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DEMOGRAPHIC PROCESSES IN POLAND IN THE YEARS 1946-2016 AND THEIR CONSEQUENCES FOR LOCAL DEVELOPMENT: CURRENT STATE AND RESEARCH PERSPECTIVES

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Abstract

The article presents the main topics and evolution of scholars' views on the impact of demographic phenomena and processes on broadly understood local development in Poland. The seventy-year post-war period (1946-2016) was examined. First, three categories of demographic changes were identified and analysed: (1) demographic development and population concentration (2) depopulation processes and (3) population ageing. Next, the impact of these changes on socio-economic development, mainly on a local scale, was established. The following topics were taken into account: social insurance system, labour markets, consumer demand, demand for public services, impact of population change on local spatial development and planning, and local government public finance.

Key words

demographic processes • local development • urbanisation • depopulation • population ageing

Introduction: formulation of the problem, research assumptions and objectives

The crux of the links between demographic change and local development (as well as development in general) usually lies in the strong dependence of most economic processes on quantity and quality of human capital. People operate in space using their

own knowledge and experience, and that of the society of their functioning. This is why demographic changes and their consequences on various spatial levels are a subject of study in many scientific disciplines: socio-economic geography, economics, sociology, spatial management and urbanism, and even the natural sciences (environmental impact of population concentration or depopulation). It is possible to distinguish six groups of issues

significant for local development, in which logically connected cause-consequence relationships with demographic change occur (Śleszyński 2010):

1. Functioning of social, health and elderly care systems, whose functioning varies in different parts of the country (e.g. the old regional healthcare funds functioning in the years 1997-2003) The nature of the impact lies in differences in levels of income and spending necessary to maintain a given system in different regions.
2. Permanent and circular migration, especially of highly-qualified workers, which cause redistribution of broadly understood human and social capital.
3. Shaping of supply-demand (im) balance on local labour markets, and thus impact for instance on directions and ranges of commuting.
4. Differentiation of individual consumer demand for particular consumer goods. This is related to the fact that individual socio-demographic categories distinguished on the basis of age structure, sex, professional status, ethnic and cultural features, etc., have differing needs and means for satisfying those needs.
5. Effectiveness of land development related to average costs, i.e. especially concentration and dispersion of settlement, that is to say differences in costs of providing services to different territorial socio-economic systems, both market and public.
6. Local (local government) economy—tax income from persons and entities in a given area, expenditure structure, e.g. for social welfare etc., spatial management balance.

Against this background two basic objectives of this article may be distinguished: methodological and cognitive. The methodological objectives consist in an attempt to identify and systematise the links between demographic change and local development. The cognitive objectives concern a survey of the literature on the subject after World War II, i.e. over the last 70 years, and a review and summary of the results of research con-

ducted from different scientific perspectives (mainly geographical, economic and sociological). The aim is thus to attempt to identify the impact of demographic change on broadly understood functioning of society and economy, and to indicate possible interactions related to the demographic changes now under way. An attempt has also been made to identify the main themes raised by scholars and to follow the evolution of views and opinions on the consequences of demographic processes, particularly depopulation, and their influence on the debate about local development planning.

A map showing the typology of demographic processes, mainly depopulation processes in a uniform (unified) commune (gmina) entities in the 1960-2011 period, makes a worthwhile supplement to the present article (Wiśniewski et al. 2016).

Demographic processes in Poland: changes in population numbers and distribution, and demographic population ageing

For a long time in post-war Poland constant population growth was observed, which was the result of high natural increase. Demographic development was actually perceived as the main factor of economic development. On the local level, depopulation occurred with varying intensity even in the period of dynamic demographic development of the country (Eberhardt 1989; Rosner 2012), but concerned mainly peripheral border areas, and almost never towns (Kantor-Pietraga 2014).

However, the outflow from agriculturally backward rural areas was not in some of them compensated by births, even immediately after the war, when strong compensatory growth was noted. On the basis of data aggregated by communes, in the inter-census period 1950-1960 an absolute decrease in population caused by a negative migration balance and sometimes birth to death ratio was noted on 13.7% of Polish territory;

in the period 1961-1970, on 32.4%; in the period 1971-1978, the figure rose to 58.8%, and was 44.0% the period 1979-1988 (Śleszyński 2016b; the last figure is, however, an underestimate due to the significant unregistered foreign emigration. It was migration that was to the greatest extent responsible for the depopulation process on the local and regional scale.

These changes also influenced transformations of the population age structure, particularly on a local scale. The whole post-war period is characterised by a systematic growth in the elderly population ratio, that is the share of elderly (60 years and over) in society. Irrespective of the method for measuring the process (either using traditional measures, i.e. chronological age, or alternative measures taking into account for instance also the changing mortality conditions, health status and quality of life—see Rosset 1967; Calot & Sardon 1999; Cieślak 2004; Kot & Kurkiewicz 2004; Sanderson & Scherbov 2010) the modern Polish population should be considered old. According to Rosset's (1967) classification, it had already reached old status by the end of the 1960s (elderly population ratio of 12.3%). The migrations mentioned determine to a large extent the rate of changes in the population age structure: inflow areas are characterised by population rejuvenation, and outflow areas are subject to accelerated population ageing. At the same time, feedback that is very negative for reproduction occurs, as the ageing population loses its chance of recovery as a result of decrease in number (outflow) of reproductive aged persons.

The fall of communism in 1989 started major socio-economic transformations, consisting in the transition from command to market economy. Because Poland entered the process with the ballast of a severe economic crisis in the 1980s, the existing developmental disproportions were aggravated, contributing to further polarisation of the country (Węclawowicz et al. 2006), also in terms of demographics. With the

start of systemic and economic changes, a notable slowdown in the country's demographic development took place. In the first period of the transition this resulted mainly from changes in fertility patterns described by the concept of the second demographic transformation. This process was also characteristic of other Central and Eastern European countries going through a socio-economic transformation (Kurek 2011).

The second factor seriously weakening demographic development after 1990 was the strong increase in foreign migration (Kupiszewski 2006). This was caused by a number of reasons, and in the first period especially by the economic crisis and lack of developmental perspectives in Poland, particularly for young, mobile persons. Migration intensified particularly after ca. 2000 when a real perspective appeared for Poland's EU entry in 2004. Because emigration concerns mainly persons of reproductive age, this directly contributes to a low level of births in the country. But also for this reason it may be assumed that the fertility rate calculated for women really living in the country is slightly more advantageous (by around 15-20%, thus oscillating around 1.5). Failure to take into account the real numbers of inhabitants and their structure also negatively affects the reliability of existing demographic forecasts. This consists in overestimating the entry point by 1.0-1.5 persons (50-75%) from a population of around 1.8 million residing 'temporarily' for >12 months abroad according to Economic Activity of the Population (BAEL) survey, overestimating fertility and overestimating the number of births (ca. 1.5-2.5 million people) (Śleszyński 2014a; Fihel 2015). And thus the depopulation of the country estimated by the Central Statistical Office of Poland (GUS) at 4.5 million people in the years 2014-2050 may be 2-4 million higher and even cause the population of Poland to even fall beneath 30 million in this period, that is the 1960 level.

To summarise, dynamic demographic development in Poland was noted in the

years of the Polish People's Republic, after which a transition occurred from a progressive to a stable and then regressive type of development of demographic processes and structures. Eberhardt (2014) judges that after the fall of communism the transformation from the third to the fourth stage of population development occurred pursuant to the theory of the second demographic transition.

Impact of demographic processes

Social security system

On the national scale, the population ageing process will most impact the social security system. The burden arising from the growth of the share of beneficiaries of the social insurance system and lengthening of the period in which they collect pensions will increase. The diminishing number of working persons 'supporting' non-working persons will result in the decrease of funds received by the state budget (from natural persons) and the social insurance system (contributions). A potential increase in the budget deficit as a result of compensation for deficits in the social insurance system may therefore cause national public debt to rise (Baran 1982; Frątczak 1988; Pleśniak 2014). Consequently, it is necessary to take corrective action as regards the principles of financing, adequate to the dynamic demographic situation (Zieliński 2012). Simulations carried out by Bijak et al. (2008) and Podogrodzka (2011) showed that the most effective remedy for protecting social security systems from financial collapse is to increase a population's economic activity, which is easiest to achieve by raising retirement age.

Meanwhile, an opposite trend could be observed in Poland, namely economic deactivation of persons of productive non-mobile age, which was the effect of, among others, state intervention in labour market functioning (quantitative shaping of labour resources e.g. through the possibility of earlier retirement). Having the perspective of being

made redundant, many people treated the possibility of earlier retirement benefits as an 'escape' from unemployment, especially during the peak of the unemployment problem at the end of the pre-accession period.

The state will also be responsible for guaranteeing an adequate level of care and medical service provision. Potential difficulties in ensuring an adequate level of geriatric care result from a deficit of staff at the academic (education) and service levels (Klimczuk 2014) in a situation where the number of persons of post-productive age is increasing, with a rapidly growing 'oldest old' population (Frątczak 1988; Szukalski 2009).

Allocation of labour resources and migration

According to classic concepts explaining migration, migration flows are subject to 'push' and 'pull' factors. In this case the stimulators are the differences in socio-economic development levels between source and target areas, and thus as a direct function, in living conditions and wages, and differences in unemployment levels (Jasiulewicz 1995; Jończy 2010). Hence the impact of migration on local development is twofold: through concentration (in the shape of inflow) and deconcentration (in the shape of outflow) of varied labour resources.

Activation of regions industrialised after World War II and population increase therefore functioned as an accelerator for further developmental processes in those regions. At the same time, however, strong industrialisation of the country deepened differences in living conditions between town and country, contributing to outflow of young, enterprising and talented people from rural areas. Women migrated more often, contributing to disturbance in the balance at marrying and reproductive age. A study identifying an example of this phenomenon around 2000 indicated (Węclawowicz et al. 2006) that in several dozen communes

in the eastern part of the country there were under 85 women per 100 men aged 18-39.

Migration outflow was present especially in the smallest villages, contributing to deformation of their demographic structures. Depopulation through migration caused by an outflow of young people from rural areas impacted the population age structure directly and in the most significant way, leading to accelerated population ageing (Kurek 2007; Wiśniewski et al. 2016) and to changes in the sex structure, particularly among young adults (Kupiszewski 1992). This made family formation difficult, and consequently lowered natural increase (Szukalski 2015). In Śleszyński's (2006a) studies in the Poniżanie area (Świętokrzyskie voivodship) a pattern consisting in a rise in the share of post-productive age population and shrinking of rural localities was identified. When post-war migration policy was formulated, consisting in the cutback of agrarian overpopulation of rural areas, it actually remained unnoticed that constant population outflow has not only a quantitative character, but also a structural one. It leads to depopulation of many localities and aggravation of existing demographic structure deformation, which is reflected in the continuing process of population.

As a result of the internal movement of population to towns, migration has become the primary factor in the development of urbanisation (Korcelli 1987). However, the urbanisation of the country was defective, based almost solely on the development of industry, the service sphere remaining underdeveloped. Consequently it was not possible to satisfy many social and consumer needs.

As a result of migration outflow and more broadly, changes in mobility, **shifts were observed in the functioning of families and family ties**. In the post-war period, attention was drawn to the destructive impact of **distant commutes** (Cegielski 1974) on family life. Daily long-distance movement was identified also for

the year 2006, particularly on the Warsaw market (Śleszyński 2013a).

Outflow of young people or people with higher education may lead to stagnation in **technical and technological progress** and deceleration of new technology absorption, and thus, of modernisation of local economies (Jagielski 1984). An additional danger of depopulation results from the fact that the remaining population is characterised by decreased social activity and a low level of economic activity.

Mobility of the population caused new, separate households to be formed and thus increased housing needs (Andrzejewski 1968). This is why migration level is a good predictor of estimates of future housing demand on local markets, e.g. in individual communes.

Similar effects on the micro scale result from the building of large new housing estates. Settling migrants of a similar age in newly built estates had the outcome of deforming age structures (Jelonek 1981). Varying demand appeared for services whose satisfaction required institutional form, e.g. building crèches, schools, medical centres, etc. As the baby booms and drops in the birth rate moved through time, this demand underwent changes. In different periods deficits of one type and excesses of another type of service could appear, causing an additional investment burden (Secomski 1984).

From the perspective of contemporary local demographic and economic development of Poland, the topic of constant worker mobility in the form of circular and permanent migration particularly concerns individuals with higher than average qualifications, as well as more entrepreneurial or dynamic individuals, who are not afraid to leave their former places of residence for a better life and career options. This is a different situation than in the 1950s, 60s and 70s, when aggressive industrialisation of the previously backward country entailed migration of poorly qualified workers from the country to towns. While migration of well-educated

persons also took place, for instance due to the needs of the growing 'class' of officials and through social advancement, it was only a fraction of typical worker migration.

Meanwhile, in developed regions a concentration of the resources of potential highly-qualified workers took place. After 1990 particularly the largest cities such as Warsaw, Tricity, Poznań, Wrocław and Kraków were especially 'driven' by a constant inflow of young, qualified personnel, which contributed to a large extent to their development, as such personnel ensured both better productivity at work, and broadly understood creativity and innovativeness.

In Poland at the turn of the 21st century a growth in labour resources defined as the number of productive age population occurred as a result of labour market entry of birth cohorts from the baby boom of the second half of the 1970s and first half of the 1980s. The greatest increases were recorded in suburban zones (Śleszyński 2013b), which is primarily related to the processes of suburbanisation and migration of these birth cohorts to these zones (Potrykowska & Śleszyński 1999).

Emigration usually contributed to a fall in unemployment in outflow areas (Jończy 2006; Heffner 2012b). It caused potential labour resources to decrease, changed their spatial distribution and led to a fall in demand for various investment goods and services, and also for labour. Because of this last factor it did not always lead to a reduction in the number of unemployed. A different type of unemployment-related problem appeared, however: lack of supply in certain niche professions or professions requiring specific qualifications (Szukalski 2015). The negative impact of depopulation occurring due to selective migration outflow also included a fall in entrepreneurship levels and more broadly, in human and social capital (Anacka et al. 2014). This is because not only the young, but also the most driven and enterprising people left.

Suburbanisation and commuting

Not only does population inflow to suburban zones influence demographic structures and further reproductive potential of the population: it also leads to an increase in the intensity of commutes. This is currently an increasingly serious social, engineering and environmental problem. First, worker mobility is growing, which is reflected in data registered after 1990 only partly. In 1973 2.8 million people (18% of the employed) commuted outside their commune of residence, in 1978, 3.4 million (20%), in 1983, 3.0 million (17%), in 1988, 3.5 million (20%), in 2006, 2.9 million (20-22%) and in 2011, 3.1 million (33%). An increase of the spatial reach of commutes is visible in comparison to the 1980s, and sometimes also to the 1970s, especially in poorly-urbanised regions such as Podlasie, Pomorze Zachodnie, Warmia and Mazury (Śleszyński 2014b). Generally this should be interpreted in the context of modernisation (including the post-1989 transformation) and defective urbanisation: departure from the agricultural nature of regional labour markets without adequate migration from country to town, with no workplaces outside agriculture being simultaneously created.

The strong increase in worker mobility after 1990 is one of the most characteristic transformation processes and has an exceptionally strong impact on local development. This has been described in detail elsewhere (Śleszyński 2010, 2013b; Wiśniewski 2013; Kurek et al. 2015). Work outside the locality of residence provides an income to support the family, but at the same time it means higher economic costs for local and regional socio-economic systems, lost time and destruction of family life. Annual financial losses for households due to overly distant commutes were estimated at around PLN 30 billion in 2006 (Kowalewski et al. 2014). The results of uncoordinated, chaotic development of suburban zones include serious environmental damage, greater congestion due to individual car traffic (public transport is unable to effectively connect the increas-

ingly dispersed settlements) and growing spatial chaos: urbanistic, functional, etc. (Śleszyński et al. 2018).

The issue of concentration of socio-economic potential within urban agglomerations is also related to the metropolisation process. This process means further marginalisation not only of peripheral regions, but also of towns located on lower levels of the administrative and settlement hierarchy and their resource bases, mainly through the backwash effect and taking over of their functions. For example detailed studies based on the 2002 national census reveal the creation of concentrically placed areas around metropolises, particularly Warsaw (so-called metropolis shadow), within a distance of 100-150 km, with a very low share of residents with higher education due not so much to low motivation to pursue education, but to emigration of persons with higher educational aspirations to the capital. Thus population concentration in metropolises not only has a quantitative dimension, it also has a qualitative dimension connected to the classic 'brain drain'.

Consumer and investment demand

One very important and often underestimated element related to changes in distribution and structure of the population is demand for specific consumer and investment goods. Obviously a fall in population size lowers the absolute sizes of such demand. Meanwhile demographic changes, particularly as regards age structure, cause a very deep transformation of demand structure. Family households with small children have a completely different market basket than older people. They have different needs, budgets and, more broadly, financial situations, and finally different purchase habits and customs. These irregularities with respect to public services were well identified over the whole post-war period (Secomski 1984), but optimisation of the school, hospital, etc. network distribution was impeded by the ineffective economy, functioning within the confines of the command system.

Currently the differences in spatial distribution of the population and its demographic and social structure are the reason for undertaking detailed location studies by investors in the commerce sector, understandably motivated by maximisation of profit (Migdał-Najman & Mudza 2009).

A significant part of consumer demand is **housing demand** – intensification of the population growth and concentration processes led to the increase in housing needs, whose consequences are still palpable today, particularly in the form of statistical housing deficit and one of the worst indicators of average dwelling size per inhabitant in Europe. Growth of average family and household size affected not only the size of dwellings needed, but also particular needs with respect to their layout and standard, for instance having a separate room for a child (Andrzejewski 1968).

A particular place is held by studies of local demand effects caused by financial transfers from abroad. In the post-war period this type of effect was visible especially among persons who went abroad periodically in order to quickly improve their household's financial situation and to invest the means they returned with, e.g. in the Podhale region (Stańkowski 2006). The conditions that made this possible was the gigantic difference in purchasing power of Western currencies compared to the value of money in Poland (for example, in the 1970s the black market price of USD 1 was around PLN 100-150, whereas the average monthly wage was PLN 2-3 thousand in Poland, and USD 800 in the USA).

Short term labour migration thus became, for parts of communities in certain regions of the country (Podhale and parts of Podlasie and Podkarpackie), the most important source of financing investment needs related to the improvement of farms and small service and production enterprises, e.g. purchasing machines and equipment necessary for operation, building premises – shops, workshops, guesthouses, etc.. The exact scale of such financial transfers before 1990 is unknown, but in the case of some of the regions men-

tioned it was undoubtedly a leading factor as regards impact on local development and inhabitants' living conditions. Ancypa-
rowicz (2013) states that in 1981 individual households' official bank accounts held USD 438 million, and that by 1989 this figure had risen to USD 3.3 billion, while funds held at home were at least another such amount.

The post-1990 political transformation strongly levelled the wage-exchange rate differences between Poland and the West. Jończy (2003) states that over the years 1989-2003 the so-called macroeconomic profitability of migration indicator (MPI) showing how many average Polish wages a migrant receiving an average wage abroad earned fell from 65 to around 5 in the case of migration to Germany. Nevertheless, the economic attractiveness of the most developed countries remained at a comparatively high level, particularly as unemployment grew. In the years 2000-2011 annual financial transfers from employee income and net remittances of income varied between PLN 5-25 billion (the cumulating in 2007), and in some years they equalled direct foreign investments (e.g. in 2005, 2008 and 2009) while in 2010 they exceeded investments significantly (PLN 18 versus 20 billion for BIZ) (Chmielewska 2015). The most funds went to the Śląskie and Dolnośląskie voivodships, and per inhabitant, to the Opolskie voivodship. As a result the latter voivodship achieves the highest values of disposable income per capita in BAEL. Studies show, however, that the value of transferred means is dropping due to the increasingly settled nature of foreign migration (Jończy & Rokita-Poskart 2014).

In the case of depopulation caused mainly by foreign migration also the positive sides of this phenomenon with respect to the local consumer goods market should be noted. Income obtained by migrants abroad is partly transferred to Poland and spent in the migrants' area of origin, which can significantly stimulate economic activity (Jończy 2006; Jończy & Rokita-Poskart 2008) and generate significant state budget income from VAT. Currency transfers

are, as international studies demonstrate (de Haas 2007), a strong factor in reducing poverty, but do not necessarily have a beneficial effect on development in the medium and long term. Their side effect (which is from several to several dozen percent of the total income of the population depending on the region) is a sometimes serious distortion of statistics of quality of life, living conditions, poverty level, etc. This is significant in the regions in which 'unexplained' investment demand, e.g. for homes, cars or durable goods, is noted.

It has also been observed that the fall in population numbers caused **deflationary pressure** and a drop in prices, mainly of real estate, in depopulation areas (Miazga 1990; Szukalski 2015). A drop of this type may also lead to reduction of the local consumption potential (Bylok 2012; Heffner 2012a; Szukalski 2015). This process is accelerated by transformations of the population age structure, i.e. ageing. On the other hand foreign financial transfers also lead to rising prices (Jończy & Rokita-Poskart 2012a, b).

Spatial management and environmental issues

A rise or fall in population numbers involves changes of indicators of population density, settlement concentration, etc., and thus has a powerful impact on the effectiveness of spatial management. In formerly invested and now depopulating areas, losses are noted because of unused or badly used infrastructure. This comes down to a smaller than previously number of inhabitants using an overly developed network of facilities. It is necessary to bear the expenses of the infrastructure's upkeep, and because these expenses are disproportionate to the financial capabilities of budgets, usually those of the local governments, it is systematically decapitalised. This pertains to the road network, water and sewage utilities, and housing.

In the case of demographic regress, a strong feedback mechanism in which inhabitant ageing co-occurs is added. Older inhab-

itants do not contribute local taxes, neither are they a category that could bear the higher maintenance expenses related to repair, renovation, etc. This problem concerns both rural areas and towns, although in the second case, due to greater population density, spatial management issues are less acute for local government budgets.

In extreme cases partial or complete depopulation is reached and need for various types of infrastructure is extinguished. This is why a significant problem often encountered in depopulating areas is 'utilisation' of infrastructural elements and exploitation of, for instance, farms and buildings that have been abandoned. Moreover, it turns out that this problem is particularly relevant in the smallest settlement units. In studies conducted within several counties (powiat) in the *Ponidzie* area of the Świętokrzyskie voivodship, it turned out that in the years 1988-2002 in villages with a population of up to 100 inhabitants, a fall in population of around 25% was noted, the average for all villages being 15% (Śleszyński 2006a).

Depopulation also leads to **changes in land use** and causes secondary succession of plant life on land formerly used for agriculture (Wolski 2004; Latocha 2013). It has also been observed that additionally **human pressure** decreases, environmental pollution is reduced and the quality of surroundings improves. Demography and spatial development thus have a distinct ecological aspect. The following issues connected to the impact of rural area depopulation on spatial management from the perspective of the latter's relationship with the environment may be indicated in more detail (Śleszyński 2006a):

1. lower human pressure from permanent inhabitants. Due to smaller population numbers and limiting of their activity, environmental pollution is reduced. This is undoubtedly a good opportunity for improving the quality of surroundings;
2. alongside the improvement in quality, environmental assets are also enhanced, and thus simultaneously new forms of land

development primarily related to leisure and tourism develop or certain existing ones intensify;

3. population from older birth cohorts remaining in depopulating areas, lower educated and agrarian, is characterised by specific social behaviours with respect to protection of the environment, for example related to habits; potential conflict is possible in this field;
4. utilisation of abandoned infrastructure (buildings, access roads) poses a dilemma: demolish, preserve, or encourage settlement. An undervalued solution to this is encouraging investment in so-called second homes with a holiday and leisure function (Heffner & Czarnecki 2011). Undoubtedly an obstacle to the development of these functions is currently presented by weak accessibility, as depopulating regions are usually located peripherally with respect to the largest agglomerations, which are the largest source of tourist and leisure demand;
5. effectiveness of technical installations and equipment, including for environmental protection, in areas with increasingly low population raises the question not only whether they are profitable, but whether they are needed at all;
6. optimisation of land use is necessary with respect to usage of uncultivated and fallow land, afforestation, changes in agrarian structure;
7. an important issue is aesthetics of the landscape, because depopulating areas have, as mentioned, high environmental and landscape potential, effectively marred by decapitalised infrastructure.

Local government finance

Significant links may be outlined at the boundary of local economics of territorial local government units and consumer and investment demand. A decline in inhabitant numbers and deteriorating demographic and social structure means a **decrease in the revenue of local government units**,

which sometimes profit significantly from personal income tax and to a lesser extent, corporate income tax (in fact this is a certain statutory percentage) (Sobczyk 2012). In studies for the years 2003-2004 it turned out that the highest revenues of commune budgets per inhabitant were noted in those communes of Poland where real population growth resulted primarily from migration inflow (Śleszyński 2010); similar conclusions have been drawn in the case of the Warmińsko-Mazurskie (Pomianek 2012) and Wielkopolskie voivodships (Kozera & Wysocki 2015). In the Podlaskie voivodship, despite a global increase in revenues, the situation of communes with the greatest depopulation (e.g. Drohiczyn) is deteriorating in comparison to others (Klepacki & Klepacka 2012).

In inflow communes a phenomenon related to the selective nature of suburbanisation emerges. Persons moving from urban cores to the suburbs are usually slightly older and more economically affluent than is observed in traditional migration. In the case of the Warsaw agglomeration a distinct shift of the peak of highest shares of migrants to around 45-50 years was observed (Potrykowska & Śleszyński 1999). The social and professional composition thus indicates the likelihood of a significant increase in revenue from the share in personal income tax than would be indicated by a simple comparison of changes in population numbers. However, revenue from this source is not always what would be expected. The obstacle is failure of part of the migrants to register their residence, as a result of which they pay taxes in the place where they are still registered. This inspires some local authorities to organise campaigns popularising registration of residence. On the other hand in peripheral and depopulating communes disclosing the real fall in population 'is not worth it' as some subsidies are based on number of inhabitants. The higher it is, the larger the transfers of funds from redistribution of public taxes.

In turn, in the short term perspective foreign economic migration has a positive impact on local government finance. This is

related to currency transfers and the fact that population with family ties is able to pay bills, local taxes, etc. (Jończy & Rokita-Poskart 2012b).

At the same time, alongside population ageing and deterioration of demographic burden indicators the needs of social care described in detail in the part on population ageing increase. The risk of instability of local government finance is one of the most important factors that lead to stronger emphasis of the needs of demographic policy in development strategies, both in rural areas (Rauziński & Grygierczyk 1998) and in 'shrinking' towns (Bartosiewicz 2016).

Discussion: evolution of studies and scholars' views on demographical considerations in Poland's development

In post-war history a distinct evolution in studies and scholars' views on demographic and economic issues may be observed. In the Polish People's Republic economic growth potential was determined primarily by human resources. Rosner (1968: 341) believed that "the baby boom generation is certainly the greatest treasure that Poland currently has". In the socialist economy the officially prevailing idea was of full and rational employment (Kabaj 1974), while the primary objective of society, at least in the declarative sphere, was optimal satisfaction of human needs, and economic objectives were subordinated to this goal. It was believed that it is possible to steer migration processes, adapting demographic structures to the needs of the country's industrialisation and urbanisation (Secomski 1984).

Thus prior to 1989 scholars' attention was primarily focused on identifying demographic resources and potential in different regions of the country, and patterns in the directions of intensive population movement. This strong inflow, caused by demand for labour in an industrialising country, constituted a serious challenge related to the neces-

sity of ensuring an adequate level of housing, social and technical infrastructure and of utilising the labour resources in conditions of full employment (e.g. Secomski 1968; Andrzejewski 1968), and also of adapting to the undulating nature of demand for service and investment goods (for example in the years 1950-1970 productive age population rose by around 4 million).

Interest in the consequences of the baby boom (and more broadly, increase in population numbers) resulted from the fact that the high wave of births, which was an indication of the nation's strength, energy and drive, nevertheless brought about a number of family and social difficulties in a country where the consequences of World War II were still felt (Rosner 1968). It is possible to distinguish several main spheres of impact of demographic changes. Their main consequence was an increase in demand for infrastructure and services, and operating in a situation where absorptive capability had been exceeded or there was a permanent lack of resources related to the passage of the boom's culmination through stages of the life cycle.

At the same time industrialisation of the country also aggravated differences in living conditions between town and country, contributing to outflow of young and talented people from rural areas, which alongside the lack of changes to agricultural structure was a serious threat to future employment structure in agriculture (Miazga 1990). At the time, this outflow was treated as a positive process: on the one hand agrarian overpopulation decreased, and on the other labour demand in industry was satisfied. Finally, it was a process planned and supported by the state (Secomski 1984). In total, in the years 1946-1982 population outflow from rural areas was around 5 million people, and an additional 3 million consisted of circular migration of so-called 'chłoporobotnicy' (farmers employed outside agriculture) (Jagielski 1984). However, it remained unnoticed that the permanent population outflow did not have an exclu-

sively quantitative nature, but also a structural one, and that it led to depopulation of many localities and deepening of existing demographic structure deformations, which was reflected in the continuing process of population ageing and the phenomenon of defeminisation of certain rural areas (Jelonek 1981; Eberhardt 1989), causing – via a mechanism of strong negative feedback – further demographic regress of outflow areas.

The years of the political and economic transformation of 1989-2004 were a period in which the Polish economy and society had to face new and unknown free market conditions, in particular high unemployment. In this period, the number of employed fell from 17.6 to 12.7 million, while simultaneously 1.2 million persons from the 1970s boom entered the labour market (Kabaj 2006). It was therefore natural to view demographic changes through the prism of the sometimes strong economic and social changes then under way (e.g. Mirowski 1994; Zdrojewski 1998; Frenkel & Rosner 2001; Frenkel 2003). Moreover the demographic and supply imbalance was and is strongly diversified by region, and particularly high disproportions occur in peripheral communes in which mono-functional industry focused on serving agriculture fell and the number of jobs was usually never recreated (Stanny 2010). Because of high unemployment and large labour force surplus voices could often be heard that it is necessary to 'decrowd' the labour market and remove the 'demographic hump' in order to modernise the Polish economy (Layard et al. 1992). As it turned out, after 20 years, a number of cities were at risk from lack of migration resources (Śleszyński 2017).

In the transformation period, depopulation processes in rural areas had a specific character. The changes varied strongly by region, which was related to the collectivisation of agriculture before 1989 and the share of commercial farms. Rosner (2012) notes that depopulation particularly touches those rural areas that have weaker developmental predispositions (peripheral location,

infertile soil and other unfavourable natural conditions, e.g. in mountainous areas, agrarian overcrowding, etc.) A 'vicious circle' forms: outflow of younger population preserves previous backwardness as there is no stimulus to modernise farms (Rosner 2007). This is why support for this type of area, e.g. Less Favoured Areas, may turn out to be problematic and not meet its objectives (Klepacka-Kołodziejewska 2009).

The last period, covering the time after Poland's EU accession, including in particular the last few years (2014-2016) is characterised by a rather strong increase in job numbers, which have been almost recreated in comparison with the state before the transformation (16.3 million at the end of 2016). The perspective on the so-called demographic hump has therefore changed diametrically and more and more attention is being focused on the output gap on the labour market, including in the context of foreign migration (Iglińska 2013). Meanwhile, problems of depopulation and societal ageing have been comparatively well identified and discussed.

However, in the Polish literature on the subject a negative view of the consequences of societal ageing is definitely prevalent, mainly with respect to the labour market, consumer market and care and medical service issues already mentioned, but also, and perhaps primarily, in the context of the burden on various types of security systems (old-age pension, insurance, healthcare; Strzelecki 1996; Śleszyński 2006b, 2010; Obrzut 2011; Zieliński 2012; Pleśniak 2014; Janicka et al. 2015). Such a line of thought has been termed 'apocalyptic demography' in subject literature (Gee 2000). However, potential benefits are noticed less often. These can be generated by the sectors of services (medical, educational, tourist, cultural and leisure, sports, etc.) and production (need for products necessary for older people's functioning) aimed at this age group, i.e. 60 years and over. Moreover depopulation that contributes to changes in age structure may positively impact the feeling of security, as criminal tendencies fall with age (Szukalski 2015).

After 1989 demographic policy collapsed, as did the broader policy of human resource-based development. On the one hand each instance of planning was perceived among decision-makers and experts in terms of 'communist relics', as they believed that the 'invisible hand of the market' should ensure the optimal course of socio-economic processes. On the other hand development policy was strongly decentralised, making its coordination more difficult. The effects of this include a serious crisis in spatial management – though not to discount the many undoubtedly positive effects of transformation, particularly those related to releasing Poles' entrepreneurship. Preserving the sometimes archaic statistical nomenclature solutions also led to a situation in which a large part of the key socio-economic processes are impossible to reliably verify on the local scale. An example of statistical impotence is correct identification of population size, which is not solved even by national censuses. As a result research into cause-consequence relationships between demographic and economic phenomena and processes in Poland is hampered.

Conclusions

A review of studies indicates that in Poland there exists a very rich literature covering relationships at the boundaries of demography and socio-economic development. It was written in different scientific disciplines and also on different territorial scales. Because the pathways along which these works developed were independent, however, the conceptual and methodological exchange between different scientific disciplines was too meagre. Neither does the growing body of research go hand in hand with in-depth methodological reflection or conceptual and terminological order. A large part of the works are minor contributions, and some works are overly general. The often-mentioned poor quality of source data used is a problem. All this makes study results incomparable and limits their universality for building more general models and theories, but also for practical action.

Increasing depopulation and population ageing, and more broadly demographic changes, imply a number of consequences on various planes, which may be analysed from the aspect of local or regional development. To a large degree they define a given area's developmental opportunities that are based on own resources (endogenous development). Deformation of demographic structures and quantitative changes directly impact the shaping of the labour market, employment, educational policy, social exclusion, housing situation, revenue of administrative units, social pathologies, etc. The many aspects of demographic changes' impact and their variation on different spatial levels require the implementation of appropriate social policy that is adapted to the existing spatial patterns.

Undoubtedly the expected negative demographic changes in the shape of strong depopulation not only of rural peripheral areas but also most towns will compel strong interest in that area, including greater interest from the scientific community. Reformulation of development policy is needed with a view to a still greater inclusion of demographic and settlement issues in strategy and analyses. This concerns among others the effectiveness of settlement patterns in the face of dispersal of settlements, ensuring service standards as the population ages and decrease in local government budget revenues is possible, and reorganisation of the settlement network in local and regional systems. Possible solutions include strengthening subregional and some regional (non-provincial) centres, changes in territorial divisions on different levels, including merging communes and counties (in particular towns with district rights with surrounding rural communes). There also appear voices related to the need for discussion of the effectiveness of the current administrative division on the voivodship level (Śleszyński 2016) and new settlement and migration policy in peripheral rural areas, as well as new, socially acceptable immigration policy in the face

of the expected strong deficits on the labour market.

Among the population processes and their impact on local development discussed, particular attention should be paid to the migration process. This is because it has an effect on two planes: on the one hand it causes absolute changes in population size, and on the other it leads to structural changes (selectivity of migration with respect to both source and inflow areas), thus shaping opportunities for demographic development of a given area. Along with the deterioration of demographical (and particularly age) structure and decrease in demographical potential, the rhythm of economic and social life of an area may fall. This in turn stimulates further migration. The negative feedback mechanism thus created may lead to economic stagnation, and in extreme cases, to economic regress of a given area.

These two direct consequences are not the only ones resulting from migration outflow. Indirectly, it also influences the attitudes of population in the outflow regions, leading to deformation with respect to economic activity, employment, education level, family ties, etc. Permanence of migration outflow may lead to the syndrome of so-called emigration culture, i.e. to shaping among younger generations of a vision of their own development based on the inevitability of migration. This is connected to a lack of faith in the country's development opportunities among potential migrants. Moreover mass migrations shape the quality of current and future family structure. Being raised in a single-parent family or without parents (euro-orphans) brings with it potential emotional and behavioural problems, whose consequences may come to light in adulthood.

This article also frequently underlines that the links between demographic and economic development are complicated and not always obvious. It is therefore worth considering how to create conditions for optimal study of these issues so as to receive conclusions that would be satisfactory from

the point of view of methodology, cognition and application.

Three groups of topics may thus be indicated as having a large explanatory potential, and on which scholars' attention should focus to a greater degree than before:

- improving methods of reliable statistical identification of demographic changes on a detailed local scale;
- looking for cause-consequence relationships in longer time series, allowing the construction of more general patterns and models;
- more exhaustive identification of the mechanisms of the influence demograph-

ic conditions have on local development, based on qualitative and quantitative studies, as an alternative to public statistics.

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