CAUSAL RELATIONSHIP BETWEEN CONSTRUCTION ACTIVITIES

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GDP GROWTH IN SRI LANKA

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Declaration of the Candidate

I hereby confirm that this is my own work and this dissertation does not incorporate any contents or materials previously being used for a Degree, Diploma or Higher Learning Course in any university or other institute without obtaining proper approvals.

Further, I declare to the best of my knowledge and belief this dissertation does not contain any materials previously published or written by another person except where the acknowledgement is made in text.

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Declaration of the Supervisor

I hereby confirm that I have supervised and accepted this dissertation for the submission in the degree for Master of Science in Financial Mathematics conducted by Department of Mathematics, University of Moratuwa, Sri Lanka.

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Dedication

This dissertation is dedicated to my mother, wife and parents in-law who gave me an immense support, motivation and encouragement from the beginning to end of my studies until the submission of this dissertation.

Also I would like to dedicate this dissertation to all my friends who gave me a great source of motivation and inspiration.

Finally, this dissertation will be dedicated also to all those who are believing in the richness of learning.

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Abstract

The construction industry plays a vital role in the socio economic development and national fiscals in any country. Usually it provides a considerable share towards the Gross Domestic Product (GDP) and Gross National Product (GNP) of the economy. Further it helps to bring lot of development goals for any country such as providing infrastructure, technology, machinery, engineering services and employment opportunities.

Construction industry is a highly booming sub sector in Sri Lankan economy. The sector alone has contributed 6.6% in 2009 to 8.7% in 2013 towards the overall GDP. Therefore it has indicted a significant impact to the economy of the country. This study helps to understand mathematical relationships between construction industry and economy in an investor perspective and economic policy development standpoint. Also it helps to evaluate the structures of government policies, their effectiveness as well as direct and indirect impact of social wellbeing in the country.

This study focuses on the causality relationship between the developments of construction activities and the GDP Growth in Sri Lanka. It describes as a country how construction activities have been responded to the trend of national economy and vice versa. Empirical data of economic indicators and construction index were used to determine the Granger Causality Test for the period of 1990 to 2013. Therefore, it checked the associations between national economic statistics and construction activates in Sri Lanka specially to identify unidirectional and bidirectional relationships among the variables as well as short term and long term relationships.

The research reveals the Balance of Trade (BOT) has a relationship between previous year Gross Domestic Products (GDP) and a year before. Also it reveals that All Construction Cost Index (ACINDEX) has an impact on last three year GDP figures, Construction sector Gross Domestic Product (CGDP) figures and BOT. Therefore it can confirm a strong relationship between construction activities and economic growth in Sri Lanka.

Kew words: Granger Causality, National Economy, Economic Growth, Construction Sector, Sri Lanka.

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Abbreviations

- ADB -Asian Development Bank
- AIC - Advanced Industrial Countries
- AIC - Akaike Information Criterion
- BIA - Bandaranayake International Airport
- CBSL – Central Bank of Sri Lanka
- CCI - Chamber of Construction Industry Sri Lanka
- CCPI - Colombo Consumers' Price Index
- CECB - Central Engineering Consultancy Bureau
- CICT -Colombo International Container Terminals
- CPEP - Colombo Port Expansion Project
- DWT -Dead Weight Tonnage
- FDI - Foreign direct investment
- GDP - Gross domestic product
- GOJ - Government of Japan
- HIES - Household Income and Expenditure Survey
- ICTAD - The Institute of Construction Training & Development
- IMF – International Monetary Fund
- LDC - Least Developed Countries
- LFPR - Labour Force Participation Rate
- LKR - Sri Lankan Rupee
- NIC - Newly Industrialised Countries
- NRMP - National Road Master Plan
- NWS&DB - National Water Supply and Drainage Board
- SAARC - South Asian Association for Regional Cooperation
- SD&CC - State Development and Construction Corporation
- SECSL - State Engineering Corporation of Sri Lanka
- SIC - Schwarz information criterion
- SME - Small and Medium sized Enterprises
- USD – United States Dollar
- VAR - Vector Autoregression