The Demography of Isolated Populations: German-Speaking Communities in a Northern Italian Valley Between the XVIIIth and XIXth Century

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1. Introduction

In this paper, we begin to outline the demographic regime of a German-speaking community (the Mocheni's) in the Fersina Valley between the XVIII and the XIX century. The area is part of Trentino, one of the alpine region in Northeastern Italy. The valley has long been known as Mocheni's Valley and comprises the communes of Palù, Fierozzo, S.Felice e S.Francesco, Frassilongo and Roveda.

The significance of such a demographic study relies on the geographical and cultural isolation of the population, which is difficult to found in real cases. Mocheni's population constitutes for demographers a "laboratory" to study renewal dynamics and especially reproductive processes in an unalloyed form, almost without modifications that the migratory interchanges and the transmission of different cultural models produce on the original structure.

Although in the history the hypothesis of demographic aggregates completely closed to external exchanges never comes completely true, the populations of several alpine valleys can satisfy the traits of a "micro isolated system", since the orography often created objective situations of apartness for long periods.

The Fersina Valley, moreover, has to be considered a "complex demographic enclave" (Schiaffino, Cammelli, 1980), since within the geographical uniqueness of the valley two linguistic groups cohabited (Italians and Germans), which absolutely differ from one another and with almost zero demographic interchanges. This last feature allows therefore to speak about a double level of isolation (geographical and demographical ones), especially regarding the German-speaking (Mocheni) community.

In this preliminary paper, we will review the first results about the German part of the population, placing them in the broader context of the regulatory mechanisms in population growth, which historically were typical of mountain areas in cases of a limited availability of resources.
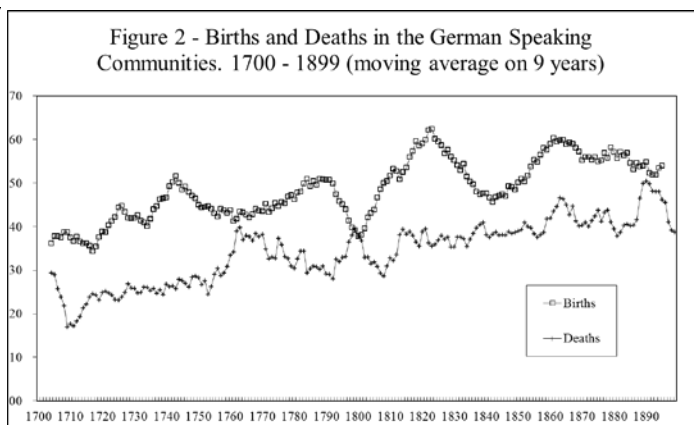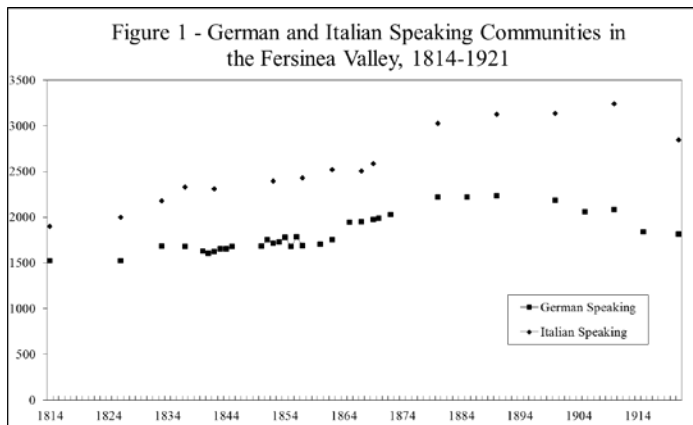
2. Sources and Data

We mainly used parish registrations on baptisms, marriages and burials within a timespan, which goes from the beginning of the XVIII to the end of the XIX century. The parishes in the villages, included in the deanery of Canezza, were for a long time mere chapels, only later transformed into curacies subjected to the *Pieve* of Pergine Valsugana (Grandi, 1992). The *Pieve* belonged in turn to the bishopric of Feltre up to 1786. Parish registrations on the vital events of the population are continuous and quite accurate, on the contrary souls lists (the Status Animarum) completely lack as sources of the amount and the structural characteristic of population. We know the mere yearly amounts of the population of each municipality from another aggregate source called "*Cataloghi del clero"*, a yearly publication of the Bishopric of Trento kept at the bishopric Archive of the city from 1826 onwards.

3. Some Preliminary Results based on Aggregate Data

Due to the lack of information on structural features of populations, as far as possible we firstly considered an aggregate approach, in order to create a series of indicators, which in a first step of the analysis can define the broad demographic regime of the Mocheni community and its possible evolution during the timespan taken into consideration. In a second step we will consider a micro analytic approach performing family reconstitutions.

3.1. General evolution of the population

Figure 1 shows the trends of both the Italian and German speaking populations, according to the figures recorded in the clergy's catalogues. We observe a phase of growth, slightly more marked in the case of the Italian communities until the 1870's, then, in the last decades of the century a slowdown in the growth for the Italian part and a rapid downward trend for the Mocheni group, considerably in advance of the abrupt demographic downfall due to World War I.

Figure 1 - German and Italian Speaking Communities in the Fersinea Valley, 1814-1921

Figure 2 - Births and Deaths in the German Speaking Communities. 1700 - 1899 (moving average on 9 years)

In Figure 2, we compared the smoothed curves of the annual amounts of births and deaths for the whole XVIII and XIX centuries and only for the German-speaking group. A rather stable situation is evident; the positive natural increase underlines a good potential of population growth. We also can notice the presence of crisis years in at least two episodes (the 1760s and the early XIX century), which nevertheless affected the whole Italy (Del Panta, 1980). However, what appears to be the most remarkable feature of the natural dynamic is the recovery power suggested by the rise of the natural increase after the bad periods. Specifically, such natural increase reveals two very marked growth phases, one in the first half of the XVIII century and the other in the early Restoration period. The general outlook is a population that reflects the typical mechanisms of mountain areas, with on average a sufficiently high births level to overcome the possible negativity of the deaths.

3.2. Mortality and Survival

The survival in the Mocheni communities was overall quite high; such idea can be confirmed by the life expectancies at birth and the age-specific survival structures for the two sexes and the three fifty-years periods considered. Only for a first insight on mortality regime and its structures, we calculated the life tables using the *generalized deaths method* (Del Panta and Rettaroli, 1994). Table 1 shows some indicators drawn from the six available tables (life expectancy at birth, death probability in the first year of life, and the percentage of survivors at their twentieth birthday).

Table 1 - Life Tables of the German Speaking Communities: Summary Indicators

	1750 - 1799		1800 - 1849		1850 - 1899	
	Males	Females	Males	Females	Males	Females
e_0	37.1	37.3	35.2	39.4	36.8	39.9
q_0	0.192	0.188	0.240	0.185	0.253	0.185
l_{20}	0.614	0.609	0.570	0.644	0.585	0.641

The level of overall survival (summarized by life expectancy at birth) is quite high if compared to Italian standards. Despite life expectancy in Italy fluctuated around 33 years in the decade 1860-70, and in Veneto and Lombardy, two other Northern Italian regions, it reaches 30 years in the second half of the XVIII century.

3.3. Marriage and Reproduction

Unfortunately, the available information does not allow estimating the permanent celibacy level and then the quantum of nuptiality. We know otherwise the mean ages at marriage (see Table 2) by rank of marriage, which – for the XIX century – can be drawn from the majority of the registers concerning the valley communities. In the Mocheni communities, the woman average age at the first marriage was high and above 25 in the first half of the XIX century. It even approached 27 years in the second half of the century. The men's age at the first marriage also turns out to be high on average, and higher values concerned the widowers and widows.

Table 2 - Age at Marriage in the German Speaking Communities

	Age at Marriage	
	1800-1849	1850-1899
Male		
First Marriage	29.9	32.6
Widower	42.2	47.5
Female		
First Marriage	25.3	26.7
Widow	34.9	41.6

Figure 3 illustrates the actual and smoothed values of the Gini's matrimonial fertility index (Del Panta and Rettaroli, 1994) in 1820-99 years. As known, the values of the index is obtained by calculating for each year the ratio between the total of legitimate births and a weighted average of the marriages celebrated during a given number of years preceding that of the births data. Since we deal with a net fertility index, the average number of children entered in the chart is certainly lower than the one we would get if each of the recorded marriages lasted until the woman reaches the end of her childbearing timespan. The wide waves of marital fertility resulting from this kind of data processing are then of a certain interest. As partly expected, fertility appears to be very high during the years following the great disturbances of the Napoleonic wars, whereas it seems to decrease quickly afterwards, then to rise markedly again around the middle of the century. The following slight downturn, in our opinion, doesn't have necessarily to be regarded as the beginning of an irreversible decline (we would need data of quite a different sort to draw such a conclusion), also because during the last years taken into consideration the index seems to have levelled off at figures next to 3.6-3.7 children per marriage.

Figure 3 - Gini's Index, German Speaking Communities
(average number of children per marriage)
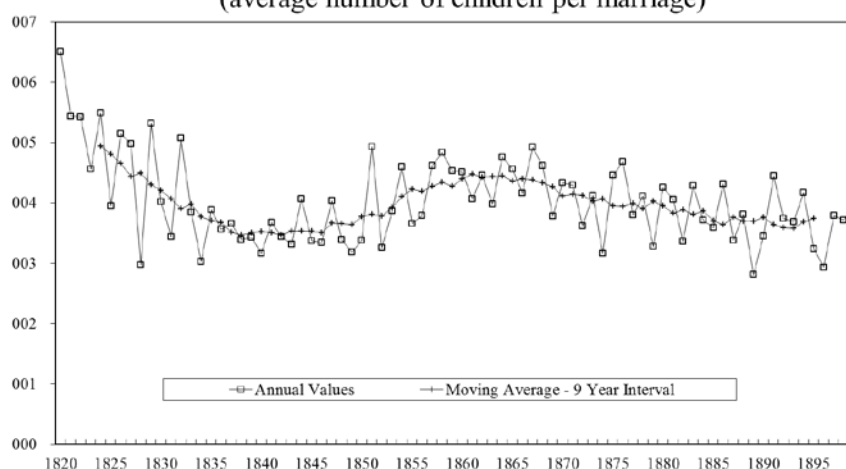
4. First Results from the Families Reconstitutions

A nominative reconstitution of the families (Fleury and Henry, 1976; Henry and Blum, 1988) is also carrying out. At this stage, the first results refer only to the community of Palù. Since now we analyzed 3.191 baptisms registrations for the 1696-1899 period, 2.234 burials registrations for the 1696-1930 period, and 422 marriages registrations for the 1730-1899 period. The work concerning a second community, that of Fierozzo, is still underway, and is involving the registrations of 3.514 baptisms and of 2.405 burials for the 1738-1930 time interval, in order to reconstruct the descendants of the 538 marriages celebrated in 1760-1899.

As to marriage model, the estimated indicators confirm the presence of a late access to marriage for both men and women (table 3). The values for men are very high and they exceed the 33 years of age on average. Women, too, get married at ages higher than 25 years on average. When from the XVIII we go down to the XIX century we find that the marriage market – i.e. the numerical supply of candidates for marriage of both sexes – seems to be even more constrained. The restricted choice among a scanty number of people (little more than 400 inhabitants at the beginning of the XIX century) and, very probably, a family policy of birth control linked to the socioeconomic structure of the area, can be factors that explain the low nuptiality regime especially among males.

Table 3 - Age at Marriage by Sex. Palú, Complete Reconstructed Families

Marriahe Cohorts	First Marriage		Total Marriage	
	Male	Female	Male	Female
1730-1849	33.6	24.6	35.2	24.4
1850-1899	40.9	26.4	41.8	27.1
Total	37.3	25.4	38.4	25.7

When considering the reproductive behavior, the estimated fertility indicator is TFTL25. It represents the hypothetical average number of children a cohort of married women (group of women born in the same calendar year) would give birth to, supposing they got married at exactly 25 years of age and they all lived to be 50. The level of fertility drops from 4.7 children per woman in the marriages of the 1730-1849 period to 3.8 children in the following time interval. A further evidence of the fertility decline is the lower average age of the woman at her last childbirth, which moves from 40.6 to 35.3 years. The indicator refers to "completed" families.

Table 4 - Indicators of Reproductive Behaviuor in Palù, 1730-1899. Women in Complete Reconstructed Families

	Age Specific Fertility Rates							TFTL 25
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
1730-1849	233	296	330	272	196	124	20	4.7
1850-1899	299	394	317	233	127	60	15	3.8
Total	262	333	324	253	159	87	17	4.2

The assumption that families start an intentional control over their reproductive behavior rises from the fact that, although the average age at the time of marriage increases, the childbearing period in a woman's lifetime gets shorter, as showed by the average age at the time of the last childbirth. These first conclusions drawn from the analysis of the data of Palù undoubtedly need further confirmation, mainly by widening the area under study. At any rate, the number of cases on which we based our remarks is extremely small and therefore the results themselves could show the effect of variations due to the limited numbers.

5. Final Notes

These very preliminar results show that the Fersina Valley could be an area with a "low pressure" demographic regime (Wrigley and Schofield, 1981). This kind of demographic model is able to implement by itself its regulatory mechanisms of the growth, as to prevent the occurrence of serious mortality crisis that are typical of situations in which a too wide gap in the natural increase ended up causing episodes of severe imbalance between population and means of subsistence.

Despite the hard conditions of life, the mountain environment deserved propitious aspects to survival, mainly because it reduced the risks of respiratory diseases (most important in very young children), but also because it limited the risks of digestive tract diseases, thanks to the better purity of the water.

However, we can say in advance that our analysis does not seem to reveal a clear downward trend in mortality levels during the period considered (i.e., between the mid-XVIII century and the end of the XIX century). Moreover, this first results seems to be largely consistent with other studies on alpine communities (Viazzo, 1990), which suggest that the more propitious conditions to survival recorded in mountain areas up to the mid-XIX century are rapidly giving way to a reversal of situation if compared to the conditions of the populations in lowland areas.