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Interrelations between complexity of demographic policy instruments and investment attractiveness at local level – evidence from Poland

Abstract: This paper presents examples of complex instruments oriented toward improvement of demographic situation at local level, represented by communes (local regions in Poland), and identifies links between communes' investment attractiveness and the level of complexity of the demographic instruments they implement.

We performed a multilayer research on 16 communes in Poland. The research encompassed an analysis of communes' official documents, an electronic audit of their official website portals and Bulletins of Public Information, and structured surveys with official representatives of communes' authorities.

We identified significant differences in communes' approach toward preparation and implementation of instruments aimed at the improvement of local demographic variables. Those differences depend on the level of potential investment attractiveness represented by a given commune. We have distinguished communes which are leading, following, or performing moderately when it comes to giving importance to demographic challenges in public policy discourse.

Case studies presented in this paper and the proposed typology of communes constitute a rudimentary catalogue of possible communes' responses to demographic challenges. The presented tools can be used by the local authorities to raise the potential investment attractiveness of their region and support them in policy making.

JEL codes: H11, O38, J10, J18, J68

Key words: local development, competitiveness, demographic policy

Introduction

The objective of this paper is to present examples of complex instruments and types of activities oriented toward improvement of demographic situation at local level of territorial units represented by communes (local regions in Poland). In our article we identify links between communes' investment attractiveness and the number and level of complexity of the demographic instruments they implement.

Demographic economy studies indicate that in Poland, after 1989, public policy oriented toward support of demographic conditions, including support for families, has been fragmented and lacked structured and complex approach (Sobociński 2016). From governance point of view demographic policy is domain of the state. Since 1989 central government in Poland has implemented various regulations creating instruments of common character, incl. School Starter Kit (Decree on Detailed Conditions of Financing Support for Purchase of School Books and Didactic Material 2013), or Large Family Card (Large Family Card Act 2014). In parallel, smaller territorial units such as mesoregions and local regions have constructed and implemented their own, locally regulated and budgeted instruments and activities. In our research we would like to indicate that their implementation and availability correspond with potential investment attractiveness indicator of local regions, as measured by Warsaw School of Economics (Godlewska-Majkowska et al. 2011).

Within demographic economy discourse it is indicated that demographic factors are an inherent trigger of entrepreneurship and contribute to the development and wealth of places. It has been proved that people reaching a certain age threshold tend to lose interest in setting up new companies (Levasque, Minniti 2006). At the same time, long-term demographic changes are factors that impact the growth of countries' public debt (Kowalska 2013). For instance Japan, which public debt already belongs to one of the globally highest, is affected by the large scale demographic crisis. In 2014 Japan Policy Council published a report forecasting that 896 local territorial units will vanish, or will be severely depopulated due to the decline of birth-rate and outmigration (Kato 2014).

In context of above-mentioned implications, any endeavours which target at attracting and retaining young population and increasing activity of senior citizens seem particularly important. Especially in face of demographic downturn, which Central and Eastern Europe, including Poland, has been experiencing since 1990's (Ubareviciene et al. 2016).

In course of our studies we performed a multilayer research on 60 communes in Poland by using non-reactive research methods, including official local development strategies' analysis and electronic audit research of official website portals and Bulletins of Public Information of selected communes. Basing on results of non-reactive research methods, we created a survey questionnaire and interviewed 16 representatives of communes with diversified portfolio of demography-oriented instruments and activities, and representing different potential investment attractiveness.

In the “Literature review” section we present a review of international literature that covers the discourse related to the impact of demographic phenomena on economy, the strategies toward demographic challenges, and types of instruments and activities aiming to counteract demographic decline. Within the section authors provide examples ranging from Europe (Poland, Slovakia) to Asia (Japan).

In “Materials and methods” section we describe sample selection and methodology of the research, which was conducted in Poland in 2016.

In “Results and discussion” section we provide a synthesis of the research deriving from both quantitative and qualitative research methods and techniques, present original form of typology of communes based on their approach toward construction and implementation of demography-oriented instruments. The paper concludes with implications of the study for the economic and public sector practice and with indication of fields for further research.

Literature review

Demography as a strategic policy issue in the Polish context

From the economic perspective, the long-term, unfavourable changes in demographic structure impact the growth of public debt stronger than short-term declines of economic activity. Subject literature indicates that in order to decrease the growth of public debt a set of structural reforms is needed, including reforms that prevent negative effects of society’s ageing. The demographic projections till 2050 clearly show that the process of ageing will have a negative effect on public debt deficit also in emerging economies. In the most developed economies, such as Germany or United States, the level of public debt in 2050 might reach the value of 400% of GDP (Kowalska 2013).

In Poland, on country level, since 1989, the demographic policy has been lacking structured, complex, and holistic approach (Sobociński 2016). Except several financial instruments of an universal character, available for families countrywide and distributed by the local regions, the regions are not obliged to implement additional instruments or activities.

As the countrywide instruments, the central government implemented in 2006 a national baby bonus of PLN 1,000 value paid once on occasion of a baby delivery, and in 2013 a School Starter Kit, which provides financial support for purchase of school books and didactic materials for children in families that fall under predefined income threshold.

In current political and development contexts, the demographic policy plays vital role in development of Poland. Since the last parliamentary elections in 2015 and the formation of new governing coalition, the demographic factors has been given a particular focus and has been outlined as one of key factors in the development strategy of the country. Since the elections, a national child benefit of PLN 500 paid monthly to parents for every second and next child in the family

up to the age of 25 has been implemented. Current parliamentary works focus on the creation of incentives enabling young couples to purchase their first home. Dedicated residential housing policy instruments included subsidies of state to mortgage loans offered by banks available upon fulfilment of defined criteria related to income and real estate prices (e.g. Family on its Own Programme, House for Young Programme). Also Strategy for Sustainable Development, which sets key direction for development of Poland, identifies demographic trends and their implications as the core of long-term development challenges.

Recent population forecast for Poland predicted the decrease in number of population from 38.42 mln in 2015 to 33.95 mln in 2050 (Central Statistical Office 2014). This means that Polish population downfall from 2015 till 2050 is to exceed approx. 4.5 mln.

As countrywide instruments can be effective only to some extent, and demographic challenges differ among local regions, we recognize a need in supplementing the existing literature with examples of instruments prepared and implemented by smaller territorial units. It depends on local regions how they approach demographic trends, what promise of a location they create, and how they distinguish in competing for development resources by doing so.

Complex demographic policy instruments to counter depopulation and increase quality of life of families, youth, and elderly

Depending on the degree of demographic changes and their implications, territorial units can undertake one of three common approaches toward tackling demographic phenomena: passive acknowledgment and monitoring of demographic changes, active adaptation to ongoing and forecasted changes, and active counteraction toward identified demographic changes.

Each of these strategies require a different set of resources and their organization. Cost-effective approach of acknowledgment and monitoring of demographic changes is implemented by the majority of territorial units which apply a strategic planning approach to their development, and are not yet severely affected by the negative demographic trends. An example of such approach implemented by a country is Slovak Republic, which is considered as not mobilizing and not maximizing its potential toward depopulation processes taking place in the country (Bucek, Bleha 2012).

Cost intensive approach of adaptation to ongoing and forecasted changes is implemented by territorial units already affected by demographic trends, and in need of transformation due to this fact. We observed such approach in Japan, where small territorial units surrounded by local development centres consisting of bigger territorial units, promote the concept of compact territorial units, and invest in transportation network and tighter interrelations with bigger territorial units. Such approach is oriented toward a maximized utilization of economic resources, and also toward an increase of quality of life of inhabitants of small territorial units, incl. the elderly (Kato 2014). Active adaptation also relates to

the *urban conversion* and *smart shrinking* concepts, which concentrate on reallocation and effective utilization of owned development resources (Pallagst 2012).

By contrast, the approach based on the counteraction principle requires structuring and implementing a set of public intervention instruments, which aim to change unfavourable demographic trends. Such instruments consist of financial and non-financial ones, and in order to be effective they need to be implemented together, and in close coordination. An example of such approach can be found in one mesoregion (NUTS-2) in Poland, in Opolskie Voivodeship.

In context of insufficient regional development, the ongoing depopulation process, and demographic forecasts indicating further depopulation, Opolskie Voivodeship has structured and is currently implementing a project of the Special Demographic Zone with budget totalling up to EUR 250 mln (Goleński 2015). The complex and holistic approach of Opolskie Voivodeship consists of four pillars of instruments and activities designed for different demographic groups, all of which had been identified as crucial for regional growth and development. Pillar no. 1 consists of instruments maximizing security of occupational activities of youth and women in order to minimize job-seeking-related migrations. Pillar no. 2 contains instruments adjusting local educational offer to requirements of regional job market to maximize chances for youth to find a job in the region and to retain them in Opolskie Voivodeship. Pillar no. 3 is focused on the creation of nurseries and kindergartens to enable occupational activity of parents, including women in particular. Pillar no. 4 aims to attract and retain the elderly in Opolskie Voivodeship. Instruments belonging to this pillar are focused on support of occupational activity of elderly, as well as creation of an unique offer of spending free time (Rajchel 2015).

The literature indicates that an implementation of active, cost-intensive, counteracting approaches toward demographic trends have limited possibilities due to its natural, resources-required constraints. It is expected that in Poland no other region beside Opolskie Voivodeship will structure and implement such a complex, cost-intensive approach, especially in context of unavailability of additional, external funds, which Opolskie Voivodeship secured in the first place (Rauziński, Szczygielski 2014).

In that context we ask the question whether and how the complex approach toward counteracting unfavourable demographic trends can be structured and implemented by territorial units of smaller scale, represented by communes, Polish local regions (NUTS V).

In our view an implementation of complex, demographic-trends-oriented instruments by local regions can contribute to the increase of their potential investment attractiveness and result in attracting and retaining new inhabitants. From that perspective, we find it is vital to identify complex instruments and activities of Polish communes and to provide benchmarks and examples of best practises for other territorial units, which aspire to improve their potential investment attractiveness and demographic status in the long term.

Material and methods

The increasing importance of local level as a reference point to development and implementation of tailored socio-economic policy is reflected well in the subject literature. It is often argued that the local level is emerging as the key spatial dimension where development instruments apply (OECD 2013). Thus, we decided to adopt the NUTS V level territorial unit, according to the classification system of spatial hierarchy in the European Union, as a basic spatial unit of analysis in our research. In Poland, the primary territorial units, in administrative terms, are represented by 2479 local regions (BDL GUS 2016), so called communes. We made an underlying assumption that, as communes constitutes the smallest self-government units, they are institutionally closest to understand, analyse, and respond to local society's needs.

Our research sample of communes has been chosen with a multilayer selection. We decided to opt for a semi-purposeful selection of communes to find those with high probability of facing demographic challenges. An intrinsic assumption was that the communes in difficult demographic situation may have had applied complex and far-reaching instruments to counteract the encountered problems of a demographic nature.

As we had intended to link the level of communes' investment attractiveness with the extent of demographic instruments they utilise, we used the potential investment attractiveness indicator to disaggregate the total population of Polish communes into subcategories of investment attractiveness classes. The indicator in question has been developed in Warsaw School of Economics by a team of researchers. The methodology of its calculation has been thoroughly described in the subject literature (e.g. Godlewska-Majkowska 2013).

In accordance with this methodology, the level of potential investment attractiveness of a given spatial unit is determined basing on a number of sub-indices, aggregated in so-called microclimates. There are 5 microclimates calculated to determine the level of potential investment attractiveness: human resources, technical infrastructure, social infrastructure, market, and administrative ones (Godlewska, Pilewicz 2020). Consequently, the degree of variation in the average level of total potential investment attractiveness, based on these microclimates, is presented by a synthetic indicator of the potential investment attractiveness (PAI1). All communes have been classified into 6 classes of total potential investment attractiveness, ranging from the most (class A) to the least attractive (class F). In this paper we used the synthetic PAI1 index based on public statistics of 31st December 2014.

Accordingly, we decided to base our research sample on communes which represent the lowest values in the human resources microclimate and represent the respective potential attractiveness classes (A to F). The human resources microclimate has been used as a key proxy that describes and values the quality, quantity, and structure of the local population, both in terms of their general characteristics and their labour market potential. The 8 statistical components of this microclimate include: the demographic dependency ratio (i.e. the percent-

age of population in non-productive age per 100 persons in productive age); the economic activity rate (i.e. the number of working persons per 100 persons in productive age); the balance of permanent internal migration per 1,000 inhabitants; the balance of external migration per 1,000 inhabitants; the population of post-productive age per 100 persons in pre-productive age; the percentage of population in pre-productive age; the expenditures on education and upbringing; the expenditure on culture and national heritage protection. The human resources microclimate is expressed as the weighted average of those detailed indexes. Parallely to the PAI1 indicator, all the Polish communes were being ranked from representing the highest (class A) to the lowest (class F) human resource microclimate class.

We constructed our research sample by selecting 10 communes representing the lowest values of human resources microclimate (taking into account the lowest weighted average figure) in each of the consecutive investment attractiveness classes they represented. Consequently, our research sample has been selected on 12th of August 2016 and included 60 communes (see Table 1).

It has to be pointed out, as deduced from the data in Table 1, that all communes in the selected sample represented classes E or F of human resource mi-

Table 1. Research sample of Polish communes with the lowest human resource microclimate in their investment attractiveness classes from A to F (n=60)

INVESTMENT ATTRACTIVENESS CLASS					
Class A	Class B	Class C	Class D	Class E	Class F
1. Szczecin (F)	11. Narewka (F)	21. Białowieża (F)	31. Orla (F)	41. Kleszczole (F)	51. Dubicze Cerkiewne (F)
2. Poznań (F)	12. Hel (E)	22. Baranów (F)	32. Gorzków (F)	42. Narew (F)	52. Czyże (F)
3. Bydgoszcz (F)	13. Łądek-Zdrój (E)	23. Poręba (F)	33. Mielnik (F)	43. Boćki (F)	53. Bielsk Podlaski (F)
4. Ciecchocinek (F)	14. Nysa (E)	24. Nowe Miasto nad Pilicą (F)	34. Michałowo (F)	44. Tucznaj (F)	54. Milejczyce (F)
5. Łódź (F)	15. Krasnostaw (E)	25. Wąchock (F)	35. Czeremcha (F)	45. Sterdyń (F)	55. Nurzec-Stacja (F)
6. Koszalin (F)	16. Prudnik (E)	26. Sarnaki (F)	36. Podedworze (F)	46. Wysokie (F)	56. Szudziałowo (F)
7. Stargard (F)	17. Główno (E)	27. Obrazów (F)	37. Rokitno (F)	47. Brańsk (F)	57. Chrzanów (F)
8. Zgorzelec (F)	18. Borne Sulinowo (E)	28. Trzyciąż (F)	38. Gródek (F)	48. Ruda Maleniecka (F)	58. Turobin (F)
9. Puławy (F)	19. Ogrodzieniec (E)	29. Rejowiec (F)	39. Kodeń (F)	49. Hajnówka (F)	59. Rudnik (F)
10. Bytom (F)	20. Stronie Śląskie (E)	30. Kije (F)	40. Drohiczyn (F)	50. Mircze (F)	60. Przesmyki (F)

(x) – human resource microclimate class

Source: own elaboration based on research sample selection criteria and Central Statistic Office of Poland data as of 31st December 2014.

croclimate, even though their total potential investment attractiveness was highly differentiated.

As already mentioned, the desk research we carried out in order to prepare the questionnaire addressed to communes encompassed an analysis of their official documents in the form of local development strategies and an electronic audit of their official website portals and Bulletins of Public Information. The reactive research method applied in this study involved a structured questionnaire, which has been sent on 18th August 2016 via an electronic mail to the official e-mail addresses of the selected communes with an invitation to participate in the research. The electronic message contained the questionnaire and a cover letter explaining the goal of the research and introducing the research leading institution. By 20th September 2016 we have received back 16 correctly filled questionnaires, what results in the survey response rate accounted for 26.7%. We have received the total of 114 correctly filled questionnaire pages. Table 2 presents detailed information on 16 surveyed communes in reference to the respective microclimates' classes they were classified in.

Table 2. Research sample of Polish communes with the lowest human resource microclimate in their investment attractiveness classes from A to F (n=60)

ID	Commune	Commune type	Voivodeship	MICROCLIMATES					
				PAI 1	Human resources	Technical infrastructure	Social infrastructure	Market	Administration
1	Szczecin	urban	zachodniopomorskie	A	F	A	F	A	B
2	Poznań	urban	wielkopolskie	A	F	A	B	A	B
3	Łódź	urban	łódzkie	A	F	A	F	A	C
4	Koszalin	urban	zachodniopomorskie	A	F	A	D	A	C
5	Stargard	urban	zachodniopomorskie	A	F	A	F	A	C
6	Bytom	urban	śląskie	A	F	A	F	A	C
7	Nysa	urban-rural	opolskie	B	E	A	E	B	D
8	Krasnystaw	urban	lubelskie	B	E	A	A	B	D
9	Poręba	urban	śląskie	C	F	B	B	B	D
10	Rejowiec	rural	lubelskie	C	F	D	C	D	A
11	Kije	rural	świętokrzyskie	C	F	D	E	D	B
12	Gródek	rural	podlaskie	D	F	D	A	C	E
13	Boćki	rural	podlaskie	E	F	E	C	F	D
14	Brańsk	rural	podlaskie	E	F	E	F	F	A
15	Dubicze Cerkiewne	rural	podlaskie	F	F	E	A	E	D
16	Turobin	rural	lubelskie	F	F	E	D	F	F

Source: own elaboration based on carried out research and Central Statistic Office of Poland data as of 31st December 2014.

Among the surveyed communes 8 represented urban areas, 7 – rural ones, and only 1 the urban-rural subpopulation (Nysa). In all cases urban communes were representing higher PAI 1 levels than rural communes. More specifically, among the researched entities there were 6 communes representing A class of potential investment attractiveness and 2 representing class B. This means that the most attractive communes were overrepresented in the final research sample and more eager to take part in the survey. At the same time, only Nysa and Krasnystaw belonged to the E class in terms of the human resource microclimate. All the other communes represented the lowest value of this index (class F).

It can be derived from the data in table 2 that the technical infrastructure and market microclimates seem to be corresponding well with the PAI 1 indices in the whole sample, whereas substantial differences between microclimate class and PAI 1 were noted in case of social infrastructure and administration indices. For instance, communes of highest level of PAI 1 score recorded the lowest values on social infrastructure dimension (inter alia Szczecin, Łódź), while communes of low level of PAI 1 score recorded the highest values (inter alia Dubicze Cerkiewne, Gródek).

Figure 1 presents the geopolitical location of 16 researched communes. They were located in 8 Polish voivodeships: podlaskie (4), lubelskie (3), zachodniopomorskie (3), śląskie (2), łódzkie (1), opolskie (1), świętokrzyskie (1), and wielkopolskie (1).



Fig. 1. Location of surveyed communes (n=16)
Source: own elaboration based on carried-out research.

In the Table 3 we presented selected economic and demographic characteristics of surveyed communes, which allow to better understand their current socio-economic situation.

Firstly, it has to be noted that the communes in question differ significantly in size. In the sample there were very populous, urban areas playing the role of regional centres of economic and social activity (e.g. Szczecin, Poznań), as well as very small, rural, often peripheral areas with underdeveloped infrastructure (e.g. Boćki, Brańsk). In 2015, with the exception of Stargard, they all experienced population decline.

Table 3. Selected characteristics of surveyed communes (n=16)

ID	Commune	2015								
		Population number	Population growth	Entrepreneurship indicator*	Unemployment**	Demographic dependency ratio***	Population of post-productive age per 100 persons in pre-productive age	Economic activity rate****	Internal migration*****	External migration*****
	POLAND	38 437 239	-25,613	1743.3	6.5	58.80	105.20	56.20	0.00	-15 750
1	Szczecin	405,657	-879	1134.8	17.3	59.72	141.60	42.56	0.75	-420
2	Poznań	542,348	-148	1878.3	2.6	60.65	140.48	69.37	-2.77	-370
3	Łódź	700,982	-4,415	1203.5	5.9	64.63	176.40	54.01	-1.72	-212
4	Koszalin	107,970	-181	2854.8	4.5	61.32	143.33	47.00	0.56	-229
5	Stargard	68,670	28	5631.7	10.5	57.52	117.21	33.66	-1.65	-212
6	Bytom	170,761	-724	1292.5	5.7	59.00	132.84	28.06	-3.07	-225
7	Nysa	57,710	-239	1349.5	3.1	58.27	140.13	33.07	-1.64	-33
8	Krasnystaw	19,116	-58	637.1	9.3	58.77	111.59	11.06	-0.79	-4
9	Poręba	8,675	-50	1077.8	3.8	61.78	141.05	16.61	-1.02	0
10	Rejowiec	6,596	-46	1051.3	7.9	61.09	106.60	8.53	-4.41	2
11	Kije	4,492	-34	822.3	6.7	62.22	129.41	10.33	-0.22	5
12	Gródek	5,408	-66	1563.5	5.9	67.62	170.66	23.95	0.72	0
13	Boćki	4,528	-55	885.4	10.8	80.07	180.58	7.00	0.00	1
14	Brańsk	5,958	-55	695.3	5.8	70.83	136.20	6.26	-5.11	1
15	Dubicze Cerkiewne	1,601	-33	841.4	10.6	111.11	431.25	11.37	-11.03	2
16	Turobin	6,414	-58	940.4	5.5	73.99	186.86	6.00	-4.31	2

* – economic entities per 10,000 inhabitants in productive age

** – share of registered unemployed in the productive age population

*** – percentage of population in non-productive age per 100 persons in productive age

**** – number of working persons per 100 persons in productive age

***** – balance of internal migration per 1,000 inhabitants

***** – balance of external migration per 1,000 inhabitants

Source: own elaboration based on carried out research and Central Statistic Office of Poland data as of 31st December 2014.

Although, the surveyed communes represent very low levels of economic activity (with the exception of Poznań and Łódź), they are still highly differentiated in terms of their economic situation and potential. In 2014 in communes like Turobin, Brańsk, Boćki or Rejowiec the economic activity rate, as defined in Table 3, accounted for less than 10%. Poznań, Nysa and Poręba are characterised by very low levels of unemployment, while in 2015 in Szczecin the share of registered unemployed in the productive age population accounted for 17.3%, with the country average of 6.5%. In the same year, the entrepreneurship indicator (as defined in Table 3) in Stargard exceeded more than three times the country average of 1743, whereas in communes like Kransystaw or Brańsk this indicator was more than 2,5 times lower than the country average. In some communes the low levels of entrepreneurship result from the uncondusive geographical or natural factors. For instance, more than 50% of Dubicze Cerkiewne commune is covered by different forms of natural protection, e.g. protected landscape, nature reserves, Białowieża Forest. For this reason, the legal constraints discourage potential investors from settling within the commune, as the investment process there is far more complex and time-consuming.

The demographic situation also varies among the researched communes. For instance, the demographic dependency ratio (as defined in Table 3) in three surveyed communes was still lower than the country average of 58.8%, namely in: Stargard, Nysa and Krasnystaw. The commune of Rejowiec represented the youngest commune in the sample with the share of population in consecutive age brackets being on Poland's average level. At the same time, in Dubicze Cerkiewne the indicator of demographic dependency amounted to the astonishingly high level of 111.1%. It has to be underlined that Dubicze Cerkiewne has the oldest population structure countrywide, with 42.3% of population in post-productive age and only 9.7% in pre-productive age, while the respective figures for Poland were 19.6%, and 18.0%. In the subject literature, if the percentage of the elderly (defined as 65+) amounts to at least 30% of total population, it is referred to as 'demographic point of no return'. This means that the area has no endogenous capacity for further survival (Casavola, 2014). Communes like Boćki or Turobin were also close to reach this unwelcomed threshold. In 2015 the share of the post-productive age population in those communes accounted for 28.6% and 28.0%, respectively.

The research questionnaire entitled "Polish communes – demographic determinants", addressed to the communes contained 14 questions. We were enquiring the communes if they had a strategy (or a plan) of local socio-economic development; what are their key challenges in terms of socio-economic policy; do they acknowledge the demographic threats and, if so, what priority is given to them in the local strategic planning.

Furthermore, we were interested to know what actions, programmes, or instruments (if any) had the commune implemented in order to influence the local demographic variables (in particular: to boost the fertility rate, to activate the elderly, to improve the migration balance). We have also asked the communes to indicate, if there were any social groups in a need of special self-government's

support in the context of local demographic situation; what those groups are (if any); why they are important; and what actions, programmes, or instruments did the commune implement to support them.

More detailed questions referred to the ways of communication to local society about countrywide and voivodeship-wide demographic policy instruments. In case of countrywide instruments, we were particularly interested to know, if the availability of the Large Family Card implemented to the Polish legal system in 2014 (Large Family Card Act 2014) and the School Starter Kit implemented in 2013 (Decree on Detailed Conditions of Financing Support for Purchase of School Books and Didactic Material 2013), both financed from the central budget, has been communicated by a given commune to their inhabitants. The first instrument entitles multi-member families (with at least three children up to 18- or 25-years-old if they are studying), irrespectively of their income level, to a set of discounts on various goods and services. The other instrument provides a financial support for purchase of school books and other didactic materials for children in poorer families.

Finally, we were inquiring if there have been special advisory boards established by the commune's council (e.g. youth, seniors, entrepreneurs), and if the representatives of a given commune encountered the notion of the Special Demographic Zone phenomenon, and if they can give an example of a commune, voivodeship, or other unit that has been involved in developing or implementing it.

Results and discussion

Demography issues among other socio-economic problems at communes' level

It is to be pointed out that among surveyed communes only two did not have a strategy or plan of local development in place (i.e. Poręba and Dubicze Cerkiewne). At the same time only one commune, namely Szczecin, did not indicate depopulation as one of the major development threats (see: Fig. 2). It has to be also noted that the depopulation process has been defined broadly in the research questionnaire as the decrease in the number of inhabitants of the community resulting from e.g. low fertility rates, population aging, or internal and external emigration.

Surveyed communes sought the greatest challenges for the socio-economic local policy also in the faulty labour market (e.g. high unemployment rates, low economic activity), in the underdevelopment of technical infrastructure (e.g. roads, airports, water supply and sewage, Internet networks), in the education curricula which do not match the labour market requirements, as well as in the requirements of environmental protection. Other indicated in the research challenges, like the shortages of human capital or the underdevelopment of social infrastructure (e.g. kindergartens, schools, medical points), were named rarely and should be perceived as commune-specific.

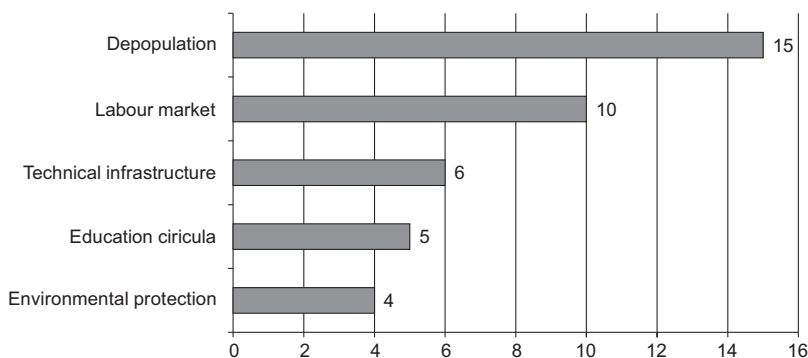


Fig. 2. The greatest challenges of commune's socio-economic policy * (n=16)

* - multiple answers allowed

Source: own elaboration based on carried-out research.

For instance, the already mentioned Szczecin recognizes as its greatest policy challenge those aspect of family protection policy which are connected with the provision of care for children under the age of 3 and with the support for the elderly. The commune may have a point here, as the Spanish studies showed that the increase of the share of children attending nurseries by 1 percent point, results in the probability raise of woman having a baby of about 5%. Moreover, Norwegian studies led to a conclusion that a gradual increase in the share of children attending nurseries and kindergartens from 0% to 60% results in an increase of the total fertility rate of 0.5–0.7 child per woman (Baranowska-Rataj, Matysiak 2012).

In the context of commune-specific development issues identified, Stargard complained greatly about their inadequate municipal housing resources, Nysa about the lack of a key strategic investor guaranteeing a substantial number of stable jobs at the local labour market, and Bytom about the insufficient quantity and quality of local jobs, poverty, low living standards, addictions, homelessness, and parental incapacity of families.

However, if asked to name the one greatest development challenge of a given commune, as many as 8 of them (one in two communes) pointed strictly on the depopulation phenomenon, while Brańsk indicated both depopulation and underdevelopment of technical infrastructure. Bytom, Krasnystaw and Gródek see their greatest development challenge in the faulty labour market. Miscellaneous communes pointed out commune-specific factors, as described above, with Nysa also stressing the depopulation factor and Koszalin describing a set of interrelated threats like educational curricula, low human capital, and underdeveloped technical infrastructure.

The earlier studies showed that whereas the regional self-governments are aware of demographic challenges, the local authorities' awareness is meagre (OECD 2013). This was not the case of communes in our research sample. Generally, the depopulation processes were acknowledged and perceived as very important by each and every commune. In spite of the PA11 class (when A-B vs.

C-F classes were compared), the average score of the importance of this threat (on the scale from 1 to 10) was 8. Łódź and Gródek comprehend depopulation processes as of greatest importance for their development, and awarded them the maximum of 10 points in terms of their importance.

At the same time, the knowledge of demographic issues at the country level may be accessed as unsatisfactory, as almost 1 in 3 surveyed communes were unfamiliar with the notion of the Special Demographic Zone, which is one of the most comprehensive and innovative strategic policy instruments, implemented in 2012 in the Opolskie Voivodeship.

Nevertheless, the communes recognised the problem of society aging and its consequences. The following quotes confirm the importance of the elderly dimension of family policy to communes: "The growing population of elderly people, mainly resulting from the lengthening of life expectancy, requires the intensification of activities for the elderly and dependent, including active and broad inclusion of these groups of people in the life of the local community. Due to the constant increase in the number of seniors we will take steps to activate them, to encourage the development of their passion (...), to stimulate them to go out, to become involved in commune's life. (...) Activities are aimed at the widest possible way to reach seniors and reach intergenerational agreement." (Nysa). Especially, in rural and peripheral communes (e.g. Dubicze Cerkiewne, Rejowiec) the emigration due to economic factors of people in productive age resulted in the exceptionally difficult situation of the remaining elderly: "Seniors are one of the largest and yet most vulnerable groups living in our commune. These are people living alone, diseased, often 'forgotten' by the closest family, retired farmers, railroad workers, employees of a few professions, who for most of their lives worked hard to support their families. This generation (...) is associated with the most difficult period in the Polish history. They went through a tragic period of the Second World War and the difficult post-war period. On their shoulders was the burden of Poland's reconstruction from the devastation (...), despite the widespread obligations to the state (mandatory deliveries, progressive taxes, collectivization, etc.). Therefore, now this social group deserves respect and support from the commune." (Dubicze Cerkiewne). In the light of the fact that the aging process is common and inevitable (Central Statistical Office of Poland 2014), the level of commune's awareness on the issue should be welcomed with approval.

Surveyed communes were also asked to name the social groups requiring special support from the community in the context of the local demographic situation and projections. Still, only 4 communes were able to clearly name no more than two such groups. In particular, Kransystaw mentioned the unemployed and clients of the social welfare, Dubicze Cerkiewne – the elderly and nascent entrepreneurs, Gródek – clients of the social welfare and Rejowiec – the elderly. However, some communes specified that clients of social welfare constitute also a diverse group, which include the unemployed, dysfunctional, and incapacitated families, as well as seniors dwelling in the commune's peripheries who are in a need of provision of dedicated care and medical services in the place of residence.

The other communes referred to 3–9 different social groups as being in need of special actions undertaken by the commune. Both Koszalin and Poręba mentioned as many as 9 such groups. Still, in their survey Koszalin particularly stressed the detrimental position of the disabled on the local labour market. Communes like Łódź, Brańsk or Dubicze Cerkiewne stressed that at least two social groups are of great importance for their strategies, namely the elderly and citizens planning to create new enterprises. Indeed, as the society aging process has a detrimental effect on the aggregated entrepreneurship levels (Le'vesquea, Minniti 2006, Lamotte, Colovic 2013), both policy areas are interrelated.

However, as seen in Figure 3, in the opinion of majority of respondents, predominantly the elderly are in special need of implementation of tailored policy instruments and actions. The other most important social groups are clients of social welfare, large and young families (defined as families with small kids or planning to have them), nascent entrepreneurs, and the unemployed. Among social groups specified as “others” were family members of persons with disabilities, e.g. elderly parents (Koszalin), and the homeless who require special help due to the multifaceted aspects of their social and economic exclusion (Stargard).

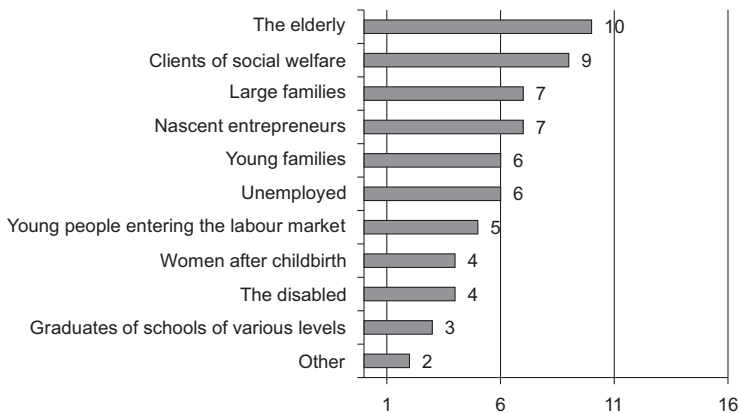


Fig. 3. Social groups in need of commune's special support * (n=16)

* – multiple answers allowed

Source: own elaboration based on carried out research.

It is worth mentioning that in many communes Social Integration Centres are seen as a key partner institution to tackle problems of disadvantaged social groups (e.g. Stargard, Krasnystaw), whose activity concentrate on social and vocational inclusion of those groups.

As mentioned before, the demographic issues bothering consecutive communes are often of different nature. Therefore, the social groups considered as the most important may vary substantially. For instance, the population decline in the city of Poznań is accompanied by the constant population growth of the Poznański Powiat (powiat is NUTS IV level in Poland), and the Poznań agglomeration as a whole (including the city of Poznań and 17 neighbouring communes

and cities) is growing. In Poznań, outmigration is currently the only source of population demise, but in 2/3 of cases internal migrants settle down in the Poznań agglomeration. The majority of them still studies or works in Poznań. The main reasons for outmigration include more favourable economic conditions (lower land prices) for the development of housing, the attractive natural environment, and the relatively good communication networks with the city. At the same time the city is connected to the World Health Organization Aging Friendly Cities network and recognised for their devotion for supporting the elderly. Not to mention, that the Wielkopolskie Voivodeship was among the first in Poland to introduce the policy on the ageing population (Klimczuk 2015). Still, special instruments have been developed to support large families, regardless of their income level (PRO family program), and women returning to the labour market after childbirth. On the contrary, Łódź agglomeration is recognised for their low settlement attractiveness and the migration policy plans assume to attract the labour market participants and citizens from abroad. Therefore, the most important policy areas include the increase of the attractiveness of the housing offer.

Communes' types in terms of demographic instrument's complexity and types of tools aimed at different subpopulations

In course of our studies we identified that the potential attractiveness of communes corresponds with the complexity of their approach toward demographic problems, including identification and acknowledgement of demographical challenges, as well as preparation and implementation of instruments and activities counteracting them. As a result of our analysis we proposed a typology of leading, following, and moderately performing communes in relation to the approach they represented.

In forming our classification we took into account criteria, such as the acknowledgement of demographic challenges in the local development strategy, together with the indication of instruments counteracting them, and the number and complexity of instruments and activities being implemented to counteract demographic challenges. Due to our research sample selection method, all of communes we investigated were objectively facing human resources microclimate related challenges.

In our classification all communes classified as leaders acknowledged demographic challenges they are facing and indicated adequate instruments to counteract them in their local development strategies. As a result of survey's analysis, we recognized that the number of instruments they were implementing and their complexity were above the average in the whole research sample. Communes we classified as followers also acknowledged the demographic challenges they are facing, however, only part of them indicated the adequate instruments to counteract them in their local development strategies. As a result of surveys analysis, we recognized that these communes were implementing instruments in the average number and of average complexity. Communes we classified as moderate performers lacked both acknowledgement and examples of any instruments aiming to counteract demographic challenges in their development strategies. As result of survey analysis, we recognized that number of instruments they were imple-

menting was medium, however, their complexity was low. We present proposed typology together with examples of communes in Table 4.

Table 4. Typology of communes in context of counteracting demographic challenges

Criteria distinguishing communes in typology proposed	Leader	Follower	Moderate Performer
Acknowledgement of demographic challenges in local development strategy	Acknowledgement was expressed in all communes in the sample	Acknowledgment was expressed in all communes in the sample	Acknowledgement was not expressed in any commune in the sample
Indication of instruments counteracting demographic challenges in local development strategy	Instruments were indicated in all communes in the sample	Instruments were indicated in part of communes in the sample	Instruments were not indicated in any commune in the sample
Number of instruments and activities being implemented to counteract demographic challenges	High	Medium	Medium
Complexity of instruments and activities being implemented to counteract demographic challenges	High	Medium	Low
Examples of communes and their potential investment attractiveness (PAI 1)	Bytom (A), Koszalin (A), Łódź (A), Poznań (A), Stargard Szczeciński(A), Szczecin (A), Krasnystaw (B), Nysa (B)	Poręba (C), Boćki (E)	Kije (C), Rejowiec (C), Gródek (D), Brańsk (E), Dubicze Cerkiewne (F), Turobin (F)

Source: own elaboration basing on the electronic audit research ,analysis of local development strategies of communes and surveys with representatives of authorities of researched communes.

Leading communes were distinguished by instruments and activities they were implementing with relation to strategic planning, governance, financial instruments and non-financial instruments oriented to counteract demographic challenges. As other categories of communes can derive from this practices, we present below the most important findings.

- **Practices of leaders related to strategic planning in demographic challenges context:**
 - **Acknowledgement of demographic challenges in local development strategy.** All leading type communes performed a thorough population trends analysis relating to natural movement of their populations with particular attention to birth rates and migrations. They presented these analyses in their official local development strategies, expressed awareness, and indicated implications of challenges they need to face. What is also important, all strategies of leading communes were up-to-date at the moment of research performed. An exceptional example of strategic planning in our research sample was recognized in Łódź, which at the moment of

our research was preparing dedicated strategic document in form of Łódź Demographic Policy.

- **Indication of instruments and activities planned to counteract demographic challenges in local development strategy.** Distinguished leaders were linking the acknowledged demographic challenges with wider local development context. Szczecin recognized the need to stimulate a dedicated market of services for seniors, including their education, to attract and retain their population. Poznań and Stargard decided to direct their social policy instruments toward deeper support of families and the elderly.

Łódź recognized the need to link depopulation and ageing of their inhabitants with local spatial policy and education policy. Koszalin in order to cease depopulation indicated a need of strategic partnership with local tertiary education institutions to create offer aiming to attract and retain new inhabitants. Bytom as a countermeasure toward depopulation indicated a continuous need of increasing investment attractiveness and tightening relationship with business and education sector. Nysa recognized the necessity to position depopulation as the core for offering social, educational, and cultural services.

- **Practices related to governance in demographic challenges context:**
 - In course of our research we recognized that leading communes empower and include in the decision making process groups affected by the unfavourable demographic trends. Leading communes organize and implement participatory democracy model, enabling their inhabitants to actively impact local policy making and implementation of instruments and activities adequate to their needs. This specific governance model aiming at counteracting demographic challenges is one of the strongest distinguishers of leaders from followers and moderate performers. For example, Bytom and Krasnystaw led Elderly Councils, Łódź led Youth Council, Elderly Council, and also Families and Parenting Council.
 - Koszalin and Nysa led Youth Council, Elderly Council, and Economic Council – all of which represented local inhabitants and had official advisory role to local authorities. One of the most interesting governance structures was identified in Poznań, which led Multi-member Family Council and had official Plenipotentiary of the Multi-member Families appointed by the city's president to actively represent interests of multi-member families to the local authorities.
- **Practices related to financial instruments in demographic challenges context:**
 - Leading communes structured and has been implementing instruments financed from local budgets, which were supplementary to the country-wide solutions available to all communes in Poland in form of national baby bonus, national child benefit and School Starter Kit. The importance and urgency of counteracting unfavourable demographic trends resulted in preparation and implementation of numerous additional instruments impacting financial situation of their target groups.

- Locally regulated and financed child benefits were implemented in Szczecin, Koszalin, and Nysa.
- Poznań exempted from fees for public kindergartens all families with four or more children.
- Poznań and Łódź were implementing local scholarships for children and youth.
- Bytom, Poznań, Łódź, Koszalin, Stargard, and Nysa were implementing local Large Family Cards or Senior Cards, which enabled their holders to purchase numerous goods and services at discounted prizes.
- Bytom offered preferential conditions for young couples applying for real estates that belonged to the city. Also Nysa offered program called Nysa – Place to Live, which was enabling young couples to purchase housing lots within the city area on preferential conditions.
- Koszalin was leading locally financed competition for young entrepreneurs with attractive financial prizes. The winners were obliged to set up and lead an economic activity in the commune. Winners were also provided with trainings focused on creating and leading economic activity. Łódź founded and led a local program supporting creation of micro companies, including start-ups.
- **Practices related to non-financial instruments in demographic challenges context:**
 - We recognized that leading communes offered non-financial instruments and activities for the groups affected by demographic challenges, which were directly related to their social conditions.
 - Nysa run University of Third Age promoting life-long learning among the elderly. Stargard organized active forms of spending free time by seniors in form of dancing festivals. Koszalin organized dedicated educational workshops for the elderly.
 - Łódź offered a program enabling to exchange the big apartments that the elderly lived in for smaller ones to increase their comfort of living and decrease their living costs. The program constitutes an official part of housing policy of Łódź, and each preceding is advised and monitored by local Elderly Council in Łódź. Stargard prepared supported housing policy for seniors, which provided the elderly with discount on renting city-owned apartments adjusted to the their needs and supervised by volunteers supporting the elderly in their daily activities.
 - Poznań implemented a system enabling the elderly to request support in routine maintenance works, such as repair of a dripping tap. Łódź and Koszalin led initiatives aiming to increase safety of the elderly in form of so called Box of Life, which promotes the concept of securing all necessary medicaments of an elderly person together with instructions relating to its dosage in one place in case of emergency and need to supply these medicaments by third party.
 - Łódź developed and promoted volunteering focused on supporting the elderly in their everyday situations.

- Leading communes prepared and implemented territorial products focused on attracting and retaining new inhabitants, for example, Youth in Łódź Program related to complex activities of authorities promoting studying and working in Łódź.

What distinguished leading communes was the importance of demographic challenges in their strategic planning and in the governance dimension, and also the implementation of a number of complex instruments and activities, which belonged to both cost-effective and cost-intensive types. It is worth noticing that, in terms of securing financing for implementation of depopulation-oriented instruments and activities, leading communes successfully recognized external sources, and applied and secured external funding in form of subsidies, including subsidies from the European Social Fund, which had been available in Poland in 2014–2020 programming period. Such financing enabled to structure and implement family-oriented instruments e.g. in Bytom.

Conclusions

In the course of our research we found out that the local unfavourable demographic factors were of high or very high importance to all communes in our research sample. What is significant, the importance given to those factors has not been dependant on commune's level of potential investment attractiveness. Moreover, the depopulation process has been declaratively perceived as an important strategic issue and a socio-economic policy challenge by the majority of researched entities, among other issues, such as: the faulty labour market, the underdevelopment of technical infrastructure, the education curricula which do not match the labour market requirements or environmental protection issues. It also has to be pointed out that the demographic processes are often commune-specific. In some communes the negative birth ratios are of biggest concerns, in the other – the outmigration. Still, as the aging process is far-reaching and universal, the elderly are perceived as a social group in special need of implementation of tailored policy instruments and actions by the vast majority of local regions in Poland. In aggregate terms the other most important social groups in this context are: clients of social welfare, large and young families (defined as families with small kids or planning to have them), nascent entrepreneurs, and the unemployed.

However, we found out that the positioning of demographic issues in the local strategic planning and the assigned local budgets, the number of financial and non-financial demographic instruments and their complexity, as well as the functioning governance models might be related to the level of potential investment attractiveness (PAI1) of a given commune. Due to limited sample size our research findings need to be treated as early ones and require further investigations to prove their scientific strengths.

As a result of research conducted authors formulate the following hypotheses for further research recommended:

H1: The higher PAI1 index (potential investment attractiveness of area), the more often the demographical challenges are identified and included in local strategic planning.

H2: The higher PAI1 the higher the number of demographic policy instruments available at local level.

Basing on author's observations typology of leading, following and moderately performing communes in relation to their approach toward counteracting demographic issues might be useful in practical applications of local demographic policy instruments.

The best practices of leading communes relating to strategic planning, governance, financial and non-financial instruments presented in the article might be applicable in local demographic policy planning context.

Our research comprised both non-reactive and reactive research methods. We performed literature review, electronic audit, analysis of strategic documents of communes and direct surveys with representatives of commune's authorities. Our research's limitations require following with further studies on representative samples as well as including evaluation aspects related to public policy instruments analysed.

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Zależności pomiędzy złożonością instrumentów polityki demograficznej a atrakcyjnością inwestycyjną na poziomie lokalnym – przykłady z Polski

Zarys treści: Artykuł charakteryzuje przykłady kompleksowych instrumentów poprawiania sytuacji demograficznej na poziomie lokalnym, tj. w gminach, i wskazuje na możliwe zależności pomiędzy stopniem złożoności stosowanych instrumentów polityki demograficznej a potencjalną atrakcyjnością inwestycyjną gmin.

Zaprezentowano w nim wyniki badania zrealizowanego w 16 gminach metodą analizy oficjalnych dokumentów urzędowych, audytu elektronicznego oficjalnych portali internetowych gmin oraz sondażu techniką ankiety elektronicznej przedstawicieli urzędów gmin.

Wskazano różnice w podejściu gmin do przygotowywania i wdrażania instrumentów polityki demograficznej w powiązaniu z ich potencjalną atrakcyjnością inwestycyjną. Autorzy artykułu zaproponowali typologię gmin związaną z nadawaniem przez gminy charakteru priorytetowego kwestiom demograficznym oraz liczbie i jakości wdrażanych instrumentów polityki demograficznej.

Przedstawione przykłady i zaproponowana typologia mogą być użyteczna w sferze gospodarki realnej i dyskursie na poziomie lokalnym dotyczącym formułowania odpowiedzi na wyzwania demograficzne oraz na rzecz podnoszenia potencjalnej atrakcyjności inwestycyjnej i przyciągania zasobów rozwojowych do gmin.

Słowa kluczowe: rozwój lokalny, konkurencyjność, polityka demograficzna