



The effects of geography and education on fertility behaviour: The case of Colombia in 1973

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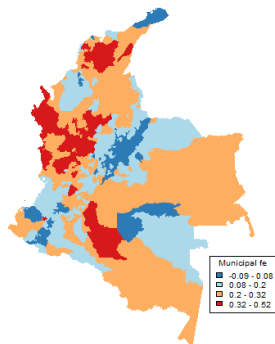
London School of Economics

This research

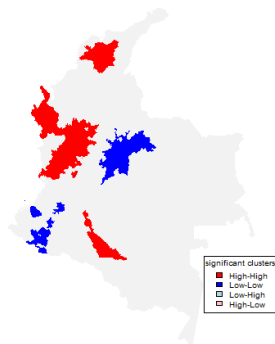
- **Aim:** Assessing the role of geography, culture and education during the Colombian fertility transition. Focus on pre-transition low and high fertility geographical clusters.
- **Background:** Colombia experienced one of the fastest declines in fertility in the world (Flórez, 1992, 2000). Despite the stark inequalities of the country, the regional character of the decline has been neglected in previous research (Gutierrez de Pineda, 1968).
- **Data & Methods:**
 - Complete census of 1973.
 - LISA analysis: women born 1910-1920 (Anselin, 1995).
 - Own child method (Sobek & Kennedy, 2009; Reid et. al., 2019)
 - Testing fertility control (starting and stopping)

Before the transition: the role of geography and culture

(a) Adjusted Municipality effect



(b) Significant spatial association

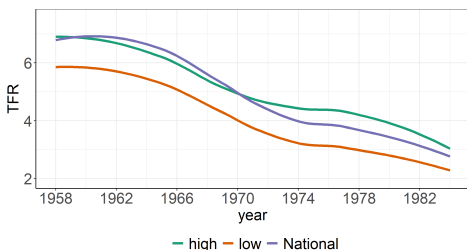


Adjusted effect of the municipality of residence on the number of children ever born to women born between 1910-1920. Sources: Authors' calculations based on 1973 Census data.

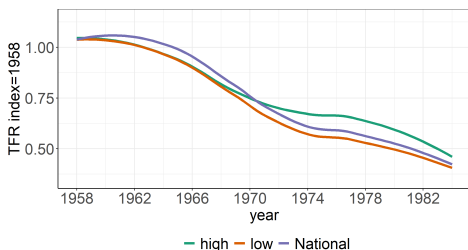
The fertility decline across contexts, 1958-1984

Total Fertility Rate across groups, 1958-1984

(a) TFR



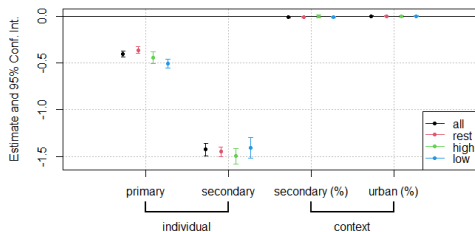
(b) Indexed TFR



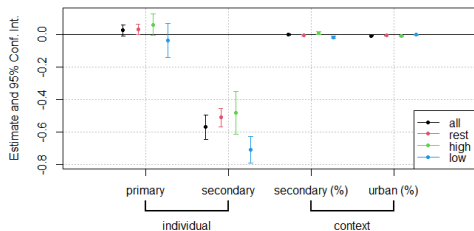
Notes: The TFR is calculated using women between 15 to 78 years old and children between 0 to 14 years old following the OCM. Sources: Authors' calculations based on 1973 Census data and 1985 Census samples from IPUMS-International.

Testing Fertility control strategies

$$\begin{aligned} \text{logit}(P(Y = 1|x_1, \dots, x_k)) = & \beta_0 + \beta_1 * \text{education level} \\ & + \beta_2 * \% \text{ women with secondary education} \\ & + \beta_3 * \text{urbanisation rate} + \delta * \text{controls} \end{aligned}$$



(a) Starting (15-22)



(b) Stopping (40-45)

Conclusions

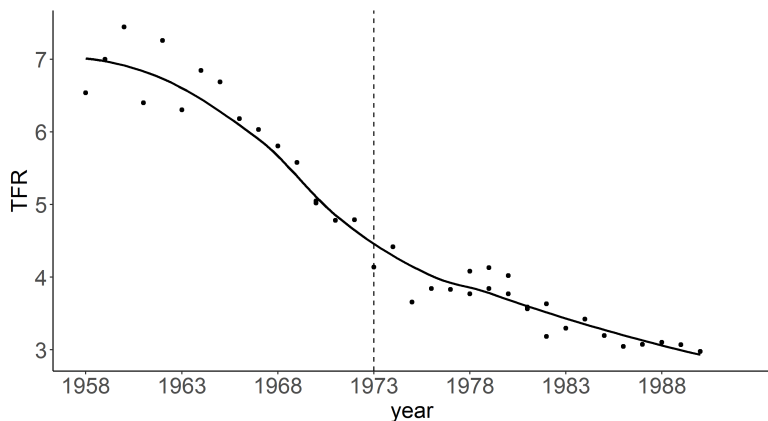
- This study found considerable regional variation in fertility preferences among women born between 1910 and 1920 and uncovers geographical clusters of pre-transition low and high fertility. Nevertheless, in the 1960s fertility declined across all historical contexts.
- Strategies to limit fertility were widespread and differed marginally across women living in different geographical/cultural contexts.
- **Despite cultural and geographical differences, the fertility transition was fast and widespread.**

Thank you!

Find the draft here: <http://j-jaramillo-echeverri.com/project/fertility>

Fertility decline in Colombia

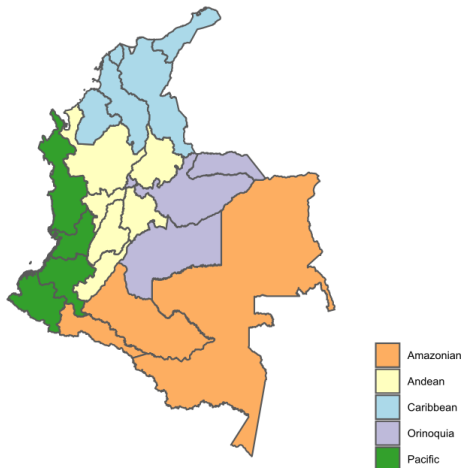
Total Fertility Rate, 1958 - 1990



Note: Calculations using the OCM. Women between 15 to 78 years old and children between 0 to 14 years old. Sources: Authors' calculations based on 1973 full Census data, and 1985 and 1993 Census samples from IPUMS-International.

How homogeneous is Colombia?

Geographical barriers lead to different colonisation processes, historical legacies and differences in ethnic composition.



Description of regions

- **Caribbean:** Historically defined by weak property rights and high levels of poverty. Mestizo, black and traces of indigenous population.
- **Pacific:** The northern part was the mining district, after the Independence free slaves settled. The southern part haciendas were established. Mestizo, black and traces of indigenous.
- **Andean:** Centre of the colonial bureaucracy. The western part remained isolated from the rest of the colony until the expansion of the territory in the 19th century. Mainly Spanish origin.
- **Orinoquia:** Sparsely populated with protected areas. Recent expansion of the frontier. Indigenous people, Hispanic, and a mix of both (*mestizos*)
- **Amazonian:** Covers about 40% of the Colombian territory and is the least populated area in the country. Predominantly indigenous population

Historical context - Social change

- **1965**: Largest family planning organisations founded (PROFAMILIA)
- **1969**: 43% of **urban** women were practising contraception.
- **1969**: The Government adopted an official population policy as part of its national development planning.
- **1969**: 80% of priests considered that family limitation was necessary.
- In the **1960s** cohabitation began a strong expansion at the expenses of marriage that persists today.

Summary statistics of the **contexts**

Table: Summary statistics of the contexts

	Low context	High context
Children born (sd)	3.2 (3.3)	4 (4.4)
Urban (%)	69.4	61.5
Share with electricity (%)	68.5	65.1
Women with secondary schooling (%)	17	13
Women payed employees (%)	13.9	9.9
Women married (%)	47.4	45.9
Sex-ratio (men/women) age 15 to 50	0.9	0.94
Total women older than 15 years old	1,414,845	1,111,908

Urbanisation and access to public services is based on the complete population of the municipalities.

Women enrolled in secondary education and in the labour market are based on women older than 15 years old.

Source: Authors' calculations based on 1973 Census data.

Forerunners