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Fertility dynamics in the province of Udine*

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Abstract. Thirteen years after the Venus survey on the decline of fertility in various national geographical contexts, this analysis intends to resume the study of the spatial and temporal dynamics of the main demographic measures within the Udine provincial context. Careful assessment of the trends in fertility rate and mean age of women at childbirth in the last 40 years, their citizenship, population growth rate during 2012-2017 and 2016 birth rate, unfortunately failed to confirm the fertility upswing previously highlighted. The initial growth due to the contribution of the foreign population seems to have been nullified over time with a sharper decline in the fertility of foreign women. Despite the heterogeneous annual population rate increases across the province's territory, especially in the most populated municipalities, territorial level fertility rates tend to decrease homogeneously, with the risk of being confirmed in projected terms.

Key words. Fertility rate, childbirth age, spatial and temporal dynamics of the natural balance.

1. Introduction. In 2004, the results of a study on fertility in the province of Udine were published (Breschi, Fornasin 2004). The publication represented the synthesis of a wider national project aimed at analysing the decrease in fertility in Italy. (Breschi, Livi Bacci 2003; *La bassa fecondità 2004*; Ongaro 2006). Many universities participated in this project, which was named *Venus*. The groups of researchers from each institute collected

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all the necessary information on their city. Only the University of Udine extended the survey to cover almost the whole provincial territory. The operation proved far from simple. The information was collected through a questionnaire filled in by the parents of children of around 13 years of age. In order to achieve and, in this case, even exceed the study's objectives, the Province of Udine played a pivotal role. The circumstances were not coincidental: Professor Marzio Strassoldo was the President of the Province at the time and, up until two years earlier, had also been Rector of the University of Friuli. Among his many interests, demographics held a special place and he strenuously promoted the discipline within the Faculty of Economics at Friuli University. Upon entering politics, he found his interest in demographics to be not only of academic relevance, but also critical knowledge that could be used by the government in its implementation of concrete actions.

Now, more than 13 years after the conclusion of that experience, we propose taking stock of the fertility situation in the Province of Udine. Although the time span is limited, one can undoubtedly say that, at least in demographic terms, the Friulian economic and social contexts underwent significant changes. Clearly we cannot make use of the copious and detailed survey data collected at the time, and so will present a review of the fertility trend in the province by using the data collected and made available by ISTAT. This essay will be the first in a series of surveys on the demographic situation of Udine province and its neighbouring territories.

2. Fertility in the Province of Udine from 1977 to 2015. In the second half of the 20th century, all of the developed countries witnessed a sharp decline in fertility. In terms of numbers, the decline was structurally characterised by deaths outnumbering births. A centuries-old picture, in which births exceeded deaths, was replaced by an opposing one in which the mortality rate superseded the birth rate (Van de Kaa 1987).

This process derived firstly from the progressive decrease in births after the birth of a second child, namely that of third, fourth and subsequent children, and, at a later stage, from the increase in the average age of mothers having their first child. In other words, women first started having fewer children and then started having them at an older age.

However, this trend, common to many western countries, shows certain differences in its final outcomes. In the Italian context, specifically, already 25 years ago the province of Udine stood out as having both the lowest average number of children per woman and the highest average childbirth age in the whole country. Figure 1 illustrates the trend in the average number of children per woman, i.e. the total fertility rate (TFR), and the average childbirth age of women in the province of Udine from 1975 to the present day. The vertical line dividing the graphic at 2003 highlights the fertility trend after the *Venus* research.

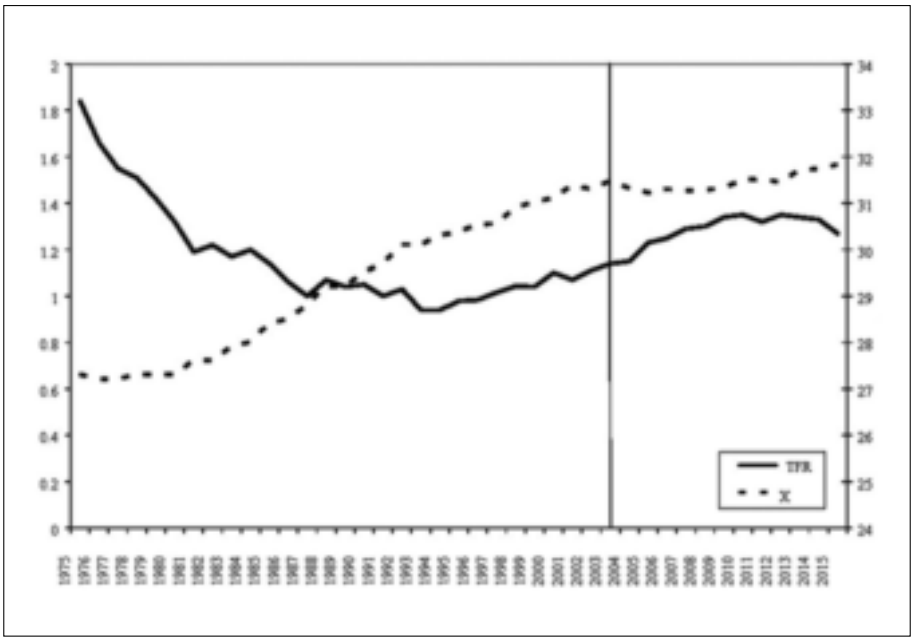

Figure 1. TFR and mean age at childbirth in the province of Udine (1975-2015). (Source: www.demo.istat.it).

The first part of the graph shows the decrease in fertility from the second half of the 1970's until it reached its lowest point by the mid-1990's. The central part shows a slow reprise. After the *Venus* survey, this phase endured for some years. From levels slightly exceeding those at unification, fertility almost reached 1.35 children per woman in 2010 and then again in 2012, the highest value in the last 30 years. Regarding the average childbirth age, the trend is largely symmetrical with that of fertility, the two phenomena being correlated. Thus initially the childbirth age showed an increasing trend. From 27 years of age in the 1970's, it reached 30 years of age at the start of the last decade of the last century and exceeded 31 years of age around the time of the *Venus* survey. After that, although the TFR continued increasing, the mean age at childbirth remained stable for many years until starting to grow again, albeit slowly, from 2009. The increased fertility levels from the second half of the 1990's may be attributed to the rise in the births among the ever growing number of foreign mothers and to the increasingly common choice by women born between the second half of the 1960's and the early 1970's, to postpone having children. Thus the increase was partly an indirect result

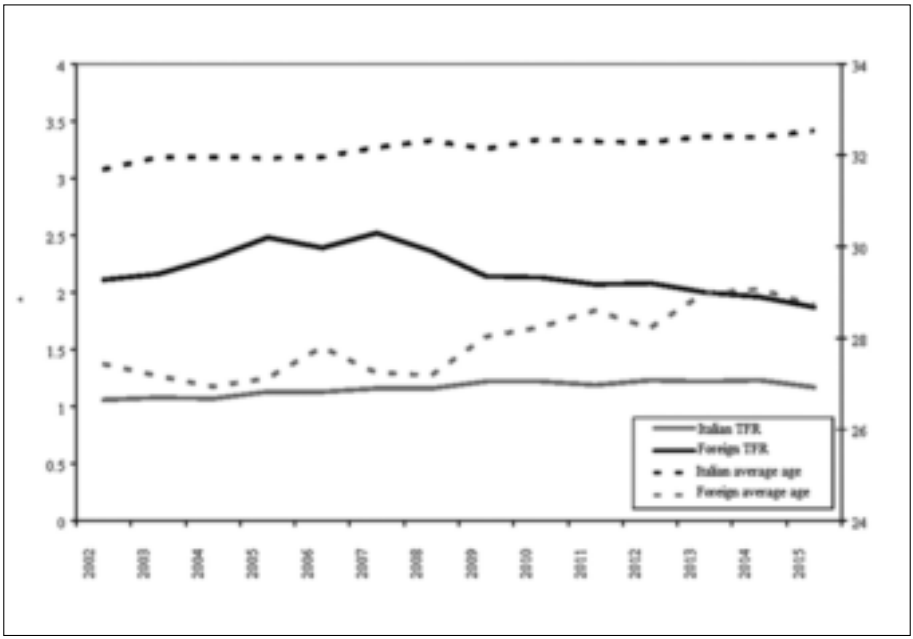

Figure 2. TFR and mean age at childbirth of Italian and foreign women in the Province of Udine (2002-2015). (Source: www.demo.istat.it).

of the rising mean age at marriage and the consequent increase in mean age at childbirth (Bongaarts, Feeney 1998). The role of immigration and the change in reproductive behaviour, therefore, together raised the birth rate, highlighting a phase of adjustment in fertility rates (Tillati et al. 2010). In this way, we have arrived at the developments seen in recent years, characterised by the contrasting trend between the two series in the first part of the graph: a decreasing fertility with a concomitant increasing age at childbirth.

Thanks to the data made available by ISTAT, the evolution of the fertility rate and the mean age at childbirth age rate may be compared, making a distinction between Italian women and foreign women (Figure 2). The timeline of these two variables is traced from 2002 to 2015, namely the same time period in which the information on these two variables was available.

Among Italian women, the average childbirth age was higher and the total fertility rate lower than those of foreign women. Over time, the trend in average childbirth age has been increasing for both groups. In the case of the foreign women, this growth is not continuous, possibly due to the data being based on a far smaller group of women. This greater

uncertainty might also be caused by the different combinations of entry and exit flows of women in and out of the province, as well as the dynamics in acquiring citizenship (Fornasin 2015). In the case of the total fertility rate we observed a slight growth in the Italian rate until 2009 followed by a general stabilisation. On the other hand there was a significant drop in the rate for foreign women. From 2013 it even fell below the substitute threshold. In the future, therefore, the foreign population could be destined to decrease as a share of the total population. One of the effects of these different dynamics is the convergence of the Italian and foreign demographic trends. In the early 2000's, the age at childbirth difference between the two groups was around five years; it is now below four. Fertility is characterised by similar dynamics, and, indeed, between 2007 and now the difference has halved.

With the available data we were not able to identify a precise pattern for the evolution of fertility in the near future. However, with respect to the immediate future, an upswing is highly unlikely while a further decline is much more plausible. Such a decline could be caused by the different combination of Italian and foreign fertility rates. An increase in the Italian fertility rate combined with a decrease in that of foreigners is a possible scenario. However, this projection could only be calculated on the basis of the variable of citizenship, currently the only element that can be considered in official statistics. In fact, the granting of Italian citizenship to a consistently growing number of foreign women – a process that has even accelerated in recent years – does not automatically correspond to a change in the fertility rate in these new Italians.

Regarding the evolution of fertility, another element that should be taken into consideration is the characteristics of the territory. For this type of analysis it is worth presenting the main index of population evolution, namely the annual growth rate of all municipalities in the province. For this calculation we considered the Population register's office data of 1st January 2012 and 1st January 2017 (Figure 3).

As shown in Figure 3, the growth rate has a sufficiently clear territorial distribution. The territories characterised by an increased population are mainly situated in the centre of the province, namely the municipality of Udine and those around it. Further away from Udine, the increase rate drops to negative levels. Outside Udine and its surrounding areas, there is a further growth trend in the more populated municipalities, for instance Codroipo and Cervignano. A sharper decrease is seen in mountainous areas, especially the Canal del Ferro and the Valcanale valleys. Most of the municipalities of the Carnia region also have a decreasing population, similar to those of the Friulian Slavia region. Of course there are some exceptions due to local peculiarities. The only mountain municipality showing a slightly positive increase rate is Amaro, a very

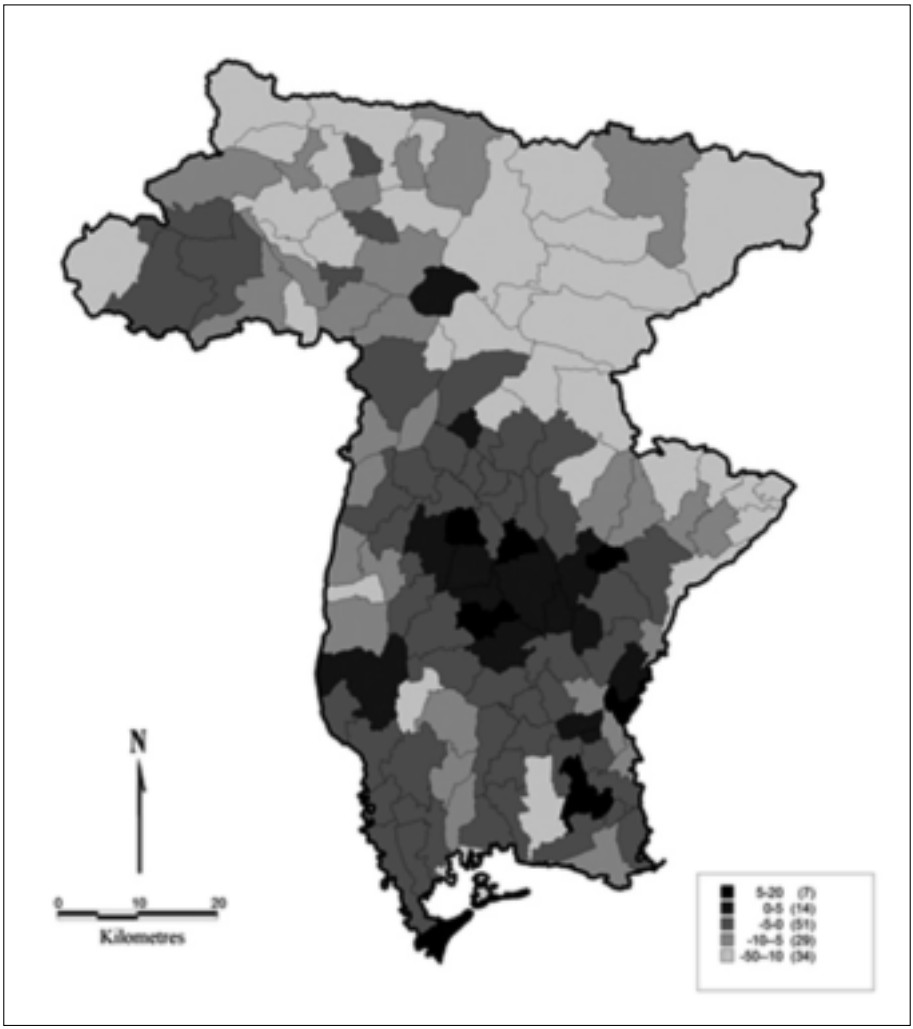

Figure 3. Annual population growth rate (r) in municipalities of the Province of Udine (2012-2017). (Source: www.demo.istat.it).

industrial area. The highest level of growth in absolute terms was measured in Lignano.

After these considerations, let us now evaluate the influence of fertility on the demographic evolution of the province. To do so, we have created two maps. The first one (Figure 4) displays the birth rates of all the municipalities according to 2016 data.

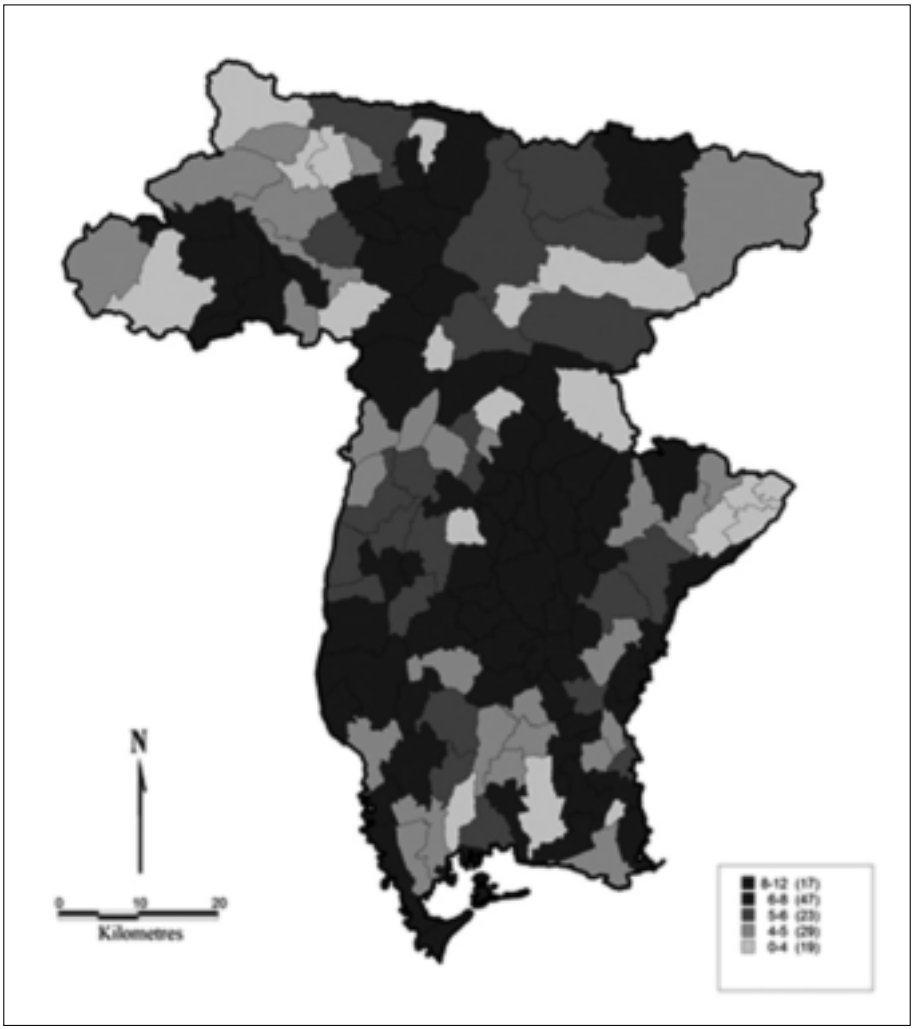

Figure 4. Birth rate per thousand of the municipalities of the Province of Udine (2016). (Source: www.demo.istat.it).

The birth index – with the exception of the Udine area and a large number of the municipalities that surround it, which all have a relatively high rate – seem not to have a clear geographical distribution. To compensate for the effect of the birth rate situation, which – especially in smaller municipalities – may lead to strong demographic shifts, and to filter out from

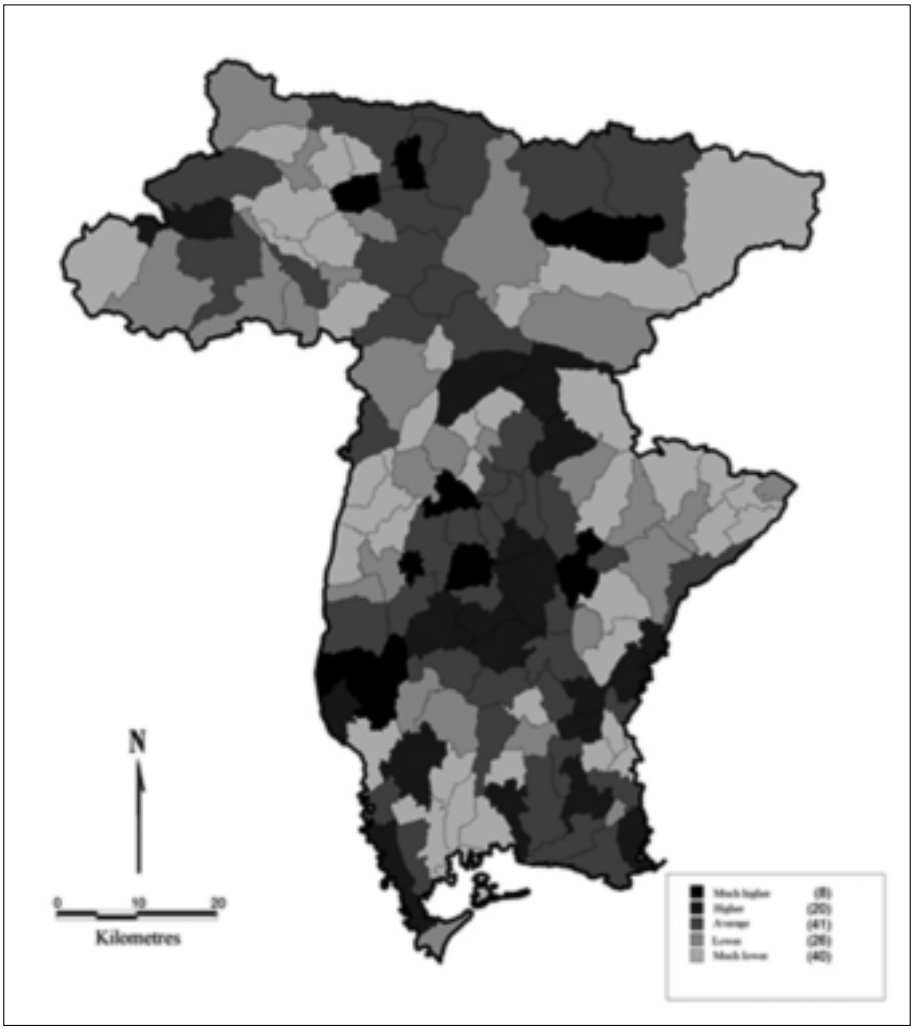

Figure 5. Standardised fertility rate in comparison to the provincial evolution (2012-2016). (Source: our elaborations of the ISTAT data. www.demo.istat.it).

the analysis any population structural factors that could influence birth rates, we standardised the data according to the Coale's indices (Livi Bacci 1999, pp. 213-215). That is why we have analysed the shifts in fertility on a municipality level in relation to the provincial level (Figure 5).

This figure shows, even more clearly than the previous one, that

the low fertility rate is not located in specific areas, but is rather "randomly" distributed across the province. There remains a relatively high fertility rate "core" in the central part of the province, but this is much weaker than what was seen related to the rate. In other words, the propensity for having children has no significant relevance on a territorial level, a finding that is amplified by the particularly low fertility levels observed across the whole territory.

3. Conclusions. What conclusions can we draw 13 years after the Venus survey? According to the results of that research, fertility in the province of Udine showed signs of recovery, thanks to both a period of growth in fertility among more recent generations of immigrants, and the upswing in fertility among Italian women. Among the Italians a clear distinction was highlighted between those from urban and those from non-urban areas. In Udine in particular, the increase in fertility was sharper than elsewhere (Breschi, Fornasin 2002). Today everything has changed. Fertility in the urban context, while still being slightly higher than that in "rural" areas, shows no significant differences to the provincial rate as a whole, despite the large presence of foreign women in the city of Udine. However, according to our analysis, at least over the last years, the fertility rate among foreigners already living in our province has decreased more sharply than that of Italians. If this trend were to continue at least into the near future, certainly a plausible hypothesis, not only will we see an even lower number of births than that recorded in recent years (which is almost a certainty given the decrease in women of childbearing age), but we will also see a further drop in fertility and a general decline in the propensity to have children among women living in the province of Udine.

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