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Urbanisation and changes in fertility pattern in Poland and in the selected countries of Western and Southern Europe

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Abstract. Since the beginning of the 1990s profound changes have occurred in reproductive behaviour in Central and Eastern Europe. They involve a sudden fall in the fertility rate, accompanied by an increase in the age of mothers giving birth to their first child, and a growth in the percentage of extramarital births. A similar course of changes in reproductive behaviour was observed almost a decade earlier in the countries of Southern Europe (Greece, Spain and Italy), and at the beginning of the 1960s in the countries of Western Europe (e.g. France). The aim of the study is to show the spatial changes in the fertility pattern in Poland compared to the selected European countries – Italy, Spain and France. Since new fertility patterns take hold most quickly among the inhabitants of large cities, as a result of the weaker effects of tradition and earlier formation of social norms owing to suburbanisation processes, the analysis of changes in reproductive behaviours will be conducted in the context of changes in urbanisation level. The time frame of the study encompasses an extended duration, especially taking into account the period of 1970–2010. For the comparison of large cities, data from 2010 or the nearest available were examined.

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Contents:

1. Introduction

Since the beginning of the 1990s profound changes have occurred in reproductive behaviours in Central and Eastern Europe. They comprise a sudden fall in the fertility rate, accompanied by an increase in the age of mothers giving birth to their first child, and a growth in the percentage of extramarital births. The changes in reproductive behaviours, which can be considered within the concept of the second demographic transition (Van de Kaa, 2003, 2004; Lesthaeghe, Surkyn, 2004; Lesthaeghe, 2010), were observed almost a decade earlier in the countries of Southern Europe (Greece, Spain and Italy), and at the beginning of the 1960s in the countries of Western Europe (e.g. France). The progress of new procreative patterns in Central Eastern European countries can be explained by the broader economic and social changes associated with the transition to market economy, the establishment of democracy, increase of higher education and the shift towards post-industrial service economy (Kotowska, 1999; Sobotka, 2008; Sobotka et al., 2008; Mynarska, 2010). However, regional studies reveal significant differences in the rate and extent of this process. In the countries in which transformation of reproductive behaviours took place first, the fertility pattern appears to be the most lasting, as shown by observations over a number of years.

The study will analyse the pace of changes in reproductive behaviours in a regional scope in Poland compared to the selected European countries – Italy, Spain and France. Better understanding of this process will provide the foundations for drawing conclusions concerning the future course of the phenomenon. Since new fertility patterns take hold most quickly among the inhabitants of large cities, as a result of the weaker influence of tradition and earlier formation of social norms owing to suburbanisation processes, the analysis of changes in reproductive behaviours will be conducted in the context of changes in the urbanisation level. Previous research in western countries has shown a higher fertility rate and higher childbearing age among women living in suburban areas than in the centres of towns and cities (Kulu, Boyle, 2008; Kulu et al., 2009). However, these differences are blurred, which results from the diffusion of the urban lifestyle following migration and the spreading of new technologies (e.g. ICT – Information and communications technology) (Černič Istenič, Kveder, 2008; Kotowska et al., 2008). Changes in reproductive behaviours may be considered in terms of E.B. Tylor's theory of cultural diffusion (i.e. dissemination of elements of one culture to another; Nowicka, 1998) or the theory of diffusion of innovations (Rogers, 1995), meaning the process of adopting innovations into ever newer social systems. In both conceptions the channels of diffusion (i.e. the links facilitating the exchange of information) might be direct contacts (e.g. migration) as well as media (e.g. the internet). In demography, attempts to apply the theory of innovation to studying changes in fertility patterns were commenced by Coale (1973), who proposed three conditions crucial for the dissemination of contemporary reproductive behaviours: readiness (connected with the perception of the benefits of adopting new forms of behaviour), willingness (a new form must be accepted in cultural terms in the field of ethics and a system of values) and ability, expressed through technical and legal issues (e.g. access to contraception, legality of civil unions). Lesthaeghe (2009) and Lesthaeghe and Neels (2002) examined the spatial character of demographic innovation using the examples of Belgium, Switzerland and France, noting that one of the most important factors in diffusion of reproductive changes in the context of the second demographic transition was increased urbanisation.

The time frame of the study encompasses changes over an extended duration, especially taking into account the period of 1970–2010. For the comparison of large cities data from 2010 or the nearest available was examined.

2. Material and research results

2.1. Changes in reproductive behaviours in Poland, France, Spain and Italy in the context of urbanisation

In examining the changes in reproductive behaviours we focus on three characteristics of reproductiveness – the change in the fertility rate (the average number of births per woman), the distribution of the fertility pattern (the distribution of age cohort fertility ratios) and the percentage of extramarital births. In this paper changes in reproductive behaviours in Poland, France, Spain, and Italy will be presented. In Spain and Italy the changes in procreative behaviours had similar course as in Poland, reaching the levels of lowest-low fertility in 1980s and 1990s. France was taken to comparisons as the onset of the second demographic transition took place at the earliest and recently observed fertility recovery in this country will allow to predict the possible development of fertility patterns in other countries. An attempt will be made to connect the process of fertility changes with urbanisation as one of the factors that may accelerate the observed demographic changes.

In Poland, dynamic changes in reproductive behaviours began at the beginning of the socio-economic transformation, yet in the countries of Western and Southern Europe they took place a decade or two earlier. In Poland fertility did not fall to the level no longer permitting direct replacement of generations (with a low mortality rate this is the value of 2.1 births per woman) until 1989, whereas such a rate was reached in France and Italy in the mid-1970s. In the 1980s the fertility rate in Poland was higher than in other countries in question.

In France, where changes in fertility took place much sooner and were relatively less dynamic, after the fertility rate of around 1.8 births per woman was reached in the latter half of the 1980s it remained relatively stable for the next 25 years. In Italy, on the other hand, where in the 1970s the fertility rate was reduced by over a third to the level of 1.4 births per woman, the next decade also brought a further drop in the fertility rate. Only after 20 years, in 1995, did this value slowly increase, but the fertility rate remained very low. In 2010, according to the National Institute of Statistics (*Istituto Nazionale di Statistica – ISTAT*), it was 1.4 births per woman. In Spain, the fall in fertility took place later than in Italy and France. It occurred a decade earlier than in Poland, although its dynamics was comparable to the changes in the period of socio-economic transformation. Like in Italy, or later in Poland, this dynamic drop led to a further reduction in fertility to one of the lowest rates in the world. In spite of the fertility growth over the last decade, it remains at the level of approximately 1.4 births per woman.

Recent years have brought a slight growth in the fertility rate in Poland. This could, however, be the effect of postponed births, and not necessarily a change in the previous trend. This is shown by the experiences of such countries as Italy and Spain.

As well as differences in fertility rate and the pace of changes, the fertility pattern is also an important indicator for reproductive behaviours. Similarly to other countries of Central and Eastern Europe, Poland had a low childbearing age until the late 1980s. The highest fertility was observed in women in the 20–24 age cohort. Only after 1990 did intensive changes take place in the fertility pattern, but until 2004 it was still this age group which presented the highest concentration of births. At present the highest fertility occurs in women aged 25–29. A growth is also observed in the concentration of births in the next two age cohorts, 30–34 and 35–39.

Irrespectively of the fertility rate, in France, Spain and Italy the highest concentration of births was recorded in older age cohorts than in Poland. Until 1990, the highest fertility was seen in women in the 25–29 age cohorts, while in the last decade in Spain and Italy most births were recorded among women aged 30–34. In France, which shows a different process of reproductiveness and a higher fertility rate, the highest concentration of births continues to fall in the 25–29 age cohort.

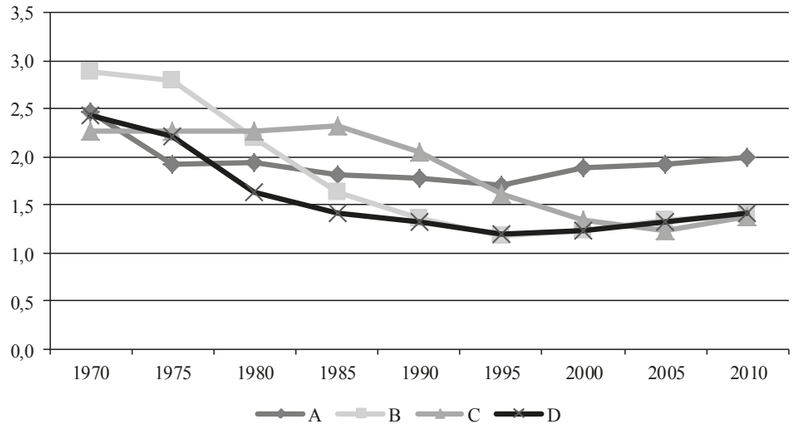

Fig. 1. Total fertility rates (children per woman) in France, Spain, Poland, and Italy in 1970–2010

Explanation: A – France; B – Spain; C – Poland; D – Italy

Source: GUS, INSEE, EUROSTAT, ISTAT

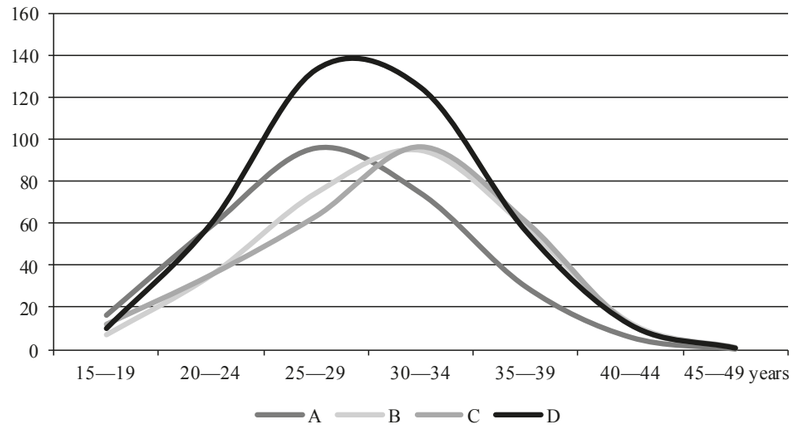

Fig. 2. Age-specific fertility rates (births per 1,000 women by age cohorts) in Poland, Italy, Spain, and France in 2009

Explanation: A – Poland; B – Italy; C – Spain; D – France

Source: GUS, INSEE, EUROSTAT, ISTAT

Differences in the childbearing age can be presented using the average age. Over the last decade the average childbearing age in Poland rose by over a year, but was still only 28.5, whereas in France it reached 30 and in Spain and Italy 31. However, in the analogous period the growth in the average age for giving birth was lower – in France and Italy it was a little over half a year, and in Spain 0.3 of a year.

The last of the characteristics of changes in the process of reproductiveness is the proportion of extramarital births. In Poland, similarly to Spain and Italy, until the beginning of the 1990s the rate of extramarital births remained at a very low level. The last decade (2000–2010) brought a dynamic growth in the proportion of such births, and in 2010 more than one in five babies was illegitimate. In Italy too, sharp changes in births by marital status of the mother took place over the last ten years. In 2000 this proportion was still under 10%, whereas today it is running at over 25%. An even higher proportion of extramarital births can be seen in Spain, where one in three children is born outside of wedlock. There too, the dynamic of this growth was higher than in Poland. For over two decades France had a high proportion

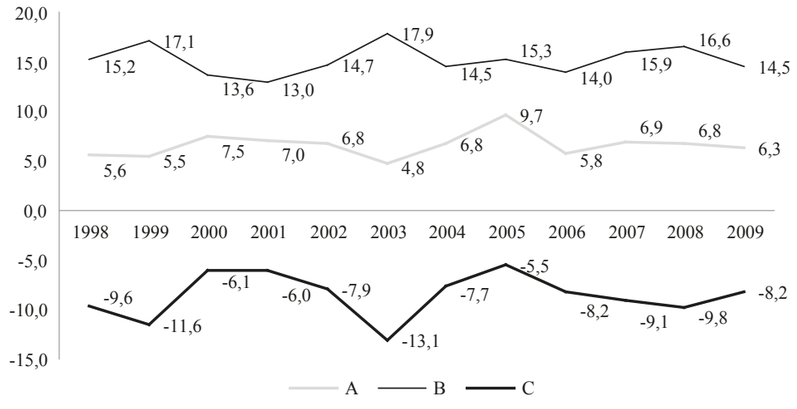

Fig. 3. Extramarital births (%) in all live births in France, Spain, Poland, and Italy in 1980, 1990, 2000 and 2010

Explanation: A – France; B – Spain; C – Poland; D – Italy

Source: EUROSTAT

of extramarital births, with their dynamic increase in 1980. Currently, over half of all children are born outside of marriage.

Analysis of changes in reproductive behaviours in the context of urbanisation at the national level is difficult as individual countries use different standards to define urban and rural population. In France and Spain a statistical criterion is applied (a town is an administrative district comprising at least 2,000 inhabitants, while in France the distance between neighbouring houses cannot exceed 200 m (Szymańska, 2007: 22–23), whereas Italy and Poland use an administrative-legal criterion.

Applying the criterion used in each of the countries in question, we observe that since WWII Poland had a considerably lower urbanisation level than the three countries in the study. Furthermore, over the course of the last 20 years the proportion of urban population remained at the level of 61%. In Spain and Italy this percentage was exceeded in the 1960s, and in France even earlier, in the late 1950s. In subsequent decades the proportion of the population living in towns and cities increased. This process was slowest in Italy, where in 2010, according to the UN estimations, 68% of the population lived in urban areas. In Spain, ¾ of the population were town dwellers by the mid-1970s, and by 2010 this figure had reached 77%. In France the last decade brought a significant growth of urban population – it was over 8 percentage points, meaning that today over 85% of the French population live in towns and cities.

If we adopt this method of measuring urbanisation, the strongest correlation between urbanisation and reproductive behaviours, in this case equated with fertility rate, took place in Poland (the Pearson correlation coefficient for 1950–2010 was –0.91, whereas in the other countries it was around –0.80). A considerably less significant relation is observed between urbanisation and extramarital births.

As the formation of a modern reproductive behaviours pattern can be influenced to a much greater extent by large urban centres, a similar analysis was conducted using an urbanisation coefficient counted as the percentage of the population of a given country residing in cities of over half a million inhabitants (in this way the problem of varying definitions of urban population in the different countries was avoided).

Also in these terms, Poland had a much lower urbanisation level than the other countries compared. For three decades the proportion of the population of large urban centres within the Polish population as a whole has remained at a level of approximately 11%. In Spain, Italy and France this percentage is three times larger. In both Spain and Italy, the strongest growth in the population living in cities of over 500,000 inhabitants was observed up to the 1970s. In France this growth has been considerably slower, but is still continuing, whereas in Italy it began to slow down around the end of the 1970s. Visible in this case are analogies between the changes in fertility rate and in urbanisation level in the countries studied, with the strongest such link recorded in France.

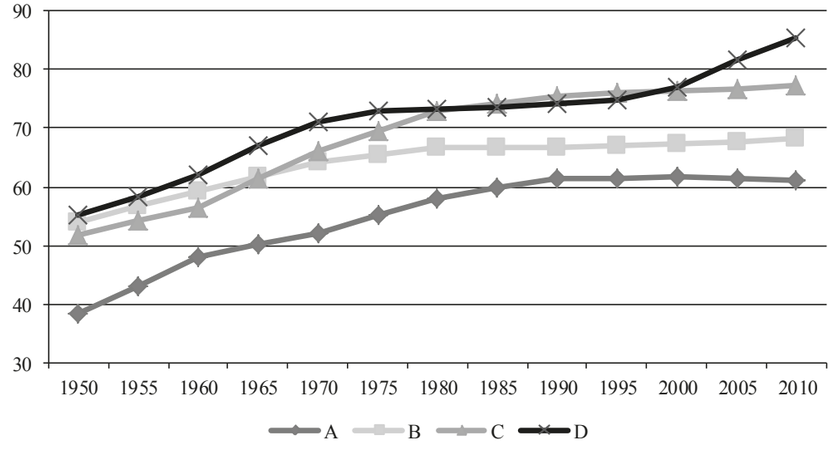

Fig. 4. Urban population (%) in Poland, Italy, Spain, and France in 1950–2010

Explanation: A – Poland; B – Italy; C – Spain; D – France

Source: United Nations

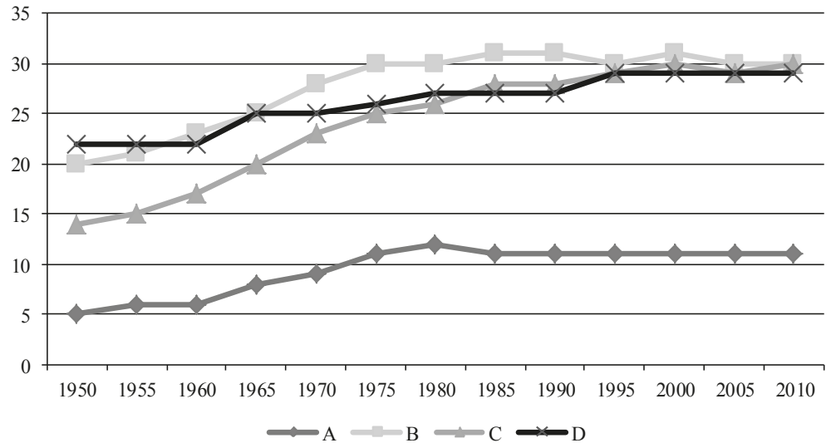

Fig. 5. Population (%) in large cities (>500,000) in Poland, Italy, Spain, and France in 1950–2010

Explanation: A – Poland; B – Italy; C – Spain; D – France

Source: United Nations

2.2. Differences in reproductive behaviours within cities and their suburban areas

Given that the largest influence on shaping behaviours, including reproductive behaviours, may come from large urban centres, a comparison was conducted between the reproductive behaviours in cities of over 750,000 inhabitants (using the criterion for a town/city recognised in a given country). Two cities were studied in Poland (Warsaw and Kraków), three in Italy and Spain each (Rome, Milan and Naples, and Madrid, Barcelona and Valencia), and two in France (Paris and Marseilles). The analysis looked specifically at the differences between the fertility rate in the cities and in the areas designated as 'suburban', as well as, for the selected cities, at the average age of childbearing and the percentage of extramarital births in 2010 (or the closest year).

In Poland the point of reference for reproductive behaviours in large cities and its surroundings distinguished on the basis of a distance from the urban centre was the situation in the administrative regions of the 2nd order – *poviats* – which are adjacent to these cities and were designated as zone I (1) Additionally, the study included the *poviats* adjacent to units of zone I, designated as zone II (2).

In 2010 the fertility rates in both Kraków and Warsaw were among the lowest in the country. In Warsaw it was 1.31 births per woman and was lower than that in the *poviats* of both zone I and zone II. In the *poviats* of zone I it was 1.51, and in those of zone II – 1.59. In the case of Kraków too, a lower level was observed in the city (1.24) than in suburban areas – in zone I the figure was 1.60 births per woman, while in zone II – 1.77.

A characteristic element of the changes in the fertility pattern is the growth in the average childbearing age, especially of the first child. Half of all women giving birth to their first child in the largest cities in Poland were under 28. A higher average age of giving birth to the first child was in Warsaw, Poland's largest city (29.2). In the *poviats* of zone I it was lower than in the capital, but higher than in zone II.

In 2010 the fertility in various age cohorts in the areas located further away from both Kraków and Warsaw was higher than in zone I, but it was lowest in the cities themselves. This was particularly clearly visible in the cohorts with the greatest concentration of births.

In Italy, the point of reference for reproductive behaviours in the selected cities in 2008 were regions (for which data was available). In Rome and Naples the fertility rate was higher than that counted for the whole region (for Rome and the Lazio region it was 1.46 and 1.42 respectively, and for Naples and the Campania region 1.52 and 1.44 respectively). The situation was different in Milan, in which the number of births per woman was 1.44, while in the Lombardy region it was 1.5. There was a higher average age of childbirth in Rome than in the Lazio region (32.2 vs 31.9). In Milan too, women gave birth later than in the Lombardy region as a whole (31.9 vs 31.2). In Naples, meanwhile, the average age of childbirth was slightly lower than that in the Campania region as a whole, 30.2 versus 30.5.

For Spain, the fertility rate and the average age of childbirth in 2009 in Barcelona and Valencia were compared to those in the autonomous regions. The data of the Spanish National Statistics Institute (*Instituto Nacional de Estadística – INE*) for Madrid and the autonomous region of Madrid in the case of the fertility rate and age-specific fertility rates was identical, which led to the suspicion that the published data might be incorrect and thus these results were not considered.

In Barcelona the fertility rate was lower than in the Catalonia region as a whole (1.52 and 1.53 births per woman respectively), but the average age of childbirth was higher (31.19 vs 30.96). In the age cohort up to 30, fertility in the city was lower than in the region. However, Barcelona women aged over 30 showed higher fertility than women living in the Catalonia region in general (1.38 and 1.33 respectively), but in the city women had children later than was the case in the region. This is confirmed by both the average childbearing age (31.16 in the city and 30.09 for the region) and the distribution of fertility rates (up to the age of 29 there was a higher fertility rate for the

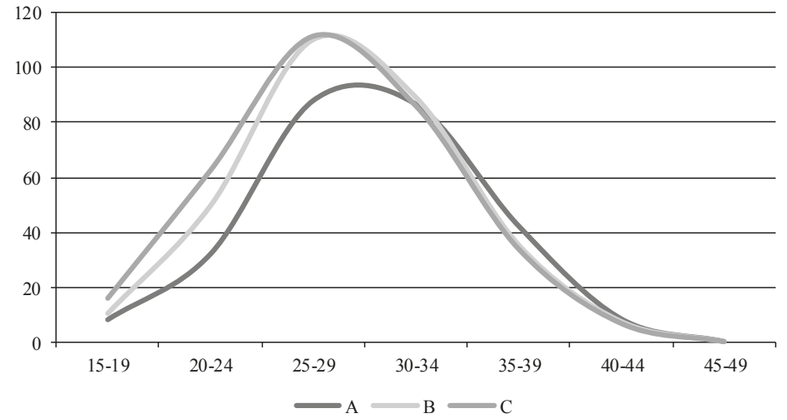

Fig. 6. Age-specified fertility rates (births per 1,000 women by age cohorts) in Warsaw and its zones I and II in 2010

Explanation: A – Warsaw; B – zone I; C – zone II

Source: GUS

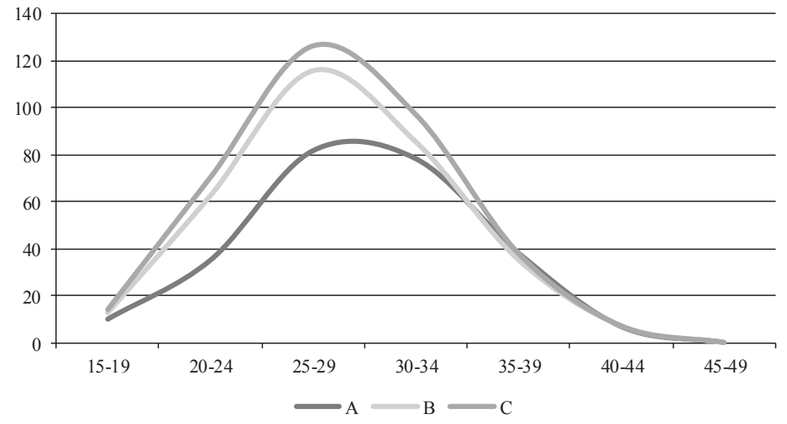

Fig. 7. Age-specified fertility rates (births per 1,000 women by age cohorts) in Kraków and its zones I and II in 2010

Explanation: A – Kraków; B – zone I; C – zone II

Source: GUS

region, while from 29 up the concentration of births was higher in the city).

The analysis of reproductive behaviours in large cities in France comprised the fertility rate, fertility pattern and proportion of extramarital births. In Paris, the fertility rate in 2009 was considerably lower than in the Île-de-France department, at 1.57 births per woman (for the department it was 2.01). Considerably lower too was the fertility of women aged below 35 (over half lower in the 15–24 age cohort, and 30% lower for the 25–34 age cohort). The proportion of extramarital births was at the level of 44% and 45.2% respectively, so in this case the differences were markedly lower than for the two characteristics of reproductive behaviours analysed earlier. The French National Institute for Statistics and Economic Studies (*Institut National de la Statistique et des Études Économiques – INSEE*) does not publish data for Marseilles, but the data for the Bouches-du-Rhône department was available. The point of reference was the situation in the Provence-Alpes-Côte d'Azur region. Unlike Paris, the reproductive behaviours in the department were very similar to those observed in the region. The fertility rate for the Bouches-du-Rhône department was 1.98 births per woman, whereas for the region the figure was 2.00. A slightly lower fertility rate was shown by the inhabitants of the department aged up to 34, while in older age groups the concentration of births was higher than that in the region. The proportion of extramarital births was 53% in both the department and the region as a whole.

3. Conclusions

At the national level, the relationship between urbanisation and changes in reproductive behaviours is visible. The analysis of diversification of reproductive behaviours in the large cities of Poland, Italy, Spain, and France points to the appearance of differences in reproductive behaviours. In the case of Poland, the effect of a large city was distinctive. In case of the other countries, it was impossible to draw far-ranging conclusions. The reason for this may be the size of the units used for comparison, as well as the period of the study. In the countries in which transformation of reproductive behaviours is still under way, in order to confirm or disprove hypotheses on the diffusion of reproductive patterns from large towns to suburban areas, the course of these phenomena over a longer period would have to be analysed.

On the other hand, the diverse relations in terms of reproductive behaviour between core cities and their suburban regions indicate regional specificity in the countries under study. In Spain and Italy the postponement of births started later than in France, but with the striking intensity. Moreover, unlike in France, cohort fertility patterns in the Southern European countries hardly exhibited signs of fertility recuperation after age 30. Other feature of these countries is late home leaving and strong family ties which prevent the spread of the number of independent singles and premarital cohabitation. The situation of the housing market is also of great importance. In France and other western and northern European countries cohabitation, sharing and living single is common which results in increasing extramarital births. Nonetheless, the family policy in France has contributed to the rise of fertility to the levels close to generation replacement.

Urban and suburban differences in fertility can also be the result of local factors such as migration flows, ethnic composition, socio-economic and cultural differences. De Beer and Deerenberg (2007), Duchêne et al. (2004) and Hank (2001) as a regional characteristics that affect fertility behaviour lists the local labour market, the availability of child care, the occupational structure, regional unemployment, the housing market as well as the social environment including attitudes toward the family and children. However, most of these characteristics are not available statistically at the local level.

Notes

(1) For Warsaw this comprised the *poviats* of Legionowo, Mińsk, Otwock, Piaseczno, Pruszków, Warszawa Zachodnia, and Wołomin, and for Kraków: Kraków and Wieliczka.

(2) These *poviats* comprised, in the case of Warsaw, the *poviats* of Białobrzegi, Garwolin, Grodzisk Mazowiecki, Grójec, Kozienice, Nowy Dwór Mazowiecki, Pułtusk, Siedlce, Sochaczew, Węgrów, Wyszków, and Żyrardów, and for Kraków: Bochnia, Chrzanów, Miechów, Myślenice, Olkusz, Oświęcim, Proszowice, and Wadowice.

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