


Gender height dimorphism: An approximation of the living Standards in Colombia, 1920-1990

Dimorfismo de género en estatura: una aproximación a los niveles de vida en Colombia, 1920-1990

Adolfo Meisel-Roca (ameiselooca@gmail.com) 

Universidad del Norte

María Teresa Ramírez-Giraldo (mramirgi@banrep.gov.co)* 

Banco de la República

Daniel Lasso-Jaramillo (df.lasso@uniandes.edu.co)

Universidad de los Andes

ANALYTICAL SUMMARY

This paper aims to analyze the evolution and socioeconomic determinants of gender height dimorphism (the difference between males' and females' heights) to approach the Colombian living standards during the twentieth century. Colombia is an interesting case since few studies discuss differences in adult height between males and females in emerging economies as an indicator of the evolution of a country's living standards in the long run. We hypothesize that the differential eco-sensitivity between men and women is present in the country and that there are important differences among quantiles of height. The "eco-sensitivity" hypothesis states that male stature is more affected by environmental and socioeconomic shocks than female stature, resulting in a phenomenon in which taller men are penalized during bad economic times while females and short men are not.

We test our hypothesis using administrative data on nearly 224,000 individuals' heights and socioeconomic backgrounds. We employ three strategies to unveil the relationship between gender height dimorphism and living standards. First, we perform a quantile analysis by estimating the socioeconomic determinants of stature for men and women. Second, we analyze the effects of the socioeconomic environment on the quantile's gender height dimorphism. Third, we exploit quantile regression methodology to test the eco-sensitivity hypothesis and discuss height inequalities.

The results indicate that the eco-sensitivity hypothesis holds for Colombia. In bad economic times, taller men are more penalized, and in good times, they grow more. In the case of females, taller women take more advantage of economic improvements, such as public goods provision. Results confirm that living standards were poor during the first half of the century mainly because of a deficient diet, nutrition, health and sanitary services, and social violence. Overall, the results show an increasing trend in the absolute value of dimorphism throughout the century across quantiles of height. Between 1920 and 1990, absolute height dimorphism increased from 9.9 to 11.8 centimeters in the 10th quantile, and from 10.84 to 12.2 centimeters in the 90th quantile. This paper's framework suggests that living standards in Colombia have improved considerably during the twentieth century. Also, individuals' socioeconomic status and environmental shocks explain their biological welfare and final adult height.

Finally, some limitations arise from this study. The analysis is based on the implicit assumption that nutritional resources are allocated equally among men and women. Even though there is evidence of this asymmetric allocation in countries such as India and China, there needs to be more discussion on other developing countries cases. However, this analysis is beyond the scope of this paper.