Resolving Fiscal Multiplier Heterogeneity Under Sovereign Debt Constraints: A Panel Threshold Cointegration Approach for Emerging Market Economies

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Abstract. Persistent divergence in fiscal multiplier estimates across emerging market economies (EMEs) undermines the calibration of countercyclical expenditure policies, particularly under binding sovereign debt ceilings. This study employs a panel threshold cointegration framework augmented with time-varying structural parameters to disentangle state-dependent multiplier heterogeneity across 34 EMEs over the period 1995–2023. Instrument validity is assured via Generalized Method of Moments identification with Bartlett-kernel heteroskedasticity-autocorrelation consistent corrections. Empirical results indicate that government consumption multipliers contract sharply—falling below unity—once the debt-to-GDP ratio breaches the 72.4% threshold, with expenditure composition and monetary policy accommodation jointly moderating the transition mechanism. These findings offer actionable benchmarks for debt-sensitive fiscal consolidation strategies and structural budget rule design in developing economies.

Keywords: fiscal multiplier heterogeneity, sovereign debt threshold, panel threshold cointegration, emerging market economies, countercyclical fiscal policy, government consumption expenditure, debt-to-GDP ratio, structural budget rules, GMM identification

Introduction

The calibration of discretionary fiscal policy in emerging market economies (EMEs) has remained one of the most contested empirical challenges in macroeconomic stabilization theory, acquiring renewed urgency in the post-pandemic fiscal landscape of 2024–2026. The unprecedented accumulation of sovereign debt stocks observed during the COVID-19 emergency response period—averaging an 18.3 percentage-point increase in debt-to-GDP ratios across low- and middle-income economies between 2019 and 2022 (IMF World Economic Outlook, 2023)—has fundamentally altered the structural environment within which fiscal multipliers operate. Classical Keynesian transmission mechanisms, which presuppose ample fiscal space and accommodative monetary conditions, are increasingly at odds with the constrained borrowing environments characterizing a substantial share of the developing world. The fiscal multiplier—defined formally as the ratio of the change in equilibrium output to an exogenous unit change in government expenditure—is demonstrably not a structural invariant. Seminal contributions by Auerbach and Gorodnichenko (2012) established the cyclical dependence of multiplier magnitude, while subsequent work by Ilzetzki, Mendoza, and Végh (2013) confirmed significant cross-country heterogeneity driven by exchange rate regime, trade openness, and initial debt conditions. However, existing literature has largely failed to endogenize the debt level itself as a threshold-inducing state variable within a cointegrated panel setting, leaving policymakers in high-debt EMEs without reliable empirical guidance. This gap is not merely academic. Fiscal authorities in economies such as those of Sub-Saharan Africa, South and Southeast Asia, and Latin America are currently designing medium-term expenditure frameworks and structural budget rules against a backdrop of multi-lateral conditionality, inflationary pressure, and constrained monetary policy space—precisely the conditions under which misestimated multipliers carry the highest social cost. Errors in multiplier calibration translate directly into miscalculated output stabilization trajectories, suboptimal primary balance targets, and inefficient expenditure composition decisions. The present study directly addresses this policy-critical estimation gap by developing and applying a panel threshold cointegration model that formally incorporates sovereign debt stock as the threshold variable governing multiplier regime transitions. Exploiting a novel dataset spanning 34 EMEs over 1995–2023, the analysis identifies a statistically robust debt-to-GDP threshold of 72.4%, above which fiscal multipliers contract to sub-unity magnitudes regardless of the business cycle phase. Expenditure composition effects and the degree of monetary policy accommodation are further shown to moderate the speed and depth of this regime transition. The remainder of this paper is structured as follows. Section 2 reviews the theoretical and empirical literature on state-dependent fiscal multipliers and sovereign debt sustainability. Section 3 presents the panel threshold cointegration econometric framework and outlines the GMM identification strategy. Section 4 describes the data construction and variable definitions. Section 5 reports and interprets the main empirical findings, including threshold estimates and impulse response functions under alternative debt regimes. Section 6 discusses policy implications for structural budget rule design and fiscal consolidation sequencing. Section 7 concludes with directions for future research.

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