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STOCK MARKET DEVELOPMENT AND ECONOMIC GROWTH IN SRI LANKA: EVIDENCEFROM COLOMBO STOCK EXCHANGE (CSE)

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ABSTRACT

Stock marketplays vital role in economic growth of any country. The objective of this study is to investigate the impact of stock market development on economic growth in Sri Lanka Evidence from listed companies in Colombo Stock Exchange (CSE) during the period of 2001 to 2015.The hypotheses are examined with help of person's correlation and regression analysis. This study consists of three measures of stock market development namely stock market capitalization ratio to proxy market size, stock value traded ratio and stock traded turnover ratio to proxy market liquidity, control variable as inflation. GDP growth rate and GNI growth rate are used as a proxy for economic growth. Data were collected from the annual reports companies listed on CSE and Central Bank of Sri Lanka. Statistical Packages for Social Science (SPSS) was used toanalizes the data and investigate the impact of in dependent variables on independent variable. Based on the multiple regression analysis findings revealed that stock market development significantly impact on economic growth in Sri Lanka other than stock value traded ratio and inflationbecause stock value traded ratio and inflation has insignificant impact on GDP growth rate and GNI growth rate.The results of this study support that the stock market performance plays animportant role in economic growth in Sri Lanka. Outcome of the study will be useful to the academicians, practitioners, policy makers and investors for making suitable policy formulations for the companies.

Keywords: *Stock market development, Economic growth, GDP, GNI*

1. INTRODUCTION

This research intends to investigate the impact on stock market development and economic growth in Sri Lanka. The role of financial markets in economic growth is historical in nature. It was first discussed by Shcumpeter (1911) in the early 1910s, he explained that credit markets provide finance to business enterprises that in turn use it to acquire new technology, which eventually boosts economic growth. As important components that enhance economic growth, instead bank-based financial institution were considered more instrumental in accelerating economic growth. This might have been so due of the discrepancies in the results obtained from various studies carried on this relationship, especially in the context of developing countries. The differences could be because most stock markets in developing countries are still nascent and small in size, more so the varying macroeconomic conditions could explain these inconsistencies.

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This paper examines the long run relationship between stock market development and economic growth. In general, the literature indicates that long-run growth is positively associated with the development of stock markets (e.g. Levine and Zervos, 1996, 1998; Singh, 1997), and that the liquidity of stock markets is strongly correlated with current and future rates of economic growth.It is a matter of great interest for academician, researchers, investors, regulators and government bodies to identify impact of stock market development on the economic growth in Sri Lanka.

2. RESEARCH PROBLEM

Several studies have done elsewhere to see the impact of stock market development on economic growth. Many studies have proved positive relationships between stock market performance and economic growth. The situations in the developed markets have been easy to test, the markets being adequately large to make an impact on the economies. However the situation in Sri Lanka may be different, the relatively smaller size of the stock market may only have a limited impact on the country's economic activity. Therefore, if possible practical inferences have to be done by taking in to consideration of sectors and segments of the economy that has impact from changes in the stock market.

Although many empirical studies have investigated the relationship between financial market development and economic growth in the world, the role of stock market development in the economic growth of Sri Lanka is not widely researched.

This study is an attempt to fill this gap. Hence, this study investigates how stock market development is related to economic growth of Sri Lanka. This study examines the relationship between the indicators of stock market development and GDP. In addition, it is also tested the relationship between economic growth indicators and the stock market development indicators. The aim of this paper is to contributing to the existing literature using latest data by linking the stock market development for the economic growth in Sri Lanka.

To address this issue this study was undertaken to explore the answer to the following research question:

To what extent stock market development impact on economic growth in Sri Lanka?

3. OBJECTIVE OF THE STUDY

The main objective of this study is to investigate the impact of stock market development on economic growth in Sri Lanka evidence from listed companies in Colombo Stock Exchange (CSE) during the period of 2001 to 2015.

4. LITERATURE REVIEW

Harris (1997) Assessed the role played by stock market development on economic growth using the Two stage -least squares for a sample of less developed countries and developed countries over the period1980 -1991.. The results reveal that stock market development has an insignificant effect on growth in less developed countries while in developed countries it does play a role, even though the significance is low. Further, considerable evidence highlights the importance of liberalization for stock market development; therefore the inability of the stock market to significantly influence growth in these countries might have been due to the view that some developed and underdeveloped countries were not liberalized during the period under study.

Durham (2002) argued that the effect of stock market development on economic growth varies from country to country depending on the initial level of income.This was proved when a study done for a sample of 64 countries over period 1981 to 1998 was conducted and the results revealed that the influence of stock market development on economic growth is greater in high income countries than in lower income countries; also, it has been found that stock price appreciation improves private investment in rich countries.

Osei (2005) predicted that stock market causes economic growth in Ghana, and his findings matched with his prediction where stock market variables (market capitalization ratio and market capitalization) were found to granger cause Real GDP, a proxy for economic growth in Ghana. The researcher had employed a time series from 1991 to 2003), VAR model (Vector Auto-regressive), then used granger causality test (Granger's 1969 causality definition) to establish this causal relationship. Adjasi and Biekpe (2006) examined the impact of stock market development on economic growth for a sample of 14 African Countries using panel data analysis and the results reveal than stock market development plays a significant role in all these countries; however this is only based on liquidity as a measure of stock market development.

Odhiambo (2010), from his investigation of the causality in the stock market-growth relationship in South Africa, found a causal link between variables, with a stronger causality running from stock market to growth, and valid results in the short-run as well as long-run. His choice of variables are similar to this research. He used market capitalization, value of traded stocks and turnover ratio to proxy stock market development, and used real GDP per capita for economic growth. He applied an Auto-regressive distributed lag (ARDL) bounds testing technique with yearly data from 1971 to 2007. Niranjala (2014) investigated the relationship between economic growth and stock market performance in Sri Lanka. The results also indicate co-integration between economic growth and stock market performance.

5. HYPOTHESES OF STUDY

From the literature review the following hypotheses are formulated for the study purpose.

H1: Stock market development significantly impact on GDP growth rate in Sri Lanka.

It is divided into following sub hypotheses.

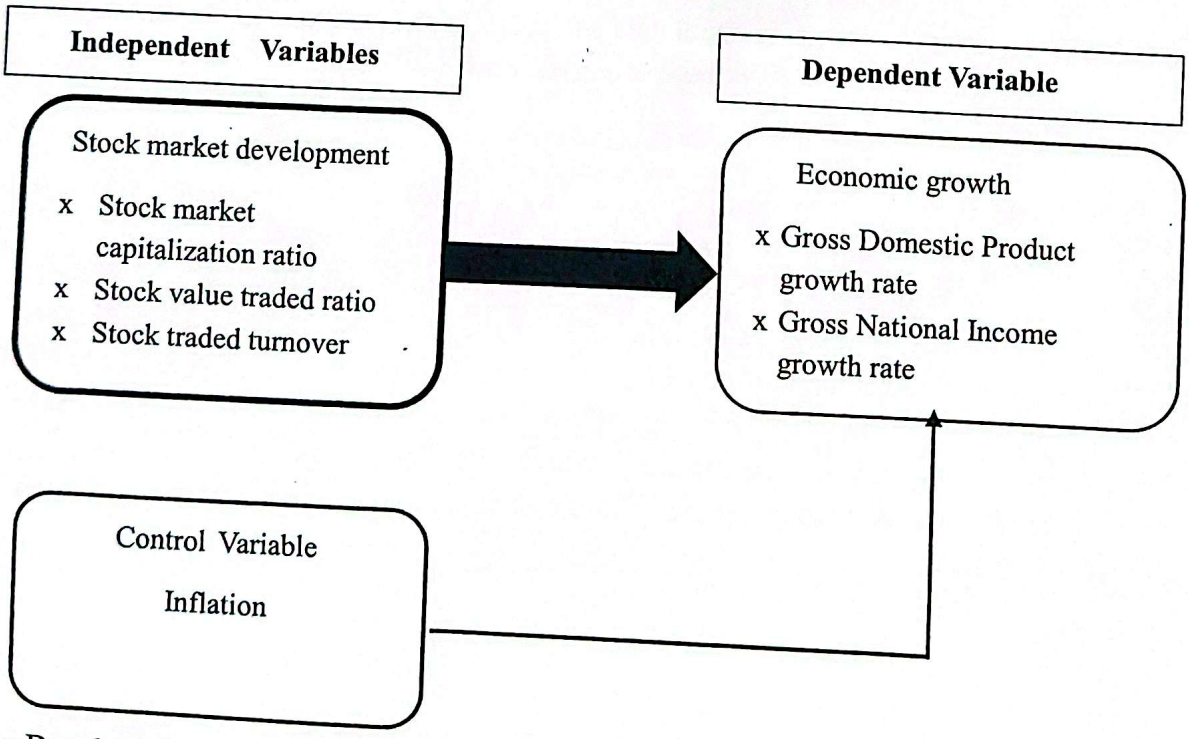
H1 a: Stock market capitalization ratio significantly impact on GDP growth rate in Sri Lanka.
H1 b: Stock value traded ratio significantly impact on GDP growth rate in Sri Lanka.
H1 c: Stock traded turnover ratio significantly impact on GDP growth rate in Sri Lanka.

H2: Stock market development significantly impact on GNI growth rate in Sri Lanka.

It is divided into following sub hypotheses.

H2a: Stock market capitalization ratio significantly impact on GNI growth rate in Sri Lanka.
H2b: Stock value traded ratio significantly impact on GNI growth rate in Sri Lanka.
H2c: Stock traded turnover ratio significantly impact on GNI growth rate in Sri Lanka.

6. CONCEPTUAL FRAMEWORK



Source: Developed by researcher

Figure 1: Conceptual framework

7. METHODOLOGY

It describes research design, sampling design, data sources, reliability and validity of data and mode of analysis.

7.1 Research Design

This research is an explanatory studies. The emphasis here is on studying a situation or a problem in order to explain the relationship between variables (i.e., Stock market development and economic growth in Sri Lanka)

7.2 Sampling Population

The sample of this study composed of listed manufacturing companies from Manufacturing Sector of Colombo Stock Exchange (CSE) for the period of 2001-2015.

7.3 Data Sources

The research is totally based on secondary data, obtained from the annual reports of sample companies. In some cases, some data and information have been collected from the websites of the sampled firms, different articles, papers CBSL report.

7.4 Reliability and Validity

Secondary data for the study were drawn from audited accounts (i.e., income statements and balance sheets) of the concerned companies as fairly accurate and reliable. Therefore, these data may be considered reliable for the study. Necessary checking and cross checking were done while scanning information and data from the secondary sources. All these efforts were made in order to generate validity data for the present study. Hence, researcher satisfied content validity.

7.5 Mode of analysis

To following stock market development and economic growth ratios are taken into accounts which are given below.

Stock market capitalization ratio (MCR)	Stock market capitalization / Market GDP
Stock value traded ratio (STR)	Total share traded / Market GDP
Stock traded turnover ratio (TR)	Total share traded / Market capitalization
Inflation (INF)	Colombo consumers' price index
Gross Domestic Product growth rate (GDPG)	GDP of this year – GDP of last year / GDP of last year
Gross National Income growth rate (GNIG)	GNI of this year – GNI of last year / GNI of last year

According to the hypotheses developed, this study construct regression model for carrying out empirical analysis. The following regression model has been developed to investigate the impact of stock market development on economic growth in Sri Lanka.

$$GDPG = \beta 0 + \beta 1MCR + \beta STR + \beta 3TR + \beta 4INF + \varepsilon \quad (1)$$
$$GNIG = \beta 0 + \beta 1MCR + \beta STR + \beta 3TR + \beta 4INF + \varepsilon \quad (2)$$

Where:

GDPG - Gross Domestic Product growth rate

GNIG - Gross National Income growth rate

$\beta 0$ – Constant value

MCR – Stock market capitalization ratio

STR - Stock value traded Ratio

TR - Stock traded turnover Ratio

INF – Inflation

ε – Error term

8. DATA ANALYSIS AND DISCUSSION

8.1 Descriptive analysis

Descriptive analysis describes the characteristics of stock market development and economics growth in Sri Lanka. The descriptive statistics used in this study consist of minimum, maximum, mean, and standard deviation.

	N	Minimum	Maximum	Mean	Std. Deviation
MCR	15	15.62	33.80	25.0173	7.00313
STR	15	2.10	6.40	3.5533	1.27664
TR	15	8.15	13.98	11.8340	1.80551
INF	15	.90	22.60	8.9880	5.34945
GDPG	15	3.40	9.10	5.7667	1.88894
GNIG	15	3.10	8.50	5.8480	1.76311
Valid N (listwise)	15				

Above Table 01 indicates that stock market capitalization ratio has maximum value of 33.80 and it has minimum value of 15.62 and standard deviation of 7.00313 and it also has mean value of 25.0173. Stock value traded ratio has maximum value of 6.40 and it has minimum value of 2.10. At the same time it has mean value of 3.5533 and standard deviation of 1.27664.

According to the table stock traded turnover ratio has maximum value of 13.98 and minimum value of 8.15 and standard deviation of 1.80551. Inflation has maximum value of 22.6 and it has minimum value of 0.9. At the same time it has mean value of 8.9880 and standard deviation of 5.34945. Gross Domestic Product growth rate has maximum value of 9.10, it has minimum value of 3.4 and standard deviation of 1.88894 and it also has mean value of 5.7667. Gross National Income growth rate has maximum value of 8.50, it has minimum value of 3.10 and standard deviation of 1.76311 and it also has mean value of 5.8480.

8.2 Correlation analysis

For the purpose of this study the Pearson correlation coefficient matrix is used to identify the relationship between the variable related to stock market development and economic growth in Sri Lanka.

Table 02: Correlation Matrix

		MCR	STR	TR	INF
GDPG	Pearson Correlation	.512	.423	.502	.120
	Sig. (2-tailed)	.051	.117	.050	.670
GNIG	Pearson Correlation	.450	.437	.592	.192
	Sig. (2-tailed)	.093	.103	.020	.494

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

As a result of the person correlations, correlations for all the variables in the study are examined. From the result Stock market capitalization ratio has positive relationship with GDP Growth (.512) and GNI Growth (.450) which is statistically significant at the level of 10%. It shows that stock market development leads to the economic growth.

There is positive significance relationship between Stock traded turnover ratio and GDP Growth and GNI Growth at 5% significance level. In this study as a control variable inflation has positive significant relationship with economic growth. There is positive significance relationship between Inflation and GDP Growth and GNP Growth with the levels of significance at 10% and 5% respectively. Based on the results, in this study Stock value traded ratio is not significant with economic growth.

8.3Multiple regression analysis

Table 03- Regression Analysisfor GDP Growth

	Unstandardized Coefficients		Standardized Coefficients	t	Sig
1(Constant)	-8.169	2.934		-2.784	.019
MCR	.225	.053	.833	4.279	.002
STR	-.146	.382	-.099	-.382	.710
TR	.659	.287	.630	2.300	.044
INF	.115	.075	.326	1.528	.157
R^2= 0.740					

Dependent Variable: GDPG

According to the table it can be explained the impact of stock market development on economic growth. MCR significantly contributes to the model since the p-value equal to 0.002 which is lower than 0.01 significance level. Positive coefficient 0.225 shows that MCR and Economic growth moves in the same direction and that a unit change in MCR would lead to 0.225 units change in the GDPG. TR is significantly impact on GDP Growth at 5% level. According to the Table STR and inflation have not significant impact on GDP Growth.

The model the specification of four variables (Stock traded turnover ratio, Stock value traded ratio, Stock market capitalization ratio, Inflation) revealed the ability to predict GDP Growth (R2=0.740). It denotes that 74% of the observed variability in GDP Growth can be explained by the differences in the variables such as MCR, STR. TR and INF. The remaining 26% of the variance is related to the other variables not depicted in this model.

Table 04- Regression Analysis for GNIG

	Unstandardized Coefficients		Standardized Coefficients	t	Sig
1(Constant)	-8.255	2.358		-3.500	.006
MCR	.205	.042	.814	4.853	.001
STR	-.240	.307	-.173	-.781	.453
TR	.748	.230	.765	3.246	.009
INF	.109	.060	.332	1.807	.101
R^2= 0.807					

Dependent Variable: GNIG

According to the table explains the impact of stock market development on economic growth. MCR significantly contributes to the model since the p-value equal to 0.001 which is lower than 0.01 significance level. Positive coefficient 0.205 shows that MCR and Economic growth moves in the same direction and that a unit change in MCR would lead to 0.205 units change in the GNI Growth. TR is significantly impact on GNI Growth at 1% level. According to the Table STR and inflation have not significant impact on GNI Growth.

The model the specification of four variables (Stock traded turnover ratio, Stock value traded ratio, Stock market capitalization ratio, Inflation) revealed the ability to predict GNI Growth (R2=0.807). It denotes that 80.7% of the observed variability in GNI Growth can be explained by the differences in the variables such as MCR, STR. TR and INF. The remaining 19.3% of the variance is related to the other variables not depicted in this model.

Table 05: Hypotheses Testing

No	Hypotheses	Results	Tools
H1a	Stock market capitalization ratio significantly impact on gross domestic product growth rate in Sri Lanka.	Supported	Regression
H1b	Stock value traded ratio significantly impact gross domestic product growth rate in Sri Lanka.	Not supported	Regression
H1c	Stock traded turnover ratio significantly impact on gross domestic product growth rate in Sri Lanka.	Supported	Regression
H2a	Stock market capitalization ratio significantly impact on gross national income growth rate in Sri Lanka.	Supported	Regression
H2b	Stock value traded ratio significantly impact on gross national income growth rate in Sri Lanka.	Not supported	Regression
H2c	Stock traded turnover ratio significantly impact on gross national income growth rate in Sri Lanka.	Supported	Regression

9. CONCLUSION

This study has achieved the main objective which is to investigate the significant impact on stock market development and economic growth in Sri Lanka. Based on the regression analysis this study has found that Stock market capitalization ratio and Stock traded turnover ratio are positively impact on Economic growth in Sri Lanka, while Stock value traded ratio and inflation to become insignificant in Economic growth in Sri Lanka. Therefore there is a significant impact of stock market development on Economic growth in Sri Lanka. The results of this study support the preposition that the stock market performance plays an important role in economic growth in Sri Lanka.

10. RECOMMENDATION

The Sri Lankan government should develop policies that encourage the incorporation of the stock market into the economic system. Policies that improve awareness to potential investors and stimulates their confidence in the market.Environment that enables stock market development to directly impact on growth should be created.Policy makers (Fiscal and Monetary) should embark on economic activities that enhance the link between stock market development and growth.

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