IDENTIFICATION OF IMPACT OF PUBLIC DEBT ON ECONOMIC GROWTH OF SRI LANKA USING AUTO REGRESSIVE DISTRIBUTED LAG MODELLING APPROACH

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DECLARATION

I declare that this is my own work and this dissertation does not incorporate without acknowledgement any material previously submitted for a Degree or Diploma in any other University or institute of higher learning and to the best of my knowledge and belief it does not contain any material previously published or written by another person except where the acknowledgement is made in the text.

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ABSTRACT

Nowadays, in Sri Lanka, the emergent public debt and its servicing costs are an unadorned burden on the economy. The main aim of the present study is to develop a model which reflects the relationship between public debt and economic growth in Sri Lanka using Non-Linear Auto Regressive Distributed Lag model. Economic growth was reflected by the annual GDP growth. Data were acquired from Department of Census and Statistics abstract reports and annual reports of Central Bank of Sri Lanka. As the first step data were analyzed to invent that relationship between Public debt and annual GDP growth is linear, using Auto Regressive Distributed Lag model and it was confirmed that there was no any significant linear relationship among variables (GDP growth and Public Debt). Then Non-linear Auto Regressive Distributed Lag model was fitted using GDP growth and Public Debt as variables. The Bound's test and Wald's test indicated the presence co-integration among variables GDP growth and Public Debt. The estimated Auto Regressive Distributed Lag model affirms the presence of asymmetries in GDP Growth behavior in long run. In the short run, it can be concluded that, if one-point positive change of fourth lag in Gross Total Public Debt will lead to 1.17 increase in GDP Growth and one-point increase in first and third lags of first difference of Real GDP Growth will lead to 1.07 and 0.26 increase in GDP Growth when all the other variables are constant. Furthermore, in the long run, one-point positive change of first lag in Gross Total Public Debt will leads to 0.35 decrease in GDP Growth while one-point negative change in first lag in Gross Total Public Debt will lead to 1.1 increase in GDP Growth when all the other variables are constant. All the changes reflected significant influence on the GDP Growth behavior. The both dynamic and static forecast values estimated from the developed Non-Linear ARDL model for the period during 1970 to 2017 were almost the same with actuals. However, the dynamic forecasting is more superior than the static forecast. The errors from both dynamic and static models were found to be random.

Keywords: Auto Regressive Distributed Lag, Non-Linear Auto Regressive Distributed Lag, Real GDP Growth

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LIST OF ABBREVIATIONS

Abbreviation	Description
ARDL	Auto Regressive Distributed Lag Model
DW	Durbin Watson
ECM	Error Correction Model
Ex	Example
GNP	Gross National Production
NARDL	Non- Linear Auto Regressive Distributed Lag Model
OLS	Ordinary Least Squares
RWM	Random Walk Model
TIPS	Treasury Inflation Protected Securities
VECM	Vector Error Correction Model

LIST OF APPENDICES