

THE ROLE OF INFORMATION IN PLANNING REGIONAL AND LOCAL DEVELOPMENT ON THE EXAMPLE OF DEMOGRAPHIC DATA

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Purpose: The purpose of the analysis is to demonstrate the potential impact of the shortcomings of public statistics collections in the field of application of demographic data to regional and local development planning.

Design/methodology/approach: Taking into account the importance of human capital for the development of modern economies, acquiring information that reflects the demographic reality seems to constitute one of the crucial aspects determining the quality of planning the development of territorial units. The use of indicators relating to the outdated number or structure of the population in the process of diagnosing the baseline situation may lead to incorrect determination of the competitive position of territorial units and to defining development objectives that are an inadequate match to real challenges and needs of the respective territorial unit. This results in the requirement to correct the data on the number of people available in official statistics with data on unregistered emigration or the use of alternative data sets, such as the social insurance records.

Findings: The use of this type of data within the framework of the conducted analysis rendered it possible to identify that the difference between the number of people, as determined on the basis of official registers, and the corrected population status, reaches 2.7-2.9 million people nationwide. Taking this fact into account causes effects in the form of an increase in the value of GDP per capita, both at the nationwide, and at regional scale.

Originality/value: Therefore, it can quite clearly change the assessment of their economic potential, putting them in a more advantageous competitive position compared to other EU regions or member states. Consequently, it creates a different starting point for both defining regional or local development objectives and planning public intervention in line with the theory of change.

Keywords: Regional and local development, strategic planning, theories of change.

Category of the paper: research paper.

Introduction

The importance of access to up-to-date and complete information as a factor preceding decision making connected with planned development is ever more frequently noticed in local government practice. This is evidenced, for example, by the frequent implications of the assumptions of the entrepreneurial discovery process (EDP) in strategic planning processes. Even though this process mainly concerns activities related to planning the development of entrepreneurship and supporting innovative development, as an activity it constitutes a perfect exemplification of the approach consisting in appreciating the importance of knowledge as a factor supporting decision-making. The role of the entrepreneurial discovery concept is to help maximize the entrepreneurial identification of new sources of growth, to ensure systematic observation, identification and evaluation of new business and technology trends, and to encourage companies to share market and technology knowledge with decision-makers (Gródek-Szostak, 2019). This means that the essence of the process is to source the maximum volume of information possible from the environment. At the same time, EDP is an integrative and interactive bottom-up process with participation of representatives from various environments (local government, business, universities, R&D units, social partners), generating information about potential new activities supporting the making or correcting decisions on development directions. This process is a method of conduct directed towards exploiting the potential of many stakeholders in regional development, and the purpose of the implementation of the EDP is to select the most promising areas for the development of the region in the future.

The basis for EDP, apart from the regular and open communication between the stakeholders of the region's economic development, is, however, access to current and, what is equally important, reliable and credible information. Without it, it proves difficult to assess in what direction and whether there are changes at all, foreseen for the respective public intervention. The concept of entrepreneurial discovery is particularly often implemented as part of regional innovation strategies (2030 Lower Silesian Innovation Strategy), but the importance of information manifests itself not only in the EDP. Access thereto is also important from the point of view of assessing the effects of public intervention. The consequence thereof is the inclusion, to the assessment processes of the effects of public intervention, of the concept of "theory-driven evaluation".

The underlying assumption of this model is that any public intervention is based on three types of theory: **base theories, implementation theories, and change theories** (Olejniczak, 2009). The base theories relate to the experience and knowledge of decision makers concerning the mechanisms, paradigms of development and factors causing positive socio-economic change. Based on these premises, they construct their judgment on the direction of the intervention and the rightness of its initiation, and then its implementation in the form of a sequence of technical activities and organization of work within a specific program.

These activities are undertaken with the intention of achieving a specific effect, resulting in the adoption, by the authors of the particular intervention, of a specific assumption about the cause-and-effect mechanism that will be triggered by the designed activities (Ledzion et al., 2014).



Figure 1. General logical diagram of public intervention planned in accordance with the assumptions of the theory of change. Own elaboration.

A manifestation of efforts aimed both at identification of the premises of a given intervention and at verification of the changes that occur as a result of its implementation, is found in the self-government administration taking actions to diagnose the initial or final (desired) situation. Strategic planning is therefore preceded by diagnoses, depending on the scope of the planned intervention, relating to the general socio-economic situation (e.g. for general development strategies) or concerning particular aspects thereof, e.g. innovative potential (for the needs of innovation strategies). The assessment of the effectiveness of an intervention is assessed by identifying changes that take place in the broadly understood socio-economic environment of a given area, including its competitive position. The selection of indicators will depend on the structure of a given intervention and – as the management practice in local government administration demonstrates – they will also be related to its objectives (2030 Lower Silesian Innovation Strategy; Development Strategy of the Greater Poland Voivodeship until 2030). These measures form part of a wider monitoring and evaluation system aimed at providing feedback on the degree of implementation of the actions planned in the respective strategy, the achievement of its goals and the changing needs of intervention.

The objective of the present article is to demonstrate the potential impact of the shortcomings of public statistics collections in the field of application of demographic data to regional and local development planning. Taking into account the importance of human capital for the development of modern economies, acquiring information that reflects the demographic reality seems to constitute one of the crucial aspects determining the quality of planning the development of territorial units. The use of indicators relating to the outdated number or structure of the population in the process of diagnosing the baseline situation may lead to incorrect determination of the competitive position of territorial units and to defining development objectives that are an inadequate match to real challenges and needs of the respective territorial unit.

Strategic planning of local and regional development

The individual towns or regions, based on their resources and needs, enter into competition on various levels, such as: investment attractiveness, development of transport infrastructure or shaping the standard of living of their residents.

In the context of resources it is necessary to recall the approach (Sekuła, 2008) according to which spatial units do not differ from enterprises in certain spheres of their operation. Both are focused on increasing operational efficiency and customer-oriented (this pertains to both internal and external customer) in creation of products and services. They use similar techniques and tools for influencing customers and operate under the conditions of competition. This observation leads to the issue of competitiveness, which – as is well known – has entered practically all areas of activity. This also relates to those areas that are by nature not focused on achieving economic effects, such as healthcare or the activities of non-profit organizations. The latter group also includes territorial units, the functioning of which is also not aimed at generating profits, although their activities, at least to some extent, are also determined by economic calculation¹.

Achieving the set development goals is very broadly conditioned, and the determinants of effectiveness in this area should be perceived both in the environment and the activities (properties) of local government administration. In the first context, the COVID-19 pandemic and the related limitations in economic activity, which significantly contributed to the slowdown in development processes, provide an excellent illustration. While the prospects for economic growth were generally positive until the beginning of 2020, in the subsequent months the situation changed. The progressive development of the SARS-CoV-2 epidemic meant that in many countries around the world the authorities decided to implement the so-called lockdowns, i.e. limitations of the manifestations of socio-economic life. This triggered negative economic effects that also affected the territorial units and their ability to meet previously planned development goals related to, for example, the development of entrepreneurship. Once we add the growing unemployment or a reduction in income to the budgets of local governments from PIT and CIT, which is not only the result of the pandemic, but also of the changes introduced in the tax ordinance (Bazylak et al., 2020) to this general picture, then the prospects for maintaining the effectiveness of local government actions in terms of creating

¹An indication of the importance of the economic calculation for the evaluation of the functioning of local government units is the application of the instrument called **Multiannual financial forecast (WPF)**. For local government units the WPF is an instrument of long-term financial planning. WPF includes the forecast of, among others such budgetary parameters of a local government unit as: *current income and current expenditure of the budget, income from assets and asset expenditure of the budget, budget result with an indication of the allocation of the surplus or the methods for financing the deficit, or budget revenues and expenses, taking into account the debt incurred and planned to be incurred*. Long-term financial forecasts are prepared pursuant to art. 230b of the acts of 27 August 2009 on public finance (Journal of Laws of 2019, item 869, as amended) and the Regulation of the Minister of Finance of 10 January 2013 on the long-term financial forecast for a local government unit (Journal of Laws of 2013, item 86, as amended).

conditions for achieving development goals at the level from the pre-pandemic period seem to be very challenging. The COVID-19 pandemic is evidently not the sole example of the impact of external conditions, but due to its topicality it seems to be an example worth mentioning.

In the context of internal conditions of the functioning of territorial units, it should be undoubtedly emphasized that effective administration takes place through efficient and effective management, which is the ability to respond quickly and effectively to the emerging social and economic challenges and apply the available knowledge and experience (Urbaniak). Such an approach is close to the managerial approach that emphasizes the importance of professional management, which has an impact on the improvement of the effectiveness of the functioning of public administration. In this approach, a qualitative improvement of management may occur through the absorption of market mechanisms and management methods and techniques that are widely applied in the private sector into the public sector, as well as the administration's focus on effectiveness, economic efficiency, quality and results orientation (*New Public Management*) (Młodzik, 2015).

Achievement of this type of effects proves impossible without access to information that reliably describes the socio-economic situation that is subject to activity in form of public intervention. A particularly significant role is played by current statistical data, which, on the one hand, enable planning interventions that are adequate to actual needs, and, on the other one also allow to evaluate its effects. This approach is in line with the assumptions of the increasingly popular approach in the field of *evidence-based policy* (EBP). This approach assists informed decisions about policies, programs and projects by bringing the best available research evidence to the heart of policy making and implementation (Davies, 2004). The context for the establishment of the EBP is the development of the concept of a knowledge-based economy, knowledge management, new public management and evaluation of public policies. All the aforesaid concepts have many common areas and concern the issues of information and knowledge in an organization (Józefowski, 2012).

The significance of demographic data in the application of base theories

The scope of data used both to identify development needs and to assess the impact of an intervention is, as already mentioned, wide and will depend on the scope of the planned intervention. It can refer to economic and social phenomena, but also to environmental protection and infrastructure. Demographic data may play a special role in this regard. Its importance in strategic planning processes results primarily from the fact that they can be applied both at the stage of initial diagnosis, and during verification of the effects of an intervention. In the first context, attention should be paid to the broadly understood role of human capital as a factor determining the competitive potential of regions in the conditions of

knowledge-based economy (KBE). KBE is a new economy based on the comprehensive use of knowledge and information, further characterized by the dominant share of the service sector in generating GDP and employment (Skrzypek, 2011). The role of knowledge and information, and therefore, indirectly, that of human capital, is also indicated by the approach of the Organization for Economic Co-operation and Development (OECD), according to which knowledge-based economy is one directly based on the creation, transfer (distribution) and use of knowledge and information.

Bearing in mind that development towards KBE remains a kind of necessity, the diagnoses in relation to human capital also acquire a basic character. In addition to qualitative diagnoses, related for example to the analysis of broadly understood competences, which are important, e.g., from the point of view of creating conditions for economic development, it is also important, or at least should be treated as such, to identify human capital resources in terms of quantity. This kind of information reflecting the actual condition of the said phenomenon is valuable for the identification of the competitive position, especially in those situations, where the measures are based on references to the population. This applies, for example, to statistical data presenting extracts of economic life conditions per population, such as GDP *per capita* or the number of entities entered in the REGON register (Polish statistical register of enterprises) per 10,000 population.

At this point, it is necessary to stress an important aspect related to the identification of the population number. What is publicly available, and applied to both the baseline diagnoses and evaluation of effects of public information are the data from Statistics Poland (GUS) that are recorded pursuant to official registers and IT systems of public administration. Therefore, they refer to the place of registered residence of a given person, while failing to take into account the actual place of their residence. This has important consequences, as the lack of legal consequences related to the failure to comply with the registration requirement² results in a situation of lack of unambiguous data on the distribution of the population. This can be linked, among others, with the phenomenon of foreign migration. It can be assumed that some people remain abroad for many years, often without plans to return. As long as they are still registered in the population records in Poland, they are included in the official statistics provided by Statistics Poland. As a consequence thereof, they thus appear in all types of registers forming the basis of all kinds of diagnoses undertaken for the purposes of designing (base theories) or

² Pursuant to art. 24 s. 1 of the Population Register Act, a Polish citizen residing on the territory of the Republic of Poland has the so-called registration obligation, which consists in: registering at the place of their permanent or temporary stay, de-registering of the place of permanent or temporary stay or reporting a trip outside the territory of the Republic of Poland and returning from a trip outside the territory of the Republic of Poland (such notification results in de-registration). Furthermore - in accordance with art. 36 of the aforesaid act, a Polish citizen who leaves the country with the intention to reside permanently outside the territory of the Republic of Poland is obliged to report his or her departure, which results in their de-registration from the place of permanent and temporary stay. In the case of departures without the intention of permanent residence, but still for a period longer than 6 months, they are obliged to report both their departure and return (Act of 24 September 2010 on population records, Journal of Laws of 2021 item 510, 1000).

evaluation (theories of change) of public interventions. When we perceive this issue through the prism of the category of building regional or local competitive potential on the basis of realistically available resources, we should remain aware that the use of this type of data carries the risk of incorrect inference about the actual state of the analyzed phenomena in the aforescribed context related to the human resources.

The aforescribed aspect of demographic data can be viewed in the context of population data from both the perspective of entire country and the individual regions. In both cases, the determinants of demographic processes are similar, although in the case of the regional perspective, internal (interregional) migrations play a greater role, whereas in the second, this is taken over by international migrations (apart from issues related to natural movement of the population, of course). Regardless of the spatial perspective, the use of data based on official registers may lead to an underestimation or overestimation of the population. This, in turn, renders a false image of the population potential of the affected area, and then influences the values of related factors, which produce the image of socio-economic life.

Rendering demographic data more realistic as a factor in verifying development potentials

The need for a cautious approach to demographic data and verification of the actual number of inhabitants was also noticed in the practice of regional development management. An example is the 2018-2019 project of the Opolskie Obserwatorium Terytorialne entitled *Programowanie działań minimalizujących skutki depopulacji na przykładzie województw: opolskiego, świętokrzyskiego i warmińsko-mazurskiego* [Programming activities minimizing the effects of depopulation on the example of the following voivodeships: Opolskie, Świętokrzyskie and Warmińsko-Mazurskie]. The project was implemented in partnership with the following voivodeships: Świętokrzyskie and Warmińsko-Mazurskie. Its objective was to outline, plan, estimate, develop and popularize ways to implement solutions (remedial actions) that minimize the effects of depopulation in the following voivodeships: Opolskie, Świętokrzyskie and Warmińsko-Mazurskie, in the perspective of 2030³. The implementation of the project was conditioned by the awareness of voivodeship self-governments – project partners, concerning the depopulation processes that they were at risk of. Therefore, it fitted the context of base theories by providing information required to plan public intervention aimed at counteracting depopulation and its socio-economic consequences. In addition, due to the fact

³ The project was commissioned by Opolskie Obserwatorium. The author of this article was also a participant thereof. The research work resulted in two diagnostic reports and a recommendation report for each of the regions covered by the analysis (voivodeships: Opolskie, Świętokrzyskie, Warmińsko-Mazurskie) – cf. <https://www.opolskie.pl/projekt-partnerski-programowanie-dzialan-minimalizujacych-skutki-depopulacji-na-przykladzie-wojewodztw-opolskiego-swietokrzyskiego-i-warmińsko-mazurskiego/>

that a recommendation component was included in the said study, the project also implemented the assumptions of the implementation theory (Fig. 1).

One of the elements of the study was to outline the initial situation of the regions subject to the analysis, both in terms of the current state and the forecast prospects related to population changes. For this purpose, the validity of forecasts elaborated by the Statistics Poland, with regard to changes in the population number, was verified. This process was carried out in two stages. In the first place, it was typically mathematical in nature and it boiled down to the development of an approach that could be applied at various levels of administration – i.e. at the national, as well as regional and local levels. The second stage, which took the issue of undeclared migration into account, was more significant. The issue of undeclared migration in the context of its significance for the estimation of the population number is dealt with on the basis of research and development (Jończy, 2014, Śleszyński, 2016).

As indicated in the preliminary report II prepared as part of the above-mentioned research project commissioned by the Opolskie Voivodeship, despite great difficulties in calculating the scale of the phenomenon of unregistered migration, it is possible to make estimates based on the results of other studies and supplementary data (e.g. the number of people covered by NHF insurance) (Bukowski et al.). The fact that a large group of people is not deregistered due to foreign emigration and that it is included in the statistics has two effects on the results of the elaborated demographic projections (Śleszyński, 2014). First, the baseline forecasts are overestimated in relation to the actual population. Secondly, the overestimate in population will have a correspondingly negative impact on the number and structure of demographic events in the future.

On the basis of these assumptions, as part of the aforementioned research project, a correction of the method of calculating the population number (including forecasts) was developed. The formula used to determine the adjusted population status at the voivodeship level is presented below:

$$\begin{aligned} \text{Skorygowany stan ludności } w &= \\ &= \text{ludność GUS } w - \frac{\text{liczba ubezpieczonych NFZ}_w - \text{ludność GUS}_w}{\text{liczba ubezpieczonych NFZ} - \text{ludność GUS}} \\ &\quad * \text{ emigracja nierejestrowana} \end{aligned}$$

where:

w – index denoting individual voivodships,

Skorygowany stan ludności w – population size including the phenomenon of unregistered emigration in the voivodeship *in* a given year,

Ludność GUS w – population according to GUS in the voivodeship *in* a given year,

Ludność GUS – population according to GUS in the country *in* a given year,

Liczba ubezpieczonych NFZ w – number of people insured in the National Health Fund in the voivodeship in a given year,

Liczba ubezpieczonych NFZ – the number of people insured in the National Health Fund in the country in a given year,

Unregistered emigration – the number of people staying outside the country for more than 12 months in a given year.

The presented approach to estimating the population is based on the use of two types of data: the number of people insured in the National Health Fund and the number of people staying outside the country for more than 12 months (the scale of the phenomenon of unregistered emigration). Data on international migrations comes from the Labour Force Survey (LFS – Polish acronym BAEL). The following assumptions were made for estimation of its scale:

- some 80% of people staying abroad for more than three months stay there for more than 12 months,
- 65% of this number will remain there permanently,
- we assume the number of 0.75 child per person (or 1.5 children per couple).

The most recent data provided by Statistics Poland on the scale of international migrations comes from 2019. For the purposes of the present analysis, we adopted the time period of 2017-2019, for which the scale of unregistered migration related to foreign migrations was calculated. It made it possible to calculate the population size adjusted for the phenomenon of unregistered emigration (Table 1).

Table 1.

Correction of population of Polish voivodeships, taking into account the phenomenon of unregistered migration

Voivodeship	Population status according to Statistics Poland (thousands)			Population status adjusted for the phenomenon of unregistered emigration (thousands)		
	2017	2018	2019	2017	2018	2019
Dolnośląskie	2902.55	2901.23	2900.16	2650.24	2661.73	2669.08
Kujawsko-pomorskie	2082.94	2077.78	2072.37	1910.34	1907.05	1898.58
Lubelskie	2126.32	2117.62	2108.27	1975.92	1967.92	1955.25
Lubuskie	1016.83	1014.55	1011.59	925.86	926.68	923.49
Łódzkie	2476.32	2466.32	2454.78	2331.24	2327.16	2319.65
Małopolskie	3391.38	3400.58	3410.90	3148.14	3168.43	3185.83
Mazowieckie	5384.62	5403.41	5423.17	5104.91	5142.62	5182.03
Opolskie	990.07	986.51	982.63	876.27	876.44	874.08
Podkarpackie	2129.14	2129.02	2127.16	1945.31	1947.06	1945.05
Podlaskie	1184.55	1181.53	1178.35	1079.72	1079.60	1076.84
Pomorskie	2324.25	2333.52	2343.93	2123.74	2141.80	2158.27
Śląskie	4548.18	4533.57	4517.64	4223.49	4216.62	4203.41
Świętokrzyskie	1247.73	1241.55	1233.96	1149.83	1145.01	1136.47
Warmińsko-mazurskie	1433.95	1428.98	1422.74	1288.54	1283.38	1274.82
Wielkopolskie	3489.21	3493.97	3498.73	3281.48	3296.86	3305.32
Zachodniopomorskie	1705.53	1701.03	1696.19	1529.53	1529.80	1527.40
Poland	38 433.57	38 411.17	38 382.6	35 544.56	35 618.16	35 635.58

Source: own elaboration based on the data of Statistics Poland and NFZ.

As can be seen, there is difference between the number of people determined on the basis of official registers and the population adjusted for the phenomenon of unregistered emigration, and this difference amounts to 2.7-2.9 million people nationwide. Obviously, unregistered emigration does not exhaust the spectrum of factors affecting regional differences between the actual population and the number determined on the basis of official registers. What is also significant in this context, are the unregistered interregional migrations, which significantly modify the number of people in the respective regions. The data on registered migration provided by Statistics Poland (GUS) show that the directions of interregional population flows are related to economic issues – migration flows are most strongly affected by relative wages, and outflow by the relative unemployment rate (Szczepaniak, Tokarski, 2018). We assume that we deal with similar conditions in the case of unregistered migration, as a result of which economically stronger regions will be characterized by a population greater than that indicated in official statistics, as well as adjusted population levels.

Consequences of the verified demographic situation for planning local and regional development

The effects of making the number of people living in a given area more realistic should be perceived very broadly. The socio-economic consequences that may occur depending on the changes in the population number can be traced in various development areas, such as:

- **labour market** – as migrations are currently one of the important factors of population decline/increase, therefore the areas experiencing the outflow of population are largely losing people of working age, which is accompanied by a rapid decline in the number of young people and a rapid increase in the percentage of seniors in the population structure, which in turn affects other areas, such as the healthcare system;
- **healthcare** – the main consequence of the processes of population decline and the accompanying changes in the age structure of the population is the need to change the profile of medical services provided in connection with the changing epidemiological situation, which is the result of the growing demand for health services related to the aging of the population;
- **social and family policies** – the main issues in the field of social and family policies, particularly in the areas experiencing an influx of new inhabitants in the result of migration, include the issues of access to educational (nurseries and kindergartens) and care infrastructure;

- **senior policy/silver economy** – linked with the outflow of people of working age towards more economically developed regions, results in the need to reshape the economic system towards the so-called silver economy. It takes into account the special consumption and lifestyle patterns of older generations;
- **education and higher education** – in this case the greatest impact of the outflow on the functioning of education and higher education in the case of the source areas for economic migrations will occur in relation to financial and organizational areas (e.g. resulting in the need to maintain school facilities with a decreasing number of children);
- **quality of life** – this is a very broadly interpreted aspect. Changes in the population size affect the consumption potential of an area, the attractiveness of the respective market for suppliers of certain specific goods and services, or the potential of the real estate market. They also require actions with regard to public transport connections (their liquidation or creation) or the availability of public services (educational, health and cultural establishments) (Bukowski et al.).

Each of the above-mentioned areas may be the subject of influence in the processes of regional or local development planning. The starting point for planning interventions in particular scopes remains, however, striving to identify real states in terms of demographic data (base theories – see Fig. 1). Apart from the applications in the area of regional or local potential diagnosis, the adjusted demographic data can also be used to assess the competitive position of the respective area. As aforementioned, it is particularly important in cases where the indicators are based on references to the population.

For the purposes of this article, we adopted the measure of gross domestic product per capita (GDP per capita). For this purpose, first, we recalculated the values of GDP per capita for the population adjusted for the phenomenon of unregistered emigration. As shown in Table 2, the value of this indicator increased by approximately EUR 800-900, which translated into an increase by one position in the ranking of EU countries. It is worth emphasizing, however, that in the case of the remaining countries, no adjustments were made to their populations. We should bear in mind that the migration processes are governed by similar rules as those referred to in the case of Polish regions. As a result, a significant part of the EU member states are migration destinations, being more economically attractive. In the result, their population may be actually larger than it results from official statistics, which may additionally lower the value of GDP per capita.

Table 2.

Value of GDP per capita for Poland, depending on the method of counting the population, and its ranking position among EU member states

	GDP per capita (euro)			Poland's position among the EU member states		
	2017	2018	2019	2017	2018	2019
For the population according to GUS data	12 309	13 109	14 052	24	24	24
For the population adjusted for the phenomenon of unregistered emigration	13 150	13 977	14 974	23	23	23

Source: own elaboration based on Eurostat data.

Table 3.

Ranking of voivodeships among EU regions according to per capita value of GDP

	prior to correction of their population		after population correction	
	2017	2018	2017	2018
Dolnośląskie	194	192	184	186
Kujawsko-pomorskie	218	218	217	217
Lubelskie	230	231	226	229
Lubuskie	216	217	214	213
Łódzkie	210	208	203	205
Małopolskie	212	209	204	206
Mazowieckie	162	160	156	156
Opolskie	219	219	215	214
Podkarpackie	229	228	223	224
Podlaskie	225	226	220	221
Pomorskie	207	204	197	197
Śląskie	198	197	195	193
Świętokrzyskie	227	225	222	222
Warmińsko-mazurskie	228	230	221	225
Wielkopolskie	195	194	190	192
Zachodniopomorskie	215	215	212	210

Source: own elaboration based on Eurostat data.

A similar procedure of determining the competitive position according to the value of GDP per capita was also performed in relation to Polish regions. Due to the relation of the GDP value to the corrected population number, their ranking position improved depending on the year and the voivodeship by up to 10 positions. Evidently we should bear in mind, again, that the population adjustment was made only in relation to Polish regions, nevertheless it demonstrates that it can quite clearly change the assessment of the economic potential of regions, putting them in a more favourable competitive position, and consequently creating a different starting point for planning public intervention.

Conclusions

The conducted analysis demonstrated that the issues of modifying the approach to population determination are or may be of significant importance in the context of regional and local development planning. Relying on official registers carries the consequences of underestimating or overestimating the number of people actually living in a given area (base theories), and this in turn causes errors in the development planning process, both in terms of tools for influencing socio-economic phenomena and processes (implementation theories), and the expected results (theories of change). Relying on official statistics is, nevertheless, treated as an obvious necessity, if only due to the availability of data. In doing so we should bear in mind that administration has tools available to make the data concerning the actual number of residents more realistic.

One of the possibilities is the approach proposed in this article based on the number of people insured in the National Health Fund and data on foreign migrations. This approach may be applied not only at the national or regional level, but also at the local level. In this case, the correction of the base population number for individual municipalities or poviats is performed in a proportional manner (weighted by the number of inhabitants in individual municipalities according to the Statistics Poland) (Bukowski et al.). Although these data do not take into account the effects of interregional migrations or – what is also significant at the level of municipalities and poviats – intra-regional migrations, they still render a more realistic picture of the demographic situation. Another method is to use the ZUS data concerning the number of insured persons (Śleszyński, 2011) or the registers of the National Electoral Commission (Bijak et al., 2007).

The aforementioned adjustment of the demographic situation is important in the context of development planning. The aspects of the impact of the population on the socio-economic life mentioned in the article (and it is worth adding that the presented set is not exhaustive) constitute potential areas that may be affected by public intervention. However, in order for this influence to be effective, it becomes indispensable to acquire knowledge that reflects the real picture of the initial situation. Only this renders it possible to define real directions of change and propose ways to achieve them.

References

1. Bazylak, M. et al. (2020). *Pomiędzy nadzwyczajnymi zadaniami a ograniczonymi możliwościami – samorząd terytorialny w czasie pandemii. Raport samorząd.* Retrieved from <https://oees.pl/raporty/>.
2. Bijak, J., Kicingier, A., Kupiszewski, M., (coop.) Śleszyński, P. (2007). Studium metodologiczne oszacowania rzeczywistej liczby ludności Warszawy. *CEFMR Working Papers*, z. 2. Warszawa: Środkowoeuropejskie Forum Badań Migracyjnych.
3. Bukowski, A., Piotrowski, M., Thlon, M., Roszka, W., Kluba, J., Marciniak-Piotrowska, M., Kowalczyk, A., Grudzień, K., Siewiera, K., Stawiarz, R., Maj, M., *Analiza przewidywanych konsekwencji sytuacji demograficznej w relacji do systemu społeczno-gospodarczego i układu przestrzennego badanych obszarów. Określenie scenariuszy rozwoju społeczno-gospodarczego i przestrzennego do 2030 roku (raport cząstkowy II)*, Retrived from https://www.opolskie.pl/wp-content/uploads/2018/09/Raport-cz%C4%85stkowy-II-opolskie_19_02_2020-OSTATECZNY.pdf.
4. Davies, P. (2004). *Is Evidence Based Government Possible?* Jerry Lee Lecture, 4th Annual Campbell Collaboration Colloquium. Washington, p. 3.
5. Dolnośląska Strategia Innowacji 2030 [the 2030 Lower Silesian Innovation Strategy].
6. Gródek-Szostak, Z. (2019). Proces przedsiębiorczego odkrywania jako formuła wspierania innowacji w przedsiębiorstwie – studium województwa małopolskiego. *Studia i Prace WNEiZ US*, Nr 55.
7. Jończy, A. (2014). Problem nierejestrowanej emigracji definitywnej (emigracji zawieszonyj) w badaniu procesów społeczno-gospodarczych na obszarach wiejskich. *Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu*.
8. Józefowski, B. (2012). Evidence-based policy – nowa koncepcja dotycząca starych problemów. *Zarządzanie Publiczne [Public Governance]*, Nr 1(19).
9. Ledzion, B., Olejniczak, K., Rok, J. (eds.) (2014). *Jak wzmocnić organizacyjne uczenie się w administracji rządowej*. Wydawnictwo Naukowe Scholar.
10. Młodzik, E. (2015). Założenia koncepcji New Public Management. *Zeszyty Naukowe Uniwersytetu Szczecińskiego. Współczesne Problemy Ekonomiczne. Globalizacja. Liberalizacja. Etyka*, Nr 11.
11. Olejniczak, K. (ed.) (2009). Praktyka ewaluacji efektów programów rozwoju regionalnego – studium porównawcze. *Raporty i Analizy EUROREG*, 2.
12. Sekuła, A. (2008). Marketing terytorialny. In: Z. Strzelecki (ed.), *Gospodarka regionalna i lokalna*. Warszawa: PWN.
13. Skrzypek, E. (2011). Gospodarka oparta na wiedzy i jej wyznaczniki. *Nierówności Społeczne a Wzrost Gospodarczy*, nr 23.

14. Strategia rozwoju województwa wielkopolskiego do 2030 roku [Development Strategy of the Greater Poland Voivodeship until 2030].
15. Szczepaniak, D., Tokarski, T. (2018). Ekonomiczne determinanty migracji międzywojewódzkich. *Wiadomości statystyczne, Nr 681*.
16. Śleszyński, P. (2014). Procesy suburbanizacji w Polsce a polityka przestrzenna i regionalna. In: A. Wolaniuk (ed.), *Centra i peryferie w okresie transformacji ustrojowej. XXVII Konwersatorium Wiedzy o Mieście*. Łódź: Wydawnictwo Uniwersytetu Łódzkiego.
17. Śleszyński, P. (2016). *Delimitacja miast średnich tracących funkcje społeczno-gospodarcze*. Opracowanie dla potrzeb Strategii na rzecz Odpowiedzialnego Rozwoju, Instytut Geografii i Przestrzennego Zagospodarowania PAN.
18. Urbaniak, B., *Dlaczego powinniśmy doskonalić jakość działania urzędów jednostek samorządu terytorialnego*. Poster retrieved from <https://docplayer.pl/14989994-Dlaczego-powinnismy-doskonalic-jakosc-dzialania-urzedow-jst-boguslawawa-urbaniak-uniwersytet-lodzki.html>.