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Has the Fertility Decline Come to an End in the Different Regions of Italy? New Insights from a Cohort Approach

Since the early 1980s, Italy has been characterized by low fertility, and since the late 1990s, by lowest-low fertility. Indeed, the country has often been cited as an example of extreme fertility decline (Frejka and Calot, 2001; Kohler et al., 2002; Sobotka, 2003; Frejka and Sardon, 2005, 2006; Sardon, 2006). However, since the turn of the twenty-first century, new Italian fertility trends⁽¹⁾ have emerged, with radical changes in birth rates and in the timing of fertility (Dalla Zuanna and Micheli, 2004; Mencarini and Tanturri, 2006).

It is possible to study recent fertility behaviour using data released by the Italian National Institute of Statistics (Istituto nazionale di statistica, ISTAT) on age-specific fertility rates from 1999-2005. Although these data originate from a source different from that of an earlier series (1952-1996, see below) the two data sets are of a comparable nature (ISTAT, 2006a) and can therefore be used together.

A number of different approaches have been employed when studying fertility (Frejka and Sardon, 2005) such as using period measures, tempo-corrected period measures (Ryder 1964; Bongaarts and Feneey, 1998), cohort measures (Santini, 1974, 1995; Frejka and Sardon, 2005), or even a combination of these techniques (Livi Bacci, 1977; Festy, 1979). In this paper, a cohort approach (building on the work of Rallu, 1983 and Sorvillo and Terra Abrami, 1993) is employed in order to provide an updated picture of fertility at a cohort level across Italian regions.

An analysis at the regional level also allows for a more detailed depiction of Italian fertility. Although researchers have investigated Italian fertility at the national level and have observed the country's general pattern of very low fertility, a number of scholars have demonstrated that this approach is somewhat misleading (Livi Bacci, 1977; Rallu, 1983; Del Panta, 1996 and most recently, Kertzer et al., 2006 and Santini, 2006).

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(1) Assuming, of course, that a fertility pattern that can truly be called "Italian" exists (see Terra Abrami and Sorvillo 1993, p. 738).

Not only are there considerable differences in fertility patterns between northern and southern Italy (Santini, 1995; De Sandre, 2000), but divergences also exist within these two macro-regions (Santini, 2006). In fact, the range of fertility levels across the country recently motivated ISTAT to employ, for more accuracy, a multiregional model for its population forecast (Terra Abrami, 1998; ISTAT, 2002).

This short paper has four main aims: i) to describe changes in total cohort fertility rate (TCFR) for female cohorts who have already completed their reproductive period (1935-1956); ii) to estimate TCFR for those cohorts (1957-1968) who, even if they have not yet completed their reproductive period, have only a small fraction (no more than 10%) yet to conclude; iii) to verify whether Italy's long-standing decline in cohort fertility continues to hold true for those cohorts born after 1969, or whether there are signs that this process is slowing or even coming to a halt; iv) to explore whether women born in the late 1960s and early 1970s tend to recover fertility levels after the age of 29, and to compare their fertility behaviour with that of women born in the 1950s and early 1960s.

Data from two of the most representative regions of Italy have been chosen in order to depict changes in fertility behaviour⁽²⁾: Lombardy, the most industrialized and populated region of northern Italy, whose major city is Milan, and Campania, the most inhabited southern region of Italy, whose largest urban centre is Naples.

1. Data and methods

Regional age-specific fertility rates analysed here come from two different sources: the *Stato Civile* registers, which record births (and other vital events) from the present (*de facto*) population (ISTAT, 1997, 1998a, 1998b, 2000; Terra Abrami and Sorvillo, 1993) for the years 1952-1996, and the *Anagrafe* registers, which record births (and other vital events) from the resident (*de jure*) population, for the years 1999-2005⁽³⁾.

Until now, no recent studies have validated the comparability of these two sources. However, Istat's (1998) analysis of fertility in Italy from 1952-1993 did evaluate the number of births per year given in the two different sources, and found only negligible differences. ISTAT (2006a) has also used data from these two sources to study changes in Italian fertility over the last ten years (1995-2004). Moreover, the data series available from the *Anagrafe* have excellent coverage, which increased from 95.8% in 1999 to 98.9% in 2001 (the latest coverage available). For these reasons, it should be acceptable to use the two series together without introducing significant bias into the analysis.

Age-specific fertility rates for the years 1997 and 1998 are not available due to the sudden termination of the *Stato Civile* data collection (Prati et al., 2004).

(2) Complete data and figures for all Italian regions can be found in Caltabiano (2006).

(3) Currently available only on line at <http://demo.istat.it>

These rates were thus estimated by means of a least squares procedure, using data from 1992 to 1996 and from 1999 to 2003. Two interpolative estimates were produced: one linear, using data by calendar years, the other parabolic, through use of cohort data. The final estimation of each age-specific fertility rate at a regional level for the years 1997 and 1998 was given by the unweighted average of the two⁽⁴⁾.

The aggregation of cross-sectional data at a cohort level provides the complete age schedule of fertility for the 1937-1956 cohorts. For the 1935 and 1936 cohorts, fertility rates at ages 15 and 16 were estimated, assuming them to be the same as the 1937 cohort.

For the 1957-1968 cohorts, TCFR was partially estimated, hypothesizing that age-specific fertility rates will not change between younger and older cohorts⁽⁵⁾. Indeed, this portion is never more than 10% of the TCFR.

Finally, due to the intrinsic characteristics of the data sources, the age-specific fertility rates analysed here refer to two overlapping cohorts. Consequently, the birth year of the younger cohort is used for the sake of simplicity (as seen in Rallu, 1983).

2. A comparison of period (1952-2006) and cohort (1935-1968) fertility rates across Italian regions

In the northern regions of Italy, the period total fertility rate (TFR) shows an irregular pattern, with a considerable increase in the early 1960s during the baby-boom years (Terra Abrami and Sorvillo, 1993), followed by a decline which then accelerated during the late 1970s. TFR reached its minimum in 1995 and then began to slowly increase. In the regions of southern Italy, no baby boom occurred and the decline in TFR was comparatively slower in the 1960s. This was followed by an accelerated decline in the 1970s. At present, the decline in TFR in southern Italy has not reached a minimum level, but has slowed, and almost stabilized at low levels in several regions (for further details on recent regional fertility trends in Italy see Livi Bacci and Salvini, 2000; Santini, 2006).

(4) Although ISTAT recently published an estimation of TFR and mean age at childbearing for 1997 and 1998 at a regional level using a complex ARIMA procedure (Battaglini and Iaccarino, 2006), they did not provide estimations of age-specific fertility rates. A comparison between Istat's results and the estimations in this paper reveal only minimal differences.

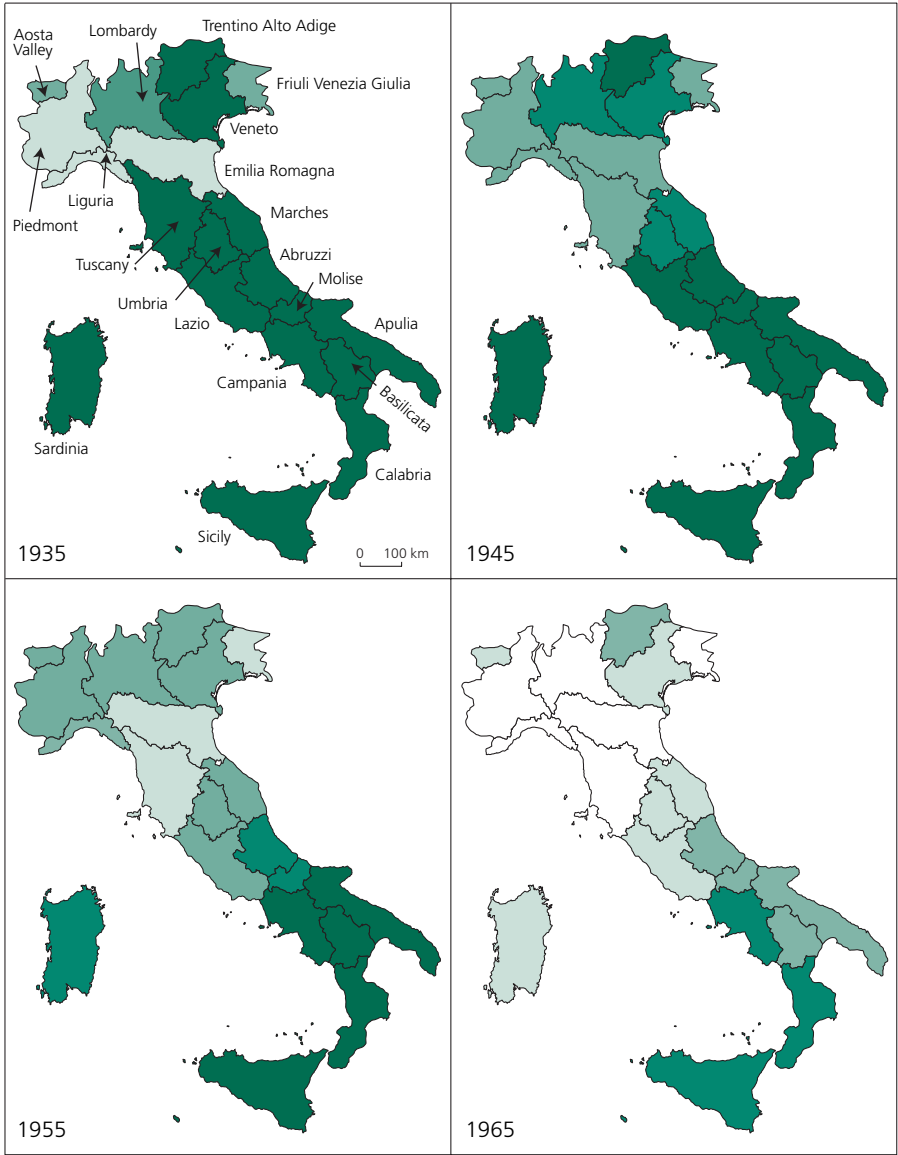
(5) For example, for the 1957 cohort, the fertility rate at age 49 is estimated to be the same as that for the 1956 cohort at age 49; for the 1958 cohort, the fertility rate at age 49 is estimated to be the same as that for the 1956 cohort at age 49; at age 48 it is estimated to be the same as that of the 1957 cohort at age 48, and so on. The last TCFR estimated refers to that of the 1968 cohort, whose fertility rates between the ages of 38 and 49 are estimated to be respectively the same as those of the 1967 and the 1956 cohorts. This procedure may underestimate fertility, if the postponement of births continues over the years that follow, or if the recuperation is more significant than that of the recent past. The underestimation, however, is never higher than 0.02 children per woman, compared to a model with a constant increase in rates.

Table 1. Levels of TCFR and mean age at childbirth in the Italian regions, 1935-1965 cohorts

Region	TCFR (children per woman)					Mean age at childbirth (years)						
	1935	1945	1950	1955	1960	1965	1935	1945	1950	1955	1960	1965
Northern Italy												
Piedmont	1.75	1.80	1.68	1.61	1.48	1.35	28.5	26.6	26.4	26.7	28.1	29.9
Aosta Valley	1.83	1.79	1.61	1.65	1.52	1.42	28.2	26.7	26.1	26.8	27.8	29.5
Lombardy	1.98	1.85	1.71	1.63	1.51	1.38	28.9	27.1	27.1	27.3	28.6	30.3
Trent. A.A.	2.43	2.02	1.84	1.71	1.67	1.64	29.6	27.9	27.8	28.1	28.8	30.0
Veneto	2.26	1.97	1.78	1.66	1.53	1.40	28.7	27.0	27.0	27.3	28.5	30.3
Friuli V.G.	1.90	1.72	1.59	1.50	1.39	1.26	28.0	26.7	26.6	27.2	28.3	30.2
Liguria	1.67	1.68	1.49	1.39	1.30	1.19	28.8	26.8	27.0	27.6	29.1	30.7
Em. Rom.	1.79	1.73	1.55	1.45	1.37	1.27	27.8	26.4	26.2	26.7	28.2	30.0
Tuscany	1.82	1.79	1.61	1.53	1.41	1.32	28.2	26.8	26.8	27.1	28.3	30.1
Umbria	1.88	1.80	1.71	1.64	1.61	1.43	27.9	26.8	26.9	27.1	28.0	29.3
Marches	1.96	1.88	1.77	1.71	1.59	1.44	28.0	26.9	26.9	27.3	28.1	29.7
Lazio	2.24	2.08	1.92	1.79	1.68	1.53	28.3	26.9	26.9	27.2	28.2	29.9
Southern Italy												
Abruzzi	2.20	2.03	1.94	1.91	1.82	1.66	28.3	26.8	26.7	26.8	27.5	28.9
Molise	2.28	2.12	1.95	1.91	1.85	1.63	28.6	27.0	26.7	26.7	27.1	28.6
Campania	3.01	2.66	2.38	2.28	2.14	1.95	29.6	27.8	27.5	27.1	27.3	28.0
Apulia	2.97	2.51	2.30	2.20	2.01	1.79	29.1	27.4	27.1	26.8	27.2	28.2
Basilicata	2.87	2.40	2.20	2.07	1.91	1.75	29.2	27.3	27.1	27.2	27.6	28.5
Calabria	3.05	2.50	2.28	2.16	2.05	1.83	28.8	27.4	27.1	27.0	27.0	27.7
Sicily	2.86	2.49	2.29	2.23	2.10	1.91	28.3	26.9	26.8	26.6	26.9	27.6
Sardinia	2.97	2.36	2.09	1.87	1.68	1.43	29.6	28.3	27.8	27.7	28.0	29.5
Italy	2.30	2.08	1.91	1.83	1.71	1.55	28.6	27.1	26.9	27.0	27.8	29.2
Var. Coeff.	0.210	0.149	0.146	0.148	0.149	0.145	0.020	0.017	0.016	0.014	0.022	0.031
Source: Author's calculations based on ISTAT data (Stato Civile for the years 1952-1996; Anagrafe for the years 1999-2005; estimate for the years 1997 and 1998).												

Source: Author's calculations based on ISTAT data (Stato Civile for the years 1952-1996; Anagrafe for the years 1999-2005; estimate for the years 1997 and 1998).

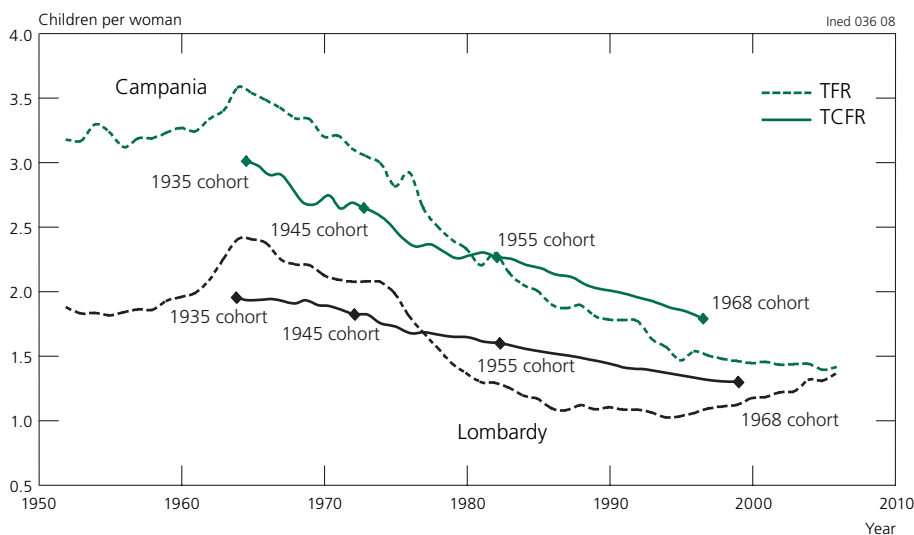
Figure 1. TCFR of 1935, 1945, 1955 and 1965 cohorts in Italian regions



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Source: Author's calculations based on ISTAT data (*Stato Civile* for the years 1952-1996; *Anagrafe* for the years 1999-2005; estimate for the years 1997 and 1998).

Figure 2. TFR and TCFR (lagged by mean age at childbearing), Lombardy and Campania



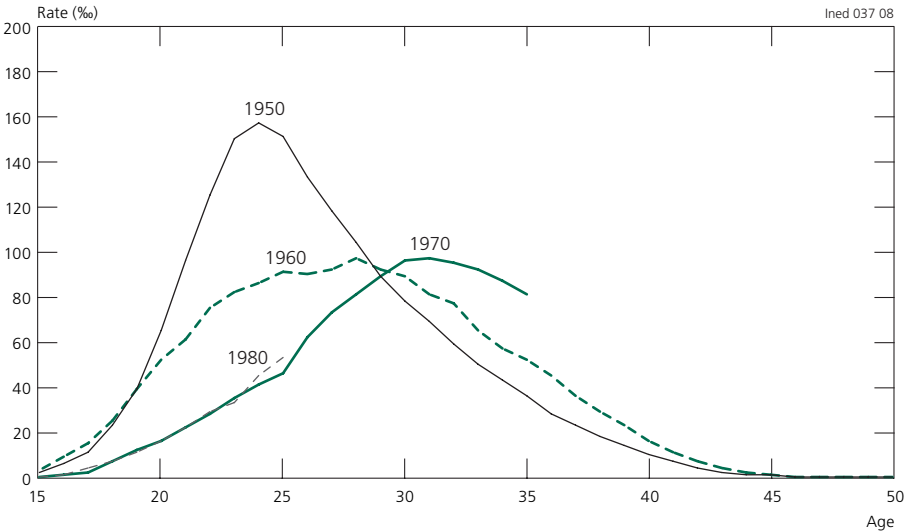
Source: Author's calculations based on ISTAT data (*Stato Civile* for the years 1952-1996; *Anagrafe* for the years 1999-2005; estimate for the years 1997 and 1998).

The changes in TCFR, on the other hand, are less irregular than those seen in the TFR: there is no baby boom and the decrease in cohort fertility is slow but continuous, at least from the cohorts born in the late 1930s (Terra Abrami and Sorvillo, 1993). Table 1 and Figure 1 present these differences and the variations in regional TCFRs.

The decline in TCFR was slower and more regular in the regions of northern Italy, where the cohorts born in the 1930s already had low fertility levels. In the southern regions, on the other hand, the decline occurred more quickly, as illustrated by the case of Campania (Figure 2). Thus, changes in regional cohort fertility have followed the same general pattern of diffusion as that seen in the demographic transition in Italy: starting in the north and the west and then moving to the south and the east (Livi Bacci, 1977).

The decline in cohort fertility in the northern regions slows or comes to a halt for those cohorts born after 1970, while in southern Italy this decline continues. Women born in 1970 and in 1980 in the northern regions of Italy have similar characteristics with regard to the first part of their reproductive lives, as shown by the case of Lombardy (Figure 3). Women born in 1960, on the other hand, are comparatively quite different in that they began childbearing at an earlier age. However, overall TCFR for these cohorts may ultimately be rather similar, given that a fertility recovery appears to occur among younger cohorts after age 30 (beginning childbearing later).

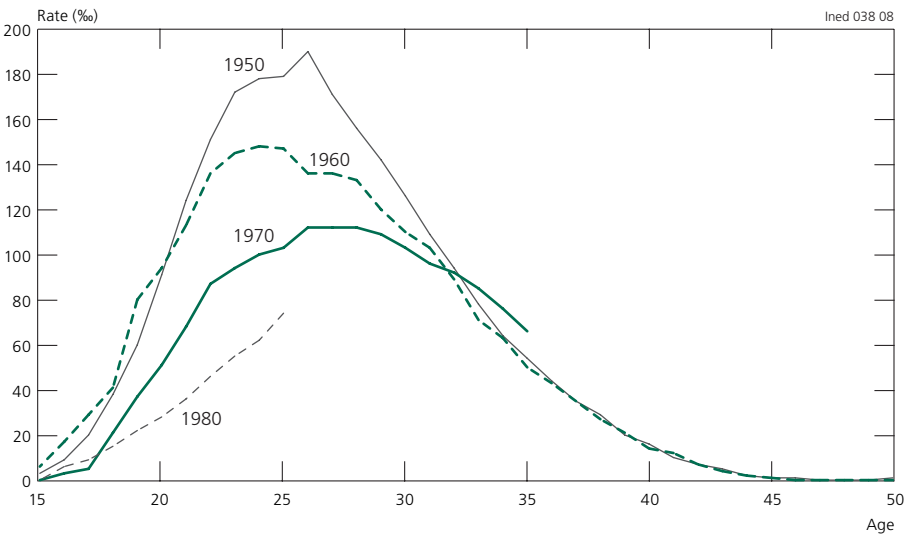
Figure 3. Cohort age-specific fertility rates (%), Lombardy, 1950-1980 cohorts



Source: Author's calculations based on ISTAT data (*Stato Civile* for the years 1952-1996; *Anagrafe* for the years 1999-2005; estimate for the years 1997 and 1998).

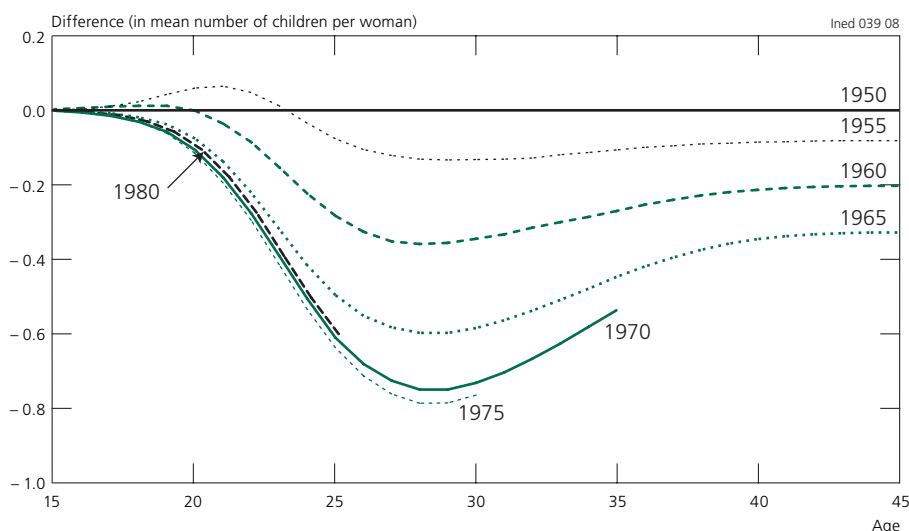
In the southern regions, such as Campania (Figure 4), the fertility of the 1970 cohort is much lower than that of the 1960 cohort. For the 1980 cohort, this decline continues (although less dramatically) and the timing of fertility begins slightly later (GCD-SIS, 2007).

Figure 4. Cohort age-specific fertility rates (%), Campania, 1950-1980 cohorts



Source: Author's calculations based on ISTAT data (*Stato Civile* for the years 1952-1996; *Anagrafe* for the years 1999-2005; estimate for the years 1997 and 1998).

Figure 5. Differences in CCFR between base and subsequent cohorts, Lombardy, women born in 1950 (base) and 1955-1980



Source: Author's calculations based on ISTAT data (*Stato Civile* for the years 1952-1996; *Anagrafe* for the years 1999-2005; estimate for the years 1997 and 1998).

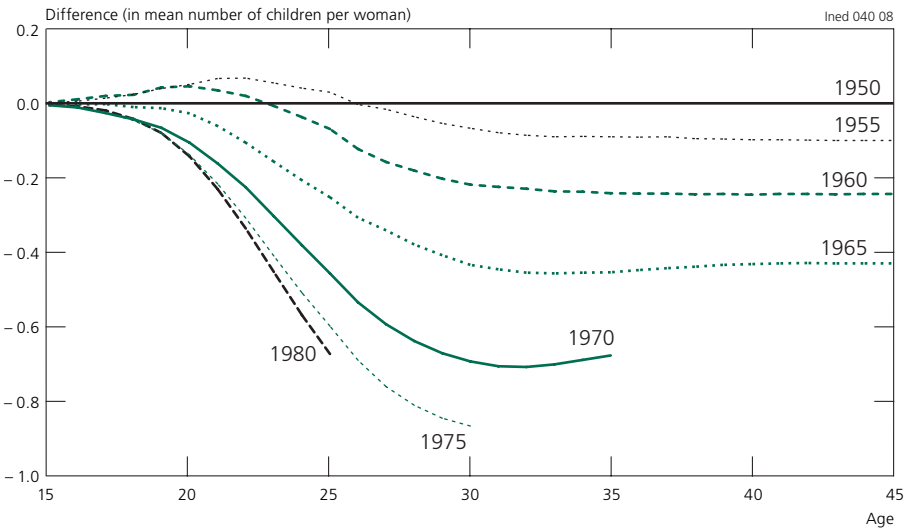
This pattern of fertility recovery becomes evident when comparing cumulated cohort fertility rates (CCFR) up to age x for the 1950-1980 cohorts (Figures 5 and 6). We take the cohort born in 1950 as our base, and then compare their cumulated fertility with that of the younger cohorts⁽⁶⁾ (Frejka and Calot, 2001; Sardon, 2006). Data are fully observed for the 1950 and 1955 cohorts, and partly estimated for the 1960 and 1965 cohorts. CCFRs are also shown up to the age of 35 for the 1970 cohort, up to the age of 30 for the 1975 cohort, and up to age 25 for the 1980 cohort.

That fertility decline has come to an end in the northern regions is evident when comparing the 1980 cohort with the 1975 cohort. Moreover, a comparison of the 1975 cohort with the cohort of 1970 reveals only a very slight decline in early fertility. In addition, these data demonstrate fertility recuperation on the part of the 1960 and 1965 cohorts when compared with the 1950 cohort. For example, in Lombardy (Figure 5) the difference in the CCFR between the 1950 and the 1965 cohorts decreases from a maximum of -0.602 child per women at age 29 to -0.331 at age 45. Between the 1950 and 1960 cohort, there is a decrease from -0.362 child per women at age 29 to -0.205 at age 45.

In southern Italy, the fertility recovery is almost non-existent for the 1960 and 1965 cohorts when compared with that of the 1950 cohort, as illustrated by the case of Campania. Fertility declines from the 1970 to the 1975 cohort.

(6) That is, ${}^{1950}\text{CTFR}_x - {}^i\text{CTFR}_x$, where i is the cohort and x the age up to which age-specific fertility rates are cumulated.

Figure 6. Differences in CCFR between base and subsequent cohorts, Campania, women born in 1950 (base) and 1955-1980



Source: Author's calculations based on ISTAT data (*Stato Civile* for the years 1952-1996; *Anagrafe* for the years 1999-2005; estimate for the years 1997 and 1998).

It is only beginning with the 1980 cohort that the decline in fertility seems to slow when compared to the cohort born five years earlier (Figure 6).

More generally, the overall recovery of fertility in Italy has exceeded the expectations of a number of scholars. Frejka and Calot (2001), Sobotka (2004), and Frejka and Sardon (2005), respectively estimated TCFR for the 1960 cohort in Italy at 1.61, 1.67, and 1.60 children per woman, while our estimation is 1.71 (see Table 1)⁽⁷⁾.

Finally, the recuperation in cohort fertility is related to changes in women's fertility schedules: the CCFR in the northern regions of Italy after the age of 29 for the 1965 cohort is about 50% of the TCFR, while in southern Italy the CCFR is still around 35% with a minimum of 32.9% in Calabria and Sicily (Table 2). Indeed, the northern and southern regions of Italy have followed distinctly different patterns over time. In the northern regions, fertility rates

(7) Many scholars who, at the beginning of the present decade, attempted to estimate the TCFR for Italian female cohorts born in the 1960s often wound up underestimating fertility recuperation for these cohorts at older ages, due to a significant postponement of births. While the CCFR after age 29 for women born in the 1950s is less than a third of the TCFR, for women born in 1960s this same percentage is about half of the TCFR (see also Table 2 and Figure 7). More generally, changes in fertility schedule between one cohort and the next have occurred more quickly than scholars expected. Furthermore, studies at the turn of the century attributed a great deal of importance to the long-term structural components of fertility decline in Italy, which instead have played a lesser role than anticipated. However, note also that our estimations of the TCFR for the Italian cohorts of 1966 and 1967 (1.52 and 1.50 respectively) are consistent with those proposed by Sardon (2006) (1.49 and 1.47 respectively).

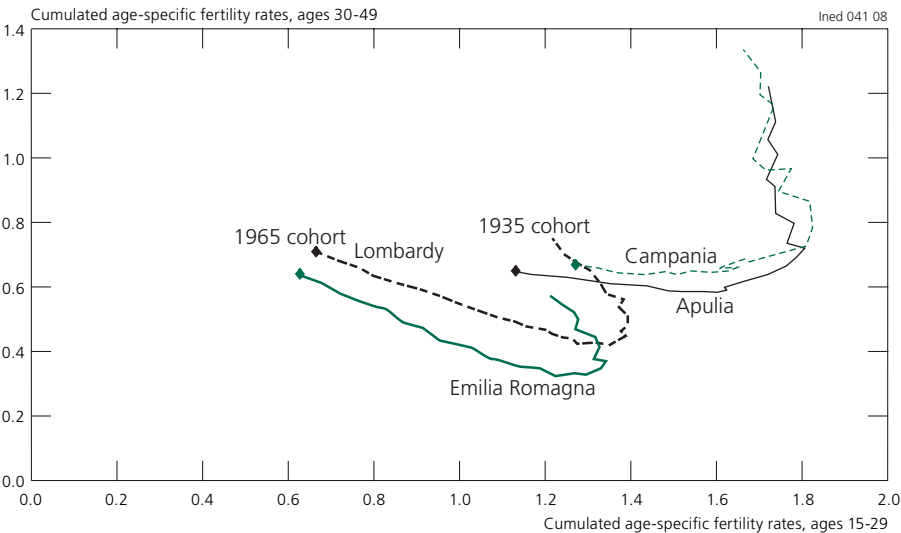
Table 2. Percentage of TCFR after age 29 for the 1950 and the 1965 cohort by Italian region

Region	1950	1965	Region	1950	1965
Northern Italy			Southern Italy		
Piedmont	22.1	48.8	Abruzzi	23.3	40.1
Aosta Valley	20.5	46.0	Molise	24.5	38.3
Lombardy	25.9	51.7	Campania	29.2	34.5
Trentino Alto Adige	31.3	49.0	Apulia	27.2	36.6
Veneto	25.2	51.6	Basilicata	26.9	37.4
Friuli Venezia Giulia	22.9	50.9	Calabria	27.8	32.9
Liguria	25.9	55.4	Sicily	27.1	32.9
Emilia Romagna	21.7	50.5	Sardinia	31.6	46.2
Tuscany	23.9	50.7			
Umbria	24.5	44.3			
Marches	23.4	46.8			
Lazio	25.1	48.2	Italy	25.8	43.8

Source: Author’s calculations based on ISTAT data (*Stato Civile* for the years 1952-1996; *Anagrafe* for the years 1999-2005; estimate for the years 1997 and 1998).

initially declined at older ages, while at younger ages fertility slightly increased. This pattern ended with the cohorts born in the late 1940s, and was followed by a decline in fertility at ages 15-29 and a simultaneous increase in fertility

Figure 7. Relationship between the CCFR for ages 15-29 and 30-49, for the cohorts born from 1935 to 1965, in Lombardy, Emilia Romagna, Campania and Apulia



Note: The diamonds correspond to the 1965 cohort.
Source: Author’s calculations based on ISTAT data (*Stato Civile* for the years 1952-1996; *Anagrafe* for the years 1999-2005; estimate for the years 1997 and 1998).

at ages 30-49. The southern regions, on the other hand, were characterized by a first phase of sharp fertility decline at the older ages (due to a reduction in higher order births) and by relative stability at the younger ages. A second phase, beginning with the cohorts born in late 1940s, saw fertility at ages 30-49 decline slowly or stabilize, while fertility at ages 15-29 began to decline quite gradually up until the most recent data available (see Figure 7 – curves for all other northern and southern regions do not diverge significantly from those shown above).

Conclusion

An examination of Italian fertility on a regional level reveals two distinct patterns in reproductive cohort behaviour. In northern Italy, the decline in fertility slows or even stops beginning with the cohorts born in the 1970s. In several regions, such as in Emilia Romagna, fertility levels have even begun to increase, starting with the cohorts born in the early 1980s (Caltabiano, 2006). Although this increase has not been significant enough to reach replacement level, a continual rise in fertility over time could eventually stabilize at a TCFR of 1.6-1.7 children per woman. This level of fertility, accompanied by a sustainable flow of immigrants⁽⁸⁾, may bring to an end the decline in the number of working-age individuals residing in the North.

In the South, fertility continues to decline for the cohorts born in the 1970s, while a clear trend has not yet emerged for the cohorts born in the early 1980s. There are also significant differences among the southern regions. For example, the fertility schedules in the regions of Abruzzo and Molise are becoming more and more similar to that of the northern regions. In Campania and in Sicily, fertility has decreased slowly, while in the regions of Apulia, Basilicata, and Calabria, the decline has been much more dramatic. This negative fertility trend will most likely continue over the next few years such that southern Italy will increasingly be characterized by a rapidly ageing population and by a considerable decrease in the number of overall inhabitants (ISTAT, 2002). The causes of such decline include smaller and smaller cohorts of newborns (made more apparent by the significant outflow of individuals towards the north and abroad – ISTAT, 2006b; GCD-SIS, 2007) and the limited appeal of the south for immigrants from less developed countries (Dalla Zuanna, 2005).

(8) The role of immigration in the recent rise in period fertility in northern Italy is a controversial subject. Some scholars argue that the ever larger presence of immigrants in northern Italy has been a significant factor in the increase in fertility rates (GCD-SIS, 2007; ISTAT, 2006a). Others, however, believe that migrants have been less influential in changing fertility patterns. They suggest that the contribution of immigrant women to overall fertility rates in the last few years has fluctuated significantly and is so erratic that it is difficult to clearly define the role migration has played in changing fertility trends. Instead, these scholars often emphasise the recovery of fertility via postponed births on the part of Italian women who are over the age of 30 (Caltabiano et al., 2007).

Thus, the observations made by Rallu (1983) and Terra Abrami and Sorvillo (1993) continue to hold significance for the cohorts born up until the 1960s. The reproductive behaviour of these women certainly diverges across the Italian regions, as shown by the remarkable differences in cohort parity distribution between northern and southern Italy. We can therefore confirm the presence of two diverse reproductive regimes, deeply rooted in the social and economic disparities between regions (Santini, 1995; 2006; White et al., 2007).

Nevertheless, recent patterns in Italian fertility reveal a diminished variance between regions, beginning with the cohorts born in the 1970s⁽⁹⁾. If this trend remains constant over time, regional differences may eventually become less marked, or even vanish altogether (see GCD-SIS, 2007 for further discussion).

The data presented in this short paper depict the general pattern of fertility in Italy and its different regions at the beginning of the twenty-first century. It would be possible to obtain a more complete picture if detailed cohort birth order data were available after 1997. This lack of information may partially be remedied by data from surveys such as the *Famiglia and Soggetti Sociali* Survey, conducted by ISTAT in 2003. This survey shows that for younger cohorts (born between 1960 and the early 1970s), the number of childless women is increasing, to as much as 17% – a level already experienced by women born in 1920 (Santini, 1995). Moreover, the proportion of first-order births is increasing slightly. Finally, there is a rise in second order births, while third and higher order births are decreasing (GCD-SIS, 2007).

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(9) In February 2007, ISTAT published TFR data by parity at a regional level (<http://demo.istat.it/fecondita/index.html>) demonstrating that birth distribution by parity remained unchanged in northern Italy between 1995 and 2004. In the regions of southern Italy (especially in Basilicata, Calabria, Sicily and Sardinia), the ratio of first births to total births increased while the ratio of 3+ order births decreased, suggesting at least a partial convergence toward the northern model.



REFERENCES

- BATTAGLINI M., IACCARINO C., 2006, Nota Metodologica, Rome, ISTAT (available online at: <http://demo.istat.it/altridati/natid1d2/Nota%20metodologica.pdf>).
- BONGAARTS J., FEENEY G., 1998, "On the quantum and tempo of fertility", *Population and Development Review*, 24(2), pp. 271-291.
- CALTABIANO M., 2006, "Recent developments in cohort fertility in Italian regions", *Working Paper Series*, 2/06, Padoue, Dipartimento di Scienze Statistiche dell'Università di Padova (available online at: www.stat.unipd.it/ricerca).
- CALTABIANO M., CASTIGLIONI M., ROSINA A., 2007, "Italian fertility: Is a recovery under way?", paper presented at the annual conference of the Population Association of America, New York, USA, 29-31 March 2007.
- DALLA ZUANNA G., 2005, "Una nuova primavera demografica", *Il Mulino*, 6, pp. 1061-1071.
- DALLA ZUANNA G., MICHELI G.A., (eds), 2004, *Strong Family and Low Fertility, a Paradox?*, Dordrecht, Kluwer Academic Publishers.
- DEL PANTA L., 1998, "L'Italie", in J.-P. Bardet and J. Dupâquier (eds.), *Histoire des populations de l'Europe*, vol. II : *La révolution démographique (1750-1914)*, Paris, Fayard, pp. 513-532.
- DE SANDRE P., 2000, "Patterns of fertility in Italy and factors of its decline", *Genus*, vol. LVI, pp. 19-54.
- FESTY P., 1979, *La fécondité des pays occidentaux de 1870 à 1970*, Travaux et Documents 85, Paris, Ined/Puf.
- FREJKA T., CALOT G., 2001, "Cohort reproductive patterns in low-fertility countries", *Population and Development Review*, 27(1), pp. 103-132.
- FREJKA T., SARDON J.-P., 2005, "The direction of contemporary fertility trends in the developed countries: Further decline, plateau or upswing?", paper presented at the 25th IUSSP International Conference, Tours, France 18-23 July 2005.
- FREJKA T., SARDON J.-P., 2006, "First birth trends in developed countries: Persisting parenthood postponement", *Demographic Research*, 15, pp. 147-180.
- GCD-SIS (GRUPPO DI COORDINAMENTO PER LA DEMOGRAFIA PRESSO LA SOCIETÀ ITALIANA DI STATISTICA), 2007, *Rapporto sulla popolazione. L'Italia all'inizio del XXI secolo*, Bologna, Il Mulino.
- ISTAT, 1997, *La fecondità nelle regioni italiane, analisi per coorti: anni 1952-1993*, Rome, Istat (Collana Informazioni, no. 35).
- ISTAT, 1998a, *La fecondità regionale nel 1994*, Rome, Istat (Collana Informazioni, no. 66).
- ISTAT, 1998b, *La fecondità regionale nel 1995*, Rome, Istat (Collana informazioni, no. 97).
- ISTAT, 2000, *La fecondità regionale nel 1996*, Rome, Istat (Collana Informazioni, no. 11).
- ISTAT, 2002, *Previsioni della popolazione residente per sesso, età e regione dal 1.1.2001 al 1.1.2051*, Rome, Istat (Collana informazioni, no. 13).
- ISTAT, 2006a, *Natalità e fecondità della popolazione residente: caratteristiche e tendenze recenti – Anno 2004*, press release, 1 August 2006, Rome, Istat.
- ISTAT, 2006b, *Annuario Statistico Italiano – Anno 2006*, Rome, Istat.
- KERTZER D.I., WHITE M.J., BERNARDI L., GABRIELLI G., 2006, "Toward a better theory of very low fertility: Lessons from Italy", paper presented at the annual conference of the Population Association of America, Los Angeles, USA, 30 March – 1 April.
- KOHLER H.-P., BILLARI F.C., ORTEGA J.A., 2002, "The emergence of lowest-low fertility in Europe during the 1990s", *Population and Development Review*, 28(4), pp. 641-680.
- LIVI BACCI M., 1977, *A History of Italian Fertility During the Last Two Centuries*, Princeton, Princeton University Press.
- LIVI BACCI M., SALVINI S., 2000, "Trop de famille et trop peu d'enfants : La fécondité en Italie depuis 1960", *Cahiers québécois de démographie*, 29, pp. 231-254.

- MENCARINI L., TANTURRI M.L., 2006, "High fertility or childlessness: micro-level determinants of reproductive behaviour in Italy", *Population, English Edition*, 61(4), pp. 389-416.
- PRATI S., BUGIO A., LOGHI M., 2004, "I Cedap come irrinunciabile fonte informativa per i parti e la natalità", in CISIS (ed.), *La rilevazione dei dati del Certificato di assistenza al parto: Stato di attuazione ed esperienze a confronto. Atti dell'incontro tecnico Ministero della Salute – Istat – Regioni, Roma 29 ottobre 2003*, Rome, CISIS (Centro Interregionale per il Sistema Informatico ed il Sistema Statistico).
- RALLU J.-L., 1983, "Permanence des disparités régionales de la fécondité en Italie ?", *Population*, 38(1), pp. 29-60.
- RYDER N.B., 1964, "The process of demographic translation", *Demography*, 1(1), pp. 74-82.
- SANTINI A., 1974, *La fecondità delle coorti: Studio longitudinale della fecondità italiana dall'inizio del secolo 20°*, Dipartimento Statistico Matematico, Florence, Università degli studi di Firenze.
- SANTINI A., 1995, "Continuità e discontinuità nel comportamento riproduttivo delle donne italiane nel dopoguerra: Tendenze generali della fecondità delle coorti nelle ripartizioni tra il 1952 e il 1991", *Working Paper Series* 53, Florence, Dipartimento di Statistica G. Parenti dell'Università di Firenze.
- SANTINI A., 2006, "Nuzialità e fecondità in Italia e nelle sue regioni dalla fine dell'800 agli ultimi anni del'900", paper presented at the 2006 Società Italiana di Demografia Storica Triennial Meeting, Pavia, Italy, 28-30 September 2006.
- SARDON J.-P., 2006, "Recent demographic trends in the developed countries", *Population, English Edition*, 61(3), pp. 197-266.
- SOBOTKA T., 2003, "Tempo-quantum and period-cohort interplay in fertility changes in Europe. Evidence from the Czech Republic, Italy, the Netherlands and Sweden", *Demographic Research*, 8, pp. 151-214.
- SOBOTKA T., 2004, "Is lowest-low fertility in Europe explained by the postponement of childbearing?", *Population and Development Review*, 30(1), p. 195-220.
- TERRA ABRAMI V., 1998, *Le previsioni demografiche*, Bologna, Il Mulino.
- TERRA ABRAMI V., SORVILLO M.P., 1993, "La fécondité en Italie et dans ses régions : analyse par période et par génération", *Population*, 48(3), pp. 735-752.
- WHITE M.J., GABRIELLI G., BERNARDI L., KERTZER D.I., PERRA S., 2007, "Regional context and fertility in contemporary Italy", paper presented at the annual conference of the Population Association of America, New York, USA, 29-31 March 2007.

MARCANTONIO CALTABIANO • HAS THE FERTILITY DECLINE COME TO AN END IN THE DIFFERENT REGIONS OF ITALY? NEW INSIGHTS FROM A COHORT APPROACH

Throughout the twentieth century, Italy was characterized by significant regional differences in fertility rates. In this article, a cohort approach is employed in order to further explore regional variation. More specifically, total cohort fertility rate is calculated for the various Italian regions for cohorts born between 1935 and 1968. In addition, recently published data from the Italian National Institute of Statistics (Istat) for the years 1999-2005 are examined. They allow us to extend our analysis to the first phase in the reproductive lives of cohorts born in the 1970s and in the early 1980s. This analysis shows that first, for the cohorts born up until the 1960s, fertility declines and regional differences remain relevant; and second, for the cohorts born from the 1970s on, the speed of the fertility decline slows in the north and even come to a halt in several regions, while continuing to drop in southern Italy. If this trend remains constant over time, cohort fertility levels in all Italian regions may eventually converge at similar levels.

MARCANTONIO CALTABIANO • LA CHUTE DE LA FÉCONDITÉ TOUCHE-T-ELLE À SA FIN DANS LES RÉGIONS ITALIENNES ? LES ENSEIGNEMENTS D'UNE APPROCHE LONGITUDINALE

Tout au long du XX^e siècle, l'Italie a été marquée par de grandes différences régionales de fécondité. Adoptant une approche longitudinale pour approfondir l'analyse de ces variations, l'auteur a calculé, dans chaque région, la descendance finale des générations nées entre 1935 et 1968. Les données récemment publiées par l'Institut national italien de statistique (ISTAT), qui portent sur les années 1999-2005, permettent d'étendre l'analyse à la première partie de la vie féconde des générations nées dans les années 1970 et au début des années 1980. Les résultats montrent que : (1) pour les générations antérieures à 1970, la chute de la fécondité et les disparités régionales sont bien confirmées ; (2) pour les générations plus récentes, le rythme de la baisse de la fécondité se maintient en Italie du Sud, tandis qu'il ralentit en Italie du Nord, allant même jusqu'à la stagnation dans certaines régions. Si cette tendance perdure, les descendes finales des générations de toutes les régions italiennes pourraient, à terme, converger vers un même niveau.

MARCANTONIO CALTABIANO • ¿LA BAJA DE LA FECUNDIDAD LLEGA A SU FIN EN LAS REGIONES ITALIANAS? LAS LECCIONES DE UN ENFOQUE LONGITUDINAL

A todo lo largo del siglo XX, Italia ha estado caracterizada por grandes diferencias regionales de fecundidad. Adoptando un enfoque longitudinal para profundizar el análisis de estas variaciones, el autor ha calculado, en cada región, la descendencia final de las generaciones nacidas 1935 y 1968. Los datos recientemente publicados por el Instituto nacional italiano de estadística (ISTAT), que se refieren a los años 1999-2005, permiten extender el análisis a la primera parte de la vida fecunda de las generaciones nacidas en los años 1970 y a principios de los años 1980. Los resultados muestran que : (1) para las generaciones anteriores a 1970, la caída de la fecundidad y las disparidades regionales están bien confirmadas ; (2) para las generaciones más recientes, el ritmo de la baja de la fecundidad se mantiene en Italia del Sur, mientras que disminuye en Italia del Norte, yendo incluso hasta el estancamiento en ciertas regiones. Si esta tendencia perdura, las descendencias finales de las generaciones de todas las regiones italianas podrían, dentro de algún tiempo, converger hacia un mismo nivel.