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FROM THE EDITORS

In the volume 4 No. 1 of *Transborder Economics* we would like to draw the attention of our Readers to the topics that investigate transborder phenomena in respect of regional development of areas as well as businesses, infrastructure and population, with the focus on strategic management and sustainability of economies.

The paper by Józef Oleński entitled *Transborder Economic Gravitation* discusses transborder regional development in the context of its polarization, focusing on the impact that is made by areas with greater potential on areas with lower potential. The analysis and recommendations made by the author show that economic and social gravitation as a factor shaping the regional development should be included among the aims of transnational infrastructural projects.

In the paper *Ukraine's Transport Infrastructure: Strategic Development and Analysis of Indicators* the main directions of improving of the Ukraine's transport sector efficiency are considered by Nataliia Malysh, Nataliia Bondar and Lesia Shevchuk. Acknowledging that the current transport infrastructure capacity is lowering the attractiveness of the economy, the authors look for new ways for development based on in-depth analysis and exploration of the transport sector problems along with highlighting advantages resulting from country's geographical location.

Jim Secka's article *Market Segmentation and Segmentation Strategies* is devoted to the relationship of diving market into segments and strategies of such a division. The author conducted an analysis to determine the role segmentation plays in strengthening the market position of companies and opportunities it provides to businesses and other stakeholders.

In the next paper, *Strategic Marketing*, the importance of both developing an effective business strategy and implementing it properly is considered by Işıl Aydoğdu. Factors and parts of marketing strategies have been presented and the contribution of strategic management to business success has been discussed.

Agnieszka Skarbowska in her article *Population in Border Areas at the External Border of the European Union on the Territory of Poland 2015–2019* examines border areas in terms of their demographic situation with the focus on gender, place of residence, economic and biological age groups. The author also provides an overview of key indicators in the field of vital statistics, including marriages, divorces and migrations of population.

Prof. Józef Oleński
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TRANSBORDER ECONOMIC GRAVITATION

Józef Oleński[1]

ABSTRACT

The aim of the paper is to present theoretical foundations of the analysis of processes of polarization of transborder regional development, explaining causes of these processes, forecasting of these processes, identification of medium and long-term effects, with particular emphasis on the cross-border economic and social gravitation. Special attention is paid to the influence of the development of cities, industrialized areas and infrastructural investments on the polarisation of regional development at the costs of the resources of less developed regions. It was indicated what actions should be taken into account in the policy of spatial development of the country in order to ensure sustainable optimal and balanced development of regions, with special reference to transborder areas.
The practical conclusion formulated in the paper is the necessity to take into account in the policy of sustainable regional development the phenomena of economic gravitation. In open market driven economy the regional and macroeconomic influence of transborder economic gravitation is growing. The decisions concerning national or transnational infrastructural projects aimed at regional development should take into account their impact on transborder economic gravitation and its effects on areas with weak gravitational strength. Monitoring of economic gravitation should be an integral component of official statistical programs.

Key words: economic gravitation, metropolisation, peripheralisation of the region, transborder economy.
JEL: C82, R23

1. Formulation of the problem

In a globalised world, most countries as political and socio-economic systems have the following characteristics:

- deep institutional interventionism in all areas of political, social, economic and ecological life, determined by laws and implemented by the bodies of the so-called democratic state based on law,

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- globalized, market-driven, knowledge-based economy, is becoming more and more opened on regional, national, transborder and global scale; the scope and forms of openness are determined by international and national legal regulations,
- social and economic development covering in all domains is determined by infrastructural regional, national or international systems; in some domains the infrastructural system are global or transnational, e.g. telecommunication, banking, transport,
- dependence of the functioning of governments, businesses, social services and households on modern information and communication technologies,
- self-governance at local and regional levels is generating tendencies to autonomy of territorial units of countries,
- growing economic gravitation, i.e. the impact of economies, regions, cities, industrialised areas with greater potential on areas with lower economic and social potential[2].

In the conditions of development of the ICT, increasingly lower transport costs, economic liberalisation of international cooperation and deeper institutional interventionism, *economic gravitation* generated in economic and political centres located in cities and urban agglomerations becomes a factor determining regional development, specialisation, diversification and disproportions between and inside regions in geographical and geopolitical space.

This article deals with the verification of the following four hypotheses:

- In the modern open market economy, in the political systems defined as *democratic legal states*, the decisive influence on the development, differentiation and disproportions in development on the local and regional level and on the development of transborder economies has *economic gravitation* generated by cities and urbanized metropolitan areas where institutional, human and social capital is accumulated and by industrialized areas accumulating economic capital.

  Metropolitan and industrialised areas base their development on the absorption and exploitation of mobile resources from external geographical environment.

[2] The notions of *economic gravitation* and *economic tolerance* were introduced and defined as economic categories in: Oleński J., *Economic Tolerance*, Gospodarka Planowa, No. 8-9/1967. Measurement of *economic tolerance* ranges, definition of *economic gravitation* measures and their measurement and delimitation of *economic gravitation fields became* possible in practice only in the 1990s, when, thanks to information technologies, access to transactional (*big data*) and administrative data was gained, cadastral data and when a multidimensional spatial and temporal identification of economic objects and processes was made possible and statistical values of indicators reflecting the spatial transfer of mobile resources were calculated on their basis, the use of immobile resources by entities - residents of other regions or countries and the calculation of indicators reflecting the impact of economic potentials of various industries and regions on each other.

- The decisive influence on the formation of fields of economic gravitation of the metropolis and industrialised areas, and thus on the permanent effects of economic gravitation on the development and use of regional resources, has infrastructure policy, in particular the location of facilities and the creation of social and political infrastructure networks, the location of authorities and state administration, educational, scientific, cultural and health institutions, the development of industrial infrastructure and transport networks (road, rail, air, water transport networks). This policy is - or should be - conducted on a macroeconomic scale by central state institutions and on a local level by local government authorities.
- The "free market" is a bad regulator of sustainable regional development. Leaving decisions on the development of technical and social infrastructures to market processes, and infrastructure management to commercial entities, leads to permanent imbalances in regions, countries and internationally. This leads to a situation where metropolitan areas and larger cities become economic "black holes" sucking the resources from their social and economic environment. This results in the peripheralisation of regions located outside metropolitan areas and inefficient use of resources on a regional scale and, in the case of small and medium-sized countries, also on a macroeconomic scale.
- Therefore, in today's market-driven economy, regional development cannot be left to the so- called *market*. The market economy must not be confused with a *bazaar-economy*. The national economies and the regional economies cannot be seen by governments and businesses as proverbial oriental bazaars. The market is a good regulator, but only when we are dealing with setting prices on the local retail market, i.e. when it regulates local, short-term processes, purchase and sale transactions of goods or services in conditions of relative information symmetry of participating parties – consumers, small sellers, small intermediaries. The market, however, is a bad regulator of all processes in which social objectives or long-term economic objectives are taken into account. It is also a very bad regulator of all infrastructural processes and systems, as well as all long-term economic processes.
- The processes of economic gravitation in transborder economies are strongly influenced by institutional differences and potential differences in human, social, infrastructure and natural resources between regions located on the neighbouring territories of different countries.

The practical conclusion for central state bodies and for local authorities and local administrations having the influence on regional development is the need to take into account the phenomena of transborder economic gravitation and its long-term social and economic effects.

2. Economic gravitation as a category

Local and national metropolises and industrialised areas not only base their development on their own demographic, institutional, infrastructural, industrial and natural resources, but also, and often above all, on the resources of the surrounding regions.

In the conditions of an open market-driven economy and the influence of the effect of scale of technological processes and businesses, that determines the effectiveness of economic and social activity in many fields, the metropolises and industrialised areas are not able to create new or increase the existing potential of human, technical or natural resources on the basis of their own internal resources located in their territories.

Metropolises and industrialised areas produce around them fields of institutional, social, economic gravitation (abbreviated as *fields of economic gravitation*). Their development is based on the exploiting of the resources in the surrounding geographical space. They "suck" from the surrounding towns and cities and the non- urbanized areas that are situated inside their fields of economic gravitation, the most valuable human, institutional and natural resources needed by the governments and administrations, social service providers, entrepreneurs and other organizational units. They also benefit from infrastructural and industrial resources available in their geographical surroundings.

The use of the resources existing in external geographical environment of urbanised centres or industrialised areas is often not-optimal. Sometimes the exploitation of those resources is a kind of robbery. The point is that resources which could be used much more effectively in small towns and rural areas are transferred from these areas to the centres of economic gravitation, where they are used inefficiently. This results in a permanent increase of development disproportions between the city or industrialized region and other towns and villages in the region.

For example, a talented manager, a professional civil servant, a valued teacher, a gifted doctor, a talented artist, who, in a small town or village, is a member of social and cultural elite and can have a significant influence on the development of a town. However, after moving to a large agglomeration they become insignificant employees of large corporations or offices. Their transfer is

a big loss for local society and economy, while it brings an invisible, negligible added value to the human and social capital of a large city or metropolis.

Economic gravitation generated by social and economic centres (political centres, cities and urban agglomerations, industrial districts) may, under the influence of infrastructure projects, cause that social and economic effects for the region will be completely different than expected. Decisions concerning national or transnational infrastructure projects aimed at sustainable regional development should take into account their impact on the economic gravitation of the region and its effects on areas with weak gravitational strength.

For example, the construction of highways or the roads bypassing the medium and small towns and cities, usually are improving the living conditions of life of the population by "taking" the transit traffic out of town. However it usually results in a decline in the demand for services provided by local small and medium-sized enterprises to travellers that were passing through towns and cities before the investments. Therefore, before making a decision on the route of new transport routes the local governments should simulate, how many petrol stations, hotels and restaurants, workplaces in local services, will disappear or significantly reduce their activity after the ring road or expressway is put into operation. It is necessary to anticipate all consequences of changes of the infrastructure and to undertake compensatory measures to limit the peripheralisation of villages or towns that - after the infrastructure investment is completed – will suddenly be "far from the main road".

Therefore – for example - when deciding on large-scale investment projects, e.g. the construction of Via Baltica and Via Carpatia ("from Tallinn to Salonik", and in practice from St. Petersburg to Istanbul), it would be advisable to develop simulation models of the impact of this investment on the areas around it, the simulation of changes of strength and directions of economic gravitation impact between urban centres and other localities, which will result in an increased transfer of resources between localities located within the impact area of this investment. New delimitations of economic and social subregions and functional areas (e.g. new maps of local labour markets) developed on the basis of the economic gravitation models would be helpful for local, regional and central governments to formulate the policy of sustainable and harmonized development. Particular attention should be paid to models simulating the impact of this transfer on the development of transborder sub-regions around Via Baltica and Via Carpathia.

The models of transborder economic gravitation could be used by central government, administrations and local and regional authorities whose regions are affected by this transport infrastructure for taking better decisions on the

investments that should accompany big national and transnational projects – like Via Carpathia.

Simulative models of economic gravitation of regional and transborder areas would provide the knowledge helpful to identify the processes creating positive synergies between different investment projects, and forecasting the benefits greater than those that would be achieved only through new transport infrastructure.

For example, an interesting methodological and practically important research problem of transborder economic gravitation seems to be the elaboration of the simulative model of economic gravitation for Central Transport Hub planned to be built in Poland. This model could be helpful in comprehensive planning of investments accompanying this project, both on a local and supra-regional scale, including cross-border regions of Poland, Belarus and Ukraine.

In the conditions of modern industrial and information technologies, any economic or social decision concerning the creation and relatively long-term infrastructural changes in concrete geographical area should take into account its impact on economic gravitation processes and their manifold effects on regional, supra-regional and transborder development.

In order to ensure sustainable regional and transborder development, to prevent the occurrence of socially and economically harmful disproportions between various units of the settlement network resulting in sub-optimal use of resources on a regional scale and to make optimal use of the resources at the regional and transborder level, it is necessary for the governments to pursue an active, centrally programmed, long-term policy of harmonised, sustainable regional and transborder development.

The basis for centrally implemented regional policy undertakings is programming, planning, implementation and maintenance of the infrastructures of strategic importance for regions, transborder economies and country as a whole: institutional, social, technical, ecological and informational infrastrucutres.

The planning and development of all types of strategic infrastructures at the regional and transborder level is the task of central state authorities. Local and central governments should understand that all infrastructural projects, also the projects covering small territorial area, are of national social and political importance, not only economic. They cannot be left solely to the self-governments of towns or villages, to local, communal or regional authorities (in Poland – poviat or voivodeship). Moreover in market-driven economy the building and maintenance of any kind of infrastructural objects and processes

cannot be left in hands of short term profit-oriented businesses market, especially if the market functioning as a bazaar.

The location, construction, operation or management of any infrastructure segment or facility affecting the local or regional processes of economic gravitation must not be delegated to commercial entities. They should be strictly regulated by laws and supervised by the relevant central state authorities or their regional and local branches. Local governments and other social and economic subjects in the regions and in transborder areas should be obliged to actively participate in the programming, planning, implementation, operation and development of infrastructure. The harmonization of infrastructural initiatives covering transborder areas needs the orchestration of laws on international level.

The infrastructural potential of the region is concentrated in particular settlement units. The greatest concentration of this potential takes place in cities and industrialised areas. It concerns all types of infrastructure: technical, social, institutional and informational infrastructures.

In developed economies, because of the deep institutional interventionism in economic and social life, the institutional infrastructure is playing more and more important role. It is in cities, and not in villages or small towns, that the organisational units constituting the institutional infrastructure of the state are located. These are executive and judicial authorities, public administration, institutions fulfilling the obligations of the state in the scope of enforcement of obligations of citizens and enterprises defined by law, such as taxes, sanitary, technical and environmental standards, social and health care institutions, education, science, most institutions responsible for the security of citizens and the state, infrastructural mass media.

In the modern economies, the concentration of institutional, social and information infrastructure plays an increasingly important role in the concentration of factors determining economic and social development in regional and national metropolises.

Nationwide and transborder network infrastructural systems, such as energy, road and railway infrastructure, air transport, water economy, telecommunications infrastructure, are primarily focused on satisfying the needs and connecting urban and industrialised areas, which are areas of concentration and accumulation of all other types of infrastructure, such as social infrastructure including education, health care, culture, public services provided by the state apparatus, industries of infrastructural nature for the economy, such as banking, insurance, mass media. The information businesses creating the information infrastructure of the country, regions and transborder economies are also concentrated in the metropolises.

In the conditions of increasingly stronger influence of economic gravitation on regional and transborder development, the following theorems concerning regional policy in the modern open market-driven, knowledge-based economy are justified:

1. The development of metropolitan areas at the cost of exploitation of the resources of the surrounding regions is a process that has been taking place since the beginning of industrialization. Cities have always created economic and social gravitational fields around them and have based their development on the using external resources from their external geographical surroundings.
2. In the conditions of modern transport and ICT technologies the infrastructural development of the country, regions and transborder areas means that the cities grow up not only and not so much thanks their own human, ecological and technical resources, but on the exploitation of the resources of the surrounding settlements and smaller towns that are creating weaker economic gravitation.
3. Technological development leads to an increasing concentration of infrastructure facilities and systems in a decreasing number of urban units. As a result of concentration of different types of infrastructure in cities, the peripherisation of the areas located outside metropolises is accelerated. The differences between the centres of gravitation and the surrounding territories are growing.
4. Under the influence of economic gravitation there is an outflow of mobile resources from areas with a lower concentration of development factors and their transfer to the metropolis.
5. Technological, organisational and infrastructural developments changing the mobility of resource. The resources that were immobile become mobile in the past, are becoming mobile thanks to new technologies, especially transportation and telecommunication. The costs of moving the resources from peripherals to the centres of gravitation are decreasing. The resources are becoming mobile over longer distances, e.g. growth of the spaces of labour markets thanks to commuting and migrations causing the depopulation.
6. The concentration of the social and economic potential of a region or country in an increasingly smaller number of cities or urban areas is fostered by the development of regional and supra-regional technological network infrastructures, in particular transport, telecommunications, energy, social network infrastructures (e.g. health, education, culture) and access to environmental infrastructure.

7. The development of the transport, telecommunications and e-government technology and ICT systems results also in the concentration of institutional infrastructure in small number of cities. Concentration of institutional infrastructure means that the stakeholders of administrative procedures are forced to use the services generated by institutional and social infrastructure entities located often in distant cities.

8. The implementing of ICY in administrative, education, culture, in certain health services, information and communication services based on national, trans-national or global ICT networks and systems is affecting the concentration of providers of these services in a decreasing number of cities and metropolitan areas. In other localities, the entities providing these services are being liquidated. This process is accelerating and deepens the peripheralization of the external environment of the centres of economic gravitation.

9. In the modern knowledge-based economy, the technological changes of different types of infrastructures lead to increasing the spatial range of economic gravitation fields generated by cities or urban areas. The centres are increasing their gravitational power. The effect of that is the accelerated transfer of resources from larger and larger areas to urban and industrial centres.

10. As a result of the increase of power and scope of economic gravitation generated by urban and industrialized areas, the centres are transformed into mega-agglomerations. This is the consequence of the increase in power and the scope of impact of economic gravitation generated by urban areas. The fields of gravitation of metropolitan areas in many countries are covering even the entire national economies of medium size and the transborder areas of neighbouring countries. Mega-agglomerations in spatially large countries often are becoming the economic centres for entire national economies. In the countries, in which the mega-agglomerations are dominating, all other cities, urban areas and towns are subject to peripheral processes.

11. In regions where transborder social and economic processes play an important role, economic gravitation is often to large extent influenced by institutional, legal and political differences between countries and by current political decisions of governments of particular neighbouring countries. Because of strong influence of political decisions, the economic gravitation in transborder economies is very fragile. The directions, power and geographic space of the processes of economic

gravitation in transborder economies may be changed unexpectedly because of political decisions of central or local governments of particular country.

12. In transborder areas, the differences of economic potential and the institutional differences between countries can reinforce the impact of economic gravitation generated by neighbouring economic, social and political centres located in different countries. However, in the case of inconsistent, non-harmonized political regulations, they may also weaken this impact.

The dynamics of changes in these non-economic processes is much higher than the changes of economic and infrastructural factors. Therefore, the study of economic gravitation processes in transborder economies requires complex methodological approach that takes into account the impact of changes of political situation, level of harmonization of institutional factors, legal regulations and social relations between countries concerned in high uncertainty and uncomplete information on different national segments of transborder economy.

3. Processes of gravitational transfer of resources on regional and transborder level

The concentration of infrastructures and resources in a small urban space and the intermingling of institutional, social and economic infrastructures create - sometimes seemingly- better security and development conditions for people and socio-economic actors. The subjective greater attractiveness of the city in relation to non-organised areas causes that people and organisational units constituting mobile resources of the region move from villages and small towns to cities, and from smaller towns to larger ones.

Mobile social, economic and natural resources "sucked" by the centres of economic gravitation are above all:

a) intellectual human capital (educated people, especially those with valuable professional experience and skills),
b) social capital (people with leadership attributes, social and political organisations, cultural institutions),
c) managerial capital (skilled and experienced managers, decision-making centres of enterprises and other organisations),
d) institutional capital (the units of governments and public administration),
e) technological capital (mobile technologies and technological processes in innovative industries).

The concentration of institutional and social capital is of particular importance for the gravitational power of cities and the centres of economic activities. For many centuries, the main citygenic factors have been the governments and public authorities, first of all the central governments, but also regional and local authorities. Important local centres of economic gravitation were (and are today) also the objects of defence infrastructure of a country or region. The exception to this rule were the cities emerging on trade routes. Since the Industrial Revolution, concentrations of industrial objects have become the stimulators of the development of the centres of economic gravitation.

Currently, in the conditions of modern technologies, knowledge-based economy and services, industrial plants are not necessarily developed in the cities, but rather in the areas well communicated with political and managerial centres located in cities, creating the concatenated areas of their economic gravitation – concentration of institutional, human, social and industrial capital. Thanks to the concentration of human capital in large cities are political institutions, managerial centres of companies, economic and social organisations, shopping centres, companies providing specialized services. In large cities and in the areas of economic gravitation are more likely to develop the universities, research centres, cultural institutions and highly specialised health care institutions.

The transfer of mobile resources under the influence of economic gravitation generated by urban centres and metropolitan areas causes the polarisation of the development of different parts of regions. Therefore, in some countries, political authorities try to control the processes of economic gravitation, to influence the factors which the governments can control by laws, administrative regulations and decisions. For example central governments in some countries are choosing for the location of the centres of institutional capital not in capital cities but peripheral regions. E.g. government offices and other public institutions and the centres for the creation and use of human and social capital (universities, research institutes, institutions providing advanced social services, e.g. specialist medical care, cultural and art centres) are installed in peripheral towns.

Central governments interested in sustainable development of regions are conducting an active policy aimed at the optimal use of resources throughout the country, limiting uncontrolled processes of the transfer of mobile resources under the influence of the centres of economic gravitation. It strives to eliminate or at least limit the unnecessary, or forced by regional disproportions, transfer of resources from social and economic units located in the field of economic and social gravitation of cities to urban and industrial centres.

Unfortunately, only few countries and regions are really successful in effective control of the processes of transferring valuable mobile social and economic resources from the places with weak economic gravitation to metropolitan centres. Technological progress in recent decades is most often accelerating the polarisation of regions caused by "sucking" valuable mobile resources by centres with stronger economic gravitation.

Infrastructuralization of social and economic development, i.e. the determining impact of different types of infrastructures on the position of cities and towns in countries and regions, the concentration of infrastructural resources in cities, lead to the increasing of regional polarisation by depriving permanently the political, social and economic subjects located outside the centres of economic gravitation of their basic resources, especially the most mobile human and institutional capital. As a result of these processes, they may lose their capacity for further development in the future, even if new, objectively favourable technical, economic or environmental conditions are created.

For example, a region which, thanks to its tourist resources or natural assets, could develop its economy thanks to more easy access for tourists from distant metropolitan areas. That can be achieved by the construction of expressways and high-speed railways from metropolitan areas to that region. However the opportunity of development thanks to better communication with more developed centres will not be used if before the construction of modern transportation infrastructure the entrepreneurial and educated people were "sucked in" by these distant metropolises. To the contrary the building of new infrastructure linking the regions with the centres may fasten the processes of migration of human capital from region. A barrier to greenfield investments in small towns and villages can be the lack of employees who had previously left "for bread" to the towns and cities where they could find jobs often below their skills.

The effect of the gravitational impact of cities is the peripheralisation of the areas outside the centres of gravitation. This impact of gravitation centres is transforming the towns, settlements and local labour markets into peripherals in the economic, social and political sense.

The process of peripheralisation cannot be stopped or its effects mitigated without a relevant active policy of regional development conducted by the state consisting in the creation of institutional and social capital and infrastructural objects of supra-local importance in localities outside the centres of economic gravitation. Relying on the regulatory function of the market in the field of regional development by scientists is a methodological error and by politicians – a harmful naivety.

The policy of sustainable regional development in conditions of increasing influence of economic gravitation should be based on a good theory. What is needed above all is a system of scientific concepts that will create a good theoretical basis for identifying the processes of gravitation and their influence on the development of regions under conditions of development infrastructuralisation. It is important to identify and explain the cause and effect relations between infrastructural factors and the use and development of the resources, as well as the causes and effects of regional development polarisation. These are the following terms: socio-economic gravitation, field of economic gravitation, socio-economic asymmetry, economic black hole, political, social and economic environments.

Economic gravitation in knowledge-based, technologically developed, market-driven economy is of strategic importance for regional and transborder development. It should be taken into account in the analysis of all regional development processes, polarisation phenomena, explaining the causes of these processes, forecasting their effects, identifying medium and long-term results, in particular permanent consequences of spatial transition of resources. We would like to draw attention to the possible effects of the development of the centres of economic gravitation on the polarisation of regional and transborder development. We also point out the actions of governments and businesses that may ensure sustainable optimal regional and transborder development while developing the infrastructural systems in the areas of tranborder economies.

4. Empirical problems of identification and measuring of economic gravitation

Economic gravitation is based on the fact that greater political, social and economic potential concentrated in cities, in urbanized areas or in industrialized areas. This concentration of capitals is creating relatively better, objective or subjective, conditions for the development of mobile potential and mobile resources located in other, dispersed locations in the region or country. The growing regional and transborder disproportions are causing:

a) translocation of mobile resources in geographical space to centres,
b) the inclusion of the resources located outside the centres of gravitation into social and economic processes and systems operated from those centres, without their physical movement in geographical space.

For example, the development of shopping centres on the outskirts of big cities creates a local labor market for people living in villages and cities located quite far from these shopping centres, but accessible via good roads or railways (e.g. mauls outside big cities).

For example: the construction of dam on the river, the lake and the recreational facilities for the inhabitants of the nearby agglomeration is including the surrounding villages to the economic environment of big city.

For example, the building of the highway along the borderlines of countries is activating the processes of transborder cooperation of the regions on both sides of the border between countries (e.g. Via Carpathia in Central Europe)

Any social, economic or political organization oriented towards the development is aiming to increase its resources for disposal to get competitive advantage over other subjects or stabilizing its position on the political scene, in the market or in other areas of social and political life. The processes of increasing the potential and the resources for disposal are realized by investing in the qualitative and quantitative increase of their own resources (e.g. educating the staff, investing in modern technologies) or by obtaining resources from outside (e.g. brain drain, lobbying, creating transborder branches).

Political, social and economic units define their development strategy by the increasing their own resources as well as on acquiring external resources on the basis of economic criteria. In transborder areas the use of the resources located on other sides of the borderlines gives often higher effect of comparative costs and competitiveness.

For example, a company may develop its human resources potential by investing in the training of its employees or by recruiting school and university graduates and then training them to the extent and where they need to be in the company. But it can also - usually faster and cheaper – increase its human resources by attracting trained and experienced employees from other companies and towns, promising them more attractive working conditions. It can also strengthen its position on the market by aggressive negative advertisements and disseminating the “fake news” on its competitors.

For example, a political party may increase its political potential, i.e. the number of its supporters ready to vote for it in the next elections, by developing – with the help of specialists – reliable, socially attractive economic and social programs and keeping election promises made in campaigns. But on the contrary, it can try to gain an advantage over competitive political groups by reducing the number of the supporters of other competing parties, investing in aggressive propaganda that depreciates the trust to competitors, using all methods of psychological warfare in mass media, such as informational provocation, lies, slander, euphemistically called "fake-news".

In modern ICT environment the depriving of the competitors by fake-news disseminated in mass-media is effective and cheap. Another way for political parties to increase resources in political systems defined as *democratic states of law* is to attract people who have gained popularity in various fields through

their frequent presence in the media, especially television and tabloids (sport, mass entertainment, film, political activity in other parties), TV and Internet journalism, appearance in the public space thanks to scandalous behaviours, participation in events publicised by the mass media or so-called information provocations, i.e. dissemination of information in the form of images and sound edited with the use of information technology about events that never took place. In the conditions of modern ICT, the image and sound propagated on a mass scale can easily and cheaply influence the behaviour of many people.

Good example of positive impact of economic gravitation is the urban agglomeration or the capital city of a region that is developing its human and economic potential by creating favourable living conditions for its inhabitants and favourable conditions for the development of companies that have been operating in the city for years. It can also increase its human and social potential by attracting people even from distant cities and towns by investing in local universities, supporting research institutes and local businesses.

The disparities in living conditions and economic activity between urban centres and smaller towns recognised as peripherals in the region mean that the transfer of mobile resources from peripherals to the centres of economic gravitation does not entail almost any costs. The governments or self-governments of agglomerations may also create more preferential conditions for the so-called "foreign investors" than for the companies operating for years on the local market, illusory hoping to increase their potential by these "investors". That kind of the policy of upgrading the resources based on “foreign investors” was common in the countries of Central Europe in the beginning of the period of transition from centrally planned to market-driven economy, in early 1990s. For example, all Warsaw heat and power plants owned by the city government were “privatized”, but in fact were taken by foreign state entities. In several other Polish cities the companies owned by local self-governments managing the municipal infrastructure of the agglomerations (water, sewage, heating, waste management) were bought by the companies owned by self-governments of German or French cities or other foreign companies in exchange for unfulfilled promises of modernisation investments and mythical know-how.

The transfer of human and social capital from the peripherals to the centres often means that the capacity of this capital is not used. For example, a specialist with higher education unlikely finds an attractive job in accordance with his or her education and intellectual potential a village or a small town[3]. If there is a need for people with such a profile and level of education in this town, such a graduate will rather be treated as a competition for other people with a similar profile. Discouraged by the lack of professional opportunities, he will probably

[3] In German, the phenomenon of the lack of employability of an overqualified person is described by the good term '*Ueberkwalifizierung*'.

find a job in a nearby agglomeration, although his "added value" on the labour market of this agglomeration will be much smaller than in a smaller town. In transborder areas the stimuli of migration are much stronger if on one side of the borderline the salaries are lower and the unemployment is higher than in big city on the other side of the border.

Large agglomerations absorb human capital from outside, especially from transborder economies in a completely different way than small towns and cities. The larger is the city, the greater is the demand for educated people on the part of already existing companies and institutions, which want to increase quickly their human resources by employing new educated and skilled.

It happens that some professional corporations are blocking access to new specialists. The corporations of lawyers, engineers and technicians, medical professions, some trade unions are successfully trying to control the entrance of immigrants from peripherals and from abroad to local labour markets. In such situations, e.g. a lawyer may find employment outside the strictly legal professions, in public administration or in companies, whereas in his home town he will not find any work in the profession and at a level corresponding to his level of education.

This situation discourages local governments of smaller towns to support and finance the institutions building and upgrading human capital. For example, the local higher education institution in small town fulfils useful functions of education of youth living in that town. However, graduates of such school are often forced to look for opportunities for further development and work outside the town and region in which they were educated.

Human and social capital - educated people with social competences and leadership qualities - created in local universities are 'sucked out' by larger urban centres, including universities offering most gifted graduates the opportunity of further studies at masters and doctoral level. Graduates of these studies are rather easily absorbed by the labour markets of large cities, in which they obtained their bachelor’s or master's degrees. They do not have the motivation for returning to their hometowns because they do not have the chance to find the workplace equivalent to their knowledge, qualifications and personality predispositions. So, they migrate to nearby agglomerations, although their value as human and social capital for their hometown or county would be much higher than in a large agglomeration.

The policy of local authorities and local governments managing the mobile resources in localities with low economic and social potential, and thus more valuable, is in practice not very often oriented towards creating and maintaining their own resources. Local governments and public administration (in Poland – the levels of gmina and poviat) do not generally pay sufficient attention to the

fact that their young inhabitants, gaining education and professional experience in other cities, are not motivated to return and serve the local community with their human capital.

It is not uncommon to observe the opposite phenomenon. For example, local professional establishment is reluctant to accept university graduates who represent a high intellectual potential, experience and professional status and who intend to return to their localities, especially those who come from outside. This establishment treats them more as competitors than as an enrichment of the human and social capital of a town or village. Such an attitude applies especially to professions organised in corporations and few, but highly qualified professional groups. However, big cities, including universities and large companies, are keen to employ outstanding graduates from outside these cities. The "pushing" of valuable mobile resources by smaller towns on one hand, and the "sucking" of these resources by the centres of gravitation on the other, creates powerful fields of economic gravitation that cover larger territorial areas crossing the borders of countries.

The asymmetry of different types of capitals – institutional, human, social, infrastructural, economic, ecological – between regions inside the countries and inside transborder economies is explaining well the shape of fields of economic gravitation, the directions and driving forces of transfer of resources inside those fields. The identification and measuring of asymmetries by official statistics shall help the governments and businesses to optimize their decisions and behaviour in the fields of economic gravitation.

The elaboration of methodology of measuring these asymmetries in transborder economies is new important task of statistics. The list of standard leading statistical indicators would be an important contribution of statistics to the governments and businesses operating in transborder economies.

The major force stimulating the migration and transfer of mobile resources of smaller towns to larger centres and in transborder economies is the asymmetry between potential economic and social opportunities for people, businesses, other institutions in large agglomerations comparing with the opportunities in small settlements. The bigger is the asymmetry of potential opportunities for the use and development of mobile resources between towns of different sizes, the stronger is the economic gravitation generated by large cities and industrialised centres and the larger is the spatial range of economic gravitation fields. The SWOT analysis seems to be useful approach for better understanding of the processes realized in the fields of economic gravitation.

In information society and knowledge based economy important is also the *subjective asymmetry* of institutional, human and social capital. The subjective asymmetry is the difference of SWOT characteristics between the centres and

peripherals of the fields of economic gravitation as it is seen by people representing human and social capital in peripheral regions. The *subjective asymmetry* depends on the information gaps of the people representing the capitals mentioned above. Stereotyped pictures of the centres creating the economic gravitation (big cities, developed countries, high level governments) are strengthening the propensity of mobile capital to migrate to the centres. Defining statistical indicators of measuring subjective asymmetry is an interesting theoretical and methodological problem for statisticians.

5. The impact of economic gravitation on the polarization in regions and transborder areas

The processes of transfer, accumulation and centralization of the use of mobile resources of a region, country or transborder economy under the influence of economic gravitation forces generated by urbanized or industrialized centres have different range, power and run in a different way for different types of resources. The following types of the mobile resources are important from the point of view of the polarization of development of regions and transborder economies:

A) Human capital
B) Social capital
C) Institutional capital
D) Cultural capital
E) Mobile industrial capital
F) Mobile natural resources

Ad (A) Human capital

Human capital is the most mobile type of resources. The spatial movement of human capital is affected by four factors:

(1) *Complementarity of human capital* in different areas of the settlement network of a region, country, transborder economy and on international scale. Leading factor of the mobility of human capital is the demand for a specific type of human capital in regional, national or international centres of economic gravitation. The complementarity of human capital generates economic gravitation, the stronger the greater the asymmetry between the development opportunities of people representing human capital in different localities. There is an asymmetry between the opportunities for the employment and development of skills of the people representing human capital (intellectual, managerial, experience)

in a village or town and the opportunities for development offered by the labour market in a large urban agglomeration.

For example, if a graduate of a university or vocational high school can count on employment opportunities in his or her hometown according to the level and profile of education, except the employment much below the level of skills any hope for promotion until the "boss" retires, then he or she will make every effort to take up any job in a larger urban agglomeration, even also below the level of ambition, hoping to find better opportunities for professional development and economic position in the near future. And if he (or she) is a graduate of the university in a large agglomeration, he will quickly resign from returning home and will look for any possibility of fulfilling his ambitions and expectations in that agglomeration during his studies. In a small town, the lawyer with no family ties to a local "establishment" has no chance of working in his educated profession. The only chance of making a carrier is to leave as soon as possible his small hometown for a nearby regional metropolis or even further away. The so-called "closed systems" in small local communities strengthen the influence of the economic gravitation of larger cities on these localities and even force the transfer of human, social and institutional capital from small towns to larger cities and metropolises.

(2) *Information* on the demand for specific type of human capital in urban centres. This information is disseminated in the areas covered by economic gravitation of regional and national centres. Common access to internet increased the areas of economic gravitation fields of metropolitan centres and the power of impact on human capital. This information is creating *subjective asymmetries* between centres and peripherals.

Local governments and economic entities operating in towns with weak economic gravitation power should take into account impact of the "sucking" of valuable human capital even by geographically distant metropolitan centres. Counteracting the loss of human capital requires an active governmental policy of building equivalent conditions for human capital in peripheries and centres, to keep the inhabitants at home and acquire valuable human capital from outside. This can be achieved by developing local social and institutional capital (see below, points B and C).

(3) *Costs of transfer of human capital* from small towns to the centres of economic gravitation and its *absorption* by the economy of the agglomeration:

(a) costs of transport and commuting between peripheric localities and regional or transborder centres of gravitation,

(b) removal expenses to a metropolitan area and staying (mainly the costs of accommodation) or commuting to work,
(c) costs of adaptation to functioning in the social, economic and institutional environment of the metropolis.

In post-transition countries and in most of the developing countries the costs of moving human capital from the peripherals to the centres are almost entirely paid by potential employees who decide to change their place of work and residence. Employers and public institutions are involved in the transfer of human capital only in very exceptional cases. The participation of governments and businesses in the costs of transfer of human capital focused on sustainable development of local economies is applied only to the persons in certain positions and to specific skills. However the effect of that form of support is not always positive effect for building the capacity of human capital in local communities outside the centres of economic gravitation.

The costs of communication and human capital transfer in an open labour market depend on the access to the information and communication infrastructure. The construction of a highway or expressway connecting small towns and cities with the metropolis may affect not only the economic and social development of these towns and cities, but on the contrary – accelerate the sucking of human capital into the metropolis or include the town in the area of the labour market and commuting to work in the metropolis.

The decrease of the costs of transportation and commuting increases the area and strength of the influence of economic gravitation of bigger cities and agglomerations on the flow of human capital. The monitoring and statistical measuring of this phenomenon is important for the strategy of sustainable regional development. The point is to ensure that the development of the transport infrastructure does not cause the deepening of development disproportions, the drainage of human capital by metropolitan areas and the permanent peripheralisation of localities located in the area of economic gravitation fields extended thanks to the infrastructural investments, which were usually intended by local decision-makers to foster the development of these localities[4].

[4] Example from the Central Europe. Good case study would be the simulation and projection of the influence of Via Baltica and Via Carpatia on the economic gravitation fields of regional metropolises such as Białystok, Lublin, Rzeszów, as well as the cities on the western borderlines of Belarus and Ukraine, with reference to the flow of human capital between localities located in the area of these fields. Similar studies of economic gravitation fields would help to simulate and forecast the influence of infrastructural investments on regional development of transborder economies. For example, it would be interesting to examine the impact of the Warsaw-Bialystok expressway opened in 2018 on the economic gravitation fields of these two agglomerations: strong

(4) *The ability of agglomerations to create and absorb human capital*. It depends on the size and structure of the economies of agglomerations. In certain domains, even large agglomerations are unable to generate the quantity and quality of human capital necessary for the institutions and businesses in the agglomeration[5]. Moreover, in some areas there may be a kind of "overproduction" of a certain type of human capital, while in others there may be a lack of it.

For example, universities, public administration bodies or the media in regional metropolitan centres may have a shortage of qualified staff. These regional metropolises often do not invest in human resources development. On the other hand, the surplus of these staff may occur in other metropolitan centres, which have the educational capacity to train specialised staff at appropriate level to such an extent that they are unable to absorb these staff themselves. In such situations, the processes of interference between economic gravitation fields of two or more agglomerations may generate the *multidirectional transfer* of human capital between them.

The *diffusion of fields of economic gravitation* is another important research problem and an aspect that should be taken into account by politicians talking about sustainable regional development strategies.

B) Social capital

Social capital is the demographic capital that is organized in groups of people and institutionalized organisations realizing social, political or economic goals or interests[6]. Social capital is formed by teams of people organised in a formal or informal way. The strength and scope of economic gravitation generated by these teams is determined by human capital organised, integrated and activated as social capital.

To activate individual human capital in the forms of social capital two conditions should be satisfied:

- first – critical mass of human capital, i.e. a minimal number of people who are ready to participate in social activities,

agglomeration of Warsaw and weaker agglomeration of Bialystok. Another case study is the influence of the economic gravitation of the Berlin agglomeration on the depopulation of the surrounding areas of Brandenburg and on the development of the towns along the western borderline of Poland.

[5] For example, in many countries the capital cities concentrating the most of central governments, managerial centers of corporations, universities and research institutes are not able to produce sufficient quality and quantity of human capital from their own demographic resources.

[6] Fukuyama F., *Trust - social capital and the road to prosperity*, PWN, Warsaw 1997.

- second – organizations constituting the institutional capital; in small towns and villages it is usually a local parish, school, circles and associations organizing cultural, political or economic cooperation, in large cities – local organizations of inhabitants, branches of political organizations, fans of sport clubs, cultural societies, scientific clubs etc.

In information society, the social mass media and internet social portals create for individuals or small groups the opportunity to organize distributed human capital into different forms of social capital. The internet and mass media are increasingly important in organizing and activating social capital. Thanks to the mass media and the internet, social capital can be easily and cheaply organised locally as well as in regional, national, transborder or global social networks. Currently, the ICT technologies of organizing and activating social capital are widely used by political parties, organizations of minorities (e.g. ethnic groups), associations activating social capital focused on cultural or scientific goals, economic cooperation or living conditions of local communities.

Social capital aimed at achieving objectives for the public good of local communities is the basis of civil society and democratic state. Professional environments, especially those organised in the forms of corporations or associations, play an important role in the creation and development of new human capital. There is a feedback between social capital and the development of human capital. For example, universities are the centres stimulating the development of human capital thanks to the activity of social capital.

The potential of social capital in big cities is the factor attracting human capital from smaller towns and cities. These towns and cities lose – usually irreversibly – their small human and social capital. The bigger is the city, the more centres organizing social capital are absorbing human capital from its external environment.

In transborder areas the cross-border transfer of human capital to the centres of social capital refers to the domains of culture, research, education, high-tech branches of economy, organizations of entrepreneurs and local political associations, e.g. the Euroregions. Sustainable regional development requires the creation of network structures of social capital in all settlement units, regardless of their size. The mass media have the capacity of organizing human capital into the structures of social capital[7].

[7] Good examples of such social networks in Poland are the Circles of Friends of Radio Maryja or the Clubs of Gazeta Polska, which organize local social capital around important social and political goals, both local, national and transborder scale. The positive feature of these form of organizing social capital is that they do not generate the processes of human and social capital flows from villages and small towns to big cities. To the contrary, they stimulate the development of social and human capital on local level of villages and settlements.

In transborder economies the development of cross-border structures of social capital is the prerequisite of their sustainable integrity.

C) Institutional capital

The factor stimulating the transfer of mobile resources of the peripherals to the metropolis is institutional capital. Management centres of political parties, business associations, trade unions, scientific organisations, professional associations and corporations, cultural and social associations, government administrations, as well as management centres of national and international companies, are usually located in national metropolises or in regional centres. These centres need human capital that is usually not sufficient even in large metropolitan areas or, if it exists, remains unidentified in the mass society of big cities.

Institutional capital generates the fields of strong economic gravitation that "suck" human capital and social capital, often from quite distant places. It is about the most mobile capital, and at the same time most valuable for small towns and villages - educated people with leadership traits and professional experience.

In the creation of the economic gravitation field, the institutional capital of governments, state administration, offices and the organizational units performing tasks of governments in the domains of safety, security, education, health care, culture, scientific research is of particular importance. Because of the power of economic gravitation generated by the structures of institutional capital, in some countries the central governments are implementing the policy of “decentralization of the state”. The kernel of this policy is that some organizational units of central state apparatus or other important units of governmental sector are placed in smaller towns or cities, outside the capital city or biggest metropolises. The localization of those units in smaller towns not only creates more stable jobs, but also strengthens local field of economic gravitational stimulating the development of human and social capital and local labour market. The influence of the units of institutional capital covers much wider areas than the place or region in which the unit is based.

State-owned or state-managed institutional capital is the factor that is initiating, maintaining and rationalizing the exploitation of the resources at local level. Therefore, the economically rational relocating of organizational units constituting institutional capital from a smaller town to a larger town is a threat to the development of a smaller towns and leads to their peripherization. For example, the opening of a motorway or expressway from small town to neighbouring larger city may encourage local governments to the closing down of the vocational college in small town and moving it to the nearby larger city.

The improvement of transport infrastructure will cause that a smaller town will enter the strong economic gravitation field of a larger agglomeration. Reduction of institutional capital in smaller towns will strengthen the "sucking" of their mobile human and social resources – students and graduates, teachers, officers – and will reduce the share of education in local economy of smaller town.

In transborder economies the building of joint institutional capital by local governments of neighbouring countries is strengthening the cross-border cooperation of neighbouring countries.

In trasnborder economies the institutional capital created by the non-government organizations (NGOs) is of particular importance. Those organizations are most often financed by the governments or international organisations. However the headquarters of NGOs are located in the cities where the relevant state authorities and international institutions are based. Creating institutional capital in small towns in the area of transborder processes is an effective way of creating more favourable conditions for sustainable regional development and of weakening the negative impact of economic gravitation of larger cities and metropolises on the *sucking* of the resources of smaller towns and peripheral areas.

The policy of creating and maintaining institutional capital adequate to the needs of the settlement network is the basis of the policy of sustainable regional and transborder development.

D) Cultural resources

Cultural resources of regions are concentrated mainly in larger cities. The creation and maintenance of cultural resources is strictly related to the activities of cultural institutions, research and education. These institutions are located mainly in larger urban centres. Participation in culture is also much more intense in metropolitan cities than in small towns.

The creation of cultural resources is connected with the existence of creative human and social capital. The capacity of this capital necessary for the development of cultural resources depends on the domains of cultural activities. It is different in the case of maintaining an opera or philharmonic hall, and different in the case of a local cultural club, amateurish theater or local ethnographic museum.

The functioning of cultural institutions and related creative environments requires stable funding and organisational support for the participation of local society in cultural events. An important form of cultural activity are mass cultural events in small towns and cities that are becoming the landmarks of the

city, and through the mass media promote the town and region also in national, tranborder and international scale.

It should also be noted that the places of religious cult, monuments of sacred architecture and pilgrimage places are a great and valuable cultural capital for many small towns and villages. The value of these places and monuments should be perceived not only from the point of view of the economic effects of the pilgrimage movement for local population, but above all as a permanent, immobile social and human resource of a town or place, around which the whole local region is developing in a sustainable way.

It is recommended to study the experiences of the Middle Ages, when the cultural, scientific, social and economic development concentrated around monasteries, often built in unused space, outside the seats of rulers and commercial cities. Medieval monasteries in Europe are the proof that the concentration of even a small human, social and cultural capital, if properly institutionalized, can be the strong driving force for harmonious, sustainable regional development. It is also important to note that the religious cultural resources are generating transborder social and economic links and processes. Medieval Ireland is good example of successful implementing of the model of development based on institutional, human and cultural capital of Latino-Christian civilization.

The cultural resources and activities have the ability to create powerful fields of economic gravitation using relatively small outlays. Cultural institutions and creative branches supported by social capital provided by such organizations like research institutes, secondary and university education, social services, are absorbing and stimulating the development and upgrading of human capital. That facilitates economic activities in various fields of culture. The supporting cultural institutional capital and cultural environments by local administration is an effective and cheap tool for promoting sustainable regional and transborder development.

E) Industrial capital

Industrial resources are technical infrastructure and fixed assets for industrial activities. These resources are the basis for creating economic potential and the labour market only if market conditions allow them to be used efficiently to produce these resources.

In the European and Asian countries which underwent political and economic transition after 1989, some industrial resources in many towns and cities became no longer effective for production purposes. The transition has changed dramatically the fields of economic gravitation that in the past were generated by the centres of industrial capital. For example, in Poland as a result

of the so called *shock therapy*, the economy suffered exceptionally huge losses in the use of industrial resources and in the industrial substance. The artificial bankruptcies of many industrial plants were particularly acute in small and medium-sized towns; often the bankrupted plant was only one industrial plant – the main employer contributing to the budget of local government. As a result of the bankruptcy of industrial plants, these towns lost their function as local centres of economic gravitation that were creating a labour market for the population of the surrounding settlement network and the conditions for the social and economic development of the subregion.

Nowadays, nearly 30 years after the *shock therapy* disaster, sustainable regional development requires an active state policy to rebuild local economic gravitation centres at regional level. The basis for this policy is the reindustrialisation of the economy at the local level, oriented towards the optimal use of all types of local capitals and resources. The reindustrialisation is also taking into account the creation of economic gravitation of localities to prevent the "sucking" strategic mobile resources from smaller towns by larger urban centres. The re-building of local industrial capital is the creating of conditions of development of local human and social capital. The people living in small towns and villages who represent these capitals should not be forced to look for a place to achieve their economic and social goals in other centres.

F) Ecological resources

Ecological resources are mostly immobile. In the policy of sustainable regional development based on the creation of economic gravitation fields at local level, two types of ecological resources are distinguished:

(a) ecological productive resources,

(b) ecological non-productive resources.

Ecological productive resources are the natural resources used in the process of industrial production (mineral resources, natural resources, investment areas, water resources used for production purposes). Ecological non-productive resources are resources that the basis and prerequisite of the services such as tourism, leisure, health, education and cultural services.

In practice, there are often conflicts of interest between the exploitation of the same natural resources for production and service purposes. The basis of the policy of sustainable regional development is the comprehensive, long-term economic projection of profitability of exploiting these resources for various purposes.

In today's economy, where services are increasingly important, the use of natural resources for service purposes is usually associated with the generation by regions equipped with these resources of economic gravitation attracting

users of these resources. Regions attractive for tourists generate economic gravitation attracting the inhabitants of agglomerations. The strength of this gravitation depends primarily on the income of the metropolitan population and the accessibility of tourist regions in terms of time, cost and access conditions.

In open, globalized economy the models of economic gravitation are necessary for the elaboration of the strategies of regional and transborder development[8].

6. The syndrome of economic black hole

Big cities and metropolises generate strong fields of economic gravitation "sucking" the mobile resources from the surrounding regions. In the conditions of technological progress and infrastructural development, the gravitational fields that drain the resources from their environment are becoming stronger. The spatial range of their impact is increasing. This drainage concerns all resources, all types of capital that can be useful for the centres of economic gravitation. The specificity of drainage in the economic gravitation fields of large cities and agglomerations is its robbery in the sense that capital and other resources are "sucked" from the environment by the centres regardless of the value of these resources for the regions from which they are obtained.

For bigger cities and agglomerations, for businesses and institutions located in metropolises, any resource and capital valuable for a small town is an insignificant added value. For example, a good, gifted specialist in budgeting in local government of small settlement is a valuable human capital that ensures proper management of the public funds of a town or county. The same specialist, encouraged to be paid better in a big city to become a so-called advisor in a local branch of a bank, is of marginal importance both to the corporation in which he is employed and to the city, in which he decided to live. Therefore, the loss suffered by local government of small town as a result of "sucking out" this specialist by the gravitational field of the city's financial institutions is much greater, often many times greater than the benefits gained by the corporation in a big city. Small economies loose much more than big cities gain. General balance of economic effect of transfer of resources caused by economic gravitation is negative for national economy.

[8] Example: The region of Mazury Lakes in Poland. The analysis of economic gravitation fields of Warmia and Mazury could show that nowadays, since the reconstruction of industrial plants, the more effective way to reduce unemployment in Warmia and Mazury is to complete the construction of expressways to Masuria from Gdansk and Warsaw, to launch a year-round attractive tourist services offer for families with middle and lower incomes and to implement tourist information systems enabling the use of year-round weekend tourism.

It often happens that public institutions of metropolises apply the drainage of human, social or institutional capital from other public institutions in small towns of the region, depriving them of unique resources that condition not only the development, but also sometimes the proper functioning of these institutions.

The deep asymmetry between the losses of the peripheral regions and the gains of the metropolitan centres from the drainage of the region's resources is not only an important research problem, but also a political dilemma. The asymmetry between the losses suffered by small towns and cities as a result of the transfer of valuable resources to metropolitan areas under the influence of their economic gravitation, and the benefits that this agglomeration and its entities derive from the acquisition of these resources, points to the need to study the comparative costs of economic gravitation.

The deprivation of small towns of valuable mobile resources by centres of economic gravitation justifies the definition of the impact of large metropolises on their environment as an *economic black hole*. The term "*economic black hole*" can hardly be considered as an official scientific term in economics and statistics. It seems, however – referring to the common knowledge of astronomy – it reflects well the essence of the influence of metropolises on their surroundings. Big metropolises are economic black holes for their external environments.

The metropolises generate around themselves strong, vast fields of economic gravitation. All mobile resources found in external geographical environment, that are useful in the metropolis and that are inside the fields of economic gravitation, are absorbed by the metropolises. Sooner or later around the metropolises, in the areas of economic gravitation, it is created the space of shortage of all mobile resources valuable for the economy of metropolis. Small towns and cities are deprived of educated human resources because the inhabitants of these towns and cities do not return to them after graduating from secondary schools or universities in other towns and cities, because they "have nothing to return to". The institutions originally located in smaller towns, are eager to change their location and move to metropolitan areas.

In a metropolis enriched with new human, social and institutional capital and mobile industrial capital, more and more economic and social activities can be developed. For that an additional geographical space may be needed to carry out this activity. The metropolitan city transforms itself into an agglomeration and gradually into a mega-agglomeration. The size and shape of agglomeration and mega-agglomeration is largely determined by the communication infrastructure delimiting regional labour markets and industrial zones operating within the agglomeration.

The efficient functioning of agglomerations and mega-agglomerations requires adequately developed urban and municipal infrastructure. The maintenance of this infrastructure requires additional human, industrial, energy, environmental, communication, social and environmental resources. This in turn requires additional human, economic and technical resources. As it was mentioned above, a metropolis works like an astronomical black hole. The greater its economic potential, the more resources it needs to acquire to maintain and develop it. The space of the economic gravitation field and the gravitational power of the metropolis are expanding. In consequence the valuable resources are being deprived of the increasingly distant localities.

A metropolis becomes an *economic black hole* for its surroundings after exceeding a certain size of demographic potential, social capital, institutional capital and urban resources. Therefore, the study of the processes of obtaining by national and regional metropolises the attributes of economic black holes harmful to the regions and transborder areas is essential for regional and urban development strategies.

Cities that influence their surroundings like economic black holes influence the development of the whole regions and limit the effectiveness of the sustainable development policy of the whole territory of country, as well as of transborder areas. For example, it is likely that a university, social institution or production facility located in small town covered by strong gravitational field of a metropolis that has the attributes of an economic black hole will sooner or later be relocated to an agglomeration or, in the case of immobile resources, their development will be limited by the outflow of mobile resources, especially human, social and institutional capital, to the metropolis. In open market-driven economy these processes are crossing the borderlines, covering all areas of transborder economies.

The syndrome of the *economic black hole* consists of the following processes:

- The metropolis generates such a strong field of economic gravitation that the localities that are in the area of its influence do not have economic and technical possibilities to prevent the transfer of all useful mobile resources, especially intellectual, social and institutional resources.
- The metropolitan area expands its space to include the non-mobile resources useful to the metropolis, such as industrial resources, natural resources useful as recreational facilities for the metropolitan population, areas for the services that can be located outside central metropolitan areas.
- The transforming of a metropolis into an agglomeration increases the field of economic gravitation and the force of its impact on areas outside it.

The effect of the increased impact of economic gravitation is the creation of areas outside the agglomeration deprived of the re- sources necessary for their independent development. Outside the agglomeration, the area with significantly reduced economic and social activity is created. Only smaller towns that are located far from the economic gravitation of the agglomeration, have the possibility of independent sustainable development.

- The development of transport and telecommunication infrastructure is conducive to increasing the spatial range of economic gravitation fields of agglomeration, to increasing the power of access on mobile resources and the relocation of these resources from more and more distant towns and cities to the metropolises.

The analysis of experiences of the countries where regional development has been left to the so-called free market shows that the lack of active regional policy of central governments has led to the emergence of multi-million mega-agglomerations with many negative social, economic and environmental phenomena. Mega-agglomerations also have a negative impact on the sustainable development of other regions of the country, not only small but also medium-sized. Mega-agglomerations often become economic black holes for the surrounding large areas. The impact of their gravitational fields leads to the polarization of the development of regions, and crossing the borders of countries.

It is reasonable to argue that the condition for sustainable regional and transborder development that supports optimal use of all resources without the need for their economically and socially unjustified relocation is that the governments pursues an active policy to prevent the emergence of economic black holes. The distribution of institutional capital ensuring the "resistance" of smaller settlements and towns to the negative impact of the agglomeration's economic gravitation fields is an important tool in hands of regional and central governments. International harmonization of the creating and distributing of institutional capital in transborder economies is the prerequisite of control of transborder economic gravitation.

7. Concatenation and diffusion of fields of economic gravitation

The phenomenon which is important for the harmonisation of regional and transborder development is the diffusion of the fields of economic gravitation. The point is that a relatively short geographical distance between two or more urban centres or industrialized areas may result in concatenation, i.e. “overlapping” of economic gravitation fields. The result of concatenation of

economic gravitation fields, there are changes of flows of mobile resources between many urban centres, industrialised zones and external environment. These flows are multilateral and multidirectional[9].

There may be positive synergies between such urban centres, such as the creation of a common labour market, joint infrastructure investments whose effects serve the entire sub-region, institutions serving two or more centres.

The impact of concatenation of economic gravitation fields on the development of bipolar or multi-polar spatial structures of regions should be analysed from the point of view of three aspects:

Institutional aspect. It concerns the political and institutional readiness of local authorities and institutions to cooperate with their counterparts from neighbouring centres, to implement joint infrastructural projects and to exchange complementary mobile resources. The concatenation of fields of economic gravitation from institutional point of view may lead to the creation of common institutional capital. However, from the point of view of so-called *political will*, the competition between centres may be harmful to all. E.g. the efforts to take over an important regional institution from one city to another, struggle to obtain better budgetary funds for investments at the expense of another city. Good cooperation of self-government authorities and institutions representing different centres of one agglomeration is a condition for obtaining the positive synergy effect for all centres creating concatenated fields of economic gravitation.

Economic aspect. Under the influence of concatenation of economic gravitation fields, the enterprises may use the area of these fields as a single market, as a common economic resource, the development of which is in the interest of all entities operating on it. The prerequisite of the effect of positive economic synergy and the effect of the economy of scale is the implementation of joint infrastructural projects stimulating full diffusion of economic gravitation fields. For example, the building of common transportation infrastructure, common scientific and research base, common health care infrastructure, specialised education, safety and security system, creating cooperative links between businesses, common information infrastructure of governments and businesses.

Social aspect. The effect of the concatenation of economic gravitation fields of two or more centres is the intensification of migration of population, of human and social capital. These migrations mean not only the relocation of inhabitants, but also the loss of human capital by the emigration centres, and the

[9] For example, in Poland, in many regions of the country, there are the situations in which urban centres generating the fields of economic gravitation around them are located so close to each other that these fields are overlapped. Such situations can be observed in almost all regions. Two, three or more towns and cities are integrated into one multi-centric agglomeration.

enrichment of human capital by the immigration centres. The negative effect of migrations caused by the concatenation of economic gravitation fields in urban centres is the social disintegration, weakening of human capital both in centres from which people emigrate and in immigration centres.

The emigration of local social or political leaders to larger centres weakens the social capital of a smaller towns much more than it enriches the social capital of the agglomeration as a whole. On the other hand, the large scale of immigration to a large city or agglomeration contributes to the disintegration of the social capital of these agglomerations[10].

In the case of complementary mobile economic resources, the mutual, multi-directional flows of different resources are beneficial for both regional centres and promote the development of the region as a whole. In the case of substitutional resources, however, the stronger field of economic gravitation effectively weakens the development potential of centres with weaker fields of gravitation.

To achieve the synergy effect of concatenation of economic gravitation fields of many urban and industrial centres in one agglomeration, positive for all centres, the governments are trying to eliminate the conflicts of interests with respect to institutional and infrastructural capital. The harmonization of interests of the centres with concatenated fields of economic gravitation leads in a longer period of time to full diffusion of economic gravitation fields[11]. As a result of diffusion of economic gravitation fields, regional integrated agglomerations are formed relatively quickly. But such strong integrated agglomerations also start to play the role of economic black holes in relation to other areas of the region or country.

Monitoring of the processes of concatenation and diffusion of economic gravitation fields in all regions and transborder areas is an important research task for all countries. The results of these studies would be useful in taking the decisions adapting the distribution of institutional capital (e.g. localization of

[10] An example from Poland: the processes of disintegration of social capital under the influence of immigration stimulated by concatenation of economic gravitation fields of various urban centres in Poland is Warsaw and voivodship cities, especially in voivodships where political authorities have been located in several cities (e.g. Bydgoszcz-Toruń, Zielona Góra-Gorzów Wielkopolski). Specific processes of changes in social capital under the influence of overlapping fields of economic gravitation can be observed between Wrocław and Opole. The construction of motorways around Wrocław resulted in concatenation of the economic gravitation fields of Opole and Wrocław and thanks to a significant shortening of travel time it strengthened the use of Opole from the human and social capital of Opole by Wrocław (undertaking by Opole inhabitants with particularly high qualifications of work or other types of activity in Wrocław, due to the lack of development opportunities in the place of residence).

[11] In Poland the examples of such advanced diffusions of fields of economic gravitation are Upper Silesia or Tri-City agglomeration with the towns located on the Gulf of Gdansk of Baltic Sea.

regional governments and other institutions) and the optimization of administrative division of the territory of the country and the construction of nationwide infrastructural systems (transport, energy, water economy, local labor markets etc.).

The fields of economic gravitation of a cities, urban or industrialised areas are concatenated in many domains. Various areas of political, social or economic activity concentrated in urban centres, especially in metropolitan areas and agglomerations, create their own fields of economic gravitation. Their scope, strength and character of impact on the external and internal environment and on other areas of social and economic life depend on the specificity of particular domains of economic and sociallife. The factors determining the gravitational fields of particular fields are different.

As examples, let us consider the following domain, which create their "own" fields of economic gravitation:

Labour market. The field of gravitation of the local labour market of a city or agglomeration covers the places of residence of employees and the places of their work located within the territory of a given city or agglomeration. Most often the gravitational field of local labour market covers the area of commuting, daily and cyclical, seasonal, temporary or incidentally.

The field of gravitation of local labour market model is a set of several detailed models, e.g.:

(a) model of gravitation field of daily commuting to work,
(b) model of gravitation field of cyclical commuting (weekly commuting, commuting to work on specific days of the week or month),
(c) model of gravitation fields of seasonal labour markets,
(d) model of gravitation fields of periodic labour markets (e.g. labour market created by investments in agglomerations).

The size of gravitational fields of particular labour markets is determined primarily by transport infrastructure, time and conditions of commuting to work, the share of commuting costs paid by employees from their incomes, costs of living near the workplace in the case of cyclical and seasonal labour markets and the possibility of finding work on the terms acceptable by employee in his or her place of residence outside the agglomeration.

In the case of daily commuting to work, the construction of a highway or express road, faster suburban railway, improved commuting comfort and lower commuting costs paid by the employee cause a significant increase in economic gravitation fields[12].

[12] The examples from Poland. After the express road from Warsaw to Cracow was handed over, regional agglomeration of Radom, located about 90 km from the centre of Warsaw, became the

In the case of seasonal or periodical work, the fields of gravitation of the labour markets may include remote areas, also beyond the borders of the country. In mega- agglomerations we observe an active impact on the gravitation fields of the labour market, either in extending them in specific directions or in limiting them (e.g. Moscow, Astana, special economic zones in China).

Culture. Institutions organising systematically cultural events in urban centres create extensive fields of economic gravitation. Theatres, opera houses, concerts, museums and entertainment events are visited by people coming often from distant places. The modelling of economic gravitation fields in the domain of culture provides better knowledge on the direct participation of people in cultural events.

Cultural institutions and companies organizing mass cultural events have an active influence on the fields of economic gravitation. Electronic mass media, television and Internet broadcasts of cultural events have a strong influence on the scope and intensity of the processes taking place in the fields of economic gravitation in the field of culture.

Health care. Many health care facilities are concentrated in urban centres, especially those providing highly specialised services. Concentration of these centres and their medical staff takes place at the expense of towns located outside the city centres. The people that need health services must come to the centres from their places of inhabitation.

The cities in which are located medical universities and other schools educating medical staff and health care facilities (hospitals, clinics) associated with these universities generate strong and spatially extensive fields of economic gravitation for health care. From economic point of view it is more efficient to locate in these cities also other health care facilities instead of creating a network of scattered health care facilities closer to the patients in small towns and villages.

As a result of the accumulation of human resources and health care facilities in large cities, the functions of health care facilities in small towns are reduced to basic diagnostics and elementary medical services. All other medical cases are sometimes directed to remote specialized hospitals and clinics. The commercialisation of health care accelerates the strengthening of the gravitation

area affected by the economic gravitation field of the local labour market in a large maul near Warsaw. The unemployment in Radom significantly went down because the inhabitants started to commute to work in this maul. Important research topic is the simulation of the expected influence of the highway Via Baltica-Via Carpatia (Helsinki – Thessaloniki) on the transborder economy integrating the towns and cities located along the borderline of Poland, Lithuania, Belarus and Ukraine.

fields in the domain of health care. In EU the transborder gravitation fields in the domain of health care is covering border regions in many countries.

The study of economic gravitation fields in the domain of health care created by large cities and agglomerations should be used to develop the health care infrastructure that would be optimal from the point of view of the society. In particular, it is important that the city dominating in the region, should not become the *black hole* in health care for other towns and villages of the region.

Higher education. The functions of education of human resources at the higher level for the governments, social organizations and businesses are performed by universities conducting scientific research, whose participants additionally educate students, and specialist vocational schools at the post-secondary level (so-called higher vocational schools), are located almost exclusively in larger urban centres. Almost all research institutes are also based in these urban centres or in the agglomerations. As a result, research and teaching staff are concentrated in the largest cities and agglomerations. The teaching and research staff consists of the most gifted university graduates, who are offered to make scientific career after graduation in these universities, in research institutes or in the research units of the government administration and big businesses.

The growing potential of scientific staff and much greater job opportunities in research institutes, better opportunities for scientific career and didactic work in higher education attract valuable human capital from the regional environment, and often from distant regions of the country[13].

Strengthening the economic gravitation of large cities by law means the gradual decline in research and high quality education in smaller cities and towns. An additional negative effect of this process is the deprivation of smaller towns of valuable human capital, such as scientists and teaching staff of local universities.

State governments and public administration. In most countries of the world, the governments and public administrations of states and international organisations are located in large urban centres. This also applies to regional

[13] Example. Legal regulations governing the functioning and financing of science and higher education (e.g. in Poland, the Act of 28 July 2018 entering into force on 1 October 2018). The Law on Higher Education and Science (Journal of Laws No. 2018, item 1668) not only strengthens the economic gravitation fields of large urban centres in the field of science and higher education, but also limits the development of scientific research and elite universities beyond them. The simulation of the effects of the regulations contained in this Act leads to the conclusions that the universities still existing in smaller towns will be reduced to the level of higher vocational or post-secondary schools. Research centres established in Poland after 1990 outside large urban centres have a chance to exist only if they are incorporated by universities from a nearby large city.

authorities and administrations. These centres are unable to generate from their demographic resources sufficient quantity and quality of human and social capital necessary to fill all positions in the state apparatus and in international organisations. Human capital is raised from other towns, especially from the surrounding region. Universities located in large cities are an important source of human capital for the governments and administration concentrated in large cities. In the case of posts requiring specific skills, especially in politics and management, the staff from other regions or even from other countries are invited, not always with good results for the country or region.

The governments and public administrations create strong fields of economic gravitation, narrow but with large geographical range. The strength and scope of these fields of gravitation depends on the gap between the cities' own human capital, and respective human capital available in the region.

In geographically small countries or countries with a small population, the gravitational field generated by state authorities is so strong that it leads to concentration of all mobile resources important for the state and economy in capitals of countries (e.g. in Europe - Estonia, Latvia, Finland). This phenomenon can be observed in small countries on all continents.

The shaping of economic gravitation fields by means of locating state bodies in specific towns of the region, outside the main existing settlement centres, is a strong tool of the state's regional policy. In conditions of good transport infrastructure and universal telecommunications, it does not matter whether any office is located 400 metres or 400 kilometres from the building of the central government.

Scientific analysis of the fields of economic gravitation fields generated by governments and public administration should be the basis for optimizing the location of governments and offices in specific places, so that the spatial distribution of these bodies fosters sustainable regional development and optimal use of all the country's resources. The objective of sustainable policy is to minimize the deprivation of smaller towns and cities their own human and social capital.

Tourism and recreation. Large urban centres and agglomerations need the access to the resources that provide their inhabitants with living conditions adequate to the level of civilizational and economic development. Therefore, in many agglomerations, the sustainable development policy pursued by state authorities and regional self-governments includes the separation of recreational and leisure areas within or outside their territory.

In the light of the *theory of economic gravitation*, we can conclude that the bigger is the city, the bigger is the agglomeration, the stronger is the

gravitational field of the access to the recreation facilities of its inhabitants. The effect of gravitation field in tourism and recreation is twofold:

(1) The city with the increase in the number of inhabitants, including those "sucked" from the whole region, creates an increasingly larger agglomeration, including areas for recreation and recreation of its inhabitants. This incorporation takes place through the construction of transport infrastructure connecting the central regions of the city with its recreational and leisure facilities. The areas of this background quickly become economically dependent on the demand for recreational and lei- sure services. In the case of seasonal services, such dependence may have a negative impact on the use of resources (e.g. centres open 3 months a year, high amplitude of seasonal unemployment, etc.).

(2) The increase of standard of life and incomes of the agglomeration's inhabitants generates demand for qualified recreation and leisure services. Such services may be rather often offered in regions with a relatively long distance from agglomerations. The criterion of availability is the time of access and its costs. Urban agglomerations can influence actively the scope of economic gravitational field for recreation and leisure, by building the infrastructure that is facilitating the access of inhabitants to the resources needed for recreation and other relevant services.

It seems that the models of potential economic gravitation fields in the domains of tourist, leisure and recreational services would be useful for for all regions and transborder areas that have natural or artificially built tourist and recreation facilities[14]. The models of existing economic gravitation fields and simulation models of economic gravitation fields shaped under the influence of planned infrastructure investments and changes in the standard of living and preferences of agglomeration's inhabitants with regard to recreation and recreation are an important tool of sustainable regional development policy.

The models of spatial delimitation and directions of influence of economic gravitation fields on people, national economy entities and on the transfer of resources are important for all transborder economies because of the complementarity of tourist and recreation resources of neighboring countries. The concatenation of the fields of economic gravitation created by and for different domains of social and economic life makes up the complex economic

[14] Polish-Russian example. The region of Warmia and Mazury by the completion of the construction of genuinely fast traffic roads connecting this region with the agglomerations of Warsaw and the Tri-City, should help to determine optimal conditions for the sustainable development of this region. From this point of view, the cross-border cooperation policy of the region with the Kaliningrad region should also be analysed.

gravitational fields of agglomerations and surrounding environment, including transborder areas.

Optimization of the policy of regional and transborder development is taking into account the shaping of the fields of economic gravitation to minimize unnecessary relocating of the resources and all kinds of capital.

8. Specificity of transborder economic gravitation

In open market-driven economy and the formation of ever larger agglomerations, including mega agglomerations, the fields of economic gravitation created by them extend beyond the political borders of the states.

The phenomenon of the fields of transborder economic gravitation is particularly evident in Europe, where the geographical area of many countries is small and the political boundaries established after World War II divide areas which in the past constituted a single economic regions. The fields of transborder gravitation are also important in the economies of Central Asia, Central America and for all micro, mini and small economies.

Here are the examples of transborder economic gravitation in Poland. The examples of concatenated transborder fields of economic gravitation can be observed along the borderline of Poland with Belarus and Ukraine. The cities located on the eastern border of Poland (Bialystok, Lublin, Rzeszow), on the territory of Belarus (Grodno, Brest) and Ukraine (Lvov) are generating their own fields of economic gravitation that are overlapped is some domains – trade, services, labour market. When the border between Poland, Belarus and Ukraine is fully opened for businesses and institutions for transborder cooperation with Poland, one shall expect rapid development of integrated transborder economies.

It is recommended to realize research projects and build the set of simulation models of transborder processes and concatenation of economic gravitation fields of Grodno and Bialystok, Brest and Lublin, Lvov, Przemyśl and Rzeszów. Additionally, the researches could take into account the influence of the realized new transport infrastructure of Via Baltica and Via Carpatia, potential effects of their impact and the need of accompanying investment projects, which should be included in the regional development programs of local goverments of Poland, Belarus and Ukraine.

Interesting research problem is the analysis of the impact of transborder field of economic gravitational of the Berlin agglomeration on the areas located on the western border of Poland would be important for the development policy of the Lubuskie Voivodeship.

Important scientific problem seems to be the simulation of the concatenation of the economic gravitation field of the St. Petersburg agglomeration on the gravitation fields of Helsinki, Tallinn, Narwa and Dorpat, when the economic borderlines around the Finnish Gulf will be fully open. This model could be used as the case study for simulation of similar transborder processes in other parts of the world.

For example, it would be interesting to study the formation of a trans-boundary economic gravitation field generated by the mega-agglomeration of Istanbul. Such a cross-border multi-centre economic gravitation field exists in the regions of Vienna, Bratislava, Sopron and Gyor. In Europe, we can point to many places where regional development is shaped by the influence of cross-border economic gravitation fields generated by cities and agglomerations and their cross-border diffusion. It is worth identifying similar situations in other regions of the world and initiating research based on the experience gained in the Tri-City area in Poland and neighbouring Kaliningrad oblast of the RF.

9. Information gaps and needs for monitoring of transborder economic gravitation

So far, there has been no systematic study of transborder economic gravitation, economic gravitation fields and their impact on social and economic processes at regional level. The lack of such research was probably the reason why the phenomenon of economic gravitation and its impact on the polarisation of development in the regions was not taken into account when programming and planning regional development. The decision-makers were not systematically provided with information allowing for a comprehensive assessment of the impact of economic gravitation of cities on the effectiveness of investments which were intended to serve the development of small towns and cities but which, as a result, contributed to the deepening of their economic and social cohesion.

Special attention should be paid by the researchers to the changes of transborder economic gravitation as the effect of technological progress in transport, telecommunication, technical infrastructure and the effect of political and institutional interventionism in globalized economy. For example, by launching the long-awaited expressway or small town bypass, transit traffic disappeared from the streets of the city, but at the same time a number of small service companies serving this traffic were liquidated and the authorities did not ensure in good time that they could move to the vicinity of the nearby bypass or motorway or create other alternative business opportunities for local businesses.

The main reason for gaps in the study of economic gravitation is the lack of statistical data and other systematic factual information on transborder processes and phenomena. Monitoring of economic gravitation processes should become an integral part of official statistical research. The main aim is to complement the spatial and temporal identification in statistical surveys of all statistical domains that describe the state and regional development at the lowest possible level of detail, i.e. the smallest settling or territorial units of units in which industrial activity is conducted (towns or their parts that are separable).

The monitoring of transborder economic gravitation should include statistical observation of immobile resources useful for social and economic entities of the region and processes of moving mobile resources between localities with sufficient detail and frequency to build dynamic models of moving different types of resources between localities and technological and cooperative links.

Cooperation of official statistical agencies of countries interested in the monitoring of transborder economies, the harmonization of programs of surveys, joint surveys of transborder processes, the interchange of data between statistical offices on regional and central level and maintenance of transborder parainformation (directories) system are the prerequisites of building solid common information platforms for monitoring and analyses of transborder economic gravitation and its role in modern, open knowledge-based economy.

10. Conclusions

1. Economic gravitation generated by cities and other areas of concentration of the resources is important for sustainable development of regions and transborder economies.

2. In open market-driven economy the transborder economic gravitation plays an important role in the development of border regions.

3. The processes of economic gravitation in market-driven economy domination lead to the deepening of disproportions in regions and transborder areas.

4. Concentration of institutional and social capital in cities is strengthening the power and scope of the fields of economic gravitation which "suck" the resources of less developed areas and limit their development possibilities. In open economic borderlines, in transborder economies the cross-border impact is often stronger than on the territory of one country.

5. In the conditions of the concentration of resources in one or several urban centres, under the influence of economic gravitation fields, it appears the syndrome of *economic black hole*. The effect of this syndrome is the deep disproportions in the regions and petrified peripheralisation of towns and other settlements located outside the centres of economic gravitation, also on the whole territories of transborder economies.

6. The policy of localization of institutional capital and support by the governments for the organizations creating human and social capital are effective instruments of sustainable transborder development.

7. Infrastructural investments of national, regional and transborder range influence the economic gravitation fields generated by urban centres and industrialised areas, their spatial scope, strength and directions of the migration and transfer of the resources and the formation of agglomerations as economic black holes. When deciding on these investments, it is necessary to take into account their impact on the changes in economic gravitation and their effects on the sustainable development of regions and transborder economies.

8. Monitoring the processes of regional and transborder economic gravitation, analysis of its impact on the formation of developmental disproportions and informational supporting the results of these studies by governments at the national and transborder level is the duty of official statistics and other institutions managing official information systems and a challenge for scientists dealing with the problems of transborder economics.

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UKRAINE'S TRANSPORT INFRASTRUCTURE: STRATEGIC DEVELOPMENT AND ANALYSIS OF INDICATORS

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ABSTRACT

Transport as an infrastructure industry should ensure the timely and efficient transportation of goods and passengers, deepening Ukraine's integration into European and world economic systems. However, the unsatisfactory state of the existing different types of rolling stock transportation in Ukraine determines the low level of Ukraine's potential as a transit country, and therefore reduces the competitiveness of the economy. The transport system of Ukraine is developing with almost all types of land, water, air and pipeline modes of transport, but it lags far behind the development of the European system. The peculiarities of the transport infrastructure formation, character and influence on the development of the country are determined. The transport sector problems of the region and the ways of their solution according to the requirements of the tourist sector are explored. The absolute indicators and rates of departure (transportation) growth of passengers by modes of public transport for four types of transport: rail, automobile, and sea aviation transport in the period of 1980–2018 are analysed.
The article focuses on the advantageous geographical location of Ukraine, the availability of direct road, air and water connections with the countries of the world, which needs the development of the relevant transport infrastructure and is attractive for domestic and foreign investors. Today, the reforms claimed by the authorities of Ukraine are happening, unfortunately, in the military aggression conditions of a neighbouring country. However, they apply to all areas of the national economy, create the basis for balanced development of the country, take into account the new infrastructure policy of the European Union, which aims to

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connect the transport systems of the European countries into a single Trans-European transport network.

Key words: strategic development, transport infrastructure, the Association Agreement, transit potential, rail, automobile, maritime aviation transport.

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1. Introduction

The Association Agreement between Ukraine and the European Union (Chapter 7. Transport) (Association Agreement …, 2015) states that the Parties expand and strengthen cooperation in the transport sector, promote sustainable transportation systems development; intensify the implementation of effective, safe transportation and intermodality with interoperability of transport systems; make efforts to strengthen the major transport links between the territories of the Parties.

The cooperation covers the following areas (Fig. 1). The priority reforms in Ukraine have been identified in the medium-term plan of the Government's priority actions by 2020 (The Order of the Cabinet of Ministers of Ukraine…, 2017), in particular: decentralization and reform of public administration; ensuring accelerated economic development by improving the transfer pricing and application of indirect tax methods, automatic and transparent reimbursement of value added tax, transparent privatization of state enterprises; state investment policy; regulatory policy and business development, ensuring conditions of competition, support of exporters.

A special place in the economic development of the country is devoted to the sphere of transport infrastructure (The Order of the Cabinet of Ministers of Ukraine…, 2017).

Ukraine's joining to the European Aviation Area, attracting investments for the development of airport infrastructure, in particular through public-private partnership instruments; the completion of rail transport reform, efficient use of port infrastructure, the development of a network of international transport corridors and priority connections, the transfer of local roads to the management of local authorities, etc. is provided.

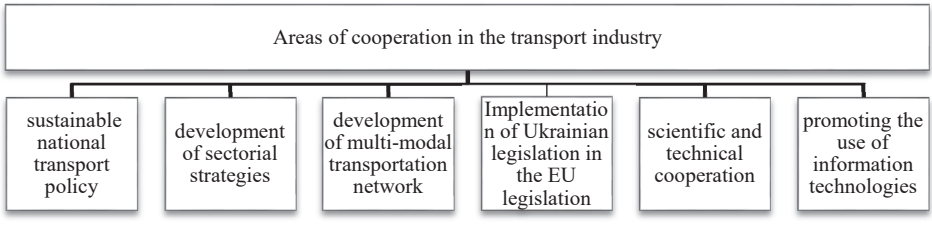


Figure 1. Areas of cooperation between Ukraine and the European Union in the transport sector

The National Transport Strategy of Ukraine for the period by 2030, approved in 2018 (The Order of the Cabinet of Ministers of Ukraine…, 2018) offers a comprehensive solution of existing problems in the transport sector, defines the development priorities in the context of the implementation of the European integration course and the implementation of the Association Agreement between Ukraine.

The main objective of the transport infrastructure in the tourism industry is to create a comprehensive environment for the free movement of tourists (service consumers) and their access to recreational resources and facilities. Tourism is closely connected with transport system through transport infrastructure. An important financial mechanism for reforming transport sector in Ukraine is the help of the EU, foreign banks and leading financial institutions that is provided in the form of budget support, loans for projects aimed at transport sector modernization.

Nowadays, transport sector does not meet the needs of national economy and population concerning transportation in general and tourism in particular. The levels of safety, passenger and freight transportation efficiency, energy conservation, man-induced impact on environment are contrary to modern demands.

Cooperation between Ukraine and the European Union should facilitate the restructuring and renewal of Ukraine transport sector and the gradual harmonization of existing standards and policies of the EU. Cooperation should also be directed to improve passengers and freight transportation, increase fluidity of traffic between Ukraine, the EU and third countries by removing administrative, technical, near-border and other barriers, improve transport network and infrastructure modernization, particularly on the main transport axes, which connect Ukraine and the EU.

Transport sector modernization in Ukraine has to ensure its compliance with European standards both in freight transportation speed and quality and in passenger service comfort. In such a case, measures, aimed at solving the demand and supply problem of transport services, intensifying international cooperation and strengthening the process of transport integration of Ukraine into the European and global transport networks, development of public-private partnership in the transport sector, should play an essential role.

The dimensions of the country, or a region, the processes of regional social and economic development determine the need for transport infrastructure optimization to the demands of the local population and consumers of tourism services.

Within the cooperation framework between Ukraine and the European Union and the Agreement on Free Trade (January 16, 2016), the first experimental freight train was sent from Ilyichivsk, Odessa region, that came to China in 16 days. Ukraine, Georgia, Azerbaijan, Kazakhstan, China and countries of the European

Union are connected to «the Milky Way». Particularly, in the beginning of February 2016 there was signed a preliminary memorandum with Lithuanian partners on the unification of a new «Milky Way» and involving cargo train «Viking» (Ilyichivsk – Minsk - Klaipeda) with the project «Great Silky Way» to China, bypassing Russia (Ukraine – Georgia – Azerbaijan – Kazakhstan – China) (Free Trade Area between Ukraine…).

2. Scientific research of transport infrastructure

The basis of the new EU infrastructure policy is the unification of the national transport systems of the European countries into a single Trans-European transport network centered on nine new transport corridors: the Baltic – Adriatic, the North Sea – the Baltic, the Mediterranean corridor, the Middle East corridor, Scandinavia – the Mediterranean sea, the Rhine – the Alps, the Atlantic Corridor, the North Sea – the Mediterranean Sea, the Rhine – the Danube. As a result of the implementation of this strategy by 2050, the updated transport network will connect 94 sea and river ports, 38 key airports and will allow to upgrade 15 thousand kilometers of railways, adjusting them for high-speed traffic (Mikhailichenko K. M., Yemelyanov O. Yu., Analytical note…, 2014).

Ukrainian scientists have been investigating the transport infrastructure in terms of economic development of the country and its movement towards European values during recent years.

Scientists at the Institute of Economic and Legal Studies of the National Academy of Sciences of Ukraine, Volodymyr Dahl East-Ukrainian National University, Kharkiv National Automobile and Road University have published a monograph "Infrastructure Provision for the Development of the Transport System of the Region" (Zablodska I., 2016). Dnipro scientists from the University of Customs and Finance have explored the directions and prospects for the development of transport and customs infrastructure in Ukraine (Pasichnik A. and others, 2016).

In the thesis on obtaining a scientific degree of the doctor of economic sciences, of V. Shemaeva a scientist at the National Institute for Strategic Studies, is determined the dual interconnection between the development of transport infrastructure and elements of state's economic security system (Shemaev V., 2018).

A scientist and now the practice manager of the Ministry of Infrastructure of Ukraine I. Sadlovskaya defended scientific work for obtaining a scientific degree of the Doctor of Economics "Strategic management of the national transport infrastructure of Ukraine" (Sadlovska I., 2011) and continues to implement scientific research in the field of public administration in practice. Fundamental

scientific research of I. Pishenin is devoted to the strategic management of transport infrastructure of agribusiness enterprises in Ukraine. (Pishenin I., 2017).

The study of transport infrastructure in various areas of the national economy are to be considered perspective.

3. Economic analysis of indicators of dynamics

The transport industry in Ukraine is considered in the context of sub-sectors: automobile and urban transport, road economy, rail transport, water transport, air transport, postal communication. The central executive body, which forms and implements the state policy in the above-mentioned areas, is the Ministry of Infrastructure of Ukraine. The Regulation on the Ministry was approved in 2015 by the Resolution of the Cabinet of Ministers of Ukraine (Resolution of the Cabinet of Ministers of Ukraine …, 2015).

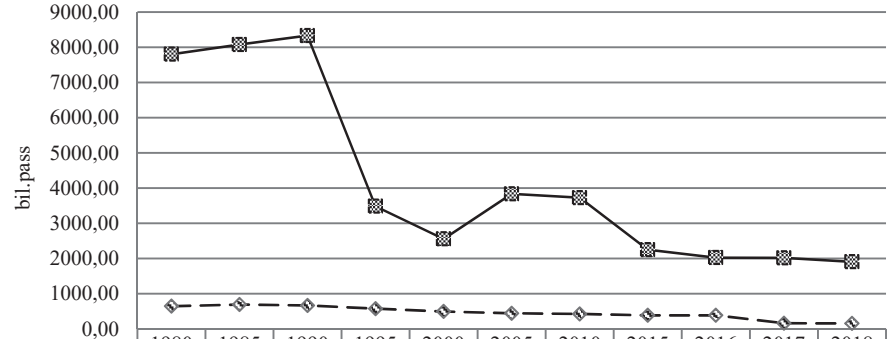
The largest share (up to 40%) of passengers' transportation from all transport types in Ukraine is occupied by road transport (buses), where 2/3 of road transport passengers are transported in suburban traffic. Trolleybuses, subways and tram carriages of passengers obviously predominate in the city.

Significant share of passenger transportation is occupied by rail transport. The number of passengers carried in 2018 is over 200 million people. Ukraine has 105 train stations. Operating length of main roads is almost 20 thousand km.

Accelerated development is observed in the aviation industry. In 2018, the number of transported passengers amounted to more than 12 million people. The arrival of new companies in the air transport market creates conditions for the competitive environment and contributes to improving the quality of services provided. More than 50% of all passenger flights of Ukrainian airlines make international regular services. In 2018 regular international flights were carried out by 10 domestic airlines to 46 countries of the world.

Seaports are an integral part of the transport and industrial infrastructure of the state in view of their location in the directions of international transport corridors. The branch with one of the most powerful potential among the leading countries of the world: 38 state-owned enterprises with a turnover of about 10 billion UAH for a year (Official Website of The Ministry Ukraine Infrastructure).

According to the State Statistics Service (Official Website of The State Statistics Service of Ukraine), we made diagrams; rail, road, maritime, air passenger transportation analysis of 1980–2018 is also conducted (Fig.2).



	1980	1985	1990	1995	2000	2005	2010	2015	2016	2017	2018
rail	648,87	695,13	668,98	577,43	498,68	445,55	427,24	389,79	389,06	164,94	158,00
road	7801,0	8076,8	8330,5	3483,1	2557,5	3836,5	3726,2	2250,3	2024,8	2019,3	1906,8

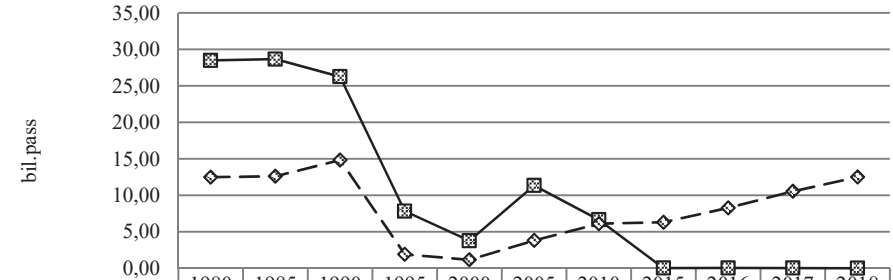
Figure 2. Road, rail passenger transportation in Ukraine, bil.pass., 1980–2018

Source: based on the (Official Website of The State Statistics Service of Ukraine, 2019; of The State Statistics Service of Ukraine, 2019).

Calculations for 2014-2018 were conducted without taking into account temporarily occupied territory of the Autonomous Republic of Crimea, Sevastopol and Anti-Terrorist Operation Zone. Since 2017 the procedure for recording the passenger transportation by suburban rail transport, which enjoy privileges for free travel, has been changed,. The number of passengers departing from the data of PJSC "Ukrzaliznytsya" in 2017 and 2018 corresponds to the new procedure for registration of passengers. Indicators on passenger transportation by air transport since 2003 are published according to the data of the State Aviation Service of Ukraine.

We examined the dynamics of passenger traffic by breaking the period of official statistical observations for 5 years, starting from 1990. Taking into account the order of measurement of statistical indicators, we united on schedules of transportation by road and rail (Fig. 2), maritime and aviation (Fig. 3).

The decrease in the total transportation of passengers in Ukraine is connected, in particular, with the economic crises of the 1990's, the global economic crisis of 2008, the military invasion of Russian Federation into Ukraine (2014), with a decrease in the population (from 52244.1 million in 1993 to 45.4 million people as on January 1, 2014), aging of the population, which has no opportunity to travel because of the low financial capacity. Taking into account the temporarily occupied territories of Donetsk, Luhansk Oblasts and the Autonomous Republic of Crimea, the number of existing population on January 1, 2019 in Ukraine, according to the State Statistics Service (The population, 2019), amounted to 42.1 million people.



	1980	1985	1990	1995	2000	2005	2010	2015	2016	2017	2018
maritime	28,48	28,66	26,26	7,82	3,76	11,34	6,65	0,03	0,03	0,03	0
air	12,49	12,62	14,83	1,91	1,16	3,81	6,11	6,30	8,28	10,56	12,50

Figure 3. Maritime, air passenger transportation in Ukraine, bil. pass., 1980–2018

Source: based on the (Official Website of The State Statistics Service of Ukraine, 2019; of The State Statistics Service of Ukraine, 2019).

Transportation by road transport has decreased fourfold since 1980: from 7801.6 million people to 1906.8 million people in 2018. Transportation by rail transport since 1980 has decreased by 1.7 times: from 648.8 million people to 389.8 million people in 2016.

Dynamics of maritime, air passenger transportation in Ukraine during 1980–2018 is illustrated on Fig.3. Maritime transportation has significantly decreased since 1980: from 28.5 million people to 0.03 million people in 2017. The Russian Federation's annexation of the territory of Ukraine – the Autonomous Republic of Crimea and the city of Sevastopol – seriously threatens the security of the state and impedes the functioning of the maritime industry (Baryshnikova V.V., 2015). The occupation of five Ukrainian merchant ports in Crimea complicated the work of the maritime industry, in particular, ports located on the Azov Sea coast (Mariupol city and Berdyansk city). Ukraine has lost its powerful property complexes of the management companies of the Ministry of Infrastructure of Ukraine and the Ministry of Agrarian Policy and Food of Ukraine, which are located on the territory of the ARC.

Transportation by air transport has been changing from 12.49 million people in 1980 to 1.16 million people in 2000, after that the passenger traffic has been yearly gradually increasing and reached 12.5 million people in 2018. Thus, only in 2018, Ukraine went by the number of passenger transportation in the field of aviation to the level of 1980.

The following figure (Fig. 4) illustrates the growth rates of passengers' departure (transportation) by type of public transport, in % for four types of transport: rail, road, maritime aviation. We can see: a significant decrease in the volume of passenger transportation by all types of transport in 1990–2000,

a synchronous increase in the growth rate of three types of transport – rail, road, aircraft in the period of 2000–2005, their decline in the period of 2005–2010 and 2010–2015 and growth after 2015.

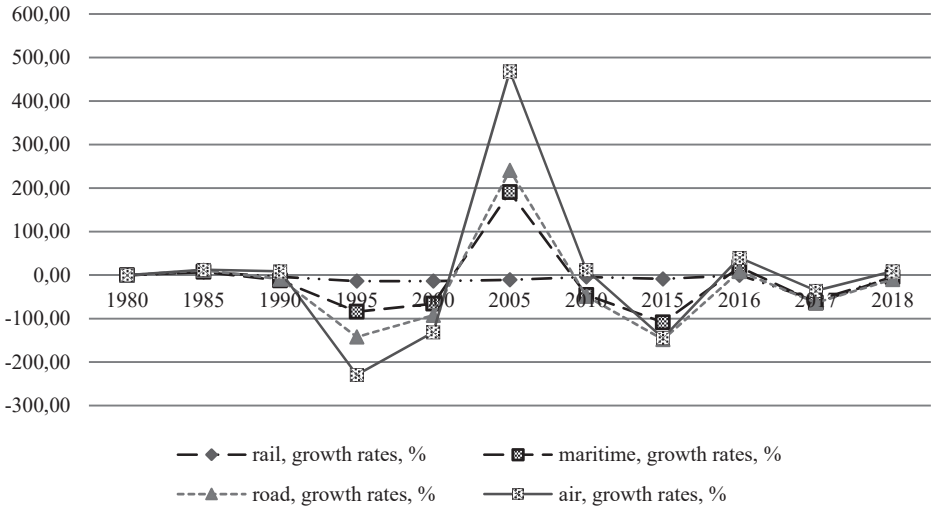


Figure 4. Dynamics of rail, road, maritime, air passenger transportation in Ukraine, growth rates, %, 1980–2018

Source: based on the (Official Website of The State Statistics Service of Ukraine, 2019; of The State Statistics Service of Ukraine, 2019).

Nowadays, the UE provides Ukraine with the assistance for the implementation of structural transformations in transport and road facilities by means of sector budget support program «Support of the Transport Strategy of Ukraine» on the basis of Financing Agreement (Instruction of Ukraine Ministers Cabinet…, 2010). The program aims at institutional reforms implementation in the transport sector in Ukraine, and promoting the development of transport infrastructure in the country, changing the Ukraine law in accordance with international norms and standards.

Key areas of development and infrastructure reforms in Ukraine are determined by Ukraine Transport Strategy till 2020 (The Order of the Cabinet of Ministers of Ukraine…, 2018). These are the following: availability provision and transport services quality increase; the integration of the national transport system into European and international transport systems, improvement of state administration efficiency in the transport sector, transport infrastructure development, rolling stock transport renewal; the investment climate

improvement, transport processes security provision, intensifying of efficiency and environmental performance of vehicles.

4. Conclusion

Reforms proclaimed by the President and the Government of Ukraine continue to be implemented in all spheres of public life. The opening by the state enterprise Ukrzaliznytsya on November 30, 2018, of a connection between Kyiv and the Boryspil International Airport is the confirmation of the successful implementation of the transport reform. Express daily has 27 flights. A high-speed rail express that has a route between Kiev and Boryspil International Airport, has carried 200 thousands passenger at the end of March in 2019. Currently, the train has already made over 6 thousand flights (Kyiv Boryspil Express…, 2018).

The Ministry of Infrastructure aims to create a new river corridor – the "Great Arc" (Official Website of The Ministry Ukraine Infrastructure, 2019), to connect the Dnipro river through the Black Sea and the Danube, as the potential of the Ukrainian rivers is extremely large. Implementation of the project will enable an increase in the volume of Dnipro transportation and make cheaper freight transportation for the supply of goods from Europe. River transport is the cheapest form of transport and, unfortunately, is seasonal for the transportation of people and goods.

The State Road Fund was established in Ukraine since January 1, 2018, and its function is to fund the construction, repair and maintenance of highways of state and local importance. A portal for monitoring the financing of construction and repair of roads has been developed (Monitoring of construction and repair costs…, 2018).

Aviation is the largest increase in the volume of passengers carried in Ukraine. 38 foreign airlines from 37 countries of the world have been performing flights to Ukraine during 2018. According to the statistics on the results of 2018, there was a significant increase in the number of serviced passengers at all major airports: Kyiv (Zhulyany) (51.9%), Lviv (47.9%) and Chernivtsi (53%) were the airports with the highest growth (Official Website of The Ministry Ukraine Infrastructure, 2019).

The carried out analysis of the strategic development program documents of Ukraine and the dynamics of indicators, in particular, in the subdivisions: railway, automobile, marine aviation in the period of 1980–2018 provides an opportunity to determine the main directions of improving of the transport sector efficiency. State policy should be aimed at developing solutions for: providing the population with high-quality, safe and affordable transport services, improving the comfort and speed of trip by the passenger transport, creating multimodal passenger transport networks, introducing electronic payment systems for passenger transport, reducing the cost of domestic and international air

transportation, introduction of developed programs for the development of regional and metropolitan airports, etc.

The development of the Ukraine's sea port industry should use its powerful export potential: the availability of cargo handling capacities; advantageous location of sea ports in order to provide transit freight traffic. The need for the development of river and sea ports, the construction of new high-quality roads of international importance, airports for Ukraine is conditioned both by external and internal needs of the country.

A significant part of transport infrastructure potential in the tourism sector is the deep development of international cooperation in this field. Ukraine is supposed to reform the transport system and harmonize transport legislation with the EU law system to make full use of transit potential and favorable geographical location of the country.

The territory of Ukraine is located at the crossroads of trade routes and has direct water connections with other countries. The advantageous situation for transit transportation should be attractive for the national market and for foreign investors.

Ukraine's policy in the transport sector should be directed to search new efficient energy technologies for development of such new potential industries as ecomotorconstruction and electromotorconstruction, which should promote the development of related ecologically economical sectors in Ukraine.

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MARKET SEGMENTATION AND SEGMENTATION STRATEGIES

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ABSTRACT

To begin with, market segmentation seeks to enrich consumers with products that satisfy their individual set of needs and behaviour patterns. And in order to achieve success in this modern age, organizations should think more creative and innovatively likewise be willing to alter and adapt quickly to the ever changing environmental factors that may facilitate new ways of doing business in this twenty-first century.

The essence of segmentation is reflected within the division of market into a bigger number of homogenous subgroups of shoppers with similar needs and expectations. The purpose of this study was to look into the linkage between market segmentation and segmentation strategies.

A review on some literature was taken as an approach to determine the essence of market segmentation and its strategies to businesses and other stakeholders.

Furthermore, after a careful observation and analysis, market segmentation and its strategies serve as an intermediary between value opportunities and new market spaces of a company's strength that is necessary in attaining a more resilient strategic goal. Additionally, it gives businesses the opportunity to concentrate on core business value thereby reducing the potential of resources wastage.

Finally, market segmentation and strategies still showcase the need for improvement and unless it is taking into consideration, there will always be a gap that can hinder success whenever a market is segmented. Reason being, businesses operate in a dynamic and a very uncertain environment.

Key words: segmentation, strategies, environment, organization, dynamic, homogeneous, concentrate.

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1. Introduction

Manufacturers are endowed with many various consumers with varying needs and behaviours. Market segmentation seeks to enrich consumers with products that satisfy their individual set of needs and behaviour patterns. As a result, this is often referred to as segmentation that considers a market as a sequence of connected and unique segments, each with its own profile.

Companies can uncover new segments by researching the hierarchy of attributes that customers will consider when choosing a brand. The essence of segmentation is reflected within the division of market into a bigger number of homogenous subgroups of shoppers with similar needs and expectations. Various segments require different marketing strategies that must be defined so as to form competitive advantage with their implementation.

According to modern authors within the field of promoting, one in all basic strategies of strategic marketing is segmentation, the adequate application of which has become the premise for realization of competitive advantage within the market (Kotler & Keler, 2011).

Marketing segmentation strategies are often extended through an intensive choice of attributes found among purchasers. Only a few within the market is recognized by gender, while another are made from purchasers within a particular age category.

Locality is another general element in market segmentation, together with earning and culture level. Therefore, although this causes some consumers who constitute over one class, marketing researchers generally provide this singularity. As a function of the event of a specific set within the larger consumer base, some businesses are forced to ask questions that start some realistic suggestions on a way to make a product or service more advantageous to consumers. This action may point to additional comparable changes that don't affect the most product or service. Nevertheless, creating some changes within the growth of a product or service sends a transparent communication message to customers that the organization does listen to purchasers.

The increase of strategic planning significance in modern business environment has had a control on strengthening of the requirement to start out from the detailed analysis of business decisions with respect to customers when formulating strategies (Choy, Shin & Lee, 2013).

Strengthening of the requirement essentially implies approaching market from the angle of satisfying the wants and designing relations with customers within the future. With regards to the standard approach, marketing activities were being planned to a big extent within the short term and were focused on attracting customers and increase of sales within the short term.

The requirement for change in orientation within the planning of promoting activities isn't only characteristic for contemporary industries supported

information technology, but also for traditional industries like industries of furniture, agricultural machines, etc. Strengthening of ties between customers and makers was enabled by the event of knowledge technology and adaptation of its application in marketing.

2. Market Segmentation and Strategies

Market segmentation is that the process of positioning buyers in an exceedingly product-market divisions in a way that each member of every segment display similar responsiveness to a specific placement strategy. Buyer similarities are indicated by the quantity and frequency of purchase, loyalty to a specific brand, how the merchandise is employed, and other measures of responsiveness. So, segmentation is an identification process geared toward finding subgroups of buyers within a complete market. The chance for segmentation occurs when differences in buyers' response functions allow market demand to be divided into segments, each with a definite demand function. A typical example is Subaru, an automaker that has established a fiercely loyal body of consumers in its market niche, with a special attention on experience car seekers and has registered tremendous success in areas that have hilly and snowy.

Market niche as widely called is usually practice to visit a market segment that represents a comparatively small portion of the buyers within the total market. We consider a distinct segment (niche) and a segment to be identical. Segmentation identifies customer groups within a product market, each containing buyers with similar value requirements concerning specific brand characteristics.

A segment could be a possible market target for a company competing within the market. Segmentation offers organizations a chance to raised and match its products and capabilities to buyers with certain value requirements. Customer satisfaction will be improved by providing a worth offering that matches the worth proposition considered most vital by the client in an exceedingly segment. Importantly, market research may identify segments not recognized or served effectively by competitors. There are also opportunities to tap into new areas valuable and build a singular space within the market.

Segmenting markets could be a good start for superior performance. Understanding how buyers' needs and desires vary is crucial to designing effective marketing strategies. Effective approaches to segmenting markets could also be one among the foremost critical factors in developing and implementing market-driven strategy. The requirement to boost an organization's understanding of buyers is rising due to buyers' demands for uniqueness and therefore the growing array of technology available to get products to satisfy these demands. Companies are responding to the opportunities to supply unique customer value with products starting from customized phone pagers for business users to self-designed, individualized greeting cards for consumers.

Market segmentation is incredibly important marketing tool that is use to disaggregate heterogeneous demand into the distinct groups of shoppers (Dickson & Ginter, 1987). Segmentation could be a complex process that supports the processing of data on customers' expectations and preferences. Information is often subjective, while their processing is feasible and supported by different statistical methodologies that usually don't provide same results.

Strategic approach to plug segmentation is of high importance in company's marketing activities. Researchers have indicated the very fact that efficiency and marketing activities within the future and further as business results of the corporate are directly correlate with the degree of adaptation of promoting strategy to different market segments (Gilo & Porat, 2006). Strategic market segmentation implies having business and marketing efforts adequately focused at a selected group of buyers, with similar expectations and preferences, which may generate profit and enable adequate market positioning of the business.

It has also highlighted that companies are frequently focused at a bigger number of various market segments. For instance, an oversized number of companies in industry develop car models of various categories designed for various segments. Strategic method to the market includes coming up unrelated marketing strategies that is focused on different market segments. A successful long-term business outcome implies that strategies are mutually compatible and synchronized.

Different strategy represents an identical brand that is executed at an ideal time to represent each strategy focusing on a particular market segment. So as to satisfy the stated objective, strategies can often be significantly different thanks to the very fact that various factors influence competitiveness and market positioning in accordance with each market segments (Gilo & Porat, 2006).

However, marketing activities with short-term focus are most often implemented with the concept of realization as greater income as possible. within the strategic planning of promoting activities it's necessary to start out from the actual fact that activities must not be only short-term oriented, but they need to appreciate the angle of preservation of brand name market position an company brand within the future.

2.1. Demographic Segmentation

These segmentation strategy basically group customers with respect to certain key population concepts such as age, sex, class, income, occupation, and etc. Marketing professionals before the modern era were employing simple grouping principles by logically noting which populations were more likely to shop for their products and targeting their message accordingly. Today's demographic segmentation models can give a more accurate and specific picture of a buyer population, informed by customer data instead of observation and speculation (https://www.veracentra.com/blog/four-segmentation-strategies/).

2.2. Geographical Segmentation

This is also one among the only and widely-used segmentation strategies. Geographic segmentation strategy fills us with the perception of where a collection of shoppers are located. It's really made production and distribution of products easier because it involves grouping potential customers by country, state, region, city or maybe neighbourhood.

2.3. Psychographic Segmentation

Psychographic segmentation on the other hand is a strategy that is more informed and accurate in the technological age. It involves segmenting our valuable customers into different groups in connection to their specific personality characteristics for example values, and attitudes. In a similar sense, it includes the understanding of how these personal traits affect a customer's lifestyle and buying pattern.

A typical example of psychographic segmentation could be a car company that assembles and sells the same model to different segments based on their value of luxury and the degree of economic or environmental awareness when it comes to buying a car. In this instance, the company would market to the luxury-valuing segment by giving weight to luxury features and will market to the economically or environmentally-conscious segment by emphasizing opposite features like gas mileage, storage space, and everlasting tires. This is especially important in ensuring that the product offer and meet the desires of each respective buyer.

2.4. Behavioral Segmentation

This segmentation strategy groups people by the special behavioural patterns they show when making purchasing decisions. It is true that customer behaviour is sometimes difficult to interpret therefore going forward might include many different approaches. Product-specific behavioural segmentation strategies often focus on customers' expectations for, attitude towards, and response to, a given product. More general behavioural segmentation strategies group customers based on their buying and product-using patterns, identifying how different customer segments prefer to spend their money and time.

This strategy may not only help identify target groups that are a good match for an existing product but as well aid in understanding the continuous behavioural column of consumers. It also helps identify product gaps making it a favourite of consumer goods corporations that produce a variety of products spanning a variety of product categories.

3. Purpose of Segmentation

In order to achieve success in modern global market, Organizations should think innovatively and be more willing to alter and adapt quickly to the ever changing environmental factors that may facilitate new ways of conducting business during this twenty-first century. Notwithstanding, a good deal of organization is now facing a bigger number of small consumers who don't think segmentation is worth it. However, these suppliers must seek for broad classes of consumers who adapt in their products or services needs and buying habits (Kotler & Armstrong, 2008). Previous studies show that mass marketing creates the biggest potential market at very cheap costs, which might cause lower prices and better profit margins (Chernev, 2012).

Optimization of effectiveness of company's business actions due to focus of business activities; segmentation give businesses the opportunity to concentrate on core business value thereby reducing the potential of resources wastage. When a manufacturer concentrates on only a few portion of the market, it can serve them better through efficient coordination of all the business functions such production, marketing and most importantly research and development.

Basic variables measured in market segmentation are customer preferences with relevancy product characteristics and habits exhibited within the purchasing process. Adequate segmentation within the future may be a continuous process that suggests frequent evaluation and modification of strategy. The requirement for endless process was made because of the very fact that stated variables are changing over time under the influence of various factors. Some researches indicate that new information that becomes available at the market can have a big impact on the change of stated variables (Ma et al., 2014).

Apart from information, socioeconomic changes with customers even have a control on the change of choices with regard to the way of buying and preferences of advantages. Complexity in customer requirements also makes it tougher to spot market segments. Customers evaluate products and services supported the evaluation of their value which is base on two important elements namely; expectation and experience as widely sated in the literature. Usually value is created in the customer's perfective if his or her experience after partaking in service offering by a business is greater than the expectation. S/he is satisfied if the experience supersedes the experience and vice versa (Maričić & Đorđević, 2012).

Company's cost efficiency due to rationalization of business activities and directing resources towards the needs and preferences of a specific market segment. Resources especially the human capital which equally stands as the most important resource of an organization is directed purposely to accommodate all the preferential desire of consumers.

Apart from segmentation of consumers on the premise of traditional criteria, in theory and in practice, behavioural form of segmentation is additionally applied. And it implies the categorization of consumers in conjunction to their attitudes on values offered by certain products, terms and conditions of purchasing and product brand (Kotler & Keler, 2011).This sort of segmentation basically starts from the values that customers expect and like which essentially depends on the perspective of customers with varying descriptive features of the same expectations and preferences (Maričić & Đorđević, 2012).

4. Factors Influencing Segmnetation

Market division into segments enables marketing managers to accumulate a way better understanding of the requirements and wishes of shoppers. These grant them the knowhow to complete raise and customize company's marketing activities more accurately and responsive towards customer's needs. Market segmentation doesn't only serve and answer consumers need but rather exceed and support their requirements. Additionally, it also allows the monitoring and evaluation of rival strengths and weaknesses. This way, they may discover business opportunities in markets which weren't served well. This way, they may discover business opportunities in markets which weren't served well. Customer segmentation enables marketers to adopt a more systematic approach when planning ahead for the longer term. This lands up in better utilization of selling resources which may even end in the correct shaping of any marketing program (Schegg & Stangl, 2017; Camilleri, 2016).

4.1. Merits

Well performed segmentation of the market especially for the case of customers is a prerequisite for a proper brand positioning. Segmentation also enables the reduction of competitive pressure by selecting segments or niches where there is no (strong) competition or by differentiating a part or a complete offer of the company with respect to competitors.

- The marketer can spot and compare marketing opportunities. S/he can examine the needs of each segment and determine to what extent the current offering satisfies these needs. Segments which have low level of satisfaction from current offerings represent excellent opportunities for the marketer.
- With the help of knowledge about different segments, the marketer can better allocate the total marketing budget. Differences in customer response to different marketing tools serve as the basis for deciding on the allocation of market funds to different customer groups.

- The marketer can modify his product/service and marketing appeals to suit the target segment. Market segmentation gives producers the opportunity to redesign and add unique features to already existing product or default products that couldn't meet the needs and desire of customers. Once these adjustments are made, customers can be attracted in trading with businesses and as well maintain that aspect of loyalty for a better return in the future.
- Segmentation facilitates setting up of realistic selling targets and priorities. The market is populated in such a way that manufactures cannot attain to all the needs and wants of customers. In the other end, resources are limited and meeting all the operational need of producers seems more difficult than ever before. Unless and until priorities are set and through segmentation, business owners are able to concentrate and sell bigger chunk of their value offering to customers.
- Segmentation gives management the opportunity to identify new profitable segments which deserve special attention. As already mentioned above, some segments are more viable than others. That being the case, they need much attention than other segments in the competitive market and through which they can supply quality products for a greater return on investment.
- Furthermore, it is possible to deal with competition more effectively by using resources more effectively. Competition becomes easier and more appealing if you concentrate and serve only those within your capability means. Producers gain competitive advantage through offering valuable products or services to certain customers after significant research on their needs and wants.
- Finally, appropriate service packages can be developed for each market segment that is if the firm is strictly involved in offering intangible products. Segmentation ideally enables service providers to put into consideration all the fundamentals that are relevant for a perfect service delivery.

4.2. Demerits

There is always a danger that the company is measured too narrowly, i.e. that it is focused at satisfying the need of one group of customers, while neglecting other relevant parts of the market. The stated danger is overcome by a broader view on business situation and the market. Segmentation strategy can be used to profile a greater number of different market segments.

- To begin with, when a firm attempts to serve several market segments, there is a proliferation of products. Cost of production rises due to shorter production runs and product variations. Basically, economics of scale is becomes effective when the firm is producing greater quantity of similar

units. Which is quite opposite with segmentation; where the firm only produce for a specific unit and in some instances with only few production units.

- Larger inventory has to be maintained by both the manufacturer and the distributors. In order to maintain and ensure uninterrupted delivery of products to its valuable customers, producers always have to ensure that they maintain the maximum inventory requirement from their respective suppliers. This ascertain continuity but it is sometimes difficult to maintain as other environmental factors such as earthquakes, flooding and political instability remain unpredictable and can hugely influence the extent to which large inventories are maintained.
- Furthermore, promotion and distribution expenditures increase when separate program are used for different market segments. Market segmentation appears to be more frustrating when a single producer has to promote and equally distribute products for different segments. This is not only costly but as well time and effort consuming as the manufacturer has to use a completely different channel to create awareness and deliver any product, thus requiring additional expenditure to fulfil the segment requirement. Cost as we all know if higher reduces profit and as well return on investment for shareholders.
- Finally, when characteristics of a market segment change, investment made already might become useless. The market segment is built on the basis of customer needs and wants which generally keeps changing as human desires change over time. This regular change of desire in terms of needs and wants in extension change the market segment thereby making already established segments less important and likewise creating the trouble of coming up with another segment.

5. Discussion

Accordingly, segmentation involves grouping of individuals in respect to habits, lifestyle or even personal characteristics. For example, a car mobile phone developer might segment a country's population into high, middle and low-income earners, and this division will enable this particular firm to focus its marketing activities on the segment with the highest probability of accepting any product it offer in the market.

After a careful assessment of the pros and cons, market segmentation still showcase some areas that actually need improvement and unless it is taking into consideration, there will always be a gap that can hinder success whenever we segment.

5.1. Decision Deficiency

A major weakness of market segmentation is how difficult it comes to reaching any decision about which element in the segment is more important. Possible criteria for segmentation include age, gender, region, ethnicity, income level, life-cycle position, buying habits, personality and motives, consistent with the book "Essentials of selling," by Charles W. Lamb and colleagues. Choosing between one and several of those factors against others is often the difference between success and failure, thereby making market segmentation more unpredictable and uncertainty.

5.2. Segmentation Myopia

The other thing that I observed from my analysis of market segmentation is that, sometimes businesses create groups that are too irrelevant for profit accumulation. This is also highlighted in keeping with the book "An Introduction to Property Marketing," by Abdul Hamid Mar Iman. For instance, suppose the car dealership focuses its marketing efforts on a narrow income tax bracket, reasoning that this segment of the population is possibly to shop for its cars. If that segment has too few members, the possibility of gaining any target revenue will be very minimal irrespective of how successful or how effective the marketing efforts were.

5.3. Problem of Lead Role

Additionally, for example if the firm's product or service offering continue to influence the market dominance at large, segmentation in this case wouldn't offer any meaningful outcome. Imaging being the only restaurant in Rzeszow, your goal possibly might include raising general awareness rather than targeting just concentrating on a particular group. This is to say market segmentation does not hold in all instances and the example above is a clear manifest. Usual few small businesses maintain dominance in certain markets. And once they hold that competitive advantage, competition becomes very frustrating in some situation. However, it might still be helpful to contemplate which markets to specialize in before it becomes absolutely necessary.

5.4. Inadequacy of relevant data

In a nutshell, some small businesses sometime don't have vibrant consumer data, so making research on the potential preferences of these consumers can be difficult and a time impossible to reach. This has even make proper analysing and evaluation tougher. As the saying goes, the more scrappy the primary data and subsequent analyses, the very likely of forming miscalculation during market segmentation. Like similarly mentioned above, you may attempt to target a high-income segment of the population, believing these people are the prospects that

are more likely to afford your product or service. But in another way round, a distance survey might revealed that targeting middle-income earners can end of being more favourable to your business than the previous target.

6. Conclusion and Recommendations

Efficient and effective segmentation is really vital to any market focus strategy thus connecting firm's unit position with proper coordination, control and planning of resources and daily operations around all segment potentials. Market segmentation serves as an intermediary between value opportunities and new market spaces of a company's strength that is necessary in attaining a more resilient strategic positioning.

Firstly, among the recommendations to fill the gaps, especially on decision deficiency, a close concentration is required to identify, define market segments and form a target which will later be described, analysed and evaluated to reach any meaningful decision. The groups are analysed to see if the response profiles are different across the candidate segments. Alternatively, customer response information may be a way to form customer groupings then the descriptive characteristics of the groups analysed to seek out if segments may be feasible. This can be achieved through a vigorous marketing research with support of research and development capabilities.

Segmentation of a product or service market requires that response inequalities exist between various segments, whose segments are identifiable and stable over time. In extension, the benefits of segmentation should exceed the cost if done genuinely. The variables useful as bases for forming and describing segments include the characteristics of individuals and organizations, sometimes situation with buyers' needs and preferences, and behaviour. Segments may be formed by identifying customer groups using the characteristics of individuals or other elements such as age, gender, life style, buying habit, personality and motives.

On a similar note, market segment analysis and evaluation takes strengths and limitations of every segment as a potential target market for the organization. Segment analysis includes customer descriptions and satisfaction analysis; which is indeed based on customer expectation and experience, evaluating existing and potential competitors and competitive dominance, marketing program positioning analysis, and financial and market attractiveness. Segment analysis is very important in evaluating customer satisfaction, finding new product opportunities and selecting market targets. However, it's also important to know the organizational challenges to implementing segmentation strategy which can exist

in the company as it will enable the firm to continuously plan and put on improvement measures in the event of any segmentation abnormality likewise completing modalities on factors that will be perfect match segmentation.

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APPENDIX

Criteria	**Market Segment** = _____	**Market Segment** = _____	**Market Segment** = _____	**Market Segment** = _____
Rating is Very High (best), High, Medium, Low, Show Stopper (worst)				
1. Economically attractive				
2. Accessible to your sales force				
3. Strong value proposition				
4. Complete product				
5. Competition				
6. Strategic value				
7. Personal alignment				
Overall rating				
Rating for ranking is 1 (most attractive) to 4 (least attractive) – key factors is most important contributor to the ranking				
Ranking				
Key deciding factors				

Source: Tomasz Surmacz, (2020). 'e-business lecture notes', Uniwersytet Rzeszowski.

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STRATEGIC MARKETING

Işıl Aydoğdu[1]

ABSTRACT

Nowadays, increasingly competitive market requires strategic responses. Developing Successful Marketing Strategies uses real market examples to demonstrate the development of effective marketing strategies. Strategic management is linked to the importance of implementation and managing change. Moreover, strategic marketing management is the main point to the contribution in the business goals through a three stage process: analysis, formulation and implementation (Wiley, 1993).

Key words: strategic, management, business, strategic analysis, finance, customer, marketing.
JEL: G53, D14, M31

1. Introduction

The concept of marketing is inherently simple: business success through a process of understanding and meeting what customers need. Few would argue with this basic principle, and even the most inexperienced of business managers would intuitively have doubt in this. Given this basic simplicity, we do need something as complicated, and time-consuming, as a marketing strategy.

While some business principles may be simple, achievement involves many complex, interdependent or even conflicting tasks. Sometimes, such tasks are undertaken against a few of constant change, intense competition and limited resources. For enhancing this challenge, managers are often situated at the incomplete data and unexpected events, often being left to competitor reactions. It means that marketing strategy has become an important component of success. An effectively implemented, marketing strategy should be done to avoid such problems and reduce the complexity of business tasks. Strategy should restore the

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art of management. Hopefully, it is a series of tools and techniques that guide the organization to the marketing success via a process of understanding and meeting customer needs.

The modern business world now recognizes the importance of strategic issues and the contribution of strategic management to business success. While it can have some benefits, it may bring some problems as well. It could often be argued that 'strategy' (or 'strategic') is the most overused/misused phrase in business today. Everybody seems to have a 'strategy' for everything (Irwin, 1965). By attaching the term 'strategy' to an activity, it somehow becomes more important, but in reality very little actually gets done. To illustrate this, the researches recall the recent experience of sitting through a face to face endless meeting, listening to people talk on and on about their 'strategy' or the need for a strategic view. Finally, it came in a conclusion that there is too much strategy and not enough people doing things. This comment can be memorable for the reason that it illustrated a key point: strategy must lead to action, not be a substitute for it. Ultimately, all organizations need people doing things. The goal of strategy is to ensure they are doing the right things. These actions need to be co-ordinated, efficiently executed and focused on meeting customer need (Porter, 1996).

Primarily, strategy is a three-stage process involving analysis, formulation and implementation. During the analysis phase management needs to look both internally and externally. Understanding the wider business environment is essential. It is then necessary to prepare plans according to current and future circumstances. Finally, implementation is needed to make sure our plans will be used in practice. Managers must make sure that instant care and attention is given to each of these stages. This way, strategy avoids being little more than rhetoric and becomes a practical reality of business world.

2. What is Strategy?

During the past years, many definitions of 'strategy' have been developed and close examination of such definitions emphasizes that strategy is concerned with making major decisions affecting the long-term direction of the business (Kay, 1996). Major business decisions are by their very nature strategic, and tend to focus on:

2.1. Business definition

A strategic fundamental is defining the business we are in. Organizations need to be adapted and change by keeping in touch with the external competitive environment. Business leaders need to define the range of the organization's activities and define the markets in which the organization will compete. First, the

boundaries of activity and management insurance should face the challenges of change.

2.2. Core competencies

For a better development, the organization must be competitive now and in the future. Therefore, strategic decisions need to define the basis of sustainable competitive advantage. There are skills and resources needed in order to define markets and therefore they can be used to an optimum advantage (Whalley, 2010). It is essential that this is considered over the long term and aims to match organizational capability with desired goals and the external environment. This process leads to major resource implications, both in terms of investment and rationalization.

2.3. An integrative approach

Strategy has a wide impact and as a results can affect all functional areas within the organization. Effective strategy is able to co-ordinate the different functions within the organization in order to achieve common goals. By taking a detailed view of the corporation, managers should be better able to understand target resources, eliminate waste and generate synergy. Synergy occurs when the combined effect of activities is greater than their individual contribution. It is vital that business leaders work toward a common vision and sense of purpose, in order to achieve an integrative approach.

2.4. Consistency of approach

Strategy should provide a consistency of approach, and offer a main idea to the organization. Practical activities may change and be adapted readily in response to market conditions, but strategic direction should remain the same. Additionally, strategic management can provide common tools and analytical techniques, to make sure the assessment and control of complex issues, situations and functional areas.

Establishing ways of achieving such objectives is the main purpose of the development of an organization. The main point is to react to, and of course influence, the competitive environment to the advantage of the organization. Those advantages must be sustained over the long term, but should be flexible enough to adapt and be developed as request.

It is important to say that strategy and a strategic plan cannot be the same concept. Strategy is defined as the general concepts of future competitive advantage and reflects intent, whereas a strategic plan specifies the selection, sequence, resources, timing and specific objectives required to achieve the strategy (Porter, 2011).

Figure 1 summarizes the above issues. Issues of strategy, tactics and corporate planning.

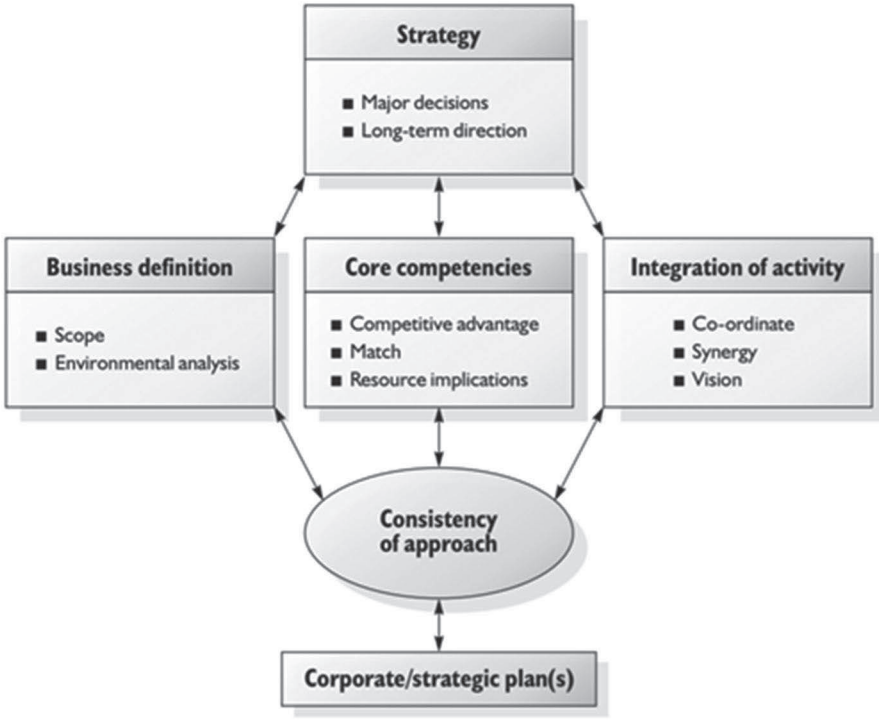

Figure 1. The basics of strategy

3. Towards Strategic Management

Over a period of some thirty years, we have seen the concept of strategy evolve. Aaker (1995) provides a historical perspective showing how this evolution has progressed and acknowledges that strategic activity has been described over the years as:

3.1. Budgeting

Budgetary and control mechanisms were the earliest strategic activity. Structured methods of allocating, monitoring and investigating variances from budget provided a means of managing complex processes. The process was often based on past trends and assumed important development.

3.2. Long-range planning

Forecasting is meant to play a great role. Planning systems and processes tended to extrapolate current trends (with varying degrees of sophistication) and predict factors such as sales, profits and cost. Management could use such forecasts as a basis for decision making.

3.3. Strategic planning

The 1970s and 1980s were the era of strategic planning, which emphasized their idea placed on: (i) specifying the overall direction, and (ii) centralized control of planning activities. While still based around forecasting and extrapolation of past trends, a greater attention was paid to understanding the business environment. Managers hoped to be able to participate events through a detailed analysis of cause-and-effect relationships. Planning systems aimed to provide data and logic as a means of decision support. While promoting more awareness of strategic issues in terms of the external environment, the process still tended to focus on the preparation of corporate-wide plans. This was often offered in a highly bureaucratic, centralized fashion.

3.4. Strategic management

Currently we are living in the age of strategic management. Strategic management concerns both the formulation of strategy and how such strategy is used in practice. While still undertaking analysis and forecasting, far greater importance is put on implementation. The concern is due to managing change and transforming the organization without causing a turbulent business environment.

Johnson and Scholes (1999) provide a useful model (see Figure 2) summarizing the main elements of strategic management. Strategic problems can be viewed as having three distinct components.

Analysis is the first step when it comes to understanding the business environment and the resource capabilities of the organization. This needs to be considered in the context of the organization's culture and the aspirations and expectations of the stakeholders. ('Stakeholders' are taken to be anyone with a stake in the organization, for example, customers, employees, suppliers.) Secondly, managers need to make strategic choices. This is achieved via a process of identifying, evaluating and selecting options. The organization needs to define: **(i)** what is the basis of our strategy, the so-called 'generic' strategy, **(ii)** what product/market areas will we operate in, and **(iii)** the specific strategies to achieve corporate goals. Finally, the issue of implementation must be taken into

consideration. There is the need to plan actions, allocate resources and, where appropriate, restructure to achieve strategic change.

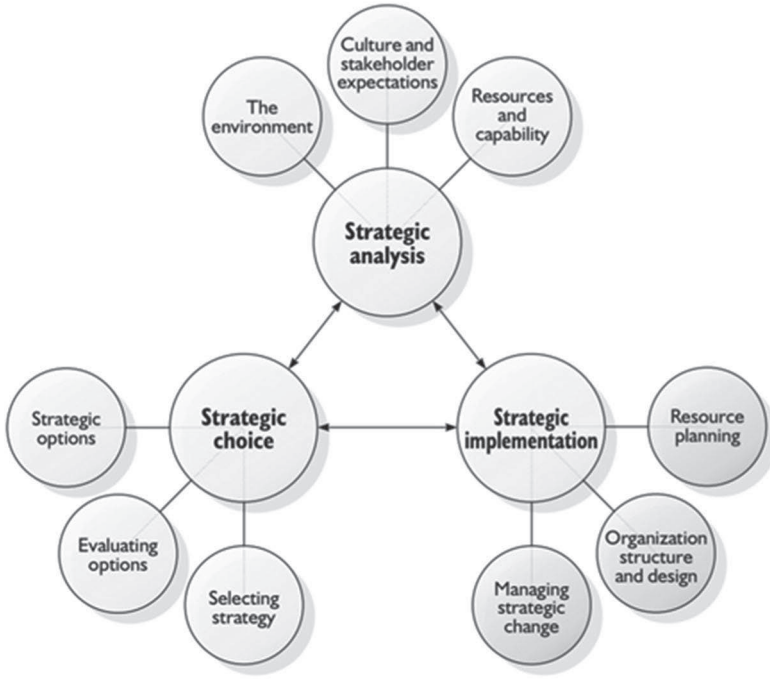

Figure 2. Elements of strategic management (Johnson and Scholes, 1999)

It is important to note that strategic management is not the orderly, logical sequence of activities that managers want to achieve. Contrary, reality means that processes are interlinked and overlapping. For example, strategic analysis does not stop or at least should not stop, when other stages take place. Analysis is an ongoing activity. For a successful strategy, equally creativity, vision and leadership are required. Given the tense in today's business world, a contingency approach may be required. This will lead to flexibility by developing contingencies in the future.

Porter (1998) provides an interesting perspective and views strategy in terms of: **(i)** developing a unique position by choosing to perform differently from the opposition; **(ii)** making 'trade-offs' with other possible competitive positions, in order to protect the organization's competitive advantage; **(iii)** combining activities to fit into, and reinforce, an overall competitive position; **(iv)** ensuring operational effectiveness when executing activities.

4. Change – Shaping Strategy

Change is already an accepted consequence of modern life. Indeed, the phrase *'change is the only certainty'* has become something of a business life. All organizations are subject to increasing levels of change. Changes in terms of cyclical change and evolutionary change can be seen. Cyclical change involves variation that is repetitive and often predictable (e.g. seasonal variation in demand or fluctuation in economic circumstances). Evolutionary change involves a more fundamental shift. It may mean sudden innovation or a gradual 'creeping' process. Either way, the result can have drastic consequences for strategic development (Rosenblum, Liedtka, 1996).

Management is concerned with moving the organization to some future desired state, which has been defined in terms of a corporate vision and corporate-wide issues. It is important to see the concept of 'change' as an integral part of strategy. It can be examined in terms of the following questions: **(i)** What drives change? **(ii)** How does change impact on our markets/business environment? **(iii)** What is the result of change on the organization's strategy?

Figure 3 summarizes these three questions.

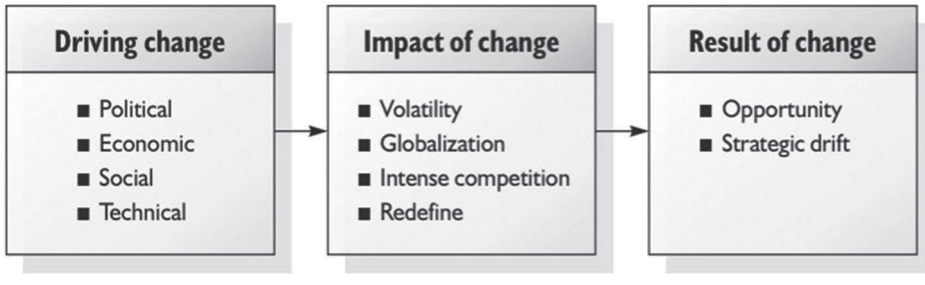

Figure 3. Strategy and change

4.1. Drivers of change

Currently, both products and methods of operating are being fast displaced by a combination of competitors' actions and shifting customer needs. This process is being driven by the following factors: Political, Economic, Social (e.g. demographics) and Techno- logical. A so-called 'PEST' analysis provides a useful analytical knowledge with which to study the business environment.

4.2. Impact of change

Exactly, change means that we need to redefine our markets. While fast growth is still possible, on the other hand many industries have to accept that the days of incremental annual growth are over. Variation in consumer habits and demographic patterns means that traditional markets are becoming more challenging. Change is accompanied by intense competition, which the phenomenon of business globalization can only intensify (Jarzabkowski, 2008).

4.3. Result of change

Change is associated by two main feedbacks. Firstly, change creates opportunity. Organizations that are flexible and in touch with customer needs are likely not just to survive, but to prosper. Secondly, past actions, strategies and methods offer no guarantee of future success (Prochaska, 1994). There is a need to ensure that the strategic thrust of the organization does not drift from the true needs of the market place (beware of strategic drift).

5. Balanced Scorecard Approach

As change affects all aspects of business strategy, it is important to set appropriate measures of business success. Rather than relying on a few narrow financial measures, a system is needed which provides an overall view of business success. To this end, Kaplan and Norton (1992) advocate using a **'balanced scorecard'** approach. This involves taking both financial and non-financial measures and examining the benefits delivered to all the organization's stakeholders. A balanced scorecard approach involves four sets of measures:

- ***Financial measures*** – Here it is examined how people are perceived by investors and shareholders.
- ***Customer*** – How do our customers view at the business.
- ***Internal activities*** – By examining the key areas of activity which deliver customer satisfaction, it can be identified where the organization must challenge its competitors.
- ***Innovation and learning -*** To survive and prosper, all organizations need to improve and adapt. Any business activity can be viewed as an experience with the immense intention of continuously creating value.

Performance indicators are established based on each of these areas. These become an objective basis with which send to evaluating and formulating strategy. A winning strategy should possibly offer a range of initiatives for the future.

6. The Role of Marketing within Strategy

As noted above, all organizations need to undertake strategic decisions which are related to their external environment. Strategy must overcome issues such as customers, competitors and market trends. In this way, strategy can be a detector and an influencer for changes in the business environment. By its nature, marketing defines how the organization should interact with its market place. Consequently, all strategic planning, less or more, requires an element of marketing. Only in this way organizations can become strategically responsive to customer needs and commercial pressures. Indeed, it is possible to view marketing more than its functional activity. Its concept can be extended as a business philosophy. Here the organization adopts a marketing orientation, success by a process of understanding and meeting customer needs. Basically, the company's orientation is defined as a fundamental business philosophy, highlighting what is allowed as the principal way of reaching success (Weerawardena, 2011). Market orientations are now widely established within the business world (and often seen as the 'holy grail' of marketers) but other business orientations are equally common.

6.1. Production orientation

Business success is attributed to efficient production. The emphasis is on mass production, economy of scale and cost control. Management's key is concerned with achieving the necessary mass and meeting production timetables (Lososova, et al. 2005). This philosophy is right for as much as risks limiting operations to low added-value assembly work.

6.2. Product orientation

The main concern is that product innovation and design will have buyers more than satisfied. Management's perception is that their products are so good that as a result, they will sell themselves. Little or no effort is put into establishing what the customer actually wants, as a whole. Commonly, product innovation is important but it needs to appeal to the market place, otherwise it risks being innovation for the sake of innovation (Porter, 1996).

6.3. Sales orientation

The views' sales volume is considered as the key determinant for success (Porter, 1996). The focus is having an astonish product so that the customer will be persuaded to buy and have it. Since the process is caused by sales targets, a short-term perspective inflate, with little regard to building longer-term relationships. Often, this is originated from a production orientation, for as long as management tries to create a demand for unwanted products.

6.4. Market orientation

As previously citied, success is measured by understanding and meeting customer needs. Customer is the beginning of the process customer and uses actual customer demand as a means to focus further resources. In simple terms, it is provided what the market wants. Additionally, the importance of building long-term relationships with customers is being known. Loyalty and consistently, which are the main key, offer superior value (Liao, et al., 2010). In order to optimize this process, an awareness of competitors' proficiency and strategy is required.

It is not business' intention to decry production, product innovation or selling, indeed they are vital. However, the truly 'world-class' organization understands how to guide these factors into a coherent market-led orientation. Having to deal with this focus will facilitate the sustainable competitive advantage required to prosper. If it is needed to go about achieving a market orientation, the answer can be summarized as follows (Kirca, 2005):

1. Customer focused – understand your customer base and be responsive to their needs. Treat loyal customers as assets and strive to build ongoing and long-term relationships. Regularly monitor levels of customer satisfaction and retention. To achieve this it must: **(i)** define the markets; **(ii)** effectively target customers, and **(iii)** listen to customers.
2. Competitor focused – in terms of competitors, be observant and assess their objectives, strategies and capabilities. There is the need to 'benchmark' their products, processes and operations against our own.
3. Integrate marketing into the business – marketing should not be confined to the marketing department. Every function and person within the organization has a role to play in creating value and achieving the goal of being a market-led organization. This may require chargeable changes in culture and organization structure.
4. Strategic vision – develop a long-term, market-orientated strategic vision by viewing marketing as more than a series of promotional tools and techniques. It must be the main point for those who should develop and implement market-led strategy and define the future in terms of creating long-term value for stakeholders.
5. Realistic expectations – people cannot always get what they expect. Expectations have to be realistic and matched to capabilities, resources and external conditions. We may well need to make 'trade-offs' to ensure we focus on activities that add value.

7. What is Marketing Strategy?

Based in a strategic role, marketing aims to transform corporate objectives and business strategy into a competitive market position. Essentially, the concern is to differentiate our products by meeting customer needs more effectively than competitors. Marketing strategy can by characterized by (Whalley, 2010):

(a) analysing the business environment and defining specific customer needs

(b) matching activities/products to customer segments, and

(c) implementing programmes that achieve a competitive position, superior to competitors.

Therefore, marketing strategy addresses three elements – customers, competitors and internal corporate issues (see Figure 4).

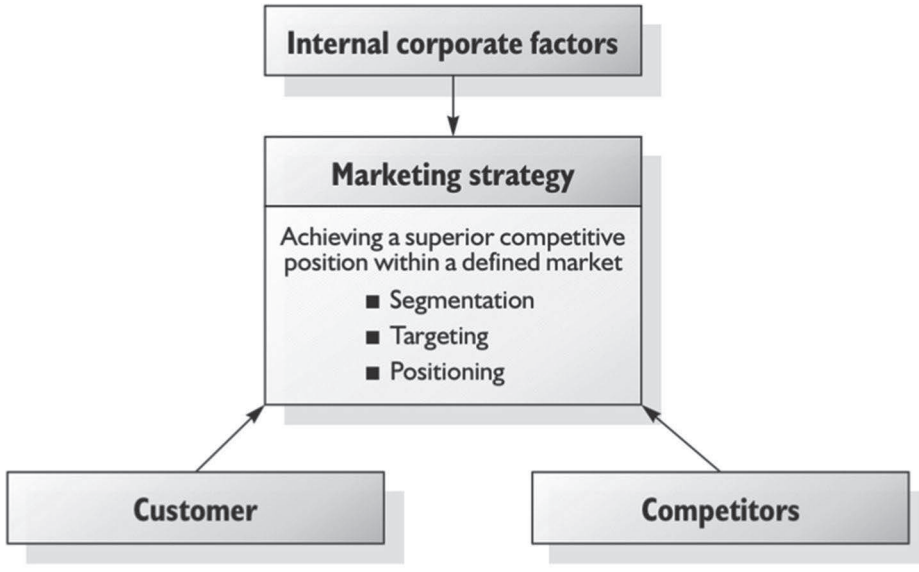

Figure 4. The basis of marketing strategy

Firstly, the main point to take under consideration are customers. Secondly, the best establishment of a competitive position should attempt. Finally, there should be a match between internal corporate capabilities with customer need. The successful achievement of these factors should enable the organization to develop, and maintain, a strong market position. Essentially, a marketing strategy aims to deliver the following (Ferrell, 2011):

1. Segmentation - This process breaks the market down into groups displaying common characteristics, behaviours and attitudes. Fundamentally, this process aims to understand need and forecast reaction or demand.
2. Targeting - This involves evaluating and selecting market segments. It is essential to look for opportunities which are sustainable, where there can be build long-term relationships with customers.
3. Positioning - As previously stated, it is important to establish a distinctive superior position, relative to competitors. The competitive position adopted should be based on matching product attributes to customer need.

As a result, the three key constituents of marketing strategy, customers, competitors and internal corporate factors are dynamic and constantly changing.

Therefore, organizations must develop and deploy processes, procedures and techniques that ensure market strategy is:

(a) relative to the current/future business environment,

(b) sustainable,

(c) generating optimum benefits to both the organization and customers, and

(d) correctly implemented.

This is the process of strategic marketing management.

7.1. Strategic analysis

To move forward we must first answer the question of where do we are. This stage explains a detailed examination of the business environment, customers and an internal review of the organization itself. Tools such as various analysis and industry structure models (Wijk, et al., 2012) help management to assess objectively the organization's coherently position. Equally, it is important to develop some view regarding to the following trends. This is achieved through forecasting and defining hypotheses about the future market trends.

7.2. Formulating strategy

Having analysed the situation, then it can determine a way forward. Formulation involves defining strategic intent, what are the overall goals and objectives. Managers need to formulate a marketing strategy that generates competitive advantage and positions the organization's products effectively. To be successful, this must be based on core competencies, as stated before. During this stage, product development and innovation are strategic activities, which offer the potential to enhance competitive position and further develop products and brands (Liedtka, 1992). Additionally, formulation emphasizes the need to form relationships with customers and other businesses. Increasingly,

it can be seen organizations recognizing that they cannot do everything themselves and looking to form joint helpful partnerships. The formulation stage reaches the peak with the development of a strategic marketing plan.

7.3. Implementation

Consideration needs to be given to implementing the strategy. Marketing managers will undertake programmes and actions that deliver strategic objectives. Such actions, will often focus on individual elements of the marketing mix. Additionally, a process of monitoring and control needs to be put in place. This ensures compliance and aids decision making (Porter, 1996).

Figure 5 provides an overview of the process of strategic marketing management. The three components form a planning cycle (analysis, formulation and implementation) and while being interactive in nature, with information being feedback to enable objectives and strategy to be reviewed and amended. Ultimately, the process will establish the organization's marketing mix, products, price, promotion and place, which underpins and conveys our marketing strategy.

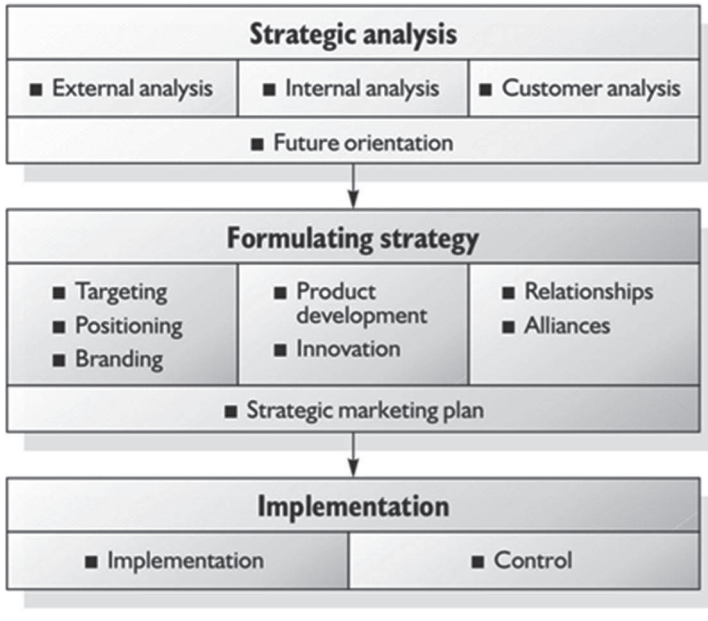

Figure 5. Strategic marketing

8. Conclusion

In today's highly competitive environment, an organisation has to develop a business strategy that provides a strategic fit between its resources and the changing business environment. Marketing strategies consist of many factors and parts. Marketing research is an important part in the marketing process. This will give business owners information on what the client's wants and needs are. This will help them determine if their product meets their demands and if they should improve the product.

Although marketing strategies indicate the general rules to be used in achieving product objectives, the implementation of these strategies through marketing programmes is the most time-consuming part of marketing management. No matter how appropriate a strategy might appear, it will fail if not properly implemented. Consequently, clear statements regarding target markets and marketing strategies are necessary to ensure that the correct programmes and tactics will be developed.

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POPULATION IN BORDER AREAS AT THE EXTERNAL BORDER OF THE EUROPEAN UNION ON THE TERRITORY OF POLAND 2015–2019

Agnieszka Skarbowska[1]

ABSTRACT

Demographic processes have always been one of the most important dimensions of socio-economic development. In recent years, unfortunately, unfavourable demographic changes have been observed both in Poland and in the border areas. The aim of the article is to present the demographic situation in the border area at the external border of the European Union on the Polish side in 2015–2019. There are 36 powiats in this zone, which cover an area of more than 40,000 km^2 representing nearly 13% of the Polish territory. The article presents the status and structure of the population living in the border areas, with particular attention to such characteristics as sex, place of residence, economic and biological age groups. It also contains information on the development of the basic coefficients of vital statistics, the number of marriages and divorces as well as inflow and outflow of population for permanent residence. The analysis was carried out on the basis of data of Statistics Poland in voivodship and powiat cross-sections.

Key words: border areas, population structure, external border of the European Union in Poland.

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1. State and structure of the population

The external border of the European Union on the territory of Poland is 1,163 km long, which constitutes 33% of the length of the Polish state border. The longest section is the border with Ukraine – 535 km (i.e. 46% of the external border of the European Union on the territory of Poland), followed by Belarus – 418 km (36%) and Russia (Kaliningrad Oblast) – 210 km (18%).

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In the border area at the external border of the European Union on the Polish side there are 36 powiats, which cover an area of 40,277 km^2 constituting 12.9% of the territory of Poland.

Figure 1. Powiats of the EU border area in 2019

Source: own work.

Among the powiats of the analysed zone, 10 are located in Warmińsko-Mazurskie and Podlaskie Voivodships, 8 in Lubelskie Voivodship, 7 in Podkarpackie Voivodship and 1 in Mazowieckie Voivodship.

Podlaskie Voivodship had the highest population of the border area in 2019 (35.4%), followed by Lubelskie Voivodship (22.2%), Warmińsko-Mazurskie Voivodship (21.9%) and Podkarpackie Voivodship (19.1%). The smallest number of border area inhabitants lived in Mazowieckie Voivodship – 1.3%.

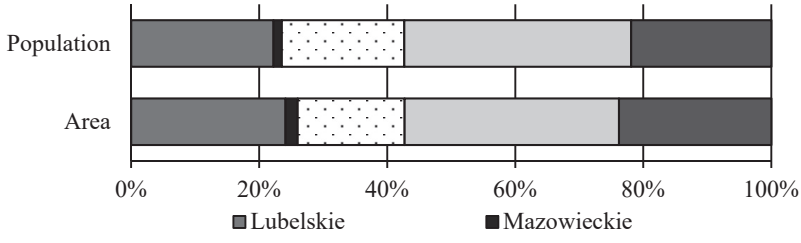

Figure 2. Structure of the EU border area and population by voivodship in 2019

Source: own work.

At the end of 2019, the population in the external border of the European Union on the Polish side amounted to 2 million 367 thousand, which constituted 6.2% of the population of Poland, of which 1 million 285 thousand people lived in urban areas and 1 million 82 thousand in rural areas. Compared to 2015, the population in the area in question decreased by 38.7 thousand people, and compared to 2018 by 12.4 thousand people. In 2019, the urban population accounted for 54.3% of the total population (in the country, the urban population share was 60.0%).

The average population density of the studied area in 2019 was 59 inhabitants per 1 km^2 (123 in Poland). This indicator showed considerable spatial variation – from the highest in Białystok (Podlaskie Voivodship) 2913 persons/km^2, to the lowest in Bieszczadzki powiat (Podkarpackie Voivodship) 19 persons/km^2. In urban areas, there were 891 people per 1 km^2 on average, while in rural areas 28 people.

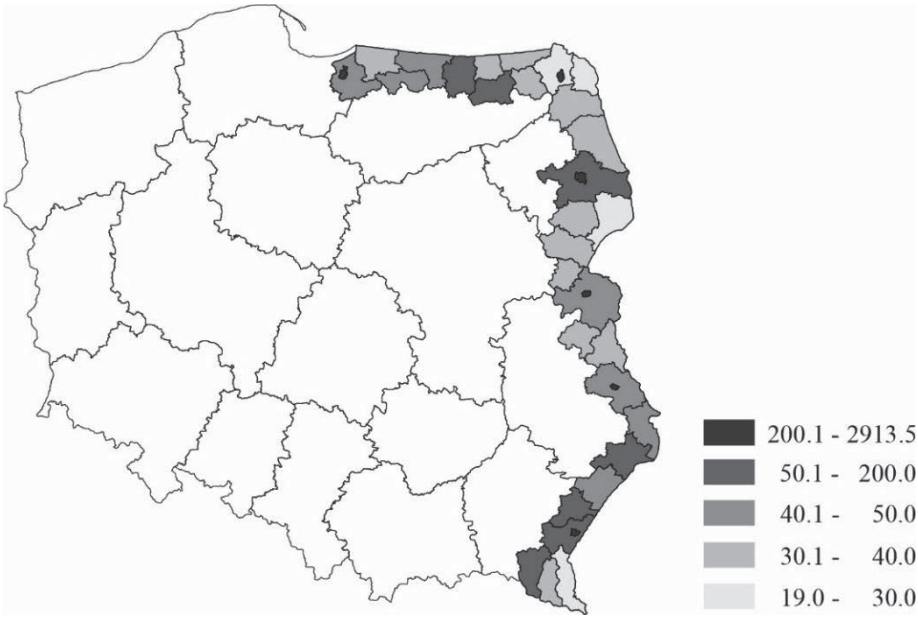

Figure 3. Population of the EU border area per 1 km^2 in 2019
Source: own work.

The total population was slightly dominated by women, who made up 51.2% of the population. In 2015–2019, the feminisation rate was 105, meaning that there were statistically 105 women per 100 men (107 in the country). Among the urban

population, the ratio was 110, significantly different from the rural population ratio of 99.

Among the powiats of the border area, Przemyśl, Chełm and Bialystok had a particularly large number of women over men in 2019 (113 women per 100 men), while Suwalski powiat was the least feminised with 96 men for every 100 women.

When observing the numerical relationship between men and women with a simultaneous breakdown by age group, the numerical predominance of women over 60 is observed. This is due to the fact that women live longer than men. Although boys predominate among the number of new-borns, women outnumber men in the overall population structure.

Between 2015 and 2019, there was a gradual decrease in the proportion of children and young people (0-17 years) in the total population of the border area, with an increase in the post-working age population (men aged 65 and over and women aged 60 and over). The proportion of the population of pre-working age decreased from 17.6% in 2015 to 17.4% in 2019 (in Poland from 18.0% to 18.1).

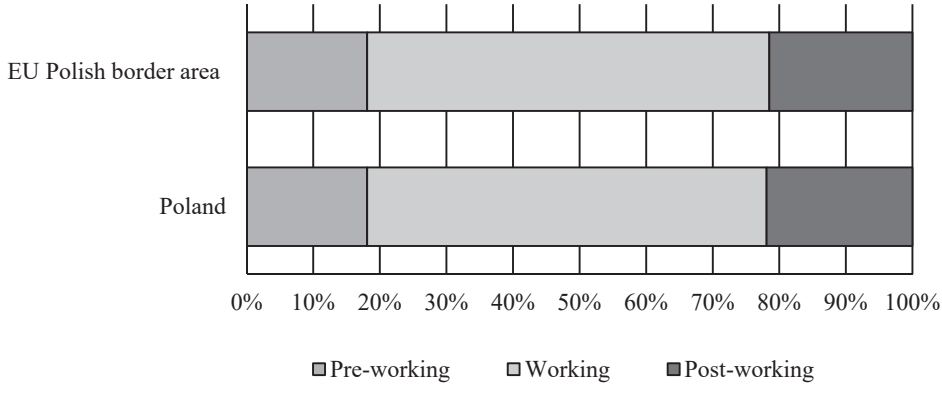

Figure 4. Population structure by economic age group in 2019
Source: own work.

The share of the working age population also decreased – from 63.1% to 60.9% (in the country – from 62.4% to 60.0%). At the same time, the share of people of working age increased – from 19.2% in 2015 to 21.7% in 2019 (in the country – from 19.6% to 21.9%). In 2019, there were 64 people of non-working age (pre-working and post-working age) per 100 people of working age (men aged 18-64 and women aged 18-59), compared with 58 in 2015 and 62 in 2018.

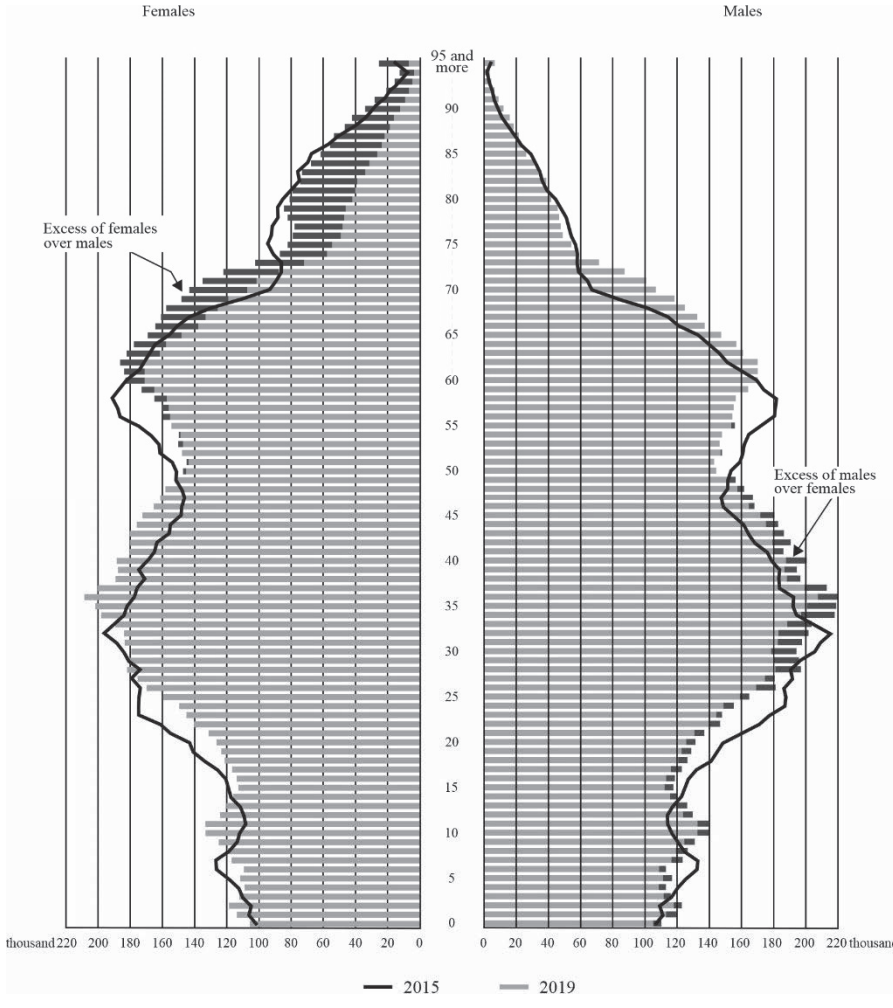

Figure 5. Population of the EU border area on the Polish side by age
Source: own work.

The population of the study area is ageing, which is primarily shown by the increase in the number of elderly people in the total population. Taking the age of 65 as the threshold for old age, the **old age rate** is used, which is the percentage of the population aged 65 and over in the total population. This coefficient in the border area in 2019 stood at 17.8 (in the country at 18.1) and was 2.2 pp higher than that recorded in 2015.

Considering the powiats of the border zone, the highest percentage of elderly people in 2019 was in Hajnowski powiat at 24.3% and the lowest in Suwałki at 15.1%. Between 2015 and 2019, all powiats in the described zone experienced an increase in the percentage of the elderly population, with the largest occurring in Chełm – by 4.0 pp, and the lowest in Bielski powiat – by 0.9 pp.

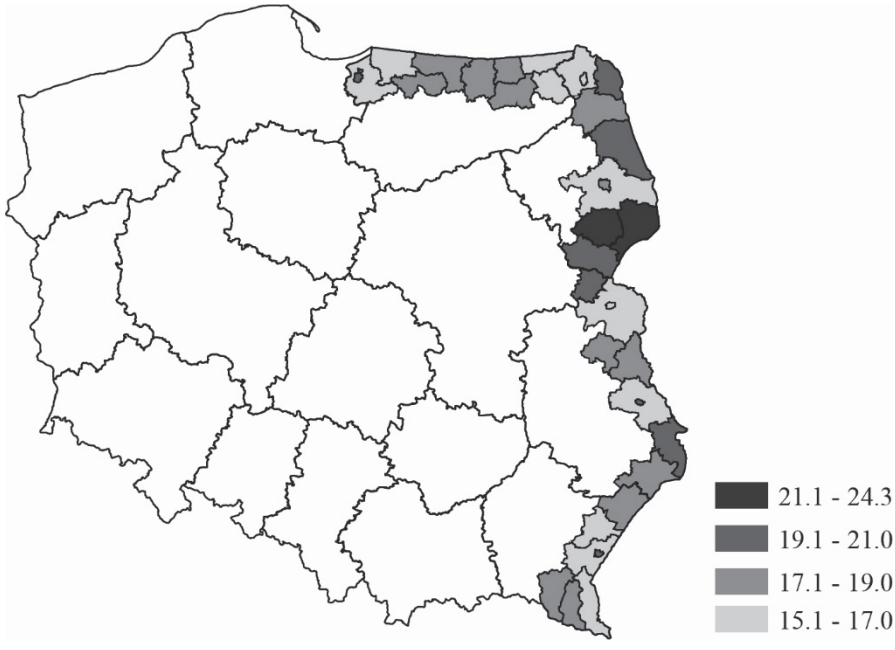

Figure 6. Old age rate of the EU border area in 2019
Source: own work.

One measure of population ageing is the **ageing ratio**, which measures the relationship between the grandparent and grandchild generation (the number of people aged 65 and over per 100 people aged 0-14). At the end of 2019, the ageing ratio in the border area was 123 people, which means that on average there were 123 grandparents or grandmothers per 100 grandchildren (108 people in 2015). In the country, the index was 118 people in 2019 and 106 people in 2015. There was considerable variation in this index by powiat in 2019 from 96 people in Suwałki to 205 people in Hajnowski powiat.

Among the 36 powiats in the zone, the ageing ratio above the national average was recorded in 19 powiats.

To illustrate the intergenerational relationship between the oldest people and their children, the **parent support ratio** is used to show how many people aged 85 and over there are per 100 people aged 50-64. At the end of 2019, both in the border area and in the country, this ratio was 11 people. Between 2015 and 2019, the value of the ratio in the study area increased by 1 person. In 2019, spatial differentiation of this ratio was observed, which in Bieszczadzki powiat, Braniewski powiat, Biała Podlaska and Suwałki was 8 persons, while in Bielski and Hajnowski powiats it was 18 persons. In 2015, the values of the rate were lower in each of the powiat and ranged from 6 persons in Biała Podlaska, Bieszczadzki and Braniewski powiats to 16 persons in Bielski powiat.

The middle age (**the median** - indicating the age limit that half of the people in a given community have already passed and the other half have not yet reached) of border areas is getting higher every year. In 2019, the median age was 41.5 years (41.3 years in the country), which means that half of the population passed this age (in 2015, the median was 39.8 years, as in the country). Regardless of the place of residence, the median age for women was higher than for men. In 2019, in the border area, half of the women were 43.4 years old and half of the men were 39.7 years old (in 2015, 41.8 and 38.0 years old respectively). Among the border population in 2019, the youngest were residents of Olecki and Suwalski powiats, with the median age of 39.3 years, while the oldest lived in Hajnowski powiat, with the median age of 47.1 years.

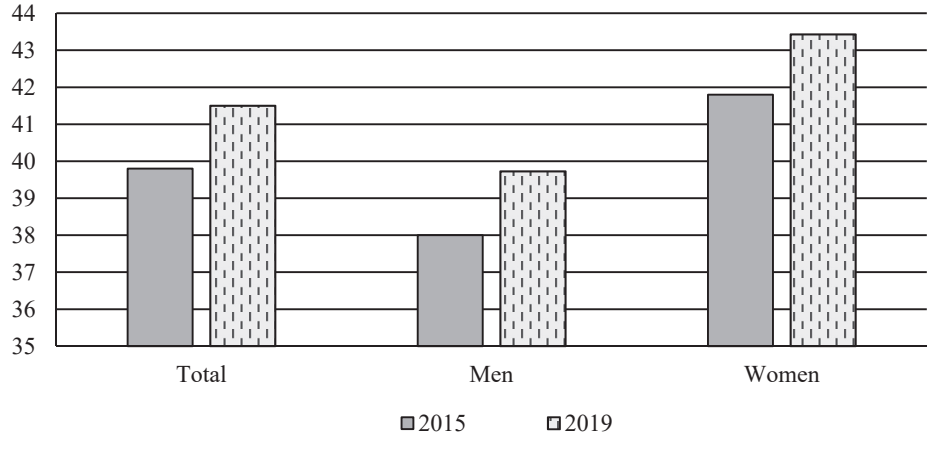

Figure 7. Median age of the EU border area population
Source: own work.

2. Population natural increase

In the analysed years 2015–2019, the EU border zone experienced a negative natural increase, meaning that the number of deaths here was greater than the number of births. The natural increase per 1,000 population in 2019 was -1.9 (in the country -0.9). The highest negative increase per 1,000 population was recorded in Hajnowski powiat (-8.8). The highest positive increase occurred in Białystok (2.5). Negative natural increase was recorded in 32 powiats of the zone.

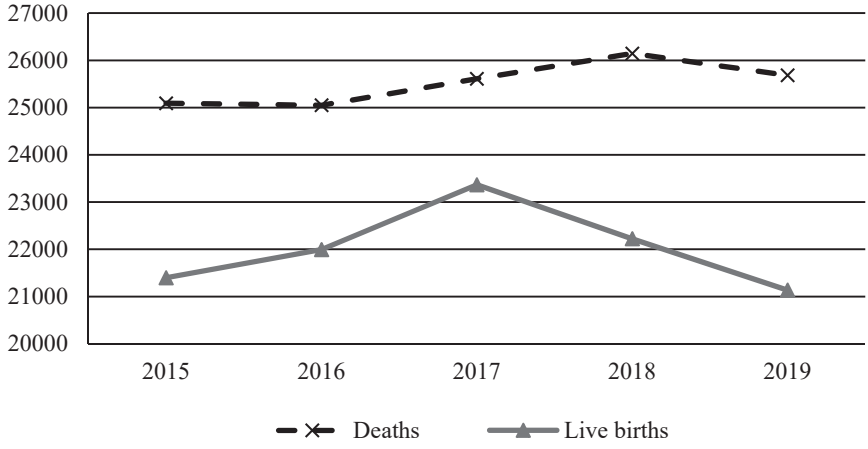

Figure 8. Births and deaths in EU border area
Source: own work.

In 2019, 21,135 live births were recorded in the EU border area, 4.9% (by 1087 births) less than in the previous year and 1.2% (by 262 births) less than in 2015. Among the new-borns in 2019, 51.3% were boys. The birth rate at the time was 8.9‰, unchanged from 2015. There were 9.1 live births per 1,000 population in urban areas and 8.6 in rural areas. The lowest birth rate was in Kętrzyński powiat (7.0‰) and the highest in Białystok (11.1‰).

The changes in the number of births at the external EU border in Poland over the past five years were accompanied by changes in the intensity of births by age of mother. One of the measures of these intensities is the fertility rate, determined by the number of live births per 1,000 women of reproductive age (15-49 years). It stood at 38.6‰ in 2019 and was 1.3 pp higher than that recorded in 2015. In the country, the fertility rate was higher and amounted to 41.8‰.

Women aged 25-29 were characterised by the highest fertility, with the fertility rate reaching 85.1‰ in 2019, and mothers in this age range giving birth to 7,000 children, accounting for 33.1% of all live births.

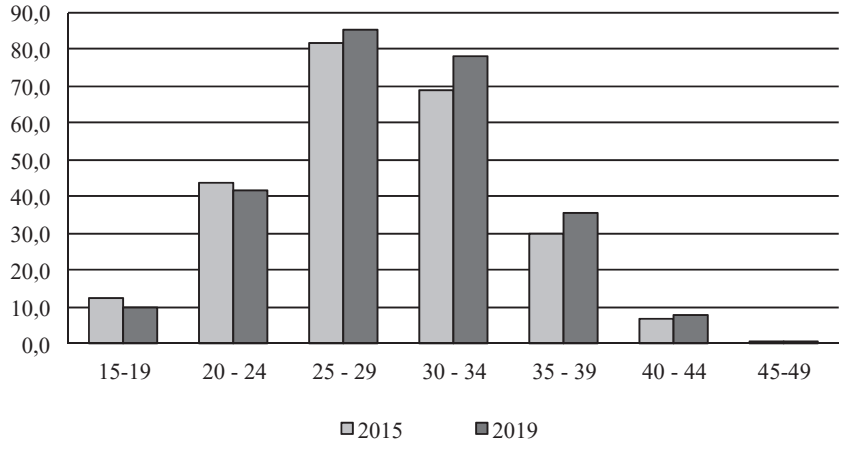

Figure 9. Fertility rates of women in EU border area
Source: own work.

In the analysed years of the border zone, the number of births gradually decreased while the number of deaths increased, therefore the value of **the demographic dynamics rate** (number of live births per 1 death in a given period) decreased from 0.9 in 2015 to 0.8 in 2019.

25.7 thousand people died in 2019, an increase of 2.4% compared to 2015. 13.4 thousand men died in the year in question, accounting for 52.0% of all deaths in the border area.

The mortality rate in the border areas was higher than in Poland and was 10.8‰ in 2019 (meaning that there were 10.8 deaths per 1,000 population), while in 2015 it was 10.4‰. In Poland, the number of deaths per 1,000 population amounted to 10.7 in 2019 and 10.3 in 2015. The number of deaths per 1,000 population in 2019 in the zone's urban areas was 10.1, which was lower than in rural areas by 1.6 pp. The highest death rate was recorded in 2019 in Hajnowski powiat at 16.3 and the lowest in Białystok at 8.7.

In 2019, the most recorded causes of death at the external border of the European Union in Poland were cardiovascular diseases, which accounted for 41.8% of the total number of deaths in the area and decreased by 3.9 pp compared to 2015. In the country, the share of people who died from cardiovascular diseases

was lower than in the border zone by 2.3 pp. The second highest cause of death in the analysed zone was cancer diseases, whose share decreased by 0.5 pp between 2015 and 2019 from 25.3% in 2015 to 24.8 in 2019.

There was an increase in the proportion of deaths due to respiratory diseases, which accounted for 6.4% of all deaths in 2019, up from 5.6% in 2015.

3. Population natural increase

The second factor, besides natural increase, with a significant impact on the population status is population migration. In 2019, at the external border of the European Union in Poland – as in previous years – the outflow of population (de-registrations from permanent residence) exceeded the inflow of population (registrations for permanent residence). In 2019, the outflow of population for permanent residence amounted to 33.5 thousand (in 2015 – 28.4 thousand), while the inflow – 25.9 thousand people (in 2015 – 21.8 thousand). The value of the negative permanent migration balance increased from minus 6,614 in 2015 to minus 7,605 in 2019. The main contribution to the negative migration balance of the border area in 2019 was from urban residents (minus 5,031), while for rural areas it was (minus 2,574).

In 2019, the migration balance ratio per 1,000 population reached minus 3.2‰ and was 0.5 pp higher compared to 2015 (in the country it was 0.2‰). A positive value of this rate in 2019 was recorded only in Białostocki powiat - 9.8. The worst situation was in Chełm (minus 8.9‰).

4. Population migrations

In 2019, 10,900 marriages took place in the studied area, accounting for 5.9% of the total number of contracted marriages in Poland. This represents a decrease from both 2018 and 2015 of 5.7% and 9.0% respectively. More marriages in 2019 were contracted in urban areas – 52.9%, and in the country 60.2%. In 2019, there were 4.6 marriages for every 1,000 population, 4.8 in 2018 and 5.0 in 2015. The marriage intensity rate for urban and rural areas was 4.5‰ and 4.7‰ respectively. Similarly, for the country it was 4.8‰ each for the total, urban and rural areas. The lowest value of the marriage rate per thousand population was recorded in 2019 in Przemyśl and Olecki powiat, 3.7‰ each, while the highest occurred in Lubaczowski powiat – 5.6‰.

In 2019, 4,149 divorces were pronounced in border powiats, accounting for 6.3% of all divorces recorded in the country. Compared to 2015, 1.6% more divorces were pronounced.

An indicator of the intensity of divorces is their number per 1,000 inhabitants. In 2019, its value in the border zone remained at 1.7‰ (2.2‰ in urban areas and

1.2‰ in rural areas). For comparison, in the country this indicator in 2019 was at the level of 1.7‰ (urban areas – 2.0‰, rural areas – 1.2‰).

Among powiats, the lowest value of the divorce intensity index was recorded in Łosicki powiat (0.9‰), the highest in Białystok – 2.6‰.

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