

# Fertility and changing pattern of childbearing timing in Colombia

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## Introduction

- Colombia's TFR reached the replacement level of 2.1 in 2010, bringing it to the group of countries with a low level of fertility. Studies show that the long observed pattern of early transition to motherhood might be changing in Colombia, in particular for highly educated women (Rosero-Bixby et al. 2009).
- For the country there is a scarcity of analysis on the changes in the timing of childbearing, in particular with regard to socioeconomic characteristics.
- This is important because in low fertility contexts, changes in the motherhood timing are vital for interpreting period fertility measures and anticipating future trajectories.
- This study provides a detailed analysis of changes in the timing of childbearing across cohorts and by parity - the focus is also on birth orders higher than one which is a previously understudied aspect.
- Considering the important role of education for the timing of motherhood in Colombia, and Latin America as a whole, this research explores the association in-depth by studying how it has changed across cohorts.

## Research Questions

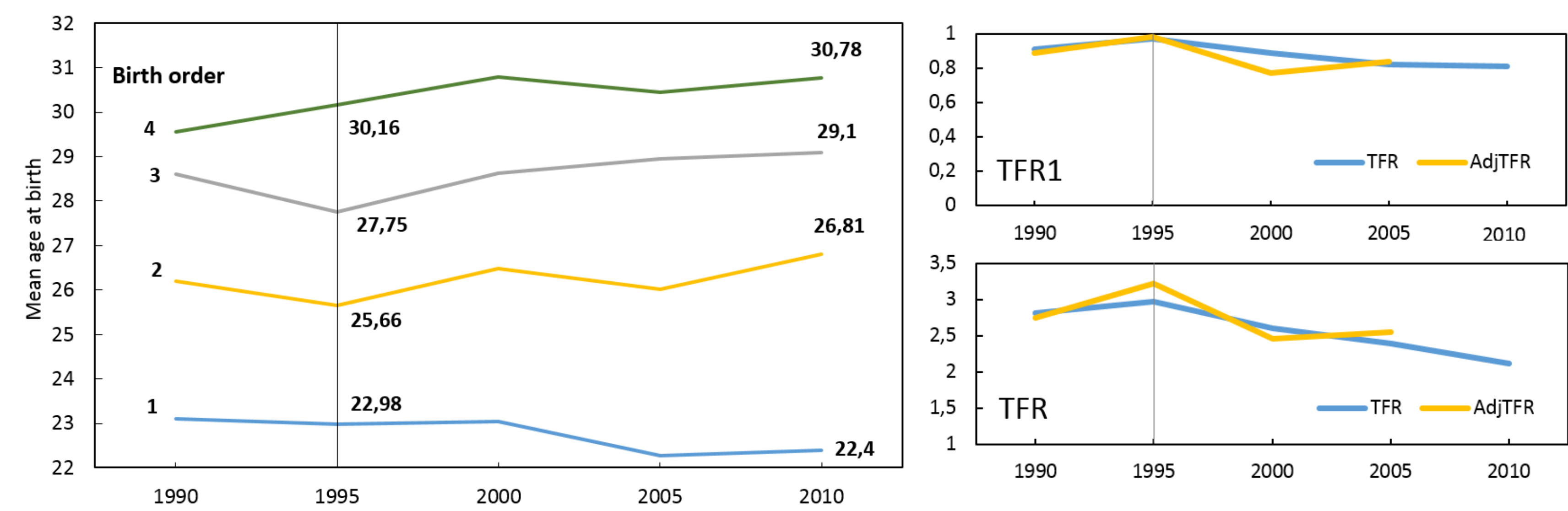
- What changes in the timing of childbearing took place in Colombia between 1990 and 2010?
- How have these changes shaped the observed trend in the TFR?
- How has the timing of childbearing changed across cohorts of women born between 1960 and 1995?
- What has been the relationship between the timing of childbearing and level of education for these cohorts?

## Data & Methods

- Demographic and Health Survey (DHS): 1990, 1995, 2000, 2005, 2010
- Variables: mother's birth cohort, education, place of residence (urban, rural), region of residence, ethnicity
- Order specific mean age at birth
- Total fertility rate and tempo adjusted total fertility rate (Bongaarts and Feeney 1998)
- Discrete-time event history analysis:
  - (i) time to 1st birth
  - (ii) interval between 1<sup>st</sup> and 2<sup>nd</sup> birth controlling for the age at 1<sup>st</sup> birth
  - (iii) i. and ii. with interaction between mother's birth cohort and education level

## Results

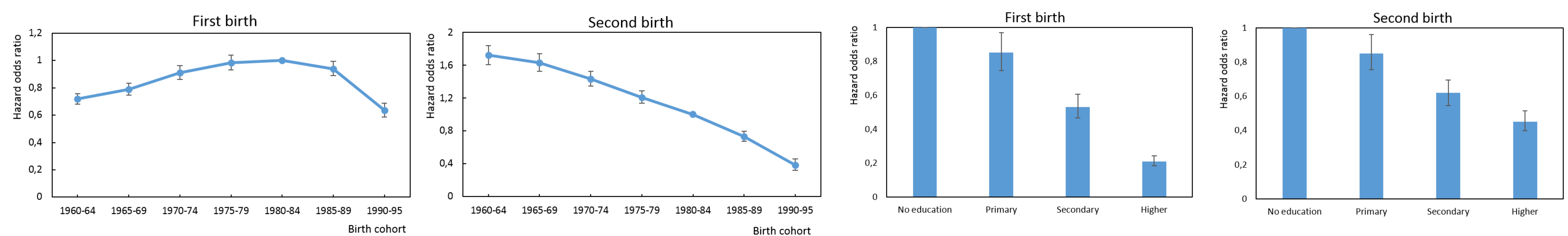
Figure 1: Order specific mean age at birth (MAB), total fertility rate (TFR) and tempo adjusted total fertility rate (AdjTFR) for birth order 1 (TFR1) and all birth orders (TFR)



Decrease in the MAB 1,2,3 between 1990 and 1995 continued for first births but reversed for higher birth orders. This means concurrent earlier start of childbearing and second birth postponement since 1995.

Decrease in MAB(1) produced TFR(1) higher than if the inflating tempo effect not occurred but disappeared in later periods. For all birth orders together (TFR) the tempo effect changed from negative to positive meaning the end of the inflating effect of changes in the timing of childbearing on TFR.

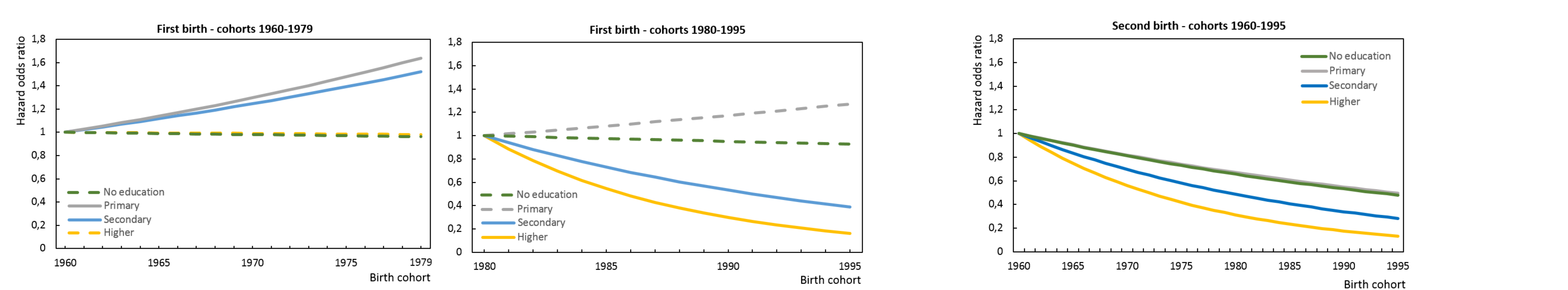
Figure 2: Relationship between the risk of birth and cohort (reference cohort: 1980-84) and risk of birth and education level (reference category: no education) with 95% CI – model (i) and (ii)



The trend towards earlier transition to motherhood for women born after 1960 is reversed for those born after 1980. Across all cohorts transition to second birth has been postponed.

Women with more years of education enter motherhood and have second births later than women with fewer years of education.

Figure 3: Relationship between the risk of birth and cohort separately for educational groups. Solid lines represent statistically significant change in the risk of birth (5% significance level) – model (iii)



Relationship between the timing of first birth and education level has changed. Across older cohorts (1960-1979) women with primary and secondary education increasingly likely to enter motherhood earlier, with no change for women in higher education. Across younger cohorts (1980-1995) no increase in the risk of first birth for any subgroup, for women in secondary and higher education risk decreasing. Trend towards earlier start of childbearing came to a halt for women with primary education, reversed for those in secondary education, women in higher education increasingly postpone first birth. Across all cohorts and educational groups women postpone second births.

## Conclusions

Timing of childbearing in Colombia is changing towards later entrance to motherhood, with continuing postponement of second births. These changes are not only observed among women in higher education, but also emerging among women with fewer years at school. If these trends continue, depressing effect of the changes in the timing of childbearing on TFR could be expected in the coming years, possibly bringing it to below replacement level.

## References

Bongaarts, J. and Feeney, G. (1998) "On the quantum and tempo of fertility" *Population and Development Review* **24**(2): 271-289

Rosero-Bixby, L., Castro-Martin, T. and Martin- Garcia, T. (2009) "Is Latin America starting to retreat from early and universal childbearing?" *Demographic Research* **20**(9): 169-194