

---

[Download](#)

[Other Working Papers](#)

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

[Valeria Bejarano-Salcedo](#) [Juan Manuel Julio-Román](#) [Edgar Caicedo-García](#) [Julián Alonso Cárdenas-Cárdenas](#)

La serie Borradores de Economía, de la Subgerencia de Estudios Económicos del Banco de la República, contribuye a la difusión y promoción de la investigación realizada por los empleados de la institución. En múltiples ocasiones estos trabajos han sido el resultado de la colaboración con personas de otras instituciones nacionales o internacionales. Esta serie se encuentra indexada en Research

Publication Date:  
Friday, 07 February 2020

The opinions contained in this document are the sole responsibility of the author and do not commit Banco de la República or its Board of Directors.

## **Abstract**

We propose models for the effect of El Niño Southern Oscillation, ENSO, on food prices. We study the effect of the Oceanic Niño Index, ONI, the preferred ENSO measure, and rainfall on fresh food prices. These models arise from well known stylized facts, which we summarize in this paper, and have time-varying state space forms from which we derive optimal forecasts. We found that a simple transfer function, conditional on ENSO intensity, suffices to model these relationships. In addition to the well known fact that Niñas' effect on food prices differs from Niños' effect, we also found that ENSO's effect varies with its intensity. Furthermore, acknowledging that ONI is an imperfect measure of local climatic conditions improves the model fit, which yields sensible forecasts. The rainfall-based model, however, does not employ this methodology. We also report efficiency gains from heteroskedasticity modelling. Finally, these models may also serve to study ENSO effect on other variables such as the GDP.