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When does inflation lead or follow interest rates? Regime dependent evidence from Turkey

This study investigates when inflation leads interest rates and when the opposite holds in Turkey over the period 1987–2023, employing rolling-window Granger causality tests combined with Markov-switching regime identification. We document that the direction of predictive causality is not constant but varies systematically across inflation regimes. In the 1994–2002 high-inflation episode, inflation predominantly Granger-causes interest rates, reflecting reactive monetary policy responses to price pressures and external shocks; this pattern aligns with conventional policy frameworks in which central banks raise rates in response to observed inflation. In the post-2021 high-inflation episode, by contrast, this direction reverses — interest rates predominantly Granger-cause inflation — indicating that causality direction is conditional on the prevailing policy regime rather than on the inflation level itself. Conversely, in low-inflation periods (primarily during 2002–2008, with a secondary episode during the 2018–2021 transition), interest rates Granger-cause inflation, consistent with forward-looking expectation channels when policy credibility is relatively higher. This reversal highlights the role of policy signaling and credibility in stable regimes. A notable absence of causality during 2009–2017 reflects external disturbances and policy uncertainty that decoupled these standard macroeconomic linkages. These findings underscore the limitations of time-invariant models in volatile emerging markets and demonstrate the utility of regime-specific econometric approaches. The results have direct implications for monetary policy design in Turkey and similar emerging economies, where structural volatility, exchange rate pass-through, and credibility constraints alter standard interest rate-inflation dynamics.

Keywords: inflation regimes; interest rates; Granger causality; rolling-window analysis; Markov-switching models; emerging markets; monetary policy.
JEL classification: E31; E43; C22.

1. Introduction

A fundamental question in monetary economics is whether interest rates lead inflation or inflation leads interest rates and whether this relationship is stable over time. Conventional wisdom suggests that central banks raise rates in response to rising inflation to dampen aggregate demand, implying inflation-to-rates causality. Yet, alternative theoretical perspectives suggest that in certain environments, particularly when policy credibility is high and expectations are

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