Improving the Measurement of Core Inflation in Colombia Using Asymmetric Trimmed Means

Working Paper No. 91 Keep in mind
The series Working Papers on Economics is published by the Office for Economic Studies at the *Banco de la República* (Central Bank of *Colombia*). It contributes to the dissemination and promotion of the work by researchers from the institution. This series is indexed at Research Papers in Economics (RePEc).

On multiple occasions, these works have been the result of collaborative work with individuals from other national or international institutions. The works published are provisional, and their authors are fully responsible for the opinions expressed in them, as well as for possible mistakes. The opinions expressed herein are those of the authors and do not necessarily reflect the views of Banco de la República or its Board of Directors.

AUTHOR OR EDITOR Carlos Felipe Jaramillo
The study evaluates the virtues of asymmetric trimmed means as efficient estimators of inflation for Colombia, an economy with high and variable inflation rates. Results suggest that the proposed indicators are more efficient than alternative indexes and are particularly suited for environments where price change distributions are non-normal. Computations indicate that an optimally trimmed estimator for the 27- component Colombian CPI during the 1972 :06 to 1997 :12 period requires that 12 percent be trimmed from the upper tail and 24 percent from the lower tail. This indicator exhibits substantially higher efficiency than the weighted average of price changes (i.e., CPI inflation), the CPI excluding food and energy, the median and symmetric trimmed means. These findings are robust to changes in the 36-month centered moving average benchmark of annual inflation. The optimal estimator is not found to be robust to changes in data sample. This is likely due to changes in parameters of the underlying data distribution due to structural changes in the Colombian economy, particularly in the post 1990 period. Optimal levels of asymmetrical trimming are also found to be highly sensitive to the degree of disaggregation of the CPI data. This is expected since greater disaggregation reveals higher kurtosis and skewness of the underlying data. The CPI excluding food and energy and the median do not seem to provide persistent efficiency gains in estimation of inflation with respect to the weighted mean. Food and energy prices are critical sectors of middle income economies such as Colombia and contain valuable information about medium and long-term trends in inflation. Finally, the median excludes many prices-especially those in the upper tail-that seem to contain valuable information about long-term trends in inflation.

Fuente: https://www.banrep.gov.co/en/borrador91