Working Paper No. 161

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

Norberto Rodriguez

This document reviews and applies recently developed techniques for Bayesian estimation and model selection in the context of Time Series modeling for Stochastic Volatility. After the literature review on Generalized Conditional Autoregressive models, Stochastic Volatility models, and the relevant results on Markov Chain Monte Carlo methods (MCMC), an example applying such techniques is shown. The methodology is used with a series of Weekly Colombian-USA Exchange Rate on seven different models. The GARCH model, which uses Type-IV Pearson distribution, is favored for the selecting technique, Reversible Jump MCMC, over other models, including Stochastic Volatility Mode