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Understanding, Measuring and Forecasting “El Niño” Effect on Food Prices: The Case of Colombia

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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.

Fuente: https://www.banrep.gov.co/en/understanding-measuring-and-forecasting-el-nino-effect-food-prices-case-colombia