

Fiscal effects of migration as a factor increasing disparities in local and regional development – an example of the Opole Voivodeship in Poland

Romuald JOŃCZY, Diana ROKITA-POSKART

Wrocław University of Economics and Opole University of Technology, Poland

Abstract: In this paper it is attempted, based on the results of empirical studies, to assess the fiscal effects of migration in a peripheral region in Poland. The results presented in the paper show the negative impact of emigration on the budgets of local governments. Migration flows and the lower revenues for local governments may lead to a widening of development disparities between growth centers and remote areas featured with migration outflow.

Keywords: external migration, fiscal consequences of emigration, disparities in development

1. Introduction

Unprecedented in its size,¹ the migration (Jończy 2011: 55)² determined by economic conditions from the Opole Voivodeship has several consequences for the region. Apart from

¹ Before the Second World War, much of the current Opole Voivodeship belonged to Germany. In that time, the eastern part of the present Opole Voivodeship was mainly inhabited by Silesians, while the western part of the Opole Voivodeship was mainly inhabited by Germans. Under the Potsdam agreement, lands of the current Opole Voivodeship became part of Poland. With the connection of these lands to Poland, the German population was deported to Germany, while the Silesian population, mostly so-called "autochthons", remained in the present region of Opole. The historical background had as a consequence that a strong emigration movement appeared among this group of the population, in particular in the 1990's after the change German law allowing them to obtain German citizenship (Jonczy, 2011)..

migration effects on demography and labor markets (Jończy, 2010; Rauziński and Heffner, 2003), it turns out that the increase in scale of economic migration can also have consequences for the yet unexplored fiscal sphere. On the one hand, emigration leads to a decrease in the economically active population in Poland, and as a consequence a smaller number of people who pay income taxes in Poland. Other things equal, this situation undoubtedly negatively affects the budget revenues of local governments, as they depend on revenue from income tax from taxpayers residing in the local area.³ On the other hand, the emigration from the Opole Voivodeship involves the transfer of remittances to the country which not only stimulate regional markets, but also results in higher payments to the central state budget from value added tax (VAT).

In this paper the authors present the results of estimates and analyses of the impact of international migration processes taking place in small region like the Polish Opole Voivodeship in the fiscal sphere, in particular on the state budget and the budgets of local governments. Presented estimates and analyzes are based on a survey conducted in 2010 as part of the Marshalls Office of the Opole Voivodeship project “Opole System for Social and Economic Information”, co-funded by the European Union under the European Social Fund (see Jończy, 2011; Jonczy and Rokita-Poskart, 2012; Jończy and Rokita-Poskart, unpublished).

The main aim of the article is to assess the impact in the fiscal sphere resulting from economic migration from small region like the Opole Voivodeship – on the budgets of local self-governments and Poland’s central budget, which in turn affects the disparities in development of the region. Availability of data and knowledge about a given problem hardly allows to indicate the type of the "benefits and losses" on the account of migration and it does not allow for precise calculation. However, the intention of the authors is to give a general indication of the size of benefits and losses for the state and local governments.

The study contains the following elements:

- an estimation of scale of migration from Opole Voivodeship,
- an estimation of the remittances from migration to the Opole Voivodeship,

² About 115 Thousand inhabitants of Opole Voivodeship (about 12% of its total population).

³ Revenue from income tax from taxpayers residing in the local area make about 20% of total revenues of municipalities, 13.5% of total revenues of poviats and 4.5% of total revenues of voivodeships – authors’ own calculation based on data from the Central Statistical Office.

- an estimation of the amount of indirect taxes that affect the Poland's central budget by spending remittances in Poland by Opole Voivodeship migrants,
- an estimation of "losses" in revenues of the budgets of local governments in the Opole region caused by the fact that part of inhabitants work abroad and do not work in Poland and do not pay income taxes in country,
- an attempt to compare the tax-induced migration and loss with the rest of the country.

In the calculations, especially on the issues contained in the first two points, data from previous studies of Romuald Jończy regarding the redistribution of income earned abroad were used (Jończy, 2010), supported by the quantitative findings on the scale of migration from research in rural areas and cities of Opole region. Additionally, the authors made use of available statistics and official data. However, when making estimates some difficulties were encountered such as the lack of data on the average VAT rates paid by migrants. Therefore, estimates and calculations require accepting a number of assumption and simplifications.

2. The estimation of amounts of VAT affecting the state budget in Poland

Before attempting to determine the impact of migration on budget revenues for the local governments and the state, it was necessary to consider issues such as the scale of employment abroad, the size of the remittances to the country of origin as well as their redistribution. The estimates presented in the article are based on research conducted in the Opole region in 2008 and 2010.

The first step was to estimate the scale of individual forms of labor migration among the population living in the Opole Voivodeship. Based on the results of research conducted in 2010 in Opole region, the number of people working abroad who live in rural areas and cities of Opole region was approximately 115 Thousands, about 12% of its total population.

The next step was to estimate the value of incomes gained abroad and the remittances transferred to Poland. For this aim, the authors used data from earlier results of research (conducted in 2008) by Romuald Jończy concerning redistribution of income from migration and wage conditions under which migration takes place. The previous studies have allowed to determine:

- the average length of temporarily migration – 3.9 month of the year,
- the monthly salary of migrant – the average minimum wage (MWM⁴) for working abroad permanently and temporarily,
- the average share of income spent or saved in Poland and abroad,
- the average share allocated to separate groups of expenditures in Poland.

The data obtained in the study made it possible to estimate the amount of income earned abroad by all migrant workers from the Opole region. In 2010 they earned a total of PLN 5.9 billion - of which PLN 5.1 billion was earned by permanent migrants and PLN 764 million earned by those who worked abroad temporarily.

In order to assess the amounts of remittances send to Poland by the Opole migrants, data concerning shares of income spent on expenses in Poland and allocated on deposits accounts in Poland were used. These calculations indicate that from the total amount of income earned abroad by migrants from the Opole Voivodeship (about PLN 5.9 billion) at least PLN 4.2 billion was sent directly to Poland, of which at least PLN 3.7 billion was spent in Poland and at least PLN 520 million was allocated in banks. It should be noted that the total amount of remittances into the country is probably even bigger than the estimates indicated.⁵ A substantial part of remittances flow is used for the purchase of consumer goods and services in Poland, so there is no doubt that these expenditures increase Poland's state budget revenues from indirect taxes, including VAT. Taking into account the amount of these remittances, the authors attempted to evaluate the amounts received by Poland's state budget from VAT. However, due to the lack of certain essential data for this type of analysis it became necessary to adopt a number of assumptions with a high degree of generalization.

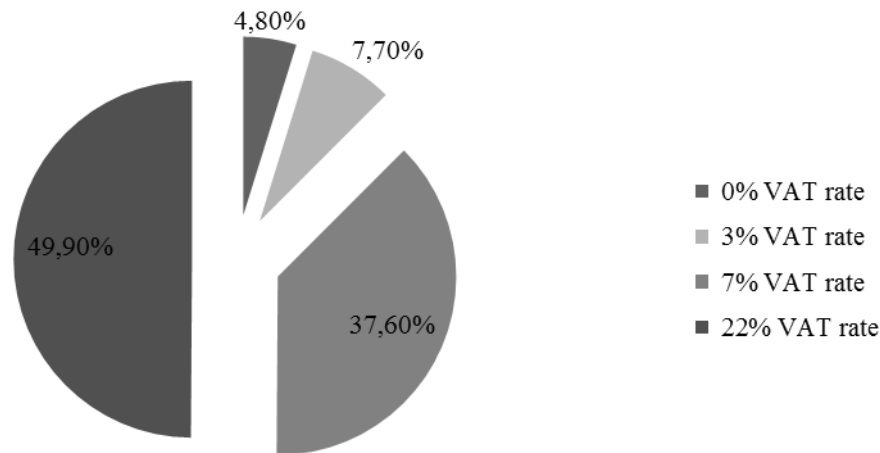
First, information about the shares that average consumer spend on goods and services covered by the different rates of VAT was needed. As the official statistics are lacking this type of data, it was decided to use the calculations based on information from the Central Statistical Office (CSO) of Poland concerning the weights of groups of products and services in the consumer price index market basket. Then, the shares of expenditure on particular groups of products and services with different rates of VAT in total expenditure on consumer goods and services were analyzed. The shares of expenditures on goods and services covered by the

⁴ Minimum Wage Migration (MWM) – net wages that migrants accept to take or continue work abroad

⁵ The amount of income is preceded by “at least” because Minimum Wage Migration (MWM) that was used to estimates is slightly higher than the actual wages earned by migrant workers.

different rates of VAT are presented in Figure 1. The different rates of VAT in 2010 were 0%, 3%, 7% and 22%.

Figure 1. Shares of general household expenditure spent on goods and services covered by the different VAT rates



Source: Own calculations based Borowski, 2010.

Calculations show that the share of the lowest zero rate of VAT, including medical services, education, postal services, financial services, and goods such as books and professional journals make up 4.8% of the total expenditure of households.

Another VAT rate - 3%⁶ - included such products as raw meat and fish, milk, eggs and fresh vegetables and fruits. Expenditure on this group of products accounted for 7.7% of total household expenditure on consumer goods and services.

A higher 7%⁷ VAT was charged on processed products, including meats, dairy products, animal fats and vegetable oils, sugar, jams, fruit and vegetables, bakery goods and services. The expenditure on these products amounted to 37.6% of all consumer expenditure. The largest share was spent on products charged with 22%⁸ of VAT – the share of expenses on those products amounted to 49.9% of the total consumption expenditure of households.

⁶ According to the Long Term Financial Plan for 2011-2014 (LTFP), adopted by the Council of Ministers in 2010, in 2011 the rate of VAT for this group of goods increased to 5%.

⁷ According to the Long Term Financial Plan for 2011-2014 (LTFP) since 2011 VAT rate on so-called, processed foods was reduced from 7% to 5%. However, the rate of VAT on other listed products increased by 1% point.

⁸ According to the Long Term Financial Plan for 2011-2014 (LTFP) from 2011 VAT rates on products covered so far by 22% increased by 1% point - to 23%.

It was possible to estimate the amount of VAT that migrants from the Opole Voivodeship paid while spending their foreign income in Poland based on statistical data regarding the Opole Voivodeship and Borowski's (2010) calculations.⁹ The results are presented in Table 1.

Table 1. Estimates of the amount of VAT that migrants from Opole Voivodeship paid while spending their foreign income in Poland

VAT rates	The share of consumer expenditure on products covered by the different rates of VAT	State revenues from VAT paid by the Opole migrants through remittances abroad (in PLN million)
Rate 0%	4.8%	0.0
Rate 3%	7.7%	9.7
Rate 7%	37.6%	110.8
Rate 22%	49.9%	462.1
Total	100.0%	582.6

Source: Own calculations based on data from Borowski, 2010.

The presented estimates suggest that the state budget earned at least PLN 582.6 million from VAT¹⁰ due to the amount of PLN 4.2 billion spent in Poland by 115 Thousand emigrants from the Opole Voivodeship. This tax associated with the distribution of remittances in Poland only by migrants from Opole Voivodeship accounted for an estimated of 0.5% of all VAT revenues in 2010 by the central government budget (PLN 106 200.2 million (Operative Report ..., 2010).

It is also worth noting that the estimates made do not include the multiplier effect caused by the spending of remittances in Poland. Remittances spent in Poland cause further expenditure charged with VAT, which is an additional revenue for the state budget. Undoubtedly, the expenditure incurred by the Opole migrants, through the multiplier effect, results in even higher budget taxes revenues on goods and services.

⁹ It is worth to mention that not all remittances spent in Poland discharged VAT, for example remittances can be spent on purchases in a gray market. This applies especially to services, where it occurs that no VAT receipt is issued. This leads to an underestimation of VAT revenues.

¹⁰ It should be noted that if all emigrants from Opole Voivodeship had worked in Poland, and had earned the average monthly salary for the region and spent the total income on consumer goods, the state budget revenues from VAT would have been of similar size. However, this assumption is incorrect - not all emigrants would have worked and earned the average wage for the region, so in fact emigrants due to higher amount of incomes paid a greater amount of VAT than if they had stayed in the country.

3. The estimation of “losses” of income in the local governments’ budgets in the Opole Voivodeship

The large number of residents from the Opole region, not paying income taxes in Poland, also affect another fiscal sphere - the amount of local governments revenue. According to the Act on Local Government Revenues (2003), one of the sources of revenue for local governments is their partial participation in the revenue from personal income tax (PIT) from the taxes of resident of the area of local government units.

Drawing conclusions about the impact of mass economic migration on local government budget revenues was possible through reference to the structure of government revenue (i.e., the share of particular revenue in total revenue received by local governments) and the analysis of the importance of the particular source of revenue in general government revenues.

CSO data on the share of particular groups of revenues in the revenues structure of the smallest unit of local government, the municipality, show that the most important source of income is general subsidy (revenues from this source accounts for about 30% of all communes’ revenues). The second largest item of the municipalities’ revenues is the part of personal income tax (PIT) received from the state budget (their share in total budget revenue is around 20%). Slightly less important in the total budget revenues of is local taxes charged on the basis of separate laws (about 16% at all revenues of the communities).¹¹

The data provide evidence that the size of the municipality budget revenue depends to a large extent on the partial share in the personal income tax (PIT). The municipality receives from the state budget up to 36.72% of the personal income taxes paid by taxpayers living in the municipality. Not only the local budgets, but also the budgets of poviats and voivodeships depend on the personal income taxes. Nevertheless, the impact of this title on the budgets of poviats and voivodeships is much smaller, since both local governments receive a smaller share of income taxes from individuals (poviats participated in the income tax from individuals at the level of 10.25%, and the voivodeship – 1.65%) living in the area of the unit of local government.¹² In

¹¹ The shares refer to all Polish communities. However, due to the nature and the individual character of each of them, the shares of different groups of revenues in total revenues of individual communities can vary considerably. As an example: 80% of the budget revenues of the Kleszczów community in the Bełchatów poviat comes from the mine and power station "Bełchatów."

¹² Revenues from personal income tax make up 13.5% of the revenues of the poviat and 4.5% of the revenues of Voivodeship.

connection with the mass migration taking place in Opole region, local governments, especially municipalities, whose revenues are significantly dependent on income tax from individuals, have "defects" in the budget due to the fact that people working abroad do not pay income tax in Poland.

On the basis of the scale of emigration from the Opole region, the authors made a general estimate of the amount of the income tax migrants would have paid if they had worked in Poland. This in turn makes it possible to estimate the shortfall in revenues for the budgets of local governments due to emigration.

The first assumption necessary when making estimates of the amount of income tax that migrants would have paid if they had worked in Poland, was reducing the number of people working abroad in Opole region with those emigrants who left the country to work abroad because of the inability to find a job in Poland as when being unemployed they would also not pay income taxes in Poland. Without empirical research carried out by one of the authors (Jończy, 2010: 226) the estimations would be impossible as a consequence of the lack of statistical data on the number of emigrants who emigrate because of the inability to find work in Poland. The results of these studies show that about 7.3% of the respondents decided to work abroad due to the inability to find a job in Poland. It can therefore be assumed that among the group of 115 Thousand Opole Voivodeship emigrants about 8.4 Thousand people (7.3% of the total number) left because of lack of work.¹³ They probably would not have emigrated if they could have found a job in Poland. These calculations imply that when estimating the "loss" in local governments' revenues, only the number of about 106.6 thousand migrants who work abroad for reasons other than inability to find work in Poland should be taken into account.

The estimate requires the acceptance of another assumption, as it was unclear how much emigrants would have earned when working in Poland, and turn the amount of income taxes they would have paid. Therefore, the calculations were based on the average monthly salary of inhabitants of the Opole Voivodeship, according to CSO data - PLN 2987.87. Therefore, it was assumed that each of the 106.6 Thousand emigrants from the province of Opole could have earned this sum if having worked in Poland, and would have paid 18 percent income tax. Then,

¹³ This number, in fact, can be expected to be slightly higher, because the total amount of emigrants included people who did not find job in Poland accordance with their qualifications and therefore decided to emigrate as well as those people who emigrated without previous looking for a job in Poland. Most likely, this group would include those who would not have found work Poland.

each of them would have paid about PLN 5.9 thousand income tax annually, which for in the whole region would give a sum of PLN 629 million.

As already mentioned, the budgets of municipality receive 36.72% of the income tax flowing to the state budget from taxpayers who are its inhabitants. It can therefore be estimated that the revenue of all communes of the Opole Voivodeship, due to the emigration from its area, have lost about PLN 231 million. This is about 9% of their total revenues.

As a share of personal income taxes is also the revenue for poviats, they also incur losses in their budget due to external economic migration. Under the Act on Local Government Revenues (2003), the powiat budget receives 10.25% of personal income tax collected by the state. All poviats of the Opole Voivodeship lost over PLN 64 million per year. Although the budgets of poviats are dependent on income taxes to a lesser extent, also they face an estimated that "loss" of budget revenues 9%.

Due to the emigration also the budget of the Voivodeship is reduced. In this case, as the revenue of the Voivodeships is just 1.6% of the personal income of its habitants, the effects is much smaller than in the case of communes and poviats. However, in this case the loss is visible as well, because if emigrants had worked in Poland, the revenues of Opole Voivodeship would have been higher by PLN 10 million - approximately 1.5% of its total budget revenues.

The presented estimates indicate that the migrations result in a significant decrease in the revenue of local governments. It turns out that all local government units of Opole Voivodeship in 2010 had foregone more than PLN 305 million. In particular the municipalities with a massive scale of emigration may lack financial resources to implement basic infrastructure projects, hampering the development of the villages.

4. Comparison of fiscal gains and losses in the Opole Voivodeship compared to the rest of the country

Important to determine the impact of emigration on the revenues of local governments is to compare the extent in which the tax revenue from personal income taxes in communes with

large-scale emigration¹⁴ in the Opole region was affected compared to communes with a limited scale of emigration.¹⁵ For the analysis, an indicator of local government revenue from personal income taxes per person in the working age was used (due to the different number of people in the working age living in the area of the respective local government units¹⁶). Table 2 presents indicators regarding revenues from personal income taxes of working age in selected Opole Voivodeship municipalities.

Comparison of the revenues of selected communes confirms the assumption that the communes by smaller scale of emigration are characterized by higher rates of incomes communes with mass-scale emigration.¹⁷ For the selected communities characterized by small scale of emigration this ratio fluctuated around PLN 400 per person in the working age, while for the selected communities of mass emigration this index was on average about PLN 270.

Table 2. Personal income tax revenue per person in the working age in selected communes of the Opole Voivodeship (annual in PLN)

Communes of small scale of emigration		Communes of massive scale of emigration	
Skarbimierz	462	Lasowice Wielkie	295
Domaszowice	347	Biała	244
Świerczów	397	Walce	297
Rudniki	399	Zębowice	232

Source: Own calculations based on data from the Regional Data Bank available at www.stat.gov.pl [2010/09/10]

In practice the differences may be not as big as presented as the communes of large scale of emigration are also communities of large-scale of unregistered emigration.¹⁸ The calculated amounts per person in the working age would increase by about 15-18% when correcting for this facts. But even in this case the amount of income tax paid would be lower than for communes with a lower level of emigration.

¹⁴ Available data and results of the research show that the scale of emigration in the Opole region is the highest in areas inhabited by autochthons, which are located in the eastern part of the region see Figure I.9 in Jończy, 2010: 54).

¹⁵ Limited scale emigration concerns the western part of the region of Opole (see Figure I.9 in Jończy, 2010: 54).

¹⁶ It is recognized that for the analyze the population in the working age is essential, mainly because this group works and pays taxes.

¹⁷ Revenues of communities are also affected by other factors than emigration. Revenues of communities from personal income tax depend on, e.g., dominant features of the areas included in the community. If the area is dominated by agricultural, the consequence of non-payment of income tax by farmers is smaller budget revenues.

¹⁸ Unregistered emigration consists of people who left their country of residence but did not unregister of permanent stay in Poland

Budget revenues foregone for local governments in the Opole Voivodeship due to emigration can also be compared with other voivodeships in Poland (Table 3). The value of the indicator is the lowest for the Opole region, together with Warmia and Mazury. However, the number may even be lower in the Opole Voivodeship due to the larger scale of emigration. As a consequence of unregistered emigration, the number could increase by about 6-7%. However, even after this correction, this amount would be significantly lower than in the Lubuskie or Westpomeranian Voivodeships.

Table 3. Personal income tax revenues per person in the working age in selected Voivodeships in Poland (annual in PLN)

Selected Voivodeships in Poland	Income tax per person in the working age (in PLN)
Opolskie	665
Westpomerania	819
Lodzkie	868
Lubuskie	704
Warmia nad Mazury	667

Source: Own calculations based on data from the Regional Data Bank available at www.stat.gov.pl [2010/09/10]

Comparison of revenues from personal income taxes per person in the working age between municipalities of mass scale of emigration and limited scale economic migration located in the Opole region, as well as between the Opole Voivodeship and selected voivodeships in Poland, confirms the conclusions that the region suffer financial "losses" in the self-government budget due to emigration.

5. Concluding remarks

The estimates presented in this paper show that on the one hand emigration of inhabitants of the Opole region and the associated redistribution of remittances has a positive impact on revenues from VAT in central budget. The state budget received in 2010 about PLN 582.6 million of VAT related to spending of foreign income in Poland only by emigrants from the Opole Voivodeship. The Opole region, compared to other regions, seems to be unique in terms of the size of the revenues. This is due to the larger scale of emigration from the Opole Voivodeship

than in other Polish voivodeships, and secondly, due to the way of redistribution of foreign income of autochthons working abroad living almost exclusively in Silesia and in the Opole Voivodeship.¹⁹

On the other hand, a significant scale of emigration results in a decrease in local governments' revenues due to reduced inflows from income taxes paid in Poland by migrants who work abroad. The estimates presented in this paper show that all local government units of the Opole Voivodeship lose more than PLN 305 million revenue per year. It should also be noted that this phenomenon is much more noticeable on a local than a regional scale. In the case of communes dominated by villages with a large scale of emigration there may be lack of financial resources for the implementation of basic infrastructure investments, slowing down the development of the villages.

Estimates made are undoubtedly general and do not include a number of other regional "costs and benefits". However, they indicate the benefits for the Polish central budget from emigration of inhabitants of the Opole Voivodeship, while it also shows "losses" incurred by local government because of processes of emigration. A relation between the scale of emigration and limited resources in the budgets of communes can be observed. Considering that the described phenomenon is nationwide, it should be noted that the migration having an adverse effects on the budgets of in particular local self-governments, leading to slower infrastructural development in particular in areas of mass emigration. This in turn leads to further widening of the gap in development between growth centers and remote areas, which in turn may stimulate emigration from these areas.

Literature

- Borowski, J. (2010). *RPP nie powinna się przejmować podwyżkami podatków*. Available at: <http://makro.pb.pl/2187348,26372,rpp-nie-powinna-przejmowac-sie-podwyzkami-podatkow>. Accessed 2 December 2013.
- Jończy, R. (2010). *Migracje zagraniczne z obszarów wiejskich województwa opolskiego po akcesji Polski do Unii Europejskiej. Wybrane aspekty ekonomiczne i demograficzne*. Opole – Wrocław.
- Jończy, R. (2011). *Zagraniczne migracje zarobkowe z województwa opolskiego w latach 2008-2010 oraz ich wpływ na opolski rynek pracy i sferę fiskalną samorządów terytorialnych. Diagnoza i rekomendacje w kontekście rozwoju regionu*. Opole.

¹⁹ These conclusions are based on research, showing that the autochthons who work abroad transfer to the country about 70% of their income, while the remaining respondents transfer to the country of origin only about 60% (Jończy, 2010: 226).

- Jończy, R.; Rokita-Poskart, D. *Wpływ procesów migracji zarobkowych z województwa opolskiego na zmiany we wpływach z tytułu podatków do budżetów samorządów terytorialnych i do budżetu państwa oraz konsekwencje dla rozwoju regionalnego* (forthcoming).
- Jończy, R.; Rokita-Poskart, D. (2012). Wybrane fiskalne konsekwencje migracji zarobkowej oraz związanego z nią transferu dochodów (na przykładzie województwa opolskiego). *Barometr regionalny. Analizy i prognozy* 2(28): 49-56.
- Rauziński, R.; Heffner K. (2003). *Region migracyjny (wybrane aspekty demograficzne, społeczne i gospodarcze na przykładzie Śląska Opolskiego)*. Opole: Politechnika Opolska.
- Regional Data Bank – www.stat.gov.pl
- Sprawozdanie operatywne z wykonania budżetu państwa za styczeń-grudzień 2010 r.* Available at: <http://www.archbip.mf.gov.pl/bip/5923.html>. Accesed 2 December 2013.
- Ustawa z dnia 13 listopada 2003 r. o dochodach jednostek samorządu terytorialnego* (Dz.U. 2003 nr 203 poz. 1966 z późn. zm.)
- Ustawa z dnia 26 lipca 1991 r. o podatku dochodowym od osób fizycznych* (Dz. U. z 2010 r. Nr 51, poz. 307, Nr 57, poz. 352 i Nr 75, poz. 473)

Fiskalne konsekwencje migracji jako czynnik pogłębiający dysproporcje rozwojowe w układzie regionalnym i lokalnym (na przykładzie województwa opolskiego)

Streszczenie

W artykule na podstawie wyników badań empirycznych oraz dokonanych szacunków podjęto próbę oceny skutków fiskalnych migracji zarobkowej dokonującej się z regionu peryferyjnego, jakim jest województwo opolskie. Zaprezentowane w artykule wyniki badań wskazały, że migracja wpływając niekorzystnie na budżety samorządów, zwłaszcza lokalnych - może oddziaływać na opóźnienia infrastrukturalne na terenach objętych masową migracją zagraniczną, a tym samym na dalsze pogłębianie się dysproporcji rozwojowych pomiędzy ośrodkami wzrostu a obszarami peryferyjnymi, z których dokonuje się migracja.

Słowa kluczowe: emigracja, fiskalne konsekwencje emigracji, różnice rozwojowe