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* by Key (1960) builds the foundation of retrospective voting, which models citizens as rational observers of government past-performance (Ferejohn, 1986; A. Healy & Malhotra, 2013). An adequate system of retrospective voting has been theorized to lead to efficient political outcomes, where politicians who underperform leave office, resulting in greater democratic accountability (Besley, 2006; Persson & Tabellini, 2002).

However, modern researchers have challenged the view that voters can adequately appraise the performance of a politician, finding a variety of biases in the way voters attribute responsibility to political leaders, which challenges the foundational basis of the perfect retrospective voter (A. Healy & Malhotra, 2013). In this paper, I contribute to this stream of the literature by focusing on how seemingly irrelevant events can affect presidential approval.

By merging the AmericasBarometer (AB) public opinion survey data with CPC Global Unified temperature data from Ecuador, I leverage variation from an ordinary yet impactful natural experiment: short-term temperature changes. Given that daily temperature changes can be assumed to be random and exogenous to political behaviour, I can consistently estimate the

impact of daily temperature changes on presidential approval ratings. 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 the weather affects the mood of individuals negatively (Barrington-Leigh & Behzadnejad, 2017; Keller et al., 2005; Lignier et al., 2023), and in turn individuals search externally for factors to validate their mood (Bower, 1981; Schwarz & Clore, 1983).

Other research has found evidence of cognitive biases in voters' perceptions of politicians (Beck, 1982; Hart & Matthews, 2023; Kahneman & Tversky, 1982; Tilley & Hobolt, 2011), yet few papers studied the impact of random events (Achen & Bartels, 2017; A. J. Healy et al., 2010; A. Healy & Malhotra, 2010). Weather-related events have been used in quasiexperimental studies to draw causal statements about voter behaviour (Bassi, 2019; Bastos & Miller, 2013; A. Healy & Malhotra, 2009; Liao & Ruiz Junco, 2022; Visconti, 2022), 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 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 informed the paper's empirical approach. Section 3 presents the empirical approach. In section 4, I present the paper's results. Section 5 concludes.