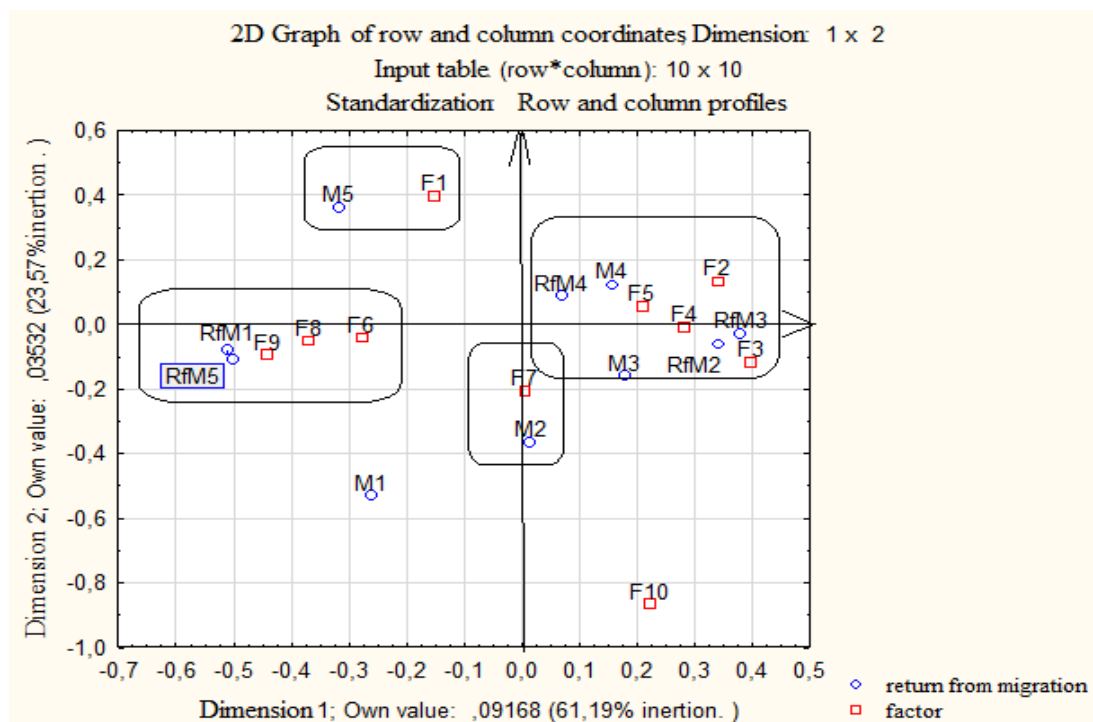

Figure 2. Correspondence analysis of correlations between inclination to migrate and push factors. Adapted from: own research.

Elements arranged closest to each other, surrounded with a closed line (row coordinates), indicate the inclination to migrate, whereas column coordinates indicate the significance of a given factor of /reason for migration to the surveyed respondents. They demonstrate the co-existence of the inclination to migrate with the push factors (Fig. 2). Gaining professional experience (F7), better prospects for promotion (F4), social security (F6), as well as higher salary (F1) and better prospects for employment (F3) are associated with respondents declaring high, medium, and low inclination to migrate, for whom the mentioned factors are of very high importance (score 4 and 5 acc. to Likert scale). The existence of immigrant networks (F5) and reuniting with families (F8) co-exist with respondents declaring high, medium, and low inclination to migration, for whom these factors are unimportant (score 1 and 2). Finally, the currency exchange rate (F2) was related to the persons declaring low and medium inclination to migration, for whom this factor is of medium importance (score 3).

The correspondence analysis was also used in an attempt to identify factors which determine returns from emigration. Row coordinates included: F1 – will to change personal situation (different job, new acquaintances, new opportunities), F2 – easiness of travelling, F3 – relatively low travel costs, F4 – will to continue education, F5 – the absence of passport-visa barriers, or the presence of passport-visa barriers (e.g. in the case of migration to the USA and Canada), F6 – none or little likelihood of terrorist attacks, F7 – distance of destination country from Poland, F8 – having/not having family, F9 – having/not having children, and F10 – others.

Column coordinates included: RfM – persons who intend to return from migration for whom the importance of the analysed factor may range from 1 to 5 (unimportant, of little importance, of medium importance, important, very important), and M – persons who do not intend to return from migration for whom the importance of the analysed factor may range from 1 to 5 (unimportant, of little importance, of medium importance, important, very important).

Figure 3. Correspondence analysis of correlations between declared intention to return from migration and selected factors that may influence respondents' decisions. Adapted from: own research.

Figure 3 shows that the will to change personal situation (different job, new acquaintances, new opportunities) (F1) was typical of the persons who do not intend to return from migration, for whom this factor is of very high importance (score 5). The easiness of travelling (F2), relatively low travel costs (F3), the will to continue education (F4), as well as the absence of passport-visa barriers or the presence of passport-visa barriers (e.g. in the case of migration to the USA and Canada) (F5) are the factors influencing these respondents who intend to return from migration (RfM), for whom these factors are important, of medium importance, and of low importance (scores 4, 3, and 2), as well as these respondents who wish to stay in the country of migration, for whom these factors are either important or of medium importance

(scores 4 and 3). Factors such as: none or little likelihood of terrorist attacks (F6), having/ not having family (F8), and having/not having children (F9), related to respondents intending to return from migration, for whom these issues were of very high importance or unimportant (scores 5 and 1). Distance of the destination country from Poland (F7) was significant for respondents who do not plan to return from migration, for whom this factor was of little importance (score 2).

The acnode (not associated with the inclination to migrate) turned out to be the other factors (F10) indicated by respondents, such as, e.g., health status. These respondents did not intend to return to the country (factor importance score: 1) and were unable to estimate their inclination to migrate.

In addition, the maximum likelihood estimation of the logistic regression model was proposed in order to analyse a correlation between better prospects for employment and making a decision about migration after graduation. The estimation results for the relevant function are presented in Table 2.

Table 2.
Results of estimations of the logistic regression model

Effect	Level Effect	Column	Odds ratio	Upper CL 95.0%	Bottom CL 95.0%	p
	X5 – I WILL LEAVE AFTER GRADUATION. DISTRIBUTION: BINOMIAL. LINK FUNCTION: LOGIT MODELLED LIKELIHOOD					
Absolute term		1				
x1 – better prospects for employment	important	2	2.82	1.27	6.28	0.01

Effect	Level Effect	Column	Score	Standard Error	Wald's Stat.	Upper CL 95.0%	Bottom CL 95.0%	p
	X5 – I WILL LEAVE AFTER GRADUATION. DISTRIBUTION: BINOMIAL. LINK FUNCTION: LOGIT MODELLED LIKELIHOOD							
Absolute term		1	1.10	0.20	29.13	0.70	1.50	0.00
x1 - better prospects for employment	important	2	0.52	0.20	6.50	0.12	0.92	0.01
Scale			1.00	0.00		1.00	1.00	

Source: own study, calculations made using Statistica software.

The push factor of migration caused by better prospects for employment abroad was a statistically significant factor reducing the probability that a person will be among these who declare a high inclination to migration. The odds ratio (12.27) means that the persons for whom the factor of better prospects for employment abroad is important have 12.27 times higher chance for having a high inclination to migrate than the persons who claim this factor to be unimportant to them.

$$P(Y = 1|X) = \frac{e^{0.155+1.254x1}}{1 + e^{0.155+1.254x1}} \qquad (2)$$

A dependency was also analysed between the migration for the reason of reuniting with families and making a decision about migration after graduation. The maximum likelihood estimation of the logistic regression model was proposed to this end and estimation results for the relevant function are presented in Table 3.

Table 3.
Results of estimations of the logistic regression model

Effect	Level Effect	Column	Odds ratio	Upper CL 95.0%	Bottom CL 95.0%	p
	X5 – DISTRIBUTION: BINOMIAL. LINK FUNCTION: LOGIT MODELLED LIKELIHOOD					
Absolute term		1				
x3 – reuniting with families	important	2	12.27	1.24	121.79	0.032

Effect	Level Effect	Column	Score	Standard Error	Wald's Stat.	Upper CL 95.0%	Bottom CL 95.0%	p
	X5 – DISTRIBUTION: BINOMIAL. LINK FUNCTION: LOGIT MODELLED LIKELIHOOD							
Absolute term		1	0.15	0.58	0.07	-0.99	1.30	0.79
x3 – reuniting with families	important	2	1.25	0.58	4.58	0.11	2.40	0.03
Scale			1.00	0.00		1.00	1.00	

Source: own study, calculations made using Statistica software.

The factor related to the migration caused by the need to unite with families was a statistically significant factor which increased the probability that a person will be among those who declare a high inclination to migrate. The odds ratio (2.82) means that the persons for whom the factor of migrating in order to reunite with families is important have 2.827 times higher chances for having a high inclination to migrate compared to the persons who claim this factor is unimportant to them.

$$P(Y = 1|X) = \frac{e^{1.099+0.519x3}}{1 + e^{1.099+0.519x3}} \qquad (3)$$

4. Discussion

The problem of adolescents' migration has been often addressed in the Polish and foreign literature on migration. For example, the reason behind migration of young and well-educated persons from Portugal is the high unemployment rate in their population (Cerdeira, 2016). The brain drain problem afflicts also Estonia and Romania (Tverdostup, Masso, 2015).

In the case of migration plans and destination countries indicated by Portugal and Irish students surveyed by David Carins, their decisions to migrate were driven by the outcomes of the economic crisis (Cairns, 2017). The problem of adolescents' emigration is also faced by countries from outside the EU, e.g. the United States, where New England appears to be the region with the most numerous group of emigrants constituted by young people aged 25-35 (Brome, 2007). In Poland, surveys related to the migrations of youth have mainly concerned the Voivodeships or regions (Jończy, 2006; Zając, 2013; Piecuch, Piecuch, 2014). The most frequently analysed issues included: reasons behind decision to migrate, migration plans, and migration destinations (Witczak-Roszkowska, Okła, 2015; Stanimir, 2015; Szyszka, 2016, Kowalewska et al., 2018). Most of the surveys addressing migrations of nursing students concern the specific, individual higher schools, e.g. Medical University of Warsaw (Wyrozębska, Wyrozębski, 2014) or Opole Medical School (Smoleń, Kędra, 2018).

The problem of economic migrations of nurses and their impact on the functioning of the health care system has been emphasised especially after Poland's accession to the European Union (Leśniowska, 2005; Kaczmarczyk, 2006; Leśniowska, 2008). Polish literature provides sparse reports in this respect (Wyrozębska, Wyrozębski, 2014), hence it seems to be an important and interesting problem for continued research. The lack of regular updates about the scale of migration of Polish nurses is undoubtedly problematic (Kautsch, 2013). The problem of migration of the mid-level medical staff is important, because it has become an issue of global concern (Majda et al., 2018). This is indicated by the popularity of this subject in international literature (Favell, 2008), including multiple manuscripts (published not only in English), that provide a meaningful input into the field of research on the migrations of nurses.

5. Summary

As it results from the scientific literature and surveys conducted by Polish and foreign researchers, the economic migration of adolescents has reached the global level and poses a serious problem not only in Poland. The openness and free flow of goods, services, and capital (including human capital) within the European market facilitates migration movements. As demonstrated by the results of this survey, the easiness of travelling, relatively low travel costs, and the lack of passport-visa barriers are especially important to the persons planning to return from migration.

An indicator of a region's competitiveness may be a good health care within its limits, that is associated with the lowest possible percentage of adolescents emigrating after graduating from nursing studies. This may become a source of competitive preponderance, especially in the aging Polish population. The higher the number of nurses in a given region (closer to the European standards), the better this region may compete with other regions by offering a better

medical care. The higher number of professionally-active nurses decreases the shortages of the mid-level medical staff at hospitals. It is an important argument while making migration decisions by the families with children and also these taking care over older persons (grandparents).

Respondents' mobility and inclination to migrate increase after graduation. The most popular migration destinations indicated by respondents included: Great Britain, Norway, Germany, Switzerland, USA, and Canada, i.e. countries with higher level of salaries and living standards. Survey results demonstrate that in spite of the fact that as much as 87% of students estimated their chances for finding a job as very high and high, 84% of them considered emigration after graduating from studies. The return from migration with earned money or/and gained knowledge was declared by 47% of respondents, however as much as 44% were uncertain about such a decision. This is due to higher salaries (97%), better prospects for employment (94%) and promotion (84%), as well as gaining professional experience (82%) abroad. In addition, an important push or pull factor for migration in the case of persons who intend to return from economic migration is the fact of not having or having a family or the fact of not having or having children. The survey demonstrated that the migration of one family member triggers migration of other persons in order to reunite with the family. Therefore, efforts should be made to offer such conditions in the country to make the number of migrations, especially the permanent ones, as low as possible. Keeping the valuable human potential of nurses and preventing the closing of hospital wards may be accomplished primarily by increasing their salaries and improving their work conditions (increasing prospects for employment and promotion, and opportunities for professional development).

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