Mothers at Later Ages: Exploring Italian Regional Differences in the Mean Age at Childbearing Dynamics during the Period 1955-2000 through a Decomposition Model

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Introduction

Fertility at higher ages and, namely, fertility postponement have become of great concern in the recent demographic literature (i.e. Frejka and Calot 2001a; Frejka and Calot 2001b; Kohler et al. 2002; Sobotka 2004; Frejka and Sardon 2006). All around Europe the tendency to enter motherhood later has spread, though with clear cross-country differences in the mean ages. On the one hand, countries of Western Europe already register a late childbearing pattern with the Mediterranean countries showing the latest fertility timing; on the other hand, in the former socialist countries of Central and Eastern Europe rather early childbearing still prevails, even though also here the increasing trend has become evident.

Among the Southern European countries Italy emerges for its low and late fertility, a phenomenon that is nevertheless characterised by regional specificities. The North and the Centre always showed lower fertility than the South and, always in comparison to the South, registered lower mean age at childbearing up to the early 1980s and higher mean age thereafter. Clearly such changes in the period mean age at childbearing are related to changes both of fertility intensity and age schedule that acted differently across Italian regions, though in the same direction.

Aim of the research

The mean age at childbearing in Italy and its regional groupings first decreased up to the 1980s and started increasing afterwards (Table 1). In 1955 the mean age at childbearing was as high as 29.5 years in Italy as a whole, with a peak in the South of 30.1. The indicator reached the minimum in 1980 (in the North in 1975). In 2000 Italy registered a mean age at childbearing of 30.4, with the lowest levels being observed in the South (29.7) and the highest in the North-Centre (about 31).

Table 1 – Mean age at childbearing: Italy and regional groupings

Mean age at childbearing (μ)	1955	1960	1965	1970	1975	1980	1985	1990	1995	2000
North	29.3	28.9	28.4	28.0	27.3	27.5	28.5	29.5	30.6	30.9
Centre	28.7	28.5	28.2	27.9	27.3	27.3	28.2	29.3	30.4	31.1
South	30.1	29.7	29.2	28.9	28.2	27.7	27.8	28.4	29.1	29.7
Italy	**29.5**	**29.2**	**28.7**	**28.3**	**27.6**	**27.5**	**28.1**	**28.9**	**29.8**	**30.4**

Source: our elaboration on Istat data

The demographic forces, namely changes in fertility intensity and timing, that triggered this trend were different in the two periods. During the period of decline of the mean age at childbearing a much stronger effect seems to be related to the decline of fertility intensity of higher birth orders and to a slight increase of fertility of first and second birth order. The effect of changes in the fertility age schedule by birth order seems to have been only marginal. On the contrary, during the period of the increase of the mean age at childbearing, parallel to the continuous decline of overall fertility, a central role was played by fertility postponement.

The purpose of the current research is to investigate how changes in fertility behaviour affected the trend of the mean age at childbearing across Italian regions during the period 1955-2000. We would like to evaluate how much of the dynamics of the mean age at childbearing can be explained by changes of fertility

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realized at younger and older ages (below and above the age of 30) for different birth orders (I, II and III+). In particular, the focus of the research is on the analysis of fertility postponement, intended merely as the tendency to have children at higher ages.

Data and Methods

We use Istat data on regional fertility, specific by age and birth order, and consider the period 1955-2000. The decomposition model used in the current research founds on the model developed in Giorgi and Mamolo (2006) and it follows the guidelines of the classical decomposition approaches known from the literature (Kitagawa, 1955 and 1964; Das Gupta, 1978). Through the model it is possible to evaluate for each time interval the effect on the variation of the mean age at childbearing of the change in the following six factors: fertility of I, II and III+ birth order considered separately for the ages below and above 30. In particular, we are able thus to discriminate how much the changes in fertility behaviour, without inferring on whether these are changes in cohort fertility timing or intensity, impacted the increase of the mean age at childbearing across Italian regions since the second half of the 1970s and first half of the 1980s.

Preliminary Results

The findings confirm that changes in the trend of the mean age at childbearing in the period 1955-2000 are related to both changes in fertility intensity and timing, even though the model is not able to distinguish directly between these two components.

In Italy the mean age at childbearing followed first a decreasing and then an increasing pattern. As aforementioned, the forces that triggered this U-shaped pattern are different. Changes in fertility intensity, i.e. the decline of fertility of higher birth orders, are accompanied with the decline of the mean age at childbearing. The model parameters (Table 2) show a continuous decline of fertility of III+ birth order realised at higher ages (negative sign of the model parameters). Moreover, during the period 1955-1965 an important role is played also by the increase of fertility of I and II birth order below 30 years, in particular related to the years of the Italian baby-boom. Since the mid 1960 up to the 1980s we note that the decline of the mean age at childbearing is mainly driven by the decline of fertility of III+ birth order and that of II birth order after the age of 30. Since 1980 the mean age at childbearing increases. The increase of the indicator is mainly influenced by the decrease of fertility of I and II birth order below 30 years (positive sign of the model parameters) and by the increase of fertility of the same birth orders at higher ages (positive sign of the model parameters). Such a result suggests that once fertility reached lower levels, postponement-recuperation dynamics played a prominent role in increasing the age at motherhood. It is interesting to note that the effect of the change in fertility of I birth order below 30 turns positive for the last five-year period, almost suggesting the end of the postponement process.

Table 2: Results of the decomposition model for Italy

Italy	1955-60	1960-65	1965-70	1970-75	1975-80	1980-85	1985-90	1990-95	1995-00
$\Delta\mu\%$	-1.26	-1.65	-1.32	-2.37	-0.59	2.17	3.03	3.12	1.97
fI_{15-29}	-0.41	-1.04	0.12	-0.53	1.72	1.87	1.33	1.72	-0.01
fI_{30+}	0.04	0.02	-0.17	-0.09	-0.21	0.03	0.44	0.53	0.64
fII_{15-29}	-0.18	-0.48	0.00	-0.04	0.55	0.66	0.74	0.74	0.34
fII_{30+}	0.12	0.21	-0.22	-0.26	-0.54	0.10	0.44	0.41	0.87
$fIII_{15-29}$	-0.05	-0.13	0.01	0.14	0.19	0.19	0.16	0.15	0.14
$fIII_{30+}$	-0.78	-0.23	-1.07	-1.59	-2.29	-0.68	-0.08	-0.44	-0.01

Notes: μ is the mean age at childbearing. fI_{15-29}, and similar, is the effect of the change of age-specific fertility rates of I birth order in the ages 15-29.

If we take a look at the results for the three Italian regional groupings, namely the North, Centre and South, we notice that changes in fertility behaviour act differently across Italian regions. The curve of the

mean age at childbearing is U-shaped for all the three Italian regional groupings, but the North registered first an increase in the mean age at childbearing in the period 1975-1980, followed by the Centre and the South in 1980-1985. The declining pattern of the mean age at childbearing is concomitant with the strongest decrease of fertility. For the North and the Centre it emerges that soon after the slow down of the fertility decline, the mean age at childbearing starts increasing. For the South such a temporal relationship is not so clear, but the increase of the mean age at childbearing is nonetheless linked to significantly lower fertility levels. Referring to the model parameters (Table 3), in the North and in the Centre up to the mid 1960s the decline of the mean age at motherhood is driven by the increase of fertility of I and II birth order at younger ages (which in a cohort perspective is actually translated into an earlier timing, but not into higher total fertility-the Italian baby boom), besides the role played by the decline of fertility of higher birth orders. In the South a central role is played by the decline of fertility of higher birth orders at older ages, even though it cannot be disregarded also the effect of the increase of fertility of lower birth orders at younger ages. In the North up to 1975 and in the Centre up to 1980 the decline is further mainly triggered by the decrease of fertility of all birth orders at higher ages (negative sign of the model parameters). In the Southern Italian regions the decline is related to the decrease of fertility of II ad III+ birth orders realised at higher ages. Later on, the increase of the mean age at childbearing in the North-Centre is driven by the decline of fertility firstly of I birth and secondly of II birth order at younger ages. It emerges clearly also the role played by the increase of fertility of I and II birth order at higher ages, which suggests that women postpone their motherhood commitments. For the North it is also interesting to note for the period 1995-2000 that the model parameters regarding fertility of I and II birth order at younger ages are negative, confirming thus an increase of fertility for more recent cohorts. Such a result is probably not linked to an increase in fertility intensity from a cohort perspective, but rather indicates an end to fertility postponement. A similar result is found for the Centre. In the South a significant contribution to the increase of the mean age at motherhood is given by the decline of early fertility of all birth orders. Moreover, the effect of the increase of fertility at higher ages of I and II birth orders has also to be noted, which confirms the presence of the postponement process also in this part of the country. However, contrarily to the North-Centre dynamics, in the South a still significant effect is related to changes in fertility of higher birth orders, even though the declining pattern of high birth order fertility at older ages (negative sign of the model parameters) cannot counterbalance the effect of lower birth order fertility postponement.

Table 3: Results of the decomposition model for Italian regional groupings

North	1955-60	1960-65	1965-70	1970-75	1975-80	1980-85	1985-90	1990-95	1995-00
$\Delta\mu\%$	-1.29	-1.82	-1.43	-2.28	0.50	3.57	3.75	3.50	1.07
fI_{15-29}	-0.69	-1.48	0.01	-0.54	2.73	2.56	1.76	1.68	-0.56
fI_{30+}	0.06	0.02	-0.23	-0.15	-0.31	0.17	0.56	0.72	0.72
fII_{15-29}	-0.24	-0.66	0.01	0.00	0.78	0.73	0.69	0.55	-0.02
fII_{30+}	0.18	0.33	-0.32	-0.40	-0.81	0.27	0.63	0.57	0.84
$fIII_{15-29}$	-0.05	-0.16	-0.02	0.08	0.15	0.11	0.08	0.06	-0.02
$fIII_{30+}$	-0.54	0.13	-0.88	-1.27	-2.03	-0.27	0.02	-0.09	0.11
Centre	1955-60	1960-65	1965-70	1970-75	1975-80	1980-85	1985-90	1990-95	1995-00
$\Delta\mu\%$	-0.74	-1.19	-1.00	-1.98	-0.13	3.43	3.84	3.58	2.22
fI_{15-29}	-0.28	-1.17	0.26	-0.53	2.01	2.51	1.63	1.97	-0.01
fI_{30+}	0.06	0.05	-0.11	-0.12	-0.33	0.20	0.61	0.56	0.74
fII_{15-29}	-0.15	-0.49	-0.01	-0.01	0.60	0.73	0.83	0.73	0.28
fII_{30+}	0.27	0.41	-0.41	-0.30	-0.71	0.22	0.56	0.45	0.97
$fIII_{15-29}$	-0.01	-0.09	0.01	0.05	0.13	0.07	0.10	0.07	0.10
$fIII_{30+}$	-0.62	0.10	-0.75	-1.07	-1.82	-0.29	0.11	-0.21	0.14

Table 3 (continued)

South	1955-60	1960-65	1965-70	1970-75	1975-80	1980-85	1985-90	1990-95	1995-00
$\Delta\mu\%$	-1.46	-1.48	-1.22	-2.42	-1.72	0.44	1.99	2.39	2.28
fI_{15-29}	-0.27	-0.54	0.16	-0.56	0.80	1.19	0.97	1.77	0.49
fI_{30+}	0.03	0.02	-0.14	-0.03	-0.08	-0.16	0.23	0.24	0.37
fII_{15-29}	-0.20	-0.29	-0.01	-0.06	0.35	0.60	0.74	0.91	0.64
fII_{30+}	0.05	0.06	-0.08	-0.12	-0.25	-0.10	0.21	0.24	0.79
$fIII_{15-29}$	-0.10	-0.13	0.06	0.29	0.24	0.27	0.21	0.21	0.25
$fIII_{30+}$	-0.96	-0.59	-1.21	-1.94	-2.78	-1.36	-0.36	-0.97	-0.27

Notes: μ is the mean age at childbearing. fI_{15-29}, and similar, is the effect of the change of age-specific fertility rates of I birth order in the ages 15-29.

Concluding remarks and further research

In a previous paper (Giorgi and Mamolo 2006) we developed a model for the decomposition of the changes in the proportion of fertility over the age of 30, using as decomposition factors fertility below and over 30 years, separately for I and II+ birth order. In order to better understand late fertility dynamics we focused in this paper on the changes of the mean age at childbearing. Thus, we used directly the fertility calendar indicator to analyse fertility ageing without the need to establish a specific threshold for late fertility. Moreover, in the current model we split II+ birth order in II and III+, as we assume that important regional differences in Italy are related to higher birth order dynamics. This is confirmed also by our preliminary results which suggest that in the North and in the Centre a central role is played by lower birth orders (I and II), while in the South the effect of birth order III+ cannot be disregarded.

The next steps for further research should proceed in different directions. First, the use of a period calendar indicator based on fertility incidence rates poses serious limitations to the current research. If on the one hand the model allows to identify the effect of changes in period fertility on the period fertility calendar indicator, it is not able to provide evidence regarding changes in cohort fertility (timing and/or intensity) on the other hand. Therefore, the model should be improved by taking into account cohort fertility and/or age and parity-specific probabilities. However, each of these improvements places serious realizability issues as it heavily depends on the availability of data. Second, the model in its current specification could be applied to other European countries for a comparative analysis about the effects of changes in period fertility on the dynamics of the mean age at childbearing.

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