

1 Introduction

Whether voters can truly capture a realistic appraisal of the state of the world at the polls remains a core research topic in the study of politics. In an ideal scenario, individuals will be able to adequately judge the strengths and weaknesses of politicians, punishing poor performers and providing incentives for new leaders to perform competently while in office. This well known argument of *voter rationality*¹ builds the foundation of retrospective voting, which models citizens as rational observers of government past-performance.² Accurate retrospective voting has been theorized to lead to efficient political outcomes, where politicians who underperform leave office, resulting in greater democratic accountability.³

However, modern researchers have challenged the view that voters can accurately appraise politician performance. A variety of biases have been found in the way voters attribute responsibility to political leaders, which challenge the basis of the perfect retrospective voter.⁴ In this paper, I contribute to this stream of the literature by focusing on how seemingly irrelevant events can affect perceptions of the president. I focus in presidential approval as the outcome of interest given its applicability to the retrospective voting context and its wide availability in world data. Further, I leverage variation in short-term temperature changes in Ecuador as events over which politicians hold no control. Thus, my research question is ¿do short daily

¹Key, *The Responsible Electorate*.

²Ferejohn, “Incumbent Performance and Electoral Control”; Healy and Malhotra, “Retrospective Voting Reconsidered.”

³Besley, *Principled Agents?*; Persson and Tabellini, *Political Economics*.

⁴Healy and Malhotra, “Retrospective Voting Reconsidered.”

temperature changes affect presidential approval ratings in Ecuador?

I follow⁵ and use daily temperature data from the CPC Global Unified temperature data⁶ for Ecuador, and use AmericasBarometer survey data for presidential approval and other socioeconomic and public opinion controls. Given that daily temperature changes can be assumed to be uncorrelated to political behaviour, I can consistently estimate the impact of daily temperature changes on presidential approval ratings in a regression framework.

The core result of the paper is that higher temperatures have a negative and statistically significant relationship with presidential approval, which suggests that voters commit attribution errors when evaluating politicians. I ascribe this result to mood misattributions, where individuals' moods are affected by weather they perceive to be unpleasant.⁷ Individuals look to validate their negative moods by looking for external causes,⁸ which justify the reduced presidential approval.

Other research has found evidence of cognitive biases in voters' perceptions of politicians,⁹ yet few papers studied the impact of random events.¹⁰ Weather-related events have been used

⁵Quijano-Ruiz, "Assessing the reliability of self-rated health: the effects of transient weather fluctuations on perceived health."

⁶National Oceanic and Atmospheric Administration (NOAA) Physical Sciences Laboratory (PSL), "CPC Global Unified Temperature."

⁷Keller et al., "A Warm Heart and a Clear Head"; Barrington-Leigh and Behzadnejad, "The Impact of Daily Weather Conditions on Life Satisfaction"; Lignier et al., "Does the Climate Impact Satisfaction with Life?"

⁸Schwarz and Clore, "Mood, Misattribution, and Judgments of Well-Being"; Bower, "Mood and Memory."

⁹Hart and Matthews, *Quality Control*; Kahneman and Tversky, "On the Study of Statistical Intuitions"; Beck, "Does There Exist a Political Business Cycle"; Tilley and Hobolt, "Is the Government to Blame? An Experimental Test of How Partisanship Shapes Perceptions of Performance and Responsibility."

¹⁰Healy et al., "Irrelevant Events Affect Voters' Evaluations of Government Performance"; Healy and Malhotra, "Random Events, Economic Losses, and Retrospective Voting"; Achen and Bartels, "Blind Retrospection."

in quasiexperimental studies to draw causal statements about voter behaviour,¹¹ but their direct effect on performance ratings and the implications for retrospective voting are yet to be understood.

Understanding how voters misattribute their mood to political leaders is a question whose importance has been well established by the literature. Extending the applicability of retrospective voting models based on cognitive biases to the context of a developing country in the tropics like Ecuador holds additional importance. Significant mood misattributions like the one I find may partially explain democratic accountability crises, as voters may persistently fail to properly evaluate incumbent performance and fail to provide good incentives for political leaders. Further, understanding what factors outside the common variables may be a better way to understand the modern issues the region faces.

The rest of the paper proceeds as follows. In the next section, I review the theory which informs the paper's empirical approach. Section 3 presents the empirical approach. In section 4, I discuss the paper's results. Section 5 concludes.

¹¹Healy and Malhotra, "Myopic Voters and Natural Disaster Policy"; Bassi, "Weather, Risk, and Voting"; Liao and Ruiz Junco, "Extreme Weather and the Politics of Climate Change"; Visconti, "After the Flood"; Bastos and Miller, "Politics Under the Weather."