

Macroeconomic Resilience in Morocco: Evidence from a Principal Component Analysis

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Abstract

This paper develops a composite index of macroeconomic resilience for the Moroccan economy using a Principal Component Analysis (PCA) framework. This study aims to provide an integrated assessment of Morocco's capacity to absorb, adapt, and recover from external shocks (such as oil price volatility, trade disruptions, and climatic fluctuations). Thus, by synthesizing a set of structural and macroeconomic indicators, (including economic diversification index, external debt, inflation rate, foreign direct investment, and financial development), the proposed index helps to capture the multidimensional nature of economic resilience. Therefore, previous studies have mainly focused on cross-country assessments of vulnerability and resilience indexes for a given year, ranking economies based on composite indices. However, these studies did not attempt to estimate the time series evolution of resilience indices, leaving unexamined periods during which the economies can become more or less resilient. This paper aims to fill the lack of temporal analysis in the existing literature and helps understanding of how resilience evolves in response to structural reforms and external shocks. The calculated index in this paper covers the period 1996-2023, addresses the gap in the literature, and traces the evolution of Morocco's economic resilience over more than three decades. Hence, the results have shown that the Moroccan macroeconomic resilience has gradually strengthened since the early 2000s, explained by financial deepening, fiscal consolidation, and external reserve accumulation, despite the persistent vulnerability to climatic and trade shocks. Beyond the Moroccan case, the study provides a replicable framework for measuring macroeconomic resilience, especially in the emerging economies.

Keywords: macroeconomic resilience, external shocks, PCA, Morocco, structural transformations, emerging economies

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