Nonlinear models for predicting leading GDP indicators using monetary and fiscal variables *

Pablo Cachaga Herrera
Martin Vallejos Tarqui

ABSTRACT

This document compares the predictive capacity of monetary and fiscal variables on Bolivia's economic activity using Machine Learning and TVP-VAR models. The results show complementary advantages: Machine Learning stands out in stable contexts due to its ability to capture nonlinear relationships, while TVP-VAR offers greater accuracy in the face of structural changes. Additionally, the impulse-response analysis from the TVP-VAR model indicates that monetary shocks initially stimulate growth, while fiscal shocks generate positive effects in the long term. The combined use of both approaches is recommended to improve economic forecasts and support economic policy decision-making.

JEL Classification: *C3, E51, E62, O47*
Keywords: *Proyecciones del crecimiento económico, Machine Learning, modelo TVP-VAR*

* The content of this document is the responsibility of the authors and does not represent the opinion of the Central Bank of Bolivia.