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Abstract

We study the effect of adverse weather events on retail electricity prices. We focus on the Colombian case given that this market is hydro-dominated and exposed to the El Niño phenomenon, which causes a notable reduction in the hydrological component of electricity generation. We design a structural model to understand the formation of retail prices. We then use the model to study how prices respond to severe weather events. The results show that, under normal conditions, retail firms have control over the pass-through of wholesale cost shocks to retail prices. However, we do not find evidence that the pass-through differs when El Niño is present. This implies that El Niño's effect on retail prices runs through its effect on wholesale costs exclusively. We find evidence that retail prices increase in the presence of El Niño, due to the increase in spot prices in the wholesale electricity market.