

## Sustainable development of the border city in the context of European integration processes and decentralization in Ukraine (on the example of Lutsk, 2008-2020)

**Svitlana Salnikova**

Taras Shevchenko National University of Kyiv, Ukraine  
ORCID: 0000-0001-6368-9480, e-mail: sv.salnikova@gmail.com

**Oleksandr Khanin**

Lesya Ukrainka Volyn National University, Ukraine  
ORCID: 0000-0003-3472-9871, e-mail: aleks.hanin@gmail.com

DOI: 10.14595/CP/02/009

---

**Abstract:** Regional development of the territories of Ukraine neighboring the countries of the European Union is the focus of research by different institutions of the EU. The authors analyzed the sustainable development of the border city in the social and economic spheres, taking into account local, national and European integration contexts. Sociological research data, statistics and some open data were used to analyze socio-economic indicators in the dynamics. However, their analysis is complicated by decentralization – a new territorial structure of Ukrainian regions approved in 2020, and it is impossible to predict the development of the city within the new boundaries due to the lack of statistics collected in accordance with the new administrative division of territories. Sociological research has shown a social climate in the city in which the residents associate the lack of social benefits<sup>3</sup> with problems at the state level, not local, need new knowledge, skills, experience etc., and for this purpose they are focused on migration. The dynamics of population aging in the city and the region is not critical, but local authorities are forced to address the issue of returning people aged 65+ to the labor market, or support economy sectors in which they can realize their experience and potential. Professional failure of people aged 41+ requires quality education and an innovative economy. The Volyn Region and the city of Lutsk are characterized by consistently high quality of school education; it is a good basis for economic development. The paradox of the city's economic development is that with a good pace of enterprise development and revenues to budget, population incomes are low. Issues of human resource quality and quality of life are the priority issues of decentralized territories of Volyn.

**Key words:** budget, quality of education, aging population, social well-being, decentralization.

**JEL:** H720, H750, J110, J170, R110

### Introduction

The European Union is the initiator of a number of programs for sustainable development of territories, which extend not only to EU countries. Ukraine is a participant in many such programs. In particular, «New European Union's policy seeks to cultivate complete urban policies» because «urban regions are the driving forces of Europe's economic

---

<sup>3</sup> The Scale of Social well-being (methodic by Ye. Golovakha and N. Panina) contains 44 social benefits from 11 spheres of life (the scale of sufficiency of benefits: 1 – not-sufficient, 2 – difficult to say, 3 – sufficient, 4 – not interested) (See: [Salnikova; 2014, 2017]).

development, they are centres of creativity and innovation, and also, they are the factor of the achievement of “Europe 2020” strategy» [European Commission, 2018].

The significance of cities is also evidenced by the Intercultural cities program from the Council of Europe, whose participants amount to more than 140 cities in the world since 2008. Lutsk is also a participant in this program. Within it, is possible to compare not only the state of the urban environment of the participating cities, but also the features of their development [Kuznetsova, 2016; Council of Europe], obtain interesting experiences, coordinate development goals, etc. The Lutsk case study is one of many studies of urban centers that have recently been more and more intensively conducted at an international level (e.g., [Delitheou, Georgakopoulou, 2019; Deng et al., 2018]).

Rapid urbanization strengthens the role of the city; in particular, the city becomes the key actor in a globalized world [Nordström, Schlingmann; 2014]. However, the reform of decentralization in Ukraine has not simply reformatted the territorial structure; it has changed the significance of separate territories, or created new centres of concentration of economic production and human capital. Prior to the reform, these centres had different chances for their sustainable development; regional centres have accumulated more capital than the rest administrative units. But many questions are open. For example, is the development of the city as the centre of the region sufficient to further concentrate its resources? What are the main directions of outflow of resources: national or global? What are the trends and paradoxes of territorial development? The research problem is the need for a comprehensive study of various spheres of life in the region, taking into account internal and external integration processes for its sustainable development.

The case of the city of Lutsk as the centre of the Volyn Region, which borders the EU and has fairly active cross-border cooperation at minimum with Poland, is interesting in such a research framework.

## **Methodology**

Scientists view sustainable development as one that meets human needs and improves the quality of life, so that ecosystems can preserve themselves through renewal [Berkes et al., 2000]. However, the combination of social and ecological systems is closely linked to the economic system, as sustainability is a process that affects all three dimensions. This view

is shared by other scientists: sustainable development is an embedded hierarchy consisting of nature, society and the economy as a living environment, which allows human society to build an economic system that does not pose a threat to the environment [McLaren, Agyeman; 2015]. However, D. McLaren and J. Agyeman believe that «the future of humanity is urban, and the nature of urban space enables, and necessitates, sharing – of resources, goods and services, experiences». McLaren and Agyeman propose a new “sharing paradigm” [McLaren, Agyeman; 2015].

The social system, economic situation and ecological situation are also key in the concept of sustainable development management of the city of Ukrainian economists N. Pavlikha and M. Voichuk [Pavlikha, Voichuk; 2019; p. 17]; in their opinion, sustainable development of the city can be considered at the following levels: local, regional, national, global [Pavlikha, Voichuk; 2019; p. 12]. All these levels of sustainable development analysis are important in the context of European integration processes and taking into account the new territorial structure of Ukraine. Decentralization raises the same questions. Whether the city will continue to have a regional impact or it will exist exclusively separately; the border location makes the city attractive to European integration, or the public policy remains dominant.

The urban researches have two areas: (1) the study of various urban systems (transport infrastructure, healthcare, education, ecology, urban economics, human capital, etc.) with (2) the involvement of citizens in the urban planning process.

In accordance with these concepts, the authors limit this study to the observing of two spheres of life of the city – social and economic, as indicators in these areas intersect. The social sphere is represented by such indicators as the social well-being of the city's residents, their migration intentions, and income levels, with a special emphasis on the analysis of human capital, namely: human resources and quality education. The latter indicators also describe the economic sphere, for the analysis of which the indicators of revenues to budget and retail turnover were used.

The purpose of the article is to analyze the socio-economic dynamics of indicators, taking into account local, national, and European integration contexts. The empirical basis of the article is the data of sociological research and statistical data, including those provided by the Lutsk City Council specifically for this study. All sociological research was conducted by the Sociological Research Laboratory of Lesya Ukrainka Eastern European National

University<sup>4</sup> (project manager – S. Salnikova). Analysis of primary data was made in the SPSS program; descriptive statistics, methods of univariate and bivariate analysis, as well as correlation analysis were used. The authors used regression analysis to forecast some indicators.

It is worth noting that the new territorial division of Ukraine was adopted in 2020 and the State Statistics Service of Ukraine has not yet collected data in accordance with it.

## Results and discussion

### Social climate

The social climate is no less important than those of the political or economic nature; sociological research is the best way to study it [Salnikova, 2014; Szabó, 2019].

We will not analyse the results of the research, we will only use some important conclusions. In particular, the results of the “Social well-being of Lutsk Residents” monitoring (2008–2018) show that poor social well-being of the residents of Lutsk is associated with problems at the state level [Salnikova, 2014], not local; and to improve it, residents need specific individual qualities and knowledge [Salnikova, 2017, p. 105]. The political frustration that usually occurs a year after every election makes it difficult to link regional stability to the national level. The development of the region has either a local character, or such a character where there are practices that provide residents with the necessary skills, abilities, qualities and experience.

The sociological survey “Main Directions and Prospects of Development of the Lutsk City” (2016) exposed the demographic problem associated with the outflow of youth and the need for special social inclusion of people of mature age [Salnikova, 2018].

Among the top problems in 2016 were the following: the outflow of young people to large cities and abroad (30.8%), the lack of gerontological institutions for serving the elderly people [Salnikova, 2018, p. 49–50]. The main reason for the former is the impossibility of professional realization in the city, residents of the city of working age 41+ with a higher education and good financial condition speak about this; they are characterized by a high level of mobility. Higher education encourages relocation in the event of a polar financial condition

---

<sup>4</sup> In 2020, the university returned to its previous title – Lesya Ukrainka Volyn National University.

of the family. Thus, the lack of opportunities for professionals will contribute to the fact that they will consider Lutsk as a place to obtain a good education, as a transit settlement [Salnikova, 2018, pp. 47, 51]. Contrary to the expectations of researchers, the main reason for leaving the city was not educational mobility, but professional one. Professionalism should be associated with a high economic status, but, unfortunately, low salaries and an appropriate standard of living are characteristic of Lutsk. Representatives of professional employment are not employed, as a rule, in the shadow sector, therefore, the average official salary can not be considered high (317\$ – 2013, 220\$ – 2014, 151\$ – 2015, 158\$ – 2016, 220\$ – 2017, 269\$ – 2018, 335\$ – 2019). It is important to note that the average salary in the region does not statistically differ from the same indicator in the city from 2015 [Annual “Volyn 2019”, 2020, p. 87].

### **About human resources**

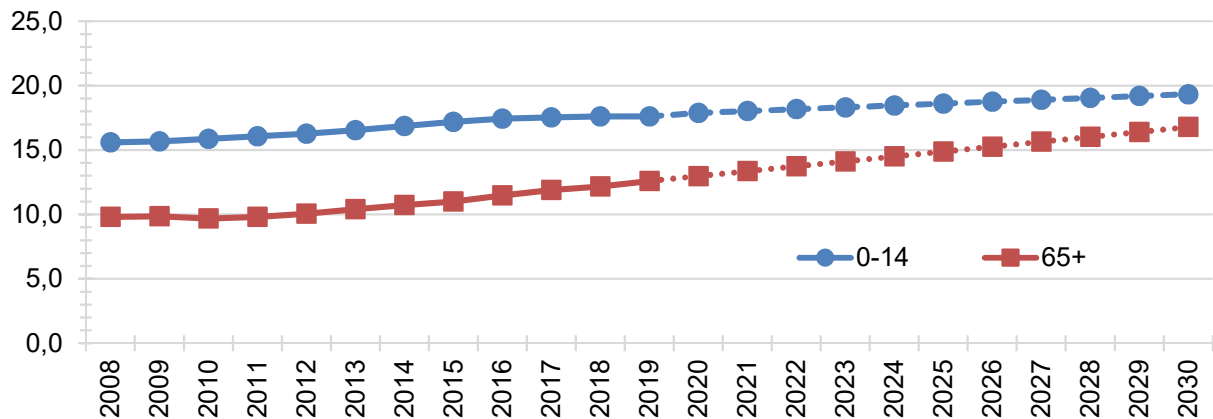
The problem of low chances of professional realization is partially related to the problem of an increase in number of elderly people: the decrease in the category of people of working age automatically increases the category of people at the retirement age. But this situation is much more complicated.

First, the problem of the aging population in Lutsk and the Volyn Region does not have such ‘catastrophic’ dynamics as for European countries<sup>5</sup>: the share of the population in the age cohort of 0-14 years (those who will enter the labor market tomorrow) exceeds the share of the population aged 65+ (those who will leave the labor market tomorrow). The results of the regression analysis demonstrate the persistence of this trend until 2030 for both the city and the region (Fig. 1, Fig. 2).

---

<sup>5</sup> «Europe is ageing overall and it is threatened by a real reduction of the original population and the national and cultural definition thereof. This fact is irrefutable; it is practically pointless to prove it statistically» [Arltová et al., 2016, p. 198]. But the statistics from Eurostat (<https://ec.europa.eu/eurostat/>) is very useful [Ageing Europe, 2020], especially The EU Open Data Portal (<https://data.europa.eu/euodp/en>) with access to datasets from the EU.

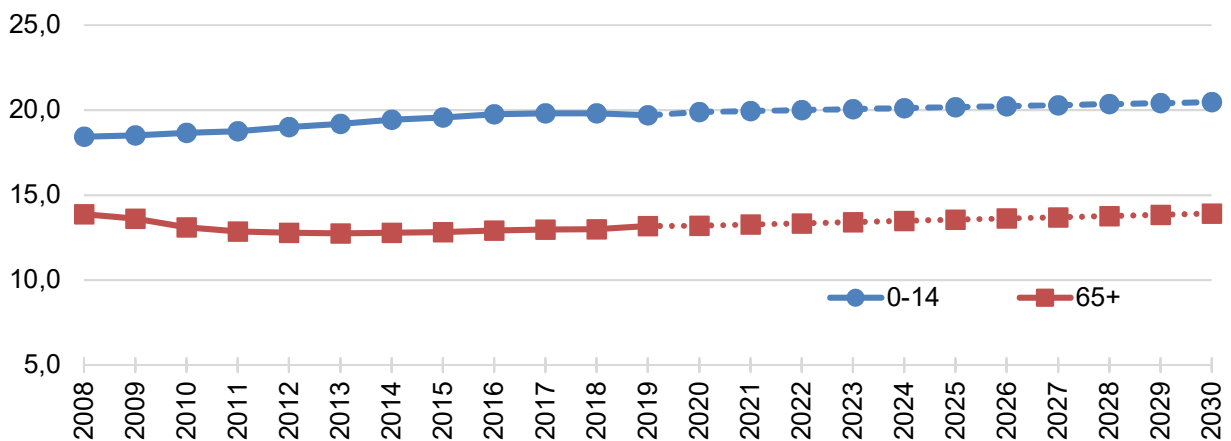
**Figure 1.** Population ages '0-14' or '65+' with forecasting, Lutsk (% of total)



Source: own elaboration, based on data from Lutsk City Council [Annual "Volyn 2019", 2020, p. 40].

Secondly, Volyn is not an industrial region; according to Czech economists, industrial regions will suffer the greatest losses due to an aging population [Arltová et al., 2016]. The main cities of the region (Lutsk, Kovel) and northern districts (Kamin-Kashirskiy, Ratnivskiy, Manevytskyi) have a slight natural increase in population (from 100.1% to 100.5%) [Main Department..., 2019].

**Figure 2.** Population ages '0-14' or '65+' with forecasting, Volyn Region (% of total)



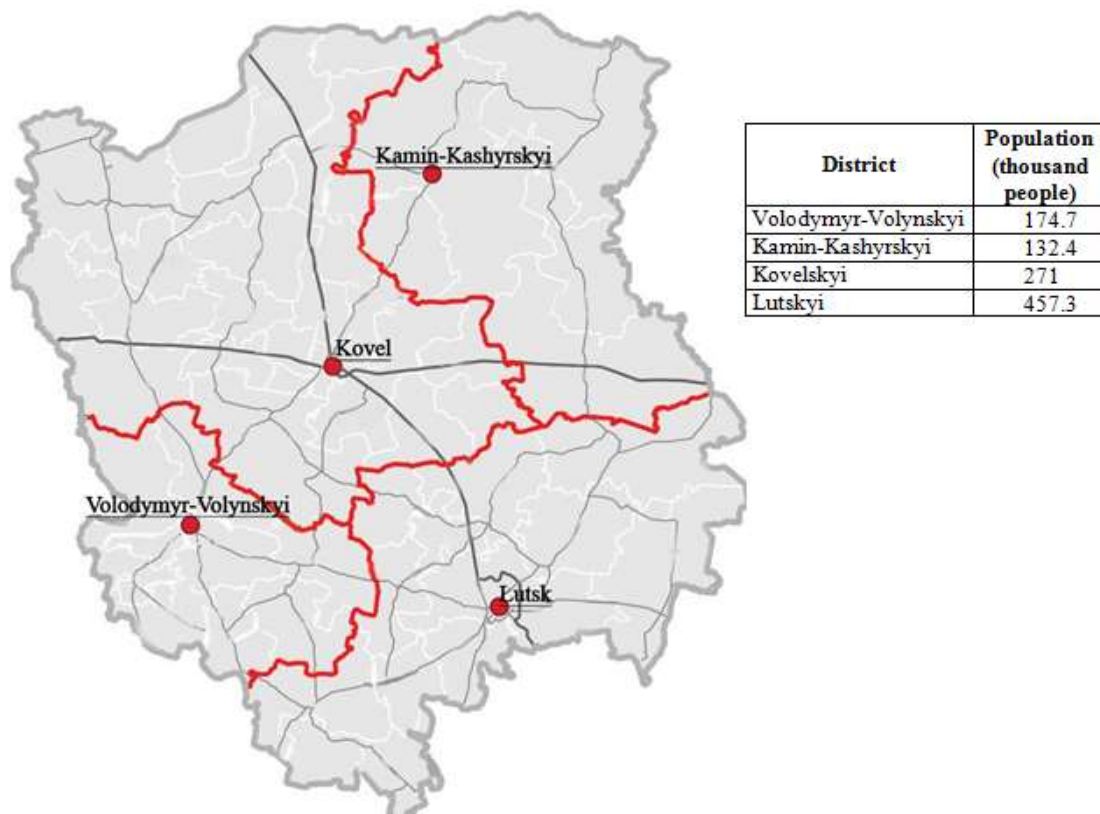
Source: own elaboration, data from [Annual "Volyn 2019", 2020, p.43].

On the other hand, in order to minimize the problem of population decline, Volyn's authorities will have to decide on the issue of either returning people aged 65+ to the labor market, or supporting sectors of the regional economy, where they can realize their experience and potential. However, the priority is to decide the issue of professional realization of the most active and professional population aged 41+, and without an innovative

economy, it is difficult to do. The city and regional authorities and all those who manage human resources should already solve the problem of human capital as the most valuable resource for the successful development of a city / region / country, and not just maintaining the infrastructure of the territory.

Negative demographic trends are typical for all investigated levels – European Union, Ukraine, Volyn, and Lutsk – with varying degrees of intensity. But the dominance of labor migrations flows over permanent ones are characteristic of Lutsk and Volyn only; and Lutsk as a center of urbanization of Volyn has a low migration inflow. The Volyn Region has always been a major donor of human resources for Lutsk. Today, only three northern districts of the region, as mentioned, show a general population growth, but due to decentralization, they belong to other territorial units (Fig. 3). The presence of a fourth district with its center in Kamin-Kashirsk (Fig. 3) is a guarantee that Lutsk will be the urban center of Volyn in the future; otherwise, the city of Kovel would be a serious competition to Lutsk in the struggle for human capital. Other cities in the region do not have such opportunities.

**Figure 3.** The final version of the new territorial structure of the Volyn Region, adopted by the Verkhovna Rada on July 17, 2020



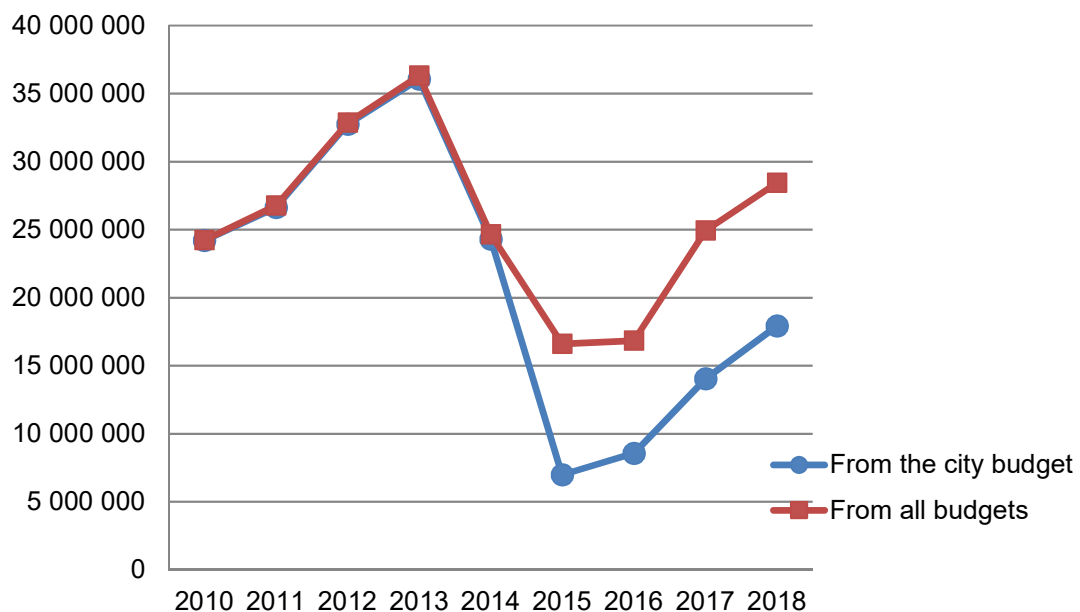
Source: own translation from Decentralization, <https://decentralization.gov.ua/new-rayons/volynska>.

Lutsk can hope for migratory population growth only if it 'guarantees' quality education and living standards for migrants. The decentralization has made local communities more financially independent, so the quality of life in the city can only be linked to an urban lifestyle or higher chances of professional realization.

## Sphere of education

The education sphere is not particularly 'interesting': a decrease in funding (Fig. 4), a decrease in the number of children enrolled in preschool educational schools (from 909 children in 2008 to 1,593 children in 2012, and 600 children in 2018), while the number of children in groups increases (from 23 in 2008 to 27 in 2018), only one residential quarter was built with the appropriate social infrastructure (kindergarten, school), three private schools and several kindergartens were opened until 2020<sup>6</sup>. State institutions dominate in the educational sphere of Lutsk.

**Figure 4.** Dynamics of education spending (\$, USA)



Source: own study, based on data from Lutsk City Council.

Economic indicators reflect the financing of this sphere with 'residual principle' in Ukraine, which has become the norm under any government in the country.

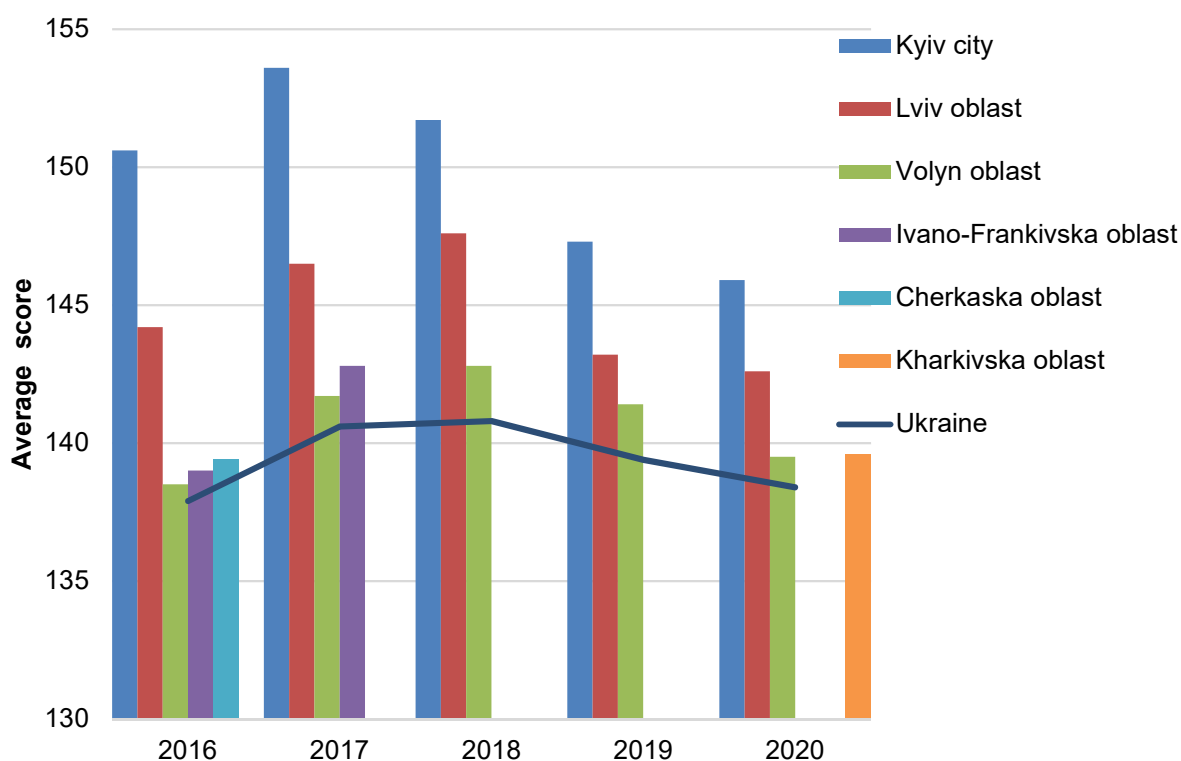
<sup>6</sup> Source: Lutsk City Council.



Indicators of the quality of school education according to the results of external independent evaluation show that the level of education is higher in the regional centres of Ukraine, and Lutsk occupies a leading position among them. It is important that Volyn Region, being one of the least urbanized territories, demonstrates consistently high results in all school subjects during 2008–2020, and occupying different high positions depending on the subject<sup>7</sup>. It is noticeable that Volyn ‘concede’ only Kyiv and Lviv Region in knowledge of mathematics and physics (Fig. 5, Fig. 6); if we compare regional centres according to these indicators, the leaders will be Kyiv, Lviv, Kharkiv and Lutsk.

Thorough knowledge of exact sciences is a good basis for the development of innovative economy in Volyn, and obviously, Lutsk does not use this resource too much. The data (Fig. 5, Fig. 6) partially explain why Volyn entrants choose higher education institutions in Kyiv and Lviv, and the EU, in particular, Poland [Klimuk, Penkovska, 2017].

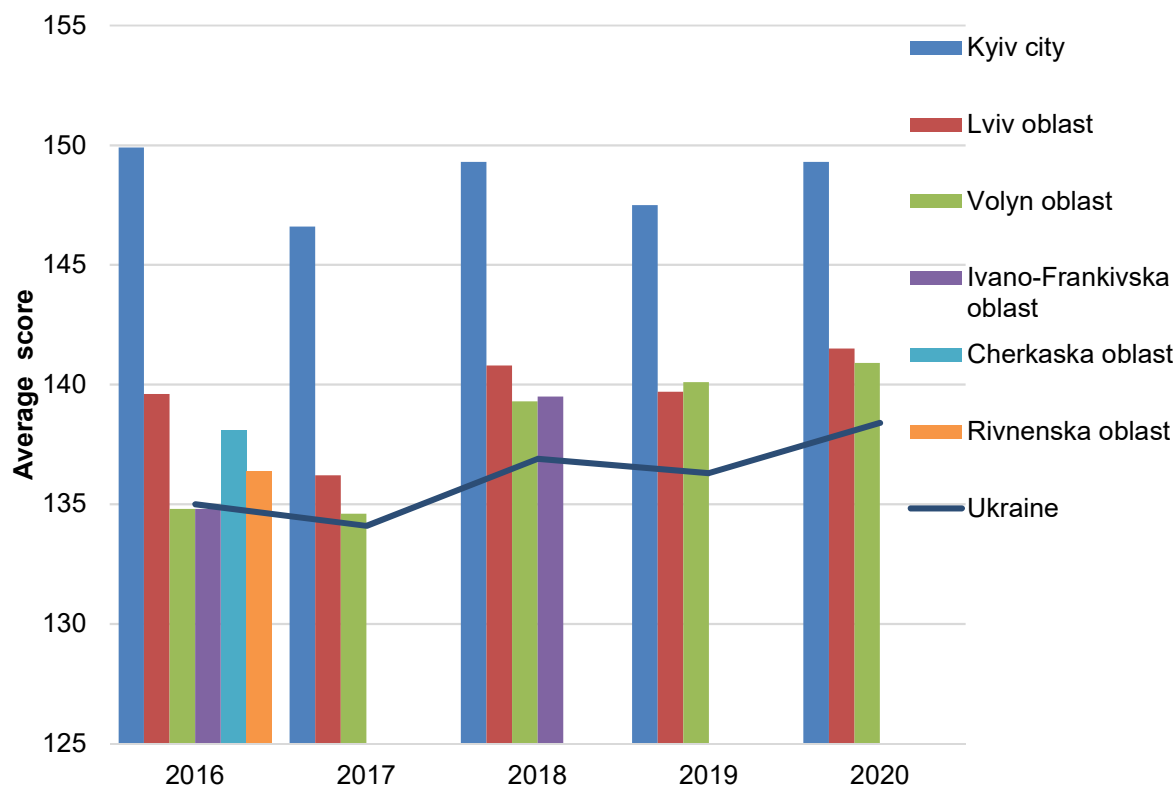
**Figure 5.** Top-Regions of Ukraine by the external evaluation in mathematics, ave. score



Source: own elaboration, based on open data from [Ukrainian Center..., 2020].

<sup>7</sup> See: statistical data or Official Report from [Ukrainian Center..., 2020].

**Figure 6.** Top-Regions of Ukraine by the external evaluation in physics, ave. score

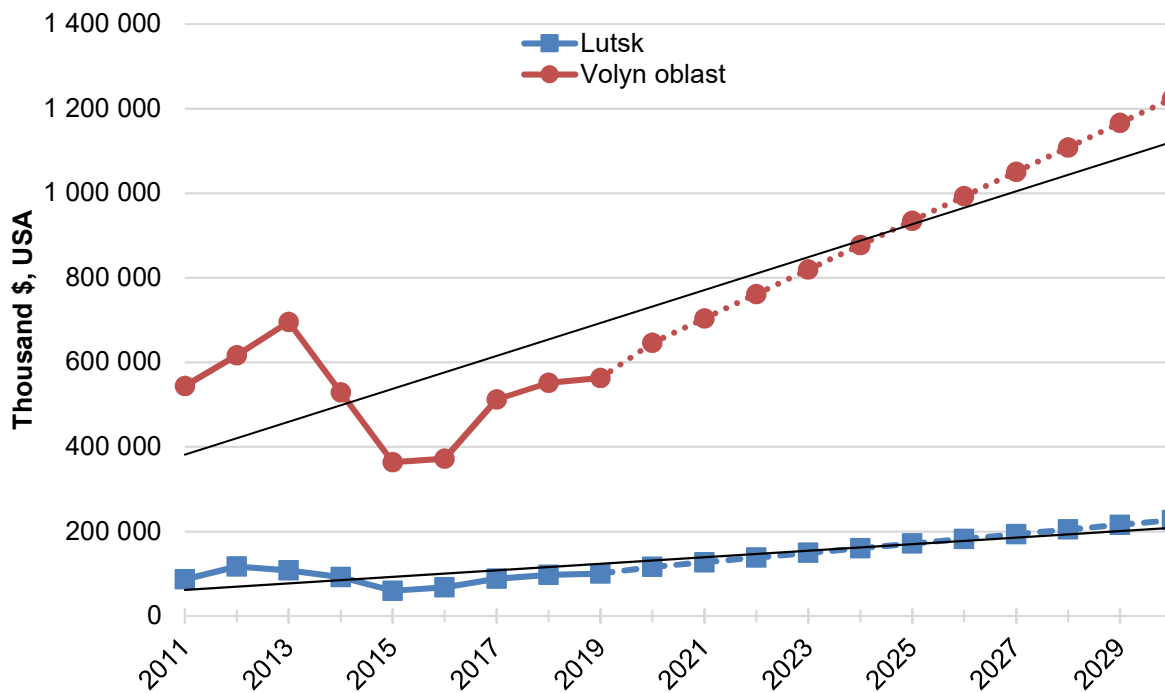


Source: own elaboration, based on open data from [Ukrainian Center..., 2020].

## Economic situation

The basis for stable development is the state of the budget. Recent years have shown an average annual growth rate of the total revenues of the city budget at the level of 17.7% (\$, USA); this is a positive trend in the development of the city's economy. However, the budget increase is expected to reach the 2012 mark in 2021 (Fig. 7). The forecast of the regional budget is more optimistic (Fig. 7), but in absolute size it is much worse than the urban one, especially considering that the population of the Volyn Region without Lutsk (see Fig. 3) is four times higher than the population of Lutsk (more than 200 thousand [Main Department..., 2019]).

Figure 7. Dynamics of revenues to budgets of Lutsk and Volyn oblast with forecasting



Source: own elaboration, based on data from Lutsk City Council, and [Annual reports..., 2020].

Many large enterprises were officially outside the city until July 17, 2020, and their profit was not reflected in the economic indicators of the city. Nevertheless, the average annual growth rate of sales of one enterprise (\$, USA) is 17.1%, and it is an outstripping indicator in comparison with the Volyn Region<sup>8</sup>, and Ukraine<sup>9</sup>. There are better conditions for enterprises in the city of Lutsk than in the country as a whole. The correlation coefficient between the revenues to the budget and the volume of realization of the city enterprises (\$, USA) is 0.88.

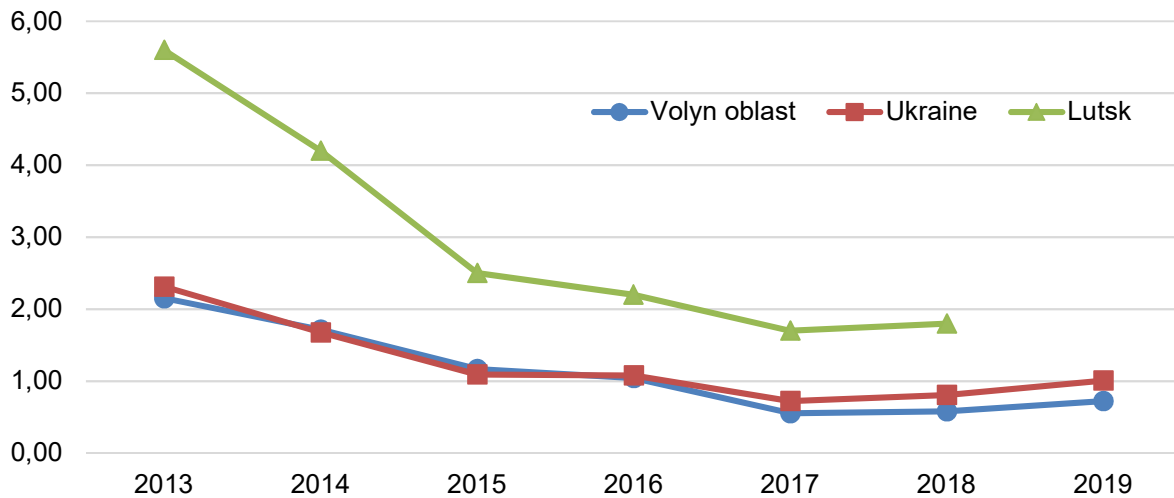
Retail turnover in Lutsk is higher (Fig. 8) than in Ukraine and in the region<sup>10</sup>. This means that a person's low salary is not an indicator of either their well-being or the main source of income, and spending.

<sup>8</sup> See: Volume of sales of products (goods, services) by economic entities by cities and district (2010-2018) [Main Department..., 2019].

<sup>9</sup> See: Volume of sales of products (goods, services) by economic entities by types of economic activity (2010-2018), <http://ukrstat.gov.ua/> (14.08.2019)

<sup>10</sup> See: Main indicators of retail trade (2013-2018), Dynamics of average monthly wages by types of economic activity in 2010-2018, <http://ukrstat.gov.ua/> (14.08.2019)

**Figure 8.** Dynamics of retail turnover, thousand USD USA per 1 person



Source: own study, based on data from Lutsk City Council, and [Main Department..., 2019; Annual "Volyn 2019", 2020, p. 35], and State Statistics Service of Ukraine (<http://ukrstat.gov.ua/>)

## Conclusions and recommendations

Considering sustainable development as a process that takes place in three dimensions - social, and economic and environmental, the authors focused on the study of the first two spheres. However, the border location of Lutsk requires studying the process at different levels: local – as a separate territorial unit, regional – as part of the Volyn Region, national – as an administrative unit subject to the legislation of Ukraine, which has declared a course for European integration; and as reflecting the different socio-economic and political conditions in the country, global – as a border area with closer ties with the EU in both social and economic spheres. The authors' attempt to analyze the development-oriented city is complicated by the somewhat late decision of the Verkhovna Rada of July 27, 2020, on the new territorial structure of the regions of Ukraine.

The main problems of the analysis are the lack of statistical data in accordance with the new territorial structure, the uneven development of separate territories, and the impossibility to forecasting the duration and effectiveness in making the necessary management decisions of newly created territorial units, etc. Nevertheless, the analysis of socio-economic indicators in the dynamics, taking into account local, national and European integration contexts, allowed obtaining certain results. For a more complete analysis of the social and economic spheres, the authors used the results of sociological research, regional

and national statistics and open data on the quality of education. To forecasting some indicators, the authors used regression analysis.

The results of sociological research demonstrate the social climate in the city, where the residents associate the lack of social benefits with state-level problems, and think that the development of the region should be in a direction that will provide them with new knowledge, skills, experience, etc., also in regards to the economy and law. Residents of the city felt the demographic problem and the problem of professional realization.

The analysis of statistical data showed that the population aging process in the city and the region does not have such threatening trends as in developed EU countries; and this, as well as the fact that Volyn is not an industrial region, adds optimism. In order to minimize the problem of population decline, local authorities are forced to address the issue of returning older people to the labor market, or support the sectors of the regional economy in which they can realize their experience and potential. Otherwise, this 'potential' will seek to be realized in other more favorable regions of the EU.

This question requires not only the analysis of the labor market and the development of relevant sectors of the economy; it requires programs to maintain the mental and physical health of older people: a way of life aimed at maintaining quality of life; overcoming attitudes and prejudices related to the retirement age, combating ageism (the last elections in the country launched a message of "new faces" regardless of their competence), etc. It is also worth "moving" the discussion at the state level from the topic of reaching retirement age (in years) to the topic of the number of working hours, days, vacations, training, etc. It takes political will to lobby for these interests.

Another problem, the professional realization of the most active and professional population aged 41+, is difficult to solve without an innovative economy. High quality of school education, in particular thorough knowledge of exact sciences, is a perspective resource for development of innovations in Lutsk; but given the problem of highly educated city residents aged 41+, this resource is not fully used by local higher education institutions. City authorities are limited to awarding the best school graduates. As a small border city, Lutsk is a worthy competitor in the field of school education to the largest cities of Ukraine – Kyiv and Lviv, and Kharkiv.

Therefore, a separate strategic mission of the city should be a long-term program for the preparing of specialist for innovative economy. Local higher education institutions are not

able to implement this mission in general (only some elements), successful non-local experience is useful, the world is developing rapidly, local authorities have received “educational powers”, business is interested in professionals - all this makes it necessary to turn to the experience of China, now called an economic miracle or a breakthrough in China, but it actually had a long way to go.

The economic situation of the city and the region has a positive development trend. The paradox is that the retail turnover in the city of Lutsk is much higher than in Ukraine as a whole and the region, and the average salary is lower. But, according to data of sociological research, residents of the city were reoriented from the needs of material character to the needs of social, political and professional character.

M. Szabó in sociological research of «differences in behavioral patterns and satisfaction among the generations» considers «regions as social, cultural, political and economic interaction systems which aims maximize the welfare of well-being of residents». She argues «the significance of applying the generation theory into regional strategic planning» [Szabó, 2019, p. 246, p. 229].

«Strategic governance of sustainable spatial development is characterized by fragmentation and lack of coordination» [Pavlikha & Voichuk, 2018, p. 311]. However, the city and regional authorities, all those who manage human resources, should urgently resolve the problem of human capital as the most valuable resource for sustainable development of the city and region. Volyn Region today has enough human resources, but does not care about the quality of this resource. And ‘resource’ will refocus on the direction of development – Kyiv or the EU – which will provide opportunities for this quality to manifest itself.

## **Authors’ contributions**

S. Salnikova proposed the methodology and structure of the article; she analyzed the data in SPSS. She was the head of sociological projects of the Laboratory of Sociological Research of the Lesya Ukrainka East European National University<sup>11</sup>, the data of which was used in the article. She also worked with open data from the Ukrainian Center for Educational Quality Assessment, some state statistics. Statistical data provided for analysis by the Lutsk City Council were analyzed by O. Khanin, and he created graphs in Excel, and made a forecast

---

<sup>11</sup> In 2020, the university returned to its previous title – Lesya Ukrainka Volyn National University.

of some processes; O. Khanin worked also with the state statistics. The interpretation of data and conclusions are the result of mutual discussions of the authors.

## Acknowledgment

The presented article is a result of the authors' scientific work. This research was commissioned by Lutsk City Council within the framework of the bilateral Cooperation Agreement, but it was done on a not-for-profit basis.

## References

- Ageing Europe – looking at the lives of older people in the EU (2020). Publications Office of the European Union, Luxembourg, 10.2785/628105.
- Annual “Volyn 2019” (2020). Main Department of Statistics in Volyn oblast, Lutsk.
- Annual reports on the implementation of the regional budget (2020). Department of Finance of the Volyn Regional State Administration, <http://www.finance.voladm.gov.ua/category/c-19-54/>, access: 01.2021.
- ARLTOVÁ, M., SMRČKA, L., VRABCOVÁ, J., SCHÖNFELD, J. (2016). The Ageing of the Population in Developed Countries – the Economic Consequences in the Czech Republic, *Economics and Sociology*, Vol. 9(2), pp. 197-219, 10.14254/2071-789X.2016/9-2/14.
- BERKES, F., FOLKE, C., COLDING, J. (2000). *Linking Social and Ecological Systems: Management Practices and Social Mechanisms for Building Resilience*. University Press, Cambridge, <https://www.cambridge.org/vi/academic/subjects/life-sciences/ecology-and-conservation/linking-social-and-ecological-systems-management-practices-and-social-mechanisms-building-resilience?format=PB>, access: 11.2020.
- Council of Europe, Intercultural cities programme, <https://www.coe.int/en/web/interculturalcities/>, access: 03.2018.
- DENG, X., GONG, L., GAO, YAN., CUI, X., XU, KE. (2018). Internal Differentiation within the Rural Migrant Population from the Sustainable Urban Development Perspective: Evidence from China, *Sustainability Journal*, 10 (12), 1-15, 10.3390/su10124839.
- DELITHEOU, V., GEORGAKOPOULOU, S. (2019). Integrated Territorial Investments as a Tool for Sustainable Urban Development. The Case of Piraeus Municipality, *Theoretical and Empirical Researches in Urban Management*, Vol. 14(3), pp. 22-40.
- European Commission. Urban development, [http://ec.europa.eu/regional\\_policy/el/policy/themes/urban-development/](http://ec.europa.eu/regional_policy/el/policy/themes/urban-development/), access: 03.2018.
- KLIMUK, I., PENKOVSKA, S. (2017). Migration Mobility of School Leavers in the Volyn Region: the Problem of Choosing Ukraine vs Poland through the Prism of Stereotypes, *Sociological Studios*, Vol. 11(2), pp. 26-32, 10.29038/2306-3971-2017-02-26-32.
- KUZNETSOVA, A. (2016). The Empirical Representation of the Embodiment of Intercultural Policy on the Example of a Network of European Cities, *Sociological Studios*, Vol. 2(9), pp. 47-51, 10.29038/2306-3971-2016-02-47-51.
- NORDSTRÖM, K. A., SCHLINGMANN, P. (2014). *Urban Express: 15 Urban Rules to Help You Navigate the New World That's Being Shaped by Women and Cities*. Bokförlaget Forum.
- Main Department of Statistics in Volyn oblast, State Statistics Service of Ukraine, <http://www.lutsk.ukrstat.gov.ua/>, access: 06.2019.

**Proceedings of the 2021 VIII International Scientific Conference Determinants  
of Regional Development, No 2, Pila 21 - 22 October 2021**

- MCLAREN, D., AGYEMAN, J. (2015). *Sharing Cities: A Case for Truly Smart and Sustainable Cities*. The MIT Press, London. DOI: 10.7551/mitpress/9780262029728.001.0001.
- PAVLIKHA, N., VOICHUK, M. (2018). Conceptual basis of sustainable spatial development: theoretical and practical framework, *International Journal of new Economics and Social Sciences*, Vol. 8(2), pp. 311-322, 10.5604/01.3001.0012.9945.
- PAVLIKHA, N., VOICHUK, M. (2019). Organizational and economic principles of sustainable development management of the city. *Vezha-Druk, Lutsk*.
- SALNIKOVA, S. (2014). Ukrainian Society under Conditions of Total Anomy, *Economics & Sociology*, Vol. 7(2), pp. 183-198, 10.14254/2071-789X.2014/7-2/15.
- SALNIKOVA, S. (2017). Social Well-Being the Residents of Lutsk: About What Monitoring Data Say, *Sociology: Theory, Methods, Marketing*, No 2, pp. 105–118.
- SALNIKOVA, S. (2018). The Social Diagnostic of Lutsk City in the Framework of Creation of the Strategic Plan of its Development, *Sociological Studios*, Vol. 12(1), pp. 42-51, 10.29038/2306-3971-2018-01-42-51.
- SZABÓ, M. (2019). A city for the next generation? Introduction to the 'KRAFT' Complex system of indicators in case of Veszprém city with special attention to the different age groups of local residents, *Deturope*, Vol. 11(3), pp. 229-249.
- Ukrainian Center for Educational Quality Assessment, <https://testportal.gov.ua>, access: 01.2021.