The 2nd International Geography Symposium GEOMED2010

Population changes in Poland: A second demographic transition view

Sławomir Kurek*

Pedagogical University of Cracow, Institute of Geography, Department of Socio-Economic Geography, ul. Podchorążych 2, 30-084 Kraków, Poland

Abstract

Declining fertility leading to population ageing is a current phenomenon in Europe closely linked to the Second Demographic Transition and its relevance for explaining the ongoing changes in family and reproduction patterns. The aim of this article is to show demographic changes in Poland in the light of the concept of the Second Demographic Transition throughout the period of an economic transformation and accession to the European Union. They include the fertility decline below the replacement level, the shift in the maximum fertility, the increase in the average age of women at childbirth, an increase in the number and the proportion of extramarital births, postponed marriages and divorces as well as a rapid population ageing process. A particular emphasis was put on their spatial diversity at various levels of the administrative division, depending on the availability of the statistical data from the Central Statistical Office in Warsaw. The concluding section points out the role of social-economic conditions for the diffusion of the transition, highlighting the importance of historical background

Keywords: Second demographic transition; population; Poland; fertility

1. The concept of the second demographic transition

Modern population processes in Europe and other More Economically Developed Countries (MEDCs) are perceived as the aspect of the theory of the Second Demographic Transition (SDT) [1, 2, 3, 4]. (According to this concept, contemporary demographic transformations, including changes of procreative behaviours which cause the fertility to drop below the generation replacement level, are connected mainly with a family model and the principles according to which families are created and disintegrated. Moreover, they result from shifts in values, norms, attitudes and behaviours of societies. In his broadened concept of the SDT Van de Kaa also took into account the change in the net migration rates and mortality. During the First Demographic Transition (FDT) a high level of natural population growth was compensated by a great population loss due to migration (e.g. overseas migrations from Europe to America in the 19th and at the beginning of the 20th century). However, during the Second Demographic Transition the negative natural population growth is partly balanced by the positive net migration which results from economic immigration from the Less Economically Developed Countries (LEDCs) (e.g. migrations from Turkey to Germany, from North Africa to France, from India to Great Britain or current migrations within the European Union from the new EU Member States to the old ones as a result of opening the labour markets). Changes in mortality have been manifested by a significant rise in the life expectancy at birth, and more particularly by the ageing processes. They are underpinned by the shift in the value system focused on individual freedoms and personal choice with effective campaigns emphasizing the responsibility of individuals in staying healthy and in preventing a premature death.Obviously, its effect on death rates and life expectancy at successive ages will only manifest itself after a certain time. Hence the response of mortality is lagged in comparison with fertility. Nonetheless, a significant increase in life expectancy only accentuates the ageing process.

* Corresponding author. Tel.: +48-12- 662-6000; fax: +48-12-637-2243
E-mail address: sgkurek@ap.krakow.pl

© 2011 Published by Elsevier Ltd. Open access under CC BY-NC-ND license.
Selection and/or peer-review under responsibility of The 2nd International Geography Symposium- Mediterranean Environment

Keywords: Second demographic transition; population; Poland; fertility
which are already taking place in industrialized societies. Reductions in the number of young people entering the working-age population and increasing number of elderly ceasing their economic activity will, directly and indirectly, lead to an increased demand for foreign labour. Opponents of the concept of the Second Demographic Transition claim that it is hard to talk about the transformation when little is known about its final effect, and demographic projections are often corrected (e.g. in recent years an increase in the level of births took place in some developed countries). Moreover, this theory is not only being explained with the demographic variables, but also with certain social factors, not to say technological ones. Hence, the theory is sometimes referred to as the so-called umbrella concept, i.e. explained with too many aspects of the socio-economic life [5]. Others, in turn, link the fertility decline with the births postponement (first gaining education, starting the professional career, and only then establishing the family), after which the reproductive process returns to the previous level [6]. The most important features of the Second Demographic Transition include: a substantial decline in fertility, partly resulting from postponement of births, so that (estimated) cohort fertility of the currently reproducing women is expected to reach the maximum value well below replacement; substantial decline in the total first marriage rate associated with an increase in mean age at first marriage; significant increase in divorce rate (where allowed) and in the dissolution of marriages; significant increase in cohabitation, even in the countries where this was not a traditional practice; as well as strong increase in the proportion of extramarital births and catalytic shift in contraceptive behaviour with modern means replacing the traditional methods [1]. Behavioural changes were characterised by the four main shifts [7]: (1) from the golden age of marriage to the dawn of cohabitation; (2) from the era of the king-child with parents to that of the king-pair with a child; (3) from preventive contraception to self-fulfilling conception; and (4) towards pluralistic families and households. The most often applied measure of the Second Demographic Transition is the Total Fertility Rate (TFR) which expresses the average number of children a woman would give birth to in her childbearing years (statistically aged 15-49) if she were to experience the exact current age-specific fertility rates (ASFRs) through her lifetime.

First, in the 1960s and 1970s, the rate of the fertility fell below 2.1 in the countries of Northern and Western Europe (after the period of the post-war baby boom), followed by the countries of Southern Europe (1980s) and, since the 1990s, by those in the Central and Eastern Europe. In Poland for the first time the fall in the TFR below the level guaranteeing the replacement of generations was recorded in 1990. It must be stressed that a notable consequence of low fertility is population ageing, not to say the shrinking of the total population. For example, when the fertility is below replacement, the difference of 0.2 births cannot be ignored for population dynamics, as it becomes more significant in relative terms. By simple calculations using standard stable population theory, it is found out that if total fertility stabilises at 1.3, the long-term growth rate will be -1.57%, which translates into the population halving in 44.3 years. If the total fertility stabilises at 1.5, the rate becomes -1.07% with a population halving time of 64.7 years. Moving 0.2 children downwards from 1.3 to the total fertility of 1.1, the rate becomes -2.14%, with a population halving time of 32.4 years [8]. At present, a relatively high level of fertility is observed in the countries of Northern Europe (e.g. Iceland 2.1, Norway 2.0) and Western Europe (France 2.0, the Netherlands 1.8), while the lowest values occur in Eastern Europe (Slovakia, Romania and Moldova 1.3 each) and Southern Europe (Bosnia-Herzegovina 1.2, Albania and Portugal 1.3 each). A high level of fertility in MEDCs is a result of the pursuing family policy and applying solutions being aimed at combining the professional career with raising a child (e.g. childcare facilities at workplaces, flexible working hours for parents, paid paternal leaves, benefits for employers employing workers after paternal leaves, subsidies to educate children) [9]. The fertility fall might be the result of structural, cultural and technological transformations in the modern society. Structural changes are strongly linked to the processes of urbanization, significant increase in the GDP per capita, the growth of the service economy and the welfare state, the expansion of higher education as well as higher participation of women in social and economic life. Cultural changes are associated with secularization, the rise of individualistic values, the importance of self-expression and self-fulfilment and a greater emphasis put on higher order needs including self-actualization, individualistic and expressive orientations as well as the need for recognition. Technological changes include the adoption of modern contraception, the advances in assisted reproduction and the development of medical technologies, as well as the spread of new information technologies [10]. All these changes have spread almost all over Europe and have a diffusional character.

In Poland and other countries of Central and Eastern Europe rapid demographic changes of the 1990s were associated with the transition to the market economy, including high unemployment, inflation, the growth of requirements on the labour market, economic crisis, uncertainty and stress leading to increased alternative costs of maternity and the greater competitiveness. On the one hand, the changes in the demographic behaviours after 1989 were triggered by the reduction of the social function of the state and the employer, and on the other hand by the increased responsibility of households for their financial conditions [11].

The article discusses demographic changes in Poland in the light of the concept of the Second
Demographic Transition throughout the period of an economic transformation and accession to the European Union. A particular emphasis was put on their spatial diversity at various levels of the administrative division, depending on the availability of the statistical data from the Central Statistical Office (CSO) in Warsaw.

2. Fertility changes

In 2003 the number of births in Poland (351 thousand) made up less than 50% of the birth rate from the culmination of the baby boom echo in 1983 (724 thousand). Since then, however, a gradual increase in the level of births has been recorded and in the period of 2003-2008 their number rose by 64 thousand. This increase is the result of reaching the reproductive age by relatively populous cohort of women born in the 1980s (the secondary echo of the baby-boom), the improvement of financial situation of Poles, especially after joining the European Union. Other reasons include the end of births postponement due to the economic stabilization after the period of the uncertainty of the first years of transformations, and the improvement in the pro-family policy. The fall in the level of births in Poland caused the reduction in fertility rates. In 1989 for the first time the Total Fertility Rate showed the value which did not guarantee the replacement of generations (2.07). Next it showed a downward trend all the way to 2003 reaching the lowest values in Europe (1.22). In recent years, however, an increase in the level of the fertility has been observed. In 2008 the TFR in Poland amounted to 1.39 and was higher than in Moldova and Bosnia-Herzegovina (1.2), Albania (1.3), Slovakia (1.32), Hungary and Romania (1.35), Portugal (1.37) and Germany (1.38). Only two European countries were characterized by the TFR which would guarantee the replacement reproduction (Iceland and Ireland). In Poland for the first time the TFR indicating a narrowed reproduction in cities occurred during the demographic low in the 1960s (1.69 in 1969), after which it exceeded the value of 2.1 in 1983 and again started demonstrating the decreasing trend, achieving the value of 1.11 in 2003, and 1.3 in 2008 (Fig. 1). The rural population did not reach the replacement fertility for the first time in 1995, and the minimum value was observed in 2005 (1.40). At present it amounts to 1.53. Considering the NUTS-3 subregions in 2002 the highest TFRs were recorded in the areas of north-eastern and southern Poland, and five other regions were characterized by the fertility level below 1.0 (large cities). In 2008 the areas with the value of TFR above 1.5 extended, also including north-western Poland, and the maximum values increased. In all the administrative units under study the fertility rate exceeded 1.0, and the values ranged from 1.08 to 1.77.

Considering the changes, in the period of 2002-2008 in 58 NUTS-3 subregions an increase in the fertility level was recorded (the highest in large cities and in the metropolitan areas – in Wrocław by 31.4%, Warsaw 29.4%, Poznań 29.1%). In terms of the spatial arrangement, generally areas of western Poland were characterized by a growth of the TFR, while the fall occurred in the area of the eastern borderland (Fig. 2).

Considering age-specified fertility rates, in the period of 1980-2008 the maximum fertility shifted from the age group of 20-24 up to 25-29. The increasing mean age of women at the first childbirth results from the change of the lifestyle and the increase of the education level. It is also determined by the economic situation. In the period of 1980-2008 the birth rate per 1000 women aged 15–49 in Poland dropped from 76 to 43 (decrease by 44%). In the 5-year age-groups, however, the greatest decline concerned mothers giving birth at the age of 20-24 (by nearly 2/3), and then aged 15-19 (by over a half). An increase in the number of births occurred in the age-group of 30-34 (increase by 6%). All that remains concordant with the changes associated with the Second Demographic Transition, in this case in postponing childbirths and increased childbirth at the age of over 30. Similar tendencies of changes of the fertility level were recorded in the urban-rural dimension, although in urbanised areas these changes took place earlier, which indicates their diffusional character. Rural population is still characterized by a higher fertility rate than urban population, although rural areas show a greater decrease in the fertility (by 51%; in urban areas by 38%). Moreover, in rural areas greater decreases of fertility were observed at the age of 15-19, 20-24 and 25-29 (by 55, 67 and...
35% respectively) than in urban areas (analogically by 46, 66 and 25%). In the period of 1980-2008 the greatest diversity occurred within the groups at the age of 30-34 and 35-39, where in urban areas the fertility increased by 24 and 27% respectively, while in rural areas a decline in fertility was recorded in these age groups (by 20 and 33% respectively; Fig. 3 and 4).

In the period of 1999-2008 a change in the spatial disparities in the age-specified fertility rates took place. While in 1999 the eastern voivodeships and south-east Poland were characterized by a large number of live births per 1000 women by five-year age intervals of 15-49, by 1999-2008 eastern Poland recorded a fall in fertility while the northern and western voivodeships – an increase (Fig. 5). A shift in age-specified fertility caused an increase in the mean age of mothers at childbirth from 26.0 to 28.1 years in the period of 1980-2008. Similarly, the mean age of mothers at the first childbirth increased from 23.4 to 25.9 years, but these values are still lower than in the Mediterranean or Scandinavian countries. Also the changes in the structure of the birth order took place (Fig. 6 and 7). The share of the first births was over 50% in urban areas (in the years 1980-2008 an increase from 45.1 to 53.1% was recorded). However, in rural areas it showed a greater dynamics (an increase from 36.3 to 47.5%). In urban areas a fall in the second births was also recorded (from 37.9 to 34.9%), while in the rural area an insignificant growth (from 31.3 to 33.4%). Everywhere, however, a decrease in the share of births of the third and more distant order was observed.

Fig. 2. Total Fertility Rates in NUT-3 regions in Poland in 2002 and 2008 and changes between 2002 and 2008. (Source: own study based on CSO data)

Fig. 3. Changes in age-specified fertility rates in Poland in urban areas (Source: own study based on CSO data)
In the spatial layout, western voivodeships were characterized by a larger percentage of births of the first order than eastern voivodeships. Amongst urban population all voivodeships were characterized by over the 50% participation of births of the first order, while amongst the rural population only in two voivodeships this proportion exceeded 50%. Also a rise in the share of extramarital births is a feature of the Second Demographic Transition. Presently in Poland one out of five births occurs outside marriage, and since 1980 over fourfold increase of extramarital births was observed. It should be stated, however, that while in the West European countries extramarital births are mainly associated with increasing number of concubinages, in Poland single mothers prevail in this category. The percentage of extramarital births is higher in cities (22.8% of the total births) than in the country (15.8%). Diversified level of extramarital births in the spatial arrangement reflects cultural and religious differences of the Poland’s population and also shows a diffusional character (from the west to the east). The areas of western Poland are characterized by the largest percentage of this category of births, while the lowest share is recorded in south-east and eastern Poland. A similar spatial variation occurs among urban and rural population.
3. Changes in marriage and divorce rates

Transformations of the family model in the aspect of the SDT theory concern also marriages and divorces. A growing diversity of households has been observed which results from the growth in the number of people living in cohabitation and those remaining single. In Poland in the period of 1980-2008 the number of marriages declined from 307.3 to 257.7 thousand. It should be stressed, however, that in the meantime the number of marriages was reduced to 191.8 thousand in 2004 and the recent rise is connected with the fact that a populous generation of the baby-boom echo from the beginning of the 1980s is growing up. Marriage rate per 1000 population declined from 8.6 to 6.8‰, and in 2004 it reached its minimum value (5.0). The level of marriages in rural areas is slightly higher than in urban areas, but in the cities a greater drop was recorded in the years 1980-2008 (from 9.0 to 6.9‰) than in rural areas (from 8.1 to 6.7‰). In 2008 the mean age of newly-weds was 27.7 years for men and 25.6 years for women. In rural areas the medium age of entering marriage was about 1.5 years lower for both sexes than in urban areas, and in the spatial arrangement population of western voivodeships gets married the latest. Similar differences occurred in urban and rural dimension. In 2008 69% of total weddings were religious ones (178.5 thousand, from which 99% in the Roman Catholic Church). Eastern and south-east voivodeships were characterized by a
large share of religious weddings, while western provinces had the lowest proportion in those terms. The
divorce rate in Poland in 1980-2008 rose from 39.8 thousand to 65.5 thousand (by almost 2/3), and the
divorce rate measured per 1000 population rose from 1.1 to 1.7. Since 2006 a slight fall in the divorce rate
has been observed (by 6.4 thousand). The level of divorces in urban areas is higher (an increase from 1.6 to
2.2‰) than in the rural ones (an increase from 0.4 to 0.9‰). The rate of divorces per 1000 newly-weds rose
from 129.6 to 254 in the years 1980-2008, that is it almost doubled, and in 2005 it reached its maximum
value (326.6). In cities this rate was much higher (335.3 in 2008), and in 2006 the divorce rate constituted
almost 43% of all marriages. The highest concentration of divorces occurred in western Poland, and the
highest values were recorded in town powiats. The powiats located in south-eastern Poland showed the
lowest rate of divorces. In the period of 1999-2008 only nine powiats recorded a fall in the divorce rates and
all of them were located in the eastern part of the country.

4. Changes in the population age structure

A direct consequence of fertility declining below the replacement level is population ageing, which on the
one hand means the increase in the percentage of elderly population and, on the other hand, the decrease in
the share of children and young people. In Poland a rapid rate of ageing has been observed since 1990s, and
in the period of 1990-2008 the proportion of the 65+ population increased from 10.2 to 13.5%, but the share
of those under 15 dropped from 24.4 to 15.3%. A demographic ageing index, seen here as the number of the
population 65+ per 100 people aged under 15, doubled from 41.8 to 88.2. In the period of the social-
economic transformation the ageing process in cities showed faster dynamics than in rural areas and since
1995 an ageing index in cities has had higher values than that of rural areas (in 2008 98.6 and 75.4,
respectively). The situation resulted from a greater fall in the number of births in cities, a reduced volume of
rural-urban migration as well as the change of direction of population migration (at present, as a result of
suburbanization processes, the prevailing direction of migration is from urban to rural areas, to the suburban
zone).

In 1999 only in four powiats 65+ population outnumbered the population aged under 15, while in 2008
there were 78 such administrative units. Powiats showing the largest values of an ageing index were those
located peripherally, as well as powiats with spa functions, large cities, agricultural powiats and the former
coal-mining powiats of the Upper Silesian Industrial District. The lowest percentage of the retired
population was recorded in the powiats characterized by the intensive development of industry in the 1970s
and 1980s, the powiats located in the northern part of the country as well as those located in the suburban
zone. The demographic division of the country into the younger north-western and older central-eastern
parts was a long-lasted consequence of the post-war migration of the young population to the so-called
Recovered Territories in the west. According to prognoses [12], this picture will continue to fade away,
because the areas which until recently were recognised as demographically young are ageing rapidly at
present (Fig. 8).

5. Conclusions

The demographic processes, initiated in Poland in the 1980s and intensified in the initial period of the
socio-economic transition, may be correlated with the concept of the Second Demographic Transition. They
include the fertility decline below the replacement level, the shift in the maximum fertility, the increase in
the average age of women at childbirth, an increase in the number and the proportion of extramarital births,
postponed marriages and divorces as well as a rapid population ageing process. Transformations associated
with the introduction of the market economy, such as high unemployment rates, difficult situation on the
housing market, weakened social function of the state and the lack of appropriate family policy, undoubtedly
contributed to the acceleration of demographic processes, although a dissemination of the family model from
the western countries also played a significant role. The moment of the onset of the processes associated
with the Second Demographic Transition varies from region to region and therefore they show spatial
diversity. New fertility behaviours spread earlier through the areas of northern and western Poland. This is a
reflection of the cultural Hajnal’s line which links Sankt Petersburg and Triest and divides Poland into two.
To the west of this line marriages are being entered later, and marriage is not universal, as concubinage plays
an increasingly significant role. In Poland this line reflects socio-economic and cultural differences dating
back to the Partitions time. In recent years, however, we have been observing a slight increase in the level of
fertility, especially in western Poland and in large urbanized areas. This trend may be associated with the
end to the postponement of births, which first took place in the areas where the transformations according to
the SDT concept were the earliest. It can also be related to an increase in the level of affluence of parts of the
society after the process of an economic transformation had ended and the country joined the European
Union. This did not concern the peripheral areas located in the eastern part of the country. In accordance
with the theory of the Second Demographic Transition the changes in the age structure of a population are a
Consequence of diversification of the population changes mentioned above leading to rapid population ageing, not to say to shrinking population in some parts of the country, and disturbing the traditional demographic division into younger north-western and older central-eastern Poland.

References