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Assessing Latin America's Macroeconomic Resilience to COVID-19: An Approach Using Singular Spectrum Analysis

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Abstract

This paper uses Singular Spectrum Analysis (SSA) to forecast potential Gross Domestic Product (GDP) in 17 Latin American economies over a quarterly period from 2005 to 2024. Two scenarios are compared: one hypothetical without the COVID-19 pandemic and another reflecting its actual impacts. The results show marked heterogeneity in the impact of the pandemic and the speed of recovery across countries. Nations were grouped into three categories based on their recovery speed: high, medium, and low. The study demonstrates that SSA's methodological flexibility makes it a suitable tool for measuring potential GDP under conditions of high volatility, which is useful for public policy design. The work contributes to the literature by refining hypotheses on institutional resilience and economic diversification, highlighting those pre-existing economic structures, institutional capacities, and policy responses are key factors in each country's recovery trajectory. This analysis enriches the understanding of post-pandemic recovery dynamics in emerging markets and provides a solid foundation for future research.

Keywords: Singular Spectrum Analysis (SSA), Potential GDP, Latin America, Economic recovery, COVID-19.