
This paper analyzes the housing gap in Barranquilla and Soledad during 1993, 2005, and 2009. The results showed that in the city of Barranquilla the percentage of households without housing gap has been increasing and those in shortage went from being in qualitative to being in the quantitative housing gap. This may be result of Barranquilla’s improvement in public services. The municipality of Soledad shows the majority of households in shortage problems can be improved, particularly those related to public services. In characterizing households in shortage we modified the methodology by DANE to identify households that are in the double disadvantage of both types of shortage. The new calculations were used to fit binomial *probit* and *multinominal logit models*, to establish the nature of the choice of housing. The latter model was preferred, first because it allowed differentiating the decision of households living in quantitative shortage, qualitative, or both. However, the estimations were used as an auxiliary model, given that the alternatives on the choice of a household with quantitative or qualitative shortage are not independent, the statistical tests suggested the estimation of a system of equations in the form of a bivariate *probit*. The results of the bivariate model suggest that there is a negative relationship between the level of income, education, and the age of the head with the likelihood that this home is in shortage; In addition, when the household head is female or is married, the probability of qualitative shortage increases. It is worth mentioning that Barranquilla households are more likely to be in quantitative shortage than the ones from Soledad.

Keywords: Housing gap, regional economy, econometrics, bivariate *probit*, Barranquilla. JEL: R21, C35, R11, R10.