

Between first and second birth in Italy

Tra prima e seconda nascita in Italia

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Riassunto

Lo scopo di questo lavoro è di esplorare l'effetto di alcune caratteristiche di contesto sulla transizione al secondo figlio di un campione rappresentativo di donne italiane. La fonte dei dati a livello individuale è l'Indagine Longitudinale sulle Famiglie Italiane (ILFI). I risultati dell'analisi dei modelli *event history* e per dati gerarchici indicano che la probabilità di sperimentare la transizione al secondo figlio è in parte influenzata dalle caratteristiche del contesto, come la percentuale di donne che lavorano ed il livello di religiosità nella regione di residenza, anche controllando per le caratteristiche socio-demografiche individuali della donna.

Keywords: fertility, event history, multilevel

1. Introduction

Fertility decline in Italy is mainly due to the decline in higher order births rather than a rise in the level of childlessness (Barbagli *et al.*, 2003; Van de Kaa, 2001). Yet, with the exception of the german-speaking countries, most couples in Europe desire two children but many do not have more than one (Goldstein *et al.*, 2004). This paper aims at examining what factors encourage the transition to second birth and affect the way parents space their two first births in Italy, that is the interval between first and second birth (from now on ISB). The paper focuses also on the understanding of the regional variation in fertility behavior in Italy. Regional fertility differences in Italy display total fertility rates ranging from about 0.8 to 1.5 in 2001 (ISTAT, 2002), with high-fertility areas primarily located in the southern part of the country, and the extremely low fertility levels found in the northwest. This variation, while often described, is mostly attributed to not-better specified cultural differences. The paper is a first step of a larger multi-methods project on "Explaining Very Low Fertility in Italy"¹ comparing the culture of reproduction in different Italian regions and paying particular attention to ecological characteristics of the regions.

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2. Data and modelling

The data used comes from the Italian Households Panel (from now on ILFI or “Indagine Longitudinale sulle Famiglie Italiane”), a prospective nationally representative survey covering around 10,000 men and women born between 1900 and 1983. We consider the first three waves (years 1997, 1999 and 2001) collected in 265 municipalities covering the whole Italian territory and providing residential, education, employment, and fertility histories as well as information on the social origin of the family. In the following analysis we consider the sub-sample of women born between 1941 and 1970. Table 1 reports the selected individual characteristics of the sample considered by region and by birth cohort. Given the presence of a strong effect of the area of residence at age 14, we take a multilevel perspective to investigate whether and how regional social contexts influence first and second birth probabilities. We estimate a multilevel model in which individuals are nested into 110 residential units identified by crossing the degree of urbanization (proxy for environment for rearing children, housing conditions, alternative to self-realization) with the 20 administrative regions. At the regional level we consider the degree of urbanization, women’s labor force participation (% of employment²) and the level of religiosity (% of mass attendance³).

Table 1: *Selected individual characteristics by cohorts and area of residence – cohorts 1941-1970, women.*

Characteristics	Cohort	1941-50				1951-60				1961-70			
	Area	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Sample		222	107	206	296	261	90	235	311	312	104	238	351
Median age at first union		23.9	24.3	23.3	23.7	23.3	24.3	23.3	22.5	27.3	28.9	29.1	25.3
Median age at first birth		25.7	26.8	25.1	25.1	25.7	26.8	25.4	24.3	30.5	33.0	31.9	27.2
Median period from first to second birth		4.3	5.8	5.4	2.9	6.1	11.8	6.2	3.8	6.6	#	5.3	3.9
% in religious union		89.6	92.5	88.8	86.5	84.7	80.0	74.5	84.2	59.9	51.9	53.4	70.9
% in cohabitation		1.3	0.0	0.9	0.9	2.7	3.8	3.4	1.3	5.8	4.4	7.1	2.8
% of first birth		89.2	93.4	90.3	87.5	86.2	84.4	87.7	83.6	61.5	51.0	54.4	70.7
% of second birth		62.2	57.9	62.6	76.7	55.9	45.5	58.0	73.9	30.4	17.3	33.3	54.3
% of diplome		29.7	32.7	36.5	26.3	42.1	52.2	55.4	36.6	59.6	65.4	55.8	44.5
% of university or higher degree		6.3	10.3	9.1	8.5	10.3	15.5	15.2	8.5	11.8	25.0	12.4	10.1
% in urban area		14.4	24.3	22.0	18.7	10.7	41.6	23.1	11.6	8.3	35.5	22.5	15.8

⁽¹⁾ North-western area: Valle D’Aosta, Piemonte, Liguria.

⁽²⁾ North-eastern area: Veneto, Friuli, Trentino, Lombardia.

⁽³⁾ Central area: Emilia Romagna, Toscana, Marche, Umbria, Lazio, Abruzzo, Sardegna.

⁽⁴⁾ Southern area: Molise, Puglia, Basilicata, Campania, Calabria, Sicilia.

Source: ILFI data, years 1997 1999 2001

The first is supposed to affect individual women’s propensity to work through the expectation of a greater acceptance of gainful employment as a role model for women. The second, the local level of religiosity, may be responsible of a ‘culturally normative milieu’ or be a ‘place of identification’ (Nauck, 1995), where the social normative control or the simple perception of what is the adequate reproductive behavior work in the direction of encouraging family formation and enlargement.

² Data source: ISTAT Statistical Yearbook Report - historical series (1955-2001).

³ Data source: : Famiglie e Soggetti Sociali (Family and Social Subjects Survey) 1998.

3. The effects of individual and ecological characteristics

We employ a discrete time logit model to estimate the effect of various individual characteristics on the transition to first birth and on the duration of the ISB (model 1 and 3). The age function shows a concave shape: the positive effect of age declines at higher ages both for first and second birth. The declining effect of the age at union interestingly is reduced at high age at union for first birth. A woman's age at first birth is significantly negatively correlated with her probability of having a second child sooner. The effect of the coefficient though diminishes at higher ages at entry into parenthood (less scope for postponing the next birth). However, even controlling for the age at first birth there is an accelerating effect on second birth occurrence due to a higher age at union. Important regional differences characterise both the timing of first and second birth: compared to women in the North East, those in the southern regions proceed to earlier transitions while those in the North West postpone them. A higher level of education has the effect of accelerating the transition to first birth while, as expected, being in education obstacles the transition to motherhood. Women with a university degree have also a higher propensity to progress rapidly to parity two than the reference category women. This result may be due to apparent 'catching-up' effect to realize postponed fertility goals or a selection effect, that is only very family oriented women had a first birth (Kravdal 2001). The dummy variable for being in education is not statistically significant because of the small number of women who are still in education having had a first child. Being in a religious marriage union increases a woman's propensity to have a second birth earlier. On the contrary, being employed, as expected, depresses the speed of both transitions. All together, these results seem to indicate that, once the step to motherhood has been taken, potential incompatibilities with a demanding job and the preference for a more traditional type of union are the main factors affecting family enlargement.

The inclusion of the contextual variables does not modify the effect of individual characteristics neither on first birth occurrence nor on the ISB. However, regional variations are not explained by the spatial distribution of individual characteristics only. This is shown by the statistically significant measure of the regional random effect and by the significant effect of all the three contextual variables.. Living in a suburban or a non-urban area increases the probability to become parent but has no effect on the ISB. This effect may be related to the type of infrastructures, like larger housing or less crowded care facilities outside large urban centres. These infrastructures may play a role when forming a family rather than for the decision to enlarge it. Living in an area where women employment is common considerably depresses the likelihood to become mother and to have a second child earlier. This can be a delaying effect due to the higher aspirations and concrete realization perspectives in the job market where women employment is "normalized". Alternatively it can be related to the larger incompatibility between work and childrearing in a context where childcare facilities may be over demanded and family childcare reduced. The level of religiosity in 1998 seems to have no effect on first birth, while it significantly lengthens the ISB.

The regression results suggest that while a great part of the regional variation is related to women's individual characteristics, the spatial distribution of these characteristics is not the only factor affecting differentials in ISB. We see two ways to proceed from these results: on the one hand we need to add explicit measures of structural and institutional aspects characterizing the regional contexts (like child care

facilities and housing prices); on the other hand we need to investigate in depth the specific normative contexts in relation to family enlargements (like the values and norms related to family formation and enlargement, family relationship and support).

Table 2: Transition to first and second birth using discrete time logit models: individual and contextual determinants

Independent variables	Transition to first birth (discrete time logit model) <i>models 1 and 2</i>		Transition from first to second birth (discrete time logit model) <i>models 3 and 4</i>	
	Coeff. (S.E.) p-val.	Coeff. (S.E.) p-val.	Coeff. (S.E.) p-val.	Coeff. (S.E.) p-val.
<i>Constant</i>	- 6.13 (0.57) ***	- 4.33 (0.96) ***	- 8.12 (0.88) ***	- 6.34 (1.33) ***
<i>Age</i>	0.56 (0.04) ***	0.58 (0.04) ***	0.93 (0.06) ***	0.94 (0.06) ***
<i>Age squared</i>	- 0.01 (0.01) ***	- 0.01 (0.01) ***	- 0.01 (0.01) ***	- 0.01 (0.01) ***
<i>Age first union</i>	- 0.16 (0.02) ***	- 0.17 (0.02) ***	0.10 (0.04) **	0.09 (0.05) *
<i>Age first union squared</i>	0.01 (0.01) ***	0.01 (0.01) ***	- 0.01 (0.01) **	- 0.01 (0.01) ***
<i>Age first birth</i>			- 0.64 (0.07) ***	- 0.65 (0.07) ***
<i>Age first birth squared</i>			0.01 (0.01) ***	0.01 (0.01) ***
<i>Cohort of birth (reference: 1951-60)</i>				
1941-50	0.09 (0.06)	0.03 (0.06)	0.18 (0.06) ***	0.07 (0.07)
1961-70	- 0.22 (0.06) ***	- 0.15 (0.06) **	- 0.06 (0.07)	0.01 (0.07)
<i>Area of residence at birth (reference: north east) – time varying</i>				
North west	- 0.13 (0.07) *		- 0.35 (0.09) ***	
Center	0.05 (0.05)		- 0.08 (0.06)	
South	0.21 (0.06) ***		0.65 (0.07) ***	
<i>Educational level (reference: none or low education) – time varying</i>				
Middle education	0.09 (0.05)	0.07 (0.05)	0.02 (0.06)	0.01 (0.06)
High education	0.19 (0.09) **	0.21 (0.09) **	0.13 (0.11)	0.16 (0.11)
<i>Kind of first union (reference: religious union) – time varying</i>				
No union	- 4.24 (0.15) ***	- 4.20 (0.15) ***	- 2.26 (0.43) ***	- 2.24 (0.44) ***
Civil union	- 0.31 (0.11) ***	- 0.29 (0.11) *	- 0.34 (0.14) **	- 0.31 (0.14) **
Cohabitation	- 0.66 (0.16) ***	- 0.63 (0.16) ***	- 0.58 (0.26) **	- 0.57 (0.26) **
<i>Educational status (reference: no more student) – time varying</i>				
Still in education	- 0.30 (0.08) ***	- 0.30 (0.08) ***	- 0.16 (0.11)	- 0.16 (0.11)
<i>Occupational status (reference: unemployed) – time varying</i>				
Employed	- 0.33 (0.05) ***	- 0.34 (0.05) ***	- 0.30 (0.05) ***	- 0.31 (0.06) ***
<i>Municipality size ((reference: urban area) – time varying</i>				
Sub urban		0.36 (0.12) ***		0.12 (0.17)
No urban		0.17 (0.08) **		0.16 (0.12)
Log employment – time varying		- 0.62 (0.20) ***		- 1.01 (0.26) ***
% of regional mass attendance		0.01 (0.01)		- 0.04 (0.01) ***
<i>Rho= variation within group</i>	0.01 (0.01) ***	0.01 (0.01) ***	0.05 (0.01) ***	0.02 (0.01) ***
<i>Lnsig2n=ln sigma squared</i>	- 3.37 (0.42) ***	- 3.68 (0.50) ***	- 1.75 (0.27) ***	- 2.67 (0.35) ***
<i>Sample</i>	2,733	2,733	2,159	2,159
<i>Number of obs.</i>	38,870	38,870	17,503	17,503

*p<0.10; **p<0.05; ***p<0.01

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