

CALCULATION OF THE BALANCE OF ECONOMIC BENEFITS AND LOSSES FROM THE MIGRATION OF WORKERS ABROAD

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The study addresses the issue of evaluating economic losses and gains caused by the emigration of labour force. Based on the statistical data on the scope of emigration flows, approaches and methods suitable for the evaluation of economic losses and gains caused by the emigration of the labour force are searched for. A model calculation of the costs covered by the state in the process of preparing its citizens for employment, i.e. education and healthcare is conducted. Indirect losses are also included in this calculation, such as the loss of potential GDP, taxes and social insurance payments. Finally, the found results concerning the overall balance of losses and gains for the state are evaluated and discussed along with the proposed model itself.

Keywords: *emigration, labour force, GDP, losses and gains*

Introduction

One of the consequences of Baltic and Central European countries joining the European Union was the liberalization of labour markets in the old member states. As a result, the emigration of labour force is becoming a frequently discussed economic and social issue. The unemployment rate in these new member countries is often rather high and emigration for work as such sometimes tends to be perceived by public and mass media as a positive phenomenon – it contributes to gaining new working experience, knowledge and language skills [1, 2]. This is of course based on the assumption that after a few years of working abroad and consequent return these workers will use their newly gained experience while working in their home country.

As mentioned, the labour force emigration is an often discussed phenomenon, be it by the mass media or in the expert community. However, these analyses mostly focus on the reasons that led to the act of emigration, the overall intensity of emigration flows and also the scope of emigration to the individual Western European regions and countries [3-6].

Gaining employment abroad is in this specific period seen as a phenomenon beneficial for both countries [7]. Also, migration as such is perceived as a proof that the implementation of the free movement of workers broadens the possibilities on the European labour market [8, 9]. Negative social and economic effects of migration are only discussed with connotations to the so called „Brain Drain”, i.e. the loss of young and talented workers [2, 7, 10]. This effect tends to be the prevalent reason for the rise of concerns about the possible losses for the country when it comes to migration [11].

In spite of, or perhaps because of this, expert and scientific community, general public, politicians, state institutions and mass media currently often work with or present information on migration of labour force that is many times mere guesses, assumptions, presuppositions or myths. Currently, only an idea of the overall scope of migratory flows to Western European countries can be made of the fragmented mosaic made up of national statistics, surveys and evaluations conducted in both countries of destination and Slovakia. An exact evaluation of migratory flows of labour force abroad, their scope and intensity in time and space, impact on employment in both home and destination countries, skills and practices acquired abroad and subsequently utilized at home in terms of gains and losses for economy, society, and emigrants themselves is not available for the time being; thus not part of any measures and policies of the Slovak government, local government authorities; as well as scientific and expert publications and research.

Therefore, the main purpose of the present study is twofold. First, it is to identify the basic principles for the evaluation of economic losses and gains caused by labour force emigration. In the study, rather a model for the evaluation of the balance than the real balance of gains and losses caused by emigration is proposed. To do so, a set of economic criteria is elaborated and mathematical calculations are selected in order to calculate economic losses and gains caused by emigration for economy and society. Statistical data available in Eurostat,

WTO, Statistical Office of the SR, Ministry of Labour, Social Affairs and Family of the SR, World Bank, International Monetary Fund, and research data published in scientific and expert publications are used to perform the calculations. General scientific and research methods are employed in the study, such as methods of induction, deduction, abstraction and comparison, analysis and synthesis of selected facts, phenomena and processes. Statistical and mathematical methods are used to make the calculations.

1. Principles applied in the evaluation of losses and gains caused by labour force emigration

The main category and subject matter of the analysis is the labour force as one of the important factors of production. Under market economy, labour force undergoes regular reproduction processes, such as purchase, sale and employment in the manufacturing process. Labour force refers to the ability of an adult person to regularly; and in line with the requirements related to the manufacturing process, do mental or physical work. The ability to work encompasses certain inborn and learned human qualities that are being formed and developed in the process of maturing.

In the process of forming and developing work abilities, purposeful education plays an important role; and naturally there are financial costs associated with education. As the education of persons is funded by the Slovak government, it is expected that the educated labour force will contribute to the economic growth of the country in the future. When moving abroad for employment purposes after the completion of study (secondary or higher education), the expense item related to the education of labour force is the loss-making item for the state. In addition, loss-making items include expenses paid by the government on health care, social security benefits, and social insurance for those in full time education. In the case of emigration, the lost (not generated) portion of Gross Domestic Product (GDP), unpaid taxes to national and local budgets as well as no payroll transfers to social insurance fund are also loss-making items for economy and society.

The issue of losses and gains caused by emigration is worth mentioning only when migratory flows are extensive in time and intensity (number of emigrants). The calculation of chi-square coefficient (χ^2) shows that with 2,329 employed persons and 242,000 emigrants, the difference of 1% in the indicators is statistically significant.

It is also worth noting that registering and monitoring the number of labour migrants are a complex process. There exists no reliable and regular registration as to migration data in Western EU countries as well as in Slovakia. Therefore, reliable sources of information on emigration appear to be labour force surveys (VZPS) produced by the Statistical Office of the SR. According to the UPSVAR, there were 270,600 Slovak workers employed abroad in 2008 [12].

During the years of the global economic recession, the number of labour migrants dropped slightly; and has been on the rise recently. There were approximately 220,000 – 230,000 Slovak citizens working legally and irregularly abroad before the recession [11, p, 24-287]. A recent study conducted by the Slovak Academy of Sciences says that 242,000 Slovak citizens worked abroad in 2013 [13]. This, however, appears to be only a rough estimate as the experts say there are more than 60,000 Slovak care workers employed in Austria [12]. That is why, the number of 242,000 Slovak citizens working abroad is a more accurate figure on emigration from Slovakia. The figure of 242,000 Slovak citizens working abroad represents 10 per cent to the overall number of persons employed in the economy of Slovakia and 8.9 per cent to the overall working age population.

The data on level of education of migrant workers are important for the calculation of direct costs spent on the workforce reproduction. Following the data produced by the Statistical Office of the SR regarding the educational attainment of the Slovak migrant workers, there are 61 per cent of emigrants with completed secondary education, 18 per cent with higher education and only 6 per cent with elementary education [12].

The calculation of losses and gains caused by emigration will be based on a situation model assuming that almost all migrant workers out of 242,000 were educated in Slovakia and found employment and worked abroad after completion of their studies. Besides indirect costs on the labour force reproduction, expenses from the government budget on elementary, secondary and higher education are the biggest items. Similarly, the biggest item on the side of economic losses caused by emigration is the lost (not generated) Gross Domestic Product. These are the two main items included in the balance of losses and gains caused by the emigration of labour force. The remaining direct and indirect expenses on the workforce reproduction, such as expenses on health care, expenses paid to Kindergartens, or on post-A-level studies are only complementary expenses to the overall costs. It is true that economic benefits, such as remittances, domestic consumption, qualifications gained and amount of knowledge accumulated abroad in case of moving back and finding employment home cannot compensate the home country for the losses in GDP caused by emigration. In the following section, a model balance of economic losses and gains caused by emigration will be designed.

2. Calculation model of economic losses and gains caused by the emigration of labour force

In the calculations of losses related to education, statistical data on the number of emigrants from Slovakia and their educational level are used. Out of total 242,000 emigrants from Slovakia, 61 per cent are with completed secondary education, 18 per cent with higher education, and only 6 per cent with elementary education. In 2009, the average expenditure per pupil was USD 4,433 in pre-school facilities, USD 5,099 in the first grade of elementary schools, USD 4,658 in the second grade of elementary schools, USD 4,658 in secondary schools and USD 6,758 in institutions of higher education (OECD, 2009). In the following years, expenditure on elementary and secondary education was slightly increasing, whereas the expenditure on higher education was decreasing. Thus, the average expenditure on education in 2013 can be considered to be similar to that of 2009.

When taking into account the years of education, i.e. one year of preschool education, nine years of elementary education, four years of secondary education and five years of higher education, then the total expenditure per elementary school student amounts to USD 48,119, per secondary school student USD 66,758 and per student in higher education USD 10,0548. It follows that these costs in relation to the level of education (number of years of education) of 242,000 emigrants from Slovakia make the total expenditure on education amount to USD 17,568,200. Thus, when all emigrants completed their studies and training in Slovakia, and worked abroad during their entire working age, the amount of USD 17.5 million spent on education and training would represent the direct loss for society and economy. The same would apply to costs on health care. The expenditure spent on health care for 242,000 persons during their education and training would amount to approximately €5 billion according to expenditure made in 2013 [14]. It follows that the total costs expended on education in the amount of €13.4 billion (USD 17.5 billion) and costs spent on health care would be the direct economic loss of the state amounting to €18.4 billion.

No confirmed data, however, exist as for the actual duration of stay abroad for work-related reasons. According to a survey conducted by the Institute of Sociology of the Slovak Academy of Sciences, 36 per cent of respondents in the 18-24 year-old age group and 7 per cent of respondents in the 55-59 year-old age group expressed their intention to stay abroad permanently, yet their answers cannot be taken as definite decisions [15]. In order to do the analysis, it would be sufficient to calculate how many years a person should approximately work in Slovakia to generate the amount of gross domestic product comparable to his/her costs of education paid by the government.

In 2013, the Slovak gross domestic product at constant prices was €71.13 billion, and 2,329,000 persons worked in the Slovak industry (Tab.1). GDP per person employed was €30,541. It follows that an emigrant with elementary education would generate GDP comparable to his/her education costs (USD 48,000) in one year and a half when employed in Slovakia. Similarly, it would take more than two years of employment in Slovakia for an emigrant with secondary education to generate GDP comparable to his/her education costs (USD 66,000), and to generate GDP comparable to additional costs related to his/her training would take approximately 3 years. Finally, an emigrant with higher education should be employed in Slovakia for more than three years.

Tab. 1 GDP, the number of unemployed and the number of emigrants

Years	2000	2004	2008	2012	2014	2016	2017	2018
GDP EUR billion	31,1	37,1	64,8	72,7	76,1	81,2	81,2	88,6
Jobless (in thousands)	536,8	474,2	251,8	284,3	402,1	293,4	247,2	187,8
Emigrants (in thousands)	49,3	103,6	270,6	309,7	312,7	297,5	301,3	300,0

Source: Euroekonóm [16]; VZPS, Statistical Office of the SR. [12].

If 242,000 persons working abroad in 2013 were employed in Slovakia, they would generate GDP amounting to €7.4 billion in one year which would represent 10.4 per cent of Slovak GDP in 2013. The direct expenditure on their training amounted to €13.4 billion. Similarly as with per-emigrant calculations, all those who received education and training in Slovakia and left Slovakia for employment-related reasons in 2013, should find and maintain employment in Slovakia for 2 years on average in order to generate GDP comparable to their education and training costs ($7.4 \times 2 = € 14.8$ billion, education costs €13.4 billion).

Losses caused by emigration from Slovakia could also include unpaid income tax and excise tax. Based on the average wage amounting to €824 in 2013, 242,000 emigrants should have paid the income tax of €304 million on average. According to the survey by Sberbank Slovensko, the average spending per capita on food, clothing, utilities, etc. amounted to €1,921 in 2013 [17]. Out of this amount, VAT payments to the national

budget amounted to €318. Value added tax paid by 242,000 Slovak citizens working in their home country would make additional €77.1 million.

Unpaid social and health insurance contributions can also be regarded as losses caused by the emigration of labour force. Health insurance for 242,000 workers would approximately amount to €95.7 million and the amount paid by their employers in Slovakia would amount to €239.3 million [14]. Similarly, the Social Insurance Company would not receive social security payments from 242,000 prospective workers totalling to €224.9 million and €603 million from their employers in 2013 [18].

When the direct government expenditure in the amount of €18.4 billion on education and health care for 242,000 emigrants during the years in education and training were added to potential losses caused by unpaid taxes, no payroll transfers to health care and social insurance systems in the amount of €21.7 billion, the total losses would total to €40.1 billion. In order to generate GDP comparable to these direct and indirect costs, each Slovak citizen working abroad would have to work in Slovakia at least for 5 years and half after the completion of his/her studies and training.

Economic benefits from labour migration would be, on condition that each person works at least 5 years and half in Slovakia, the skills and practices workers acquire abroad and subsequently use after their return to their home country. It is, however, not viable to calculate exactly the economic benefits caused by emigration mainly due to incomplete or missing statistical data.

Short-term economic benefits of emigration are remittances – transfers of goods and funds to individuals in Slovakia by migrant labourers working at least for one year abroad. According to the World Bank estimates, the overall volume of funds transferred by Slovak foreign workers was almost USD 2 billion (€1.5 billion) in 2013 [19]. These remittances, however, accounted for only 2.1 per cent of the Slovak GDP and 20.3 per cent of the amount that could have been generated by them in a one year employment in Slovakia in 2013.

3. Discussion and results

As confirmed by the calculations, the resulting balance from workforce emigration is loss-making for economy and society. Currently, it is not known (except for estimates) how many years the labour migrants will live and work abroad. Any period of time of employment before moving abroad or after moving back home is beneficial for the economy of the home country. Equally, every additional year working abroad would be detrimental for both the economy and society if there were job opportunities in Slovakia.

Even balanced economic losses and gains caused by emigration, i.e. when direct and indirect costs spent on education and training equal to years worked and GDP generated in Slovakia cannot be regarded as a positive phenomenon. It is mainly due to the fact that the exclusion of some portion (volume) of the important factor of production, i.e. the labour force from the manufacturing process, not only its economic value in a purely monetary expression is being lost. Much more is being lost – primarily the development potential of economy and society whose essence lies in human labour.

This is mainly to be attributed to the characteristics of labour force. While other factors of production, such as for instance raw materials or energy lose their amount of value under some circumstances, machinery and tools lose their amount of value over time, the value of labour force in the manufacturing process, however, is increasing over time.

Moreover, emigration of labour force reduces the welfare development potential of the society. Labour migrants do not contribute their fair share to the government-funded education and health systems, thus widening the gap between those who pay the pension contributions into the national pension system and pension beneficiaries. It should be born in mind that in principle highly skilled and well-educated workforce with attendant language skills ready to live in a different cultural and social environment are leaving Slovakia for work-related reasons. Losses caused by „brain drain”, however are irreversible and lead to a reduced genetic fund of the nation. Moreover, emigration of labour has a detrimental impact on family relations, friends, children’s education, cohesion of social associations and groups. In addition, detrimental effects of emigration are apparent in demographic processes, birth rate, population ageing, etc.

Emigration in the short run and under certain economic and social circumstances, can, however, have advantages for economy and society. This is especially true for the social and economic conditions of Slovakia as well as other Central European countries. Despite the fact that 242,000 Slovak citizens (9 per cent of the working age population) worked abroad, 14 per cent of Slovaks were registered jobless with employment offices in 2013. It follows that the Slovak economic system cannot fully utilize this factor of production. Obviously, some labour force is idle and with no development potential for economy and society.

Under the above mentioned conditions, emigration of labour force brings certain economic benefits for both the economy and society. It is more advantageous for the economy and migrant labourers themselves

from economic, social and psychological point of view to work abroad than to sit idly at home. In the case of employment abroad, sustenance problem of workers is removed and the state budget is not burdened by paying unemployment benefits. Additionally, emigrants often increase their qualifications, accumulate a certain amount of knowledge, new skills and practices. In addition, they do not experience the negative psychological, social and economic consequences of unemployment.

Summary

It was shown that accurate statistical data on the extent and intensity of migratory flows, motives and intentions for migration, social and demographic characteristics of migrants are not available for constructing properly the model approach for the evaluation and calculation of economic losses and gains caused by emigration of labour force. Moreover, evaluation of losses and gains in purely economic terms is insufficient as to not providing a comprehensive and wider picture of the phenomenon within the system of economic and social processes, and simultaneously not reflecting long-range goals of the economic and social development of the society.

Model evaluation of economic losses and gains caused by the emigration of labour force indicates losses for economy and society. Under certain conditions, however, economic losses can be minimized or replenished. In addition to losses in economic terms, the loss of an adequate part of the development potential of the economy and society is considered to have much more damaging effects. Therefore, emigration of labour force is an undesirable phenomenon in economy and society from both economic and social points of view.

Nonetheless, the evaluation of merely economic losses and gains does not provide an inclusive view on actual losses and gains for economy and society. Additionally, a purely economic approach distorts the actual understanding of the importance of emigration in terms of social progress and economic development of the society. That is why an exhaustive evaluation of losses and gains for economy and society caused by emigration cannot be performed without taking into account social goals of the society as well as other related factors, such as psychological, cultural and demographic ones as part of the evaluation.

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