

## **Male fertility in Latin America: changing fertility, changing nuptiality**

### **Introduction**

Male fertility is scarcely discussed in the demographic literature which is due, on the one side, to the more difficulty in collecting the relevant information, compared to women. On the other side, male fertility studies are rather neglected because demographic modelling relies, basically, on female fertility. It is generally accepted that female fertility data are preferable because women would report their fertility better than men since pregnancy would be a more marked event for women than men. Also, uncertainty about parenting is known to be greater than that of motherhood. (See, among others, Zhang, 2011)

In any case, the importance of bridging the gap about male fertility is justified in a context of major current demographic changes, where simultaneously with rather low female fertility levels, new family forms emerge.

While, in the past, there were few longitudinal surveys and some others DHS type source with data on male fertility, this is not the case yet considering vital statistics; although their coverage has increased, the register of parental characteristics is still incomplete and so their reliability.

This paper uses census data since the 1970s from IPUMS and presents a methodological approach to estimate male fertility in the five largest Latin American countries: Argentina, Brazil, Colombia, and Mexico. As a byproduct, the paper presents evidence of the male Latin American fertility transition. We believe that it will be a contribution for a better understanding of the demographic transition in the Region.

### **Methodology**

Period fertility is estimated using information about children ever born (CEB) over the 12 months before the survey/census. The information is gathered regardless of the woman's marital status. The question is not posed to men, which precludes the direct calculation of male period fertility.

This paper is based on a simple assumption: Likely, the partner of the woman who had a CEB alive in the 12 months before the census is the child's father. The chance of the father and mother not living together, whether by divorce/separation, death, migration or even because the child is not the result of a union, would be small because the reference period of the question is short. This is a reasonable assumption, although it cannot always be tested because many censuses do not differentiate children and stepchildren at home. There is, of course, the issue of parenting uncertainty, but this paper disregards this possible bias, as it is not corrected in this proposal. Thus, using household composition information, it is possible to assign to the CEB reported by the women the age of the partner who is the potential father.

The source consists of the microdata of the Latin American countries obtained through the IPUMS platform: Argentina (1970, 1980, 1991, 2001), Brazil (1970, 1980, 1991, 2000, 2010), Colombia (1973, 1985, 1993, 2005) and Mexico (2000, 2010, 2015). This system has an algorithm for finding the likely woman's partner at home and their respective age, which facilitates the exercise proposed here. The error of the reference period pollutes fertility estimates from last year's birth question. To correct this bias, we applied the correction by the Brass P/F technique.

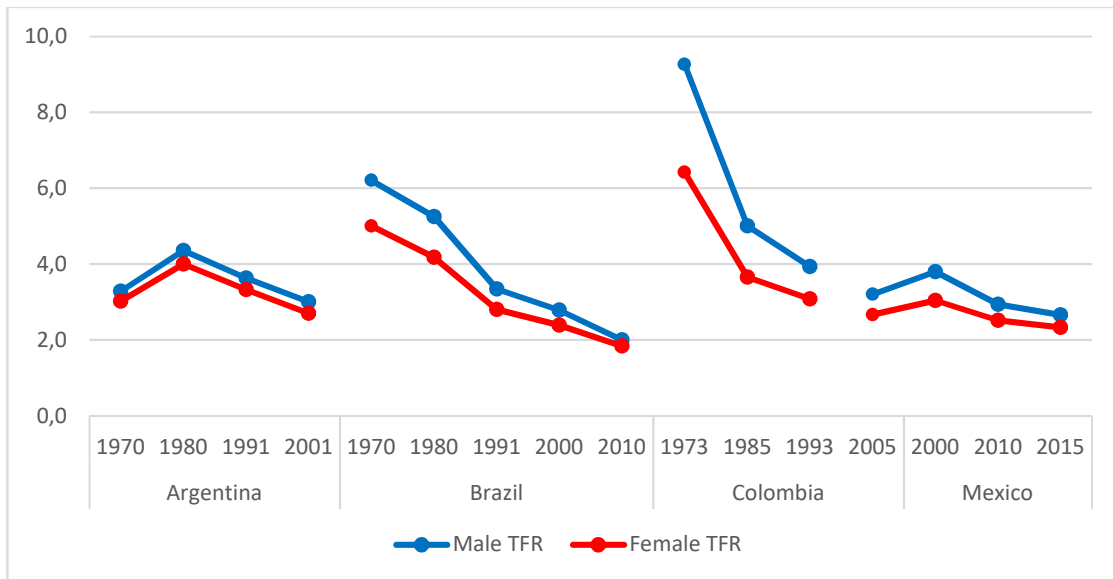
Still, we perform a decomposition of the difference of the mean age at childbearing of men in two periods, in terms of change in the women's age at childbearing and change in age patterns of nuptiality.

## **Results**

Graph 1 shows the evolution of male and female TFR over time. Male fertility has always higher level relatively to female fertility. Other studies show, consistently, that male TFR tends to be higher than female TFR (Schoumaker, 2019; Zhang, 2011). Although the numerator (CEB) is the same, this is not the case for the denominator (Men or women). This difference is associated to the male higher mortality than women and to wider male reproductive life span, which makes fewer men reach the end of their reproductive period. This fact inflates the TFR of men by decreasing the denominator of the rate. As expected, male and female trends follow a similar downward trajectory throughout time, even when the TFR may appear somehow erratic, as is the case of Argentina. TFR is an

aggregate result of reproductive decisions of couples, so both follows the same downward trajectory.

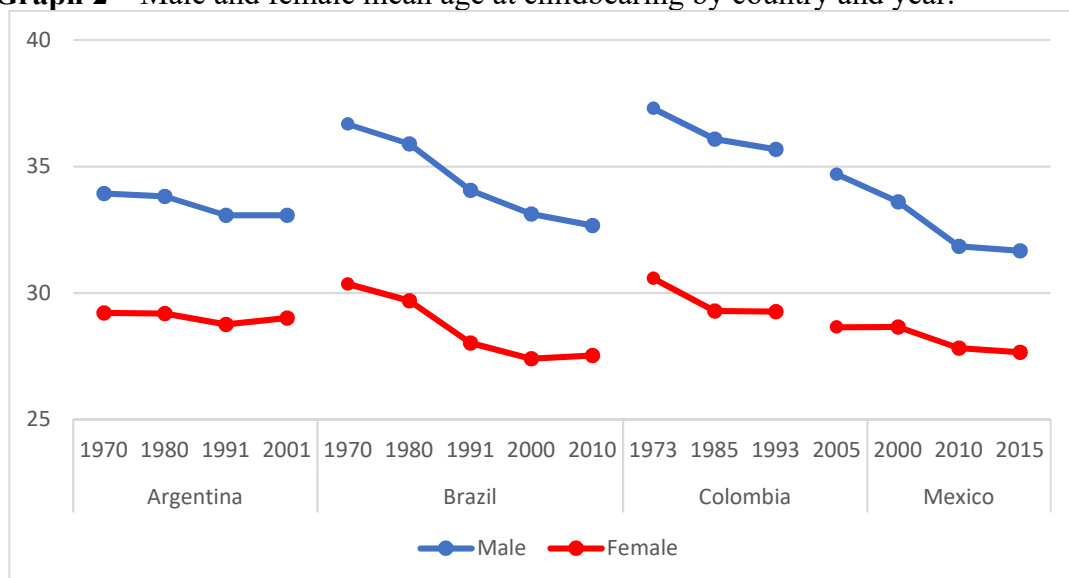
**Graph 1 – Male and female TFR by country and year.**



Source: IPUMS.

Analysis of the age pattern (to be included in the final version of the paper) demonstrates that the age difference at marriage determines part of the difference in the age patterns of the male and female fertility. The summary measure, the mean age at childbearing is showed in Graph 2.

**Graph 2 – Male and female mean age at childbearing by country and year.**



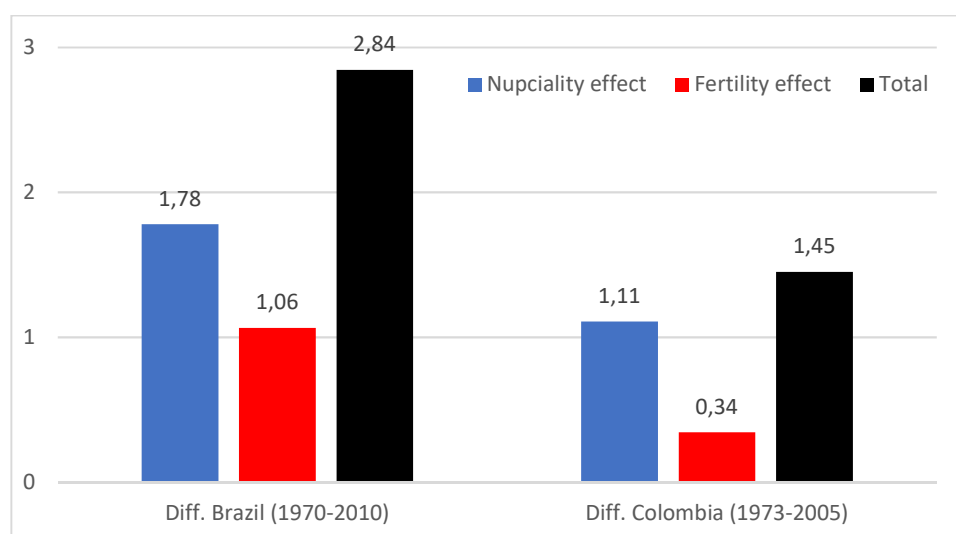
Source: IPUMS.

As before, the trend is similar over time. The age difference by sex replicates the difference of the age at marriage between men and women, where men tend to be older than women within couples. The specific drops in female mean age (Ex. Brasil, 2000) but

not in the case of males is associated to the increase in adolescent fertility. This fact has been well documented in Latin America.

Graph 3 shows the change in mean age at childbearing over time for Brazil, and Colombia as a result of changes in nuptiality (the difference in the age pattern of men and women inside the couples) and changes in female fertility (the difference in composition age of female fertility on the male fertility curve).

**Graph 3** – Decomposition of the difference in mean age at childbearing



Source: IPUMS.

The decomposition shows different trends in explaining the change in mean age at childbearing. The fertility effect is much stronger in Brazil, which is explained by the increase in adolescent fertility that has rejuvenated the fertility curve of women and their partners. In any case, the decrease in men's mean age at childbearing is explained by changes in the nuptiality pattern within couples.

### Selected References

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