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ECONOMETRIC ANALYSIS OF VALUE ADDED TAX WITH COLOMBO CONSUMER PRICE INDEX IN SRI LANKA

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Thesis submitted in partial fulfillment of the requirements for the degree Master of Financial Mathematics

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Declaration

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Abstract

Value Added Tax is one of the major type of tax currently practiced in Sri Lanka. This study focuses on the determinants of the Value Added Tax (VAT) and Colombo Consumer Price Index (CCPI) and its future forecasts, which could be used as a guidance of monetary policy decisions. The data used for the study are the VAT data obtained from the Department of Inland Revenue and CCPI data obtained from the Central Bank of Sri Lanka for the period of January 2004 to December 2010. It includes monthly data point in each index.

VAT is a tax on domestic consumption of goods and services. The goods imported into Sri Lanka and goods and services supplied within the territorial limits of Sri Lanka are the subject matter of this tax. It is a multi stage tax levied on the incremental value at every stage in the production and distribution chain of goods and services. The tax is borne by the final or the ultimate consumer of goods or services. Therefore, VAT revenue directly affects the price of the goods and services. Inflation is simply the percentage change of CCPI which is the official price index in the country. It measures the changes through time in the price level of consumer goods and services purchased by households in Sri Lanka.

This study is significant, because there is no previous analysis about VAT with CCPI in Sri Lanka. Value added Tax is one of the major type of tax currently used to collect taxes in Sri Lanka. VAT is a general consumption tax assessed on the value added to goods and services. Therefore, it is very important to study about effect of goods and services prices to VAT revenue. Inflation is simply the percentage change of CCPI.

Thus the intention is to the existing forecasting method change of VAT revenue in Sri Lanka by using CCPI. Forecasting was performed using the time series techniques and Econometrics approaches. This study is to find the relationship between VAT and CCPI and fit a suitable model to forecast monthly VAT Revenue in Sri Lanka, which would be used as a guidance of monetary policy decisions.

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Time series analysis was used to analysis the VAT data, CCPI data and econometrics modeling approach considers the impact of CCPI factor in forecasting VAT for the future. Then Ganger Causality test were applied to find the direction of causality between VAT and CCPI. Causality between VAT to CCPI. Further co-integration test was used to identify linear combination of the integrated series and best define the long run equilibrium relationships between the variables. Since both VAT and CCPI series are non stationary order one, Therefore, Vector Error Correction Model (VECM) was formulated, and it was proved that the changes of price level of CCPI were strongly affected by the VAT.

Therefore, in order to assess the significant interrelationship VECM (Vector Error Correction Model) is used to forecast VAT less than 5% Mean Absolute Percentage Error(MAPE). It was found through this study that the CCPI is an influential factor on VAT revenue in Sri Lanka. The developed VEC model can be used to predict VAT revenue with less than 5% MAPE.

Dedication

This thesis is affectionately dedicated to loving Parents and my loving Husband, whose support and encouragement make all things seem possible.

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LIST OF ABBREVIATIONS

Abbreviation	Description
IT	Income Tax
VAT	Value Added Tax
ESC	Economic Service Charge
GST	Goods and Service Tax
NSL	National Security Levy
TT	Turnover Tax
NBT	Nation Building Tax
IRD	Inland Revenue Department

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