A MACROECONOMETRIC MODEL FOR THE ECONOMY OF LESOTHO: POLICY ANALYSIS AND IMPLICATIONS

By

RETSELISITSOE ADELAIDE MATLANYANE

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SUPERVISOR	:	PROF. RENEÉ VAN EYDEN
CO-SUPERVISOR	:	PROF. CHARLOTTE B. DU TOIT
DEPARTMENT	:	ECONOMICS
DEGREE	:	DOCTOR OF PHILOSOPHY (ECONOMICS)

Abstract

This study develops a macroeconometric model for the economy of Lesotho with the view of assessing existing and alternative macroeconomic policies. The model is designed to capture the structural characteristics of the economy while also exploiting the developments in economic theory and statistical analytical tools. It consists of seven sectors, namely, the production sector, the employment sector, the aggregate demand sector, the government sector, the balance of payments sector, the monetary sector and the price sector. The model is estimated using time-series data spanning the period from 1980 to 2000 using the Engle-Granger two-step cointegration technique, capturing both the long-run and short-run dynamic properties of the economy.

The construction of this model follows the lines of the aggregate supply-aggregate demand framework. The economy is assumed to be demand driven by multiplier effects operating through private consumption and private investment with the prices system ensuring that the economy operates within capacity constraints. It is noteworthy that the level of disaggregation adopted in the model is considered sufficient to explore the necessary policy options and is dictated to a large extent by the availability and quality of data.

The tracking performance of the model and its forecasting accuracy is satisfactory as evaluated by means of the MAE, the MAPE, the RMSE and the Theil inequality coefficient.

It is evident from the policy options assessed in this study that fiscal policy remains the main and most potent policy instrument available to policy makers. It is also evident that the effectiveness of fiscal policy is not exclusive as monetary policy can still be used to some extent. A salient outcome of the policy simulation experiments is that the stimulation of the economy from the supply side affects key macroeconomic variables such as output and employment in a more sustained and robust way than when the economy is stimulated from the demand side. In addition, the economy of Lesotho is highly vulnerable to external shocks, as they tend to work their way through practically all sectors of the economy.

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LIST OF ACRONYMS AND ABBREVIATIONS

2SLS	-	Two Stage Least Squares
ADF	-	Augmented Dickey-Fuller
AGOA	-	African Growth and Opportunity Act
AIH	-	Absolute Income Hypothesis
ARCH	-	Autoregressive Conditional Heteroscedasticity
ARMA	-	Autoregressive Moving Average
BOP	-	Balance of Payments
BOS	-	Bureau of Statistics
CBL	-	Central Bank of Lesotho
CBLMM	-	Central Bank of Lesotho Macroeconomic Model
CGE	-	Computable General Equilibrium
CMA	-	Common Monetary Area
CPI	-	Consumer Price Index
DF	-	Dickey-Fuller
ECM	-	Error Correction Model
EFO	-	Edgren, Faxen and Odhner
EU	-	European Union
GDP	-	Gross Domestic Product
GNP	-	Gross National Product
GOL	-	Government of Lesotho
IFS	-	International Financial Statistics
ILS	-	Indirect Least Squares
IMF	-	International Monetary Fund
IO	-	Input-Output
IFS	-	International Financial Statistics
JB	-	Jaque-Bera
KIPPRA	-	Kenya Institute for Public Policy Research and Analysis
KK	-	Keynes-Klein
KTMM	-	KIPPRA-Treasury Macro Model

LCH	-	Life Cycle Hypothesis
LHWP	-	Lesotho Highlands Water Project
LM	-	Lagrange Multiplier
LR	-	Likelihood Ratio
LRA	-	Lesotho Revenue Authority
MAE	-	Mean Absolute Error
MAPE	-	Mean Absolute Percentage Error
MLAR	-	Minimum Local Asset Requirement
NEPRU	-	Namibian Economic Policy Research Unit
OECD	-	Organisation of Economic Co-operation and Development
OLS	-	Ordinary Least Squares
PIH	-	Permanent Income Hypothesis
PP	-	Phillips-Perron
PRGF	-	Poverty Reduction and Growth Facility
RESET	-	Regression Specification Error Test
RIH	-	Relative Income Hypothesis
RMA	-	Rand Monetary Area
RMSE	-	Root Mean Square Error
SA	-	South Africa
SACU	-	Southern African Customs Union
SARB	-	South African Reserve Bank
SMP	-	Staff Monitoring Programme
U	-	The Theil Inequality Coefficient
USA	-	United States of America
VAR	-	Vector Autoregression
VAT	-	Value Added Tax
VECM	-	Vector Error Correction Model
WB	-	World Bank