

[Working Paper No. 347](#)

Keep in mind

La serie Borradores de Economía es una publicación de la Subgerencia de Estudios Económicos del Banco de la República. Los trabajos son de carácter provisional, las opiniones y posibles errores son responsabilidad exclusiva del autor y sus contenidos no comprometen al Banco de la República ni a su Junta Directiva.

Autor o Editor

Juan Manuel Julio

Norberto Rodríguez

Hector Zárate

In this paper we estimated a volatility model for COP/US under two different samples, one containing the information before the “discretionary interventions” started, and the other using the whole sample. We use a nonparametric approach to estimate the mean and “volatility smile” return functions using daily data. For the pre-interventions sample, we found a nonlinear expected return function and, surprisingly, a non-symmetric “volatility smile”. These lack of linearity and symmetry are related to absolute returns above 1,5% and 1,0%, respectively. We also found that the “discretionary interventions” did not shift the mean response function, but moved the expected returns along the line towards the required levels. In contrast, the “volatility smile” tends to increase in a non-symmetric way after accounting for “discretionary interventions”. The Sep/29/2004 announcement does not seem to have had any effect on the expected conditional mean or variance functions, but the Dec/17/2004 announcement seems to be related to non-symmetric effects on the volatility smile. We concluded that the announcement of discretionary intervention by the monetary authority was more efficient when time and amount were unannounced.

La serie Borradores de Economía es una publicación de la Subgerencia de Estudios Económicos del Banco de la República. Los trabajos son de carácter provisional, las opiniones y posibles errores son responsabilidad exclusiva del autor y sus contenidos no comprometen al Banco de la República ni a su Junta Directiva.