Title: The Impact of Capital Markets on Economic Growth of Sri Lanka

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The Impact of Capital Markets on Economic Growth of Sri Lanka

by

Thehani Yohana Weerasinghe Egodawatte

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Abstract

Capital markets play an important role and influence over the prosperity, development and economic growth of both developed and emerging economies. The purpose of this study was to determine the impact of capital markets on economic growth of Sri Lanka. To achieve the set objectives, the study employed a quantitative research methodology using six stock market performance indicators and one economic growth measure. A longitudinal study was conducted adopting a case study approach, for a period of two decades (1998 – 2019) distinguishing Sri Lanka’s war and post-war eras. The data was analysed using Correlation Analysis and Multiple Regression. The main results showed equity market turnover, market capitalization, share turnover to market capitalization ratio and dividend yield had a positive relationship with gross domestic product while All Share Price Index and debt market turnover had no relationship with gross domestic product. The study indicates overall market is essential, high liquidity stocks, efficient stock market performance and debt trading liquidity are important for the economic development of Sri Lanka. The value of businesses and stock market size determines the economic growth of the country. The Sri Lankan government needs to maintain a peaceful, conducive environment for investors, ensure secure functionality of capital markets that will help implement socio-economic policies to promote better living standards in the country. The study contributes to the existing empirical literature on capital markets and economic growth, especially with reference to Asian markets, and Sri Lankan stock market formerly ranked as one of the best performing stock markets in the world.

Keywords: Capital Markets; Economic Growth; Stock Market; Sri Lanka
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I wish to extend my sincere gratitude to my supervisor Dr. Jacob Wood for accepting the “challenge” of being my promoter. His immense knowledge and guidance throughout the process of carrying out my Master’s research and formulating my ideas was invaluable.

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Further my gratitude towards the Southern Institute of Technology, Invercargill, Management team who extended their support throughout this research.

Last but not least, I am forever in debt to my husband Amal, son Aaron and my mother Leonie for their unconditional love and support truly inspiring the success of my life. I am also most grateful to my siblings, in-laws, friends and colleagues for their support and understanding throughout my studies.
Table of Contents

Student Declaration .................................................................................................................. ii
Abstract .................................................................................................................................. iii
Acknowledgements ................................................................................................................. iv
Table of Contents ................................................................................................................... v
List of Tables ............................................................................................................................ ix
List of Figures .......................................................................................................................... x
List of Acronyms ....................................................................................................................... xi
Glossary ................................................................................................................................. xii

Chapter 1. Introduction .............................................................................................................. 1
  1.1 Background to the Study ................................................................................................... 1
    1.1.1 Sri Lankan Stock Market ......................................................................................... 2
    1.1.2 Economic Growth of Sri Lanka ............................................................................... 3
  1.2 Problem Statement .......................................................................................................... 3
  1.3 Significance of the Study ............................................................................................... 5
  1.4 Research Hypotheses/ Aim and Objectives ..................................................................... 6
  1.5 Structure of Research Project ......................................................................................... 7

Chapter 2. Theory and Industry Analysis .................................................................................... 8
  2.1 Introduction .................................................................................................................... 8
  2.2 Theory and Construct ....................................................................................................... 8
    2.2.1 Theoretical Review ................................................................................................. 8
    2.2.2 The Harrod-Domar Growth Model ......................................................................... 9
    2.2.3 Neo-Classic Growth Theory .................................................................................. 10
    2.2.4 Endogenous Growth Theory ................................................................................. 11
    2.2.5 Capital Market Growth Theory ............................................................................. 11
  2.3 Summarisation of Key Theories ..................................................................................... 12
  2.4 Industry Analysis ............................................................................................................. 12
2.4.1 Overview of Sri Lankan Capital Markets ........................................... 12
2.4.2 PESTLE Analysis of Sri Lankan Stock Market .................................. 13
2.5 Concluding Remarks of the Industrial Analysis .................................... 18

Chapter 3. Literature Review ......................................................................... 19
  3.1 Introduction ............................................................................................. 19
  3.2 Perspectives of Capital Markets .............................................................. 19
  3.3 Stock Markets of Developing Nations and Emerging Markets .............. 21
  3.4 Stock Markets of Developed Nations ..................................................... 22
  3.5 Stock Market of Sri Lanka ................................................................. 24
  3.6 Chapter Summary ................................................................................... 26

Chapter 4. Research Methodology ................................................................. 28
  4.1 Introduction ............................................................................................ 28
  4.2 Research on Capital Markets ................................................................. 28
  4.3 Research Design and Strategy ............................................................... 29
    4.3.1 Research Onion ............................................................................... 29
  4.4 Research Philosophy ............................................................................. 30
    4.4.1 Positivism ..................................................................................... 30
  4.5 Methodological Choice .......................................................................... 30
    4.5.1 Quantitative Research Method & Longitudinal Study .................... 31
    4.5.2 Case Study Strategy ....................................................................... 31
  4.6 Data Collection ...................................................................................... 32
    4.6.1 Data Samples .................................................................................. 32
    4.6.2 Measuring Stock Market Performance .......................................... 33
  4.7 Data Analysis ......................................................................................... 40
    4.7.1 Hypothesis Testing (H) .................................................................... 41
    4.7.2 Conceptual Framework ................................................................. 43
    4.7.3 Multiple Regression Analysis ......................................................... 44
    4.7.4 Correlation Testing ......................................................................... 44
4.8 Ethics ........................................................................................................................................45
4.9 Limitations ..................................................................................................................................45
4.10 Reliability and Validity of Data .................................................................................................46
4.11 Chapter Summary ......................................................................................................................46

Chapter 5. Findings and Analysis .....................................................................................................47
5.1 Introduction ..................................................................................................................................47
5.2 Descriptive Statistics ....................................................................................................................47
5.3 Hypothesis Testing .......................................................................................................................49
5.4 Correlation Analysis ....................................................................................................................49
5.5 Multiple Regression .....................................................................................................................51
  5.5.1 Assumption Testing ................................................................................................................51
  5.5.2 Regression Results ................................................................................................................53
  5.5.3 Model Fit Analysis ................................................................................................................56

5.6 Discussion .....................................................................................................................................61
  5.6.1 Achievement of Objective 1 .................................................................................................61
  5.6.2 Achievement of Objective 2 .................................................................................................63
  5.6.3 Achievement of Objective 3 .................................................................................................64
5.7 Chapter Summary .........................................................................................................................64

Chapter 6. Recommendations and Conclusion ...............................................................................66
6.1 Overview of Capital Market Environment and Sri Lanka ..........................................................66
6.2 Key Theories Exposed and Literature Review .............................................................................66
6.3 Methodological Review and Hypotheses Testing .......................................................................67
6.4 Relationship to Previous Research .............................................................................................69
6.5 Limitations of the Present Study .................................................................................................70
6.6 Recommendations for Future Research and Practice ...............................................................70
6.7 Concluding Remarks ................................................................. 71

References.......................................................................................... 72

Appendix A.......................................................................................... 86
Appendix A.1 Methodological Approaches used in the study of the Stock Market and Economic Growth of Developing Nations ........................................ 86
Appendix A.2 Methodological Approaches used in the study of the Stock Market and Economic Growth of Developed Nations ........................................ 87

Appendix B.......................................................................................... 88
Appendix B.1 Summary of Economic Growth (War Period) .................. 88
Appendix B.2 Summary of Economic Growth (Post-War Period) ........... 88

Appendix C.......................................................................................... 89
Appendix C.1 Summary of Key Market Indicators (War Period) .......... 89
Appendix C.2 Summary of Key Market Indicators (Post-War Period) .... 90
List of Tables

Table 5.1 Descriptive Statistics Results .................................................................47
Table 5.2 Correlation Analysis Results .................................................................50
Table 5.3 Multiple Linear Regression Analysis Results .........................................54
Table 5.4 Model Summary Results .......................................................................57
Table 5.5 ANOVA Distribution Results .................................................................57
Table 5.6 Regression Results of the War Period ....................................................59
Table 5.7 Regression Results of the Post-War Period ............................................59
Table 5.8 Hypotheses Acceptance and Rejection ...................................................60
Table 5.9 Hypotheses Results for Objective 1 .......................................................61
Table 5.10 Hypotheses Results for Objective 2 .....................................................63
Appendix A.1 Methodological Approaches used in the study of the Stock Market and
Economic Growth of Developing Nations .............................................................86
Appendix A.2 Methodological Approaches used in the study of the Stock Market and
Economic Growth of Developed Nations .............................................................87
Appendix B.1 Summary of Economic Growth (War Period) .................................88
Appendix B.2 Summary of Economic Growth (Post-War Period) ..........................88
Appendix C.1 Summary of Key Market Indicators (War Period) ............................89
Appendix C.2 Summary of Key Market Indicators (Post-War Period) .....................90
List of Figures

Figure 2.1 The Harrod-Domar Growth Model .......................................................... 9
Figure 2.2 The Neo-Classic Growth Theory ............................................................ 10
Figure 4.1 The Research Onion Diagram ............................................................... 29
Figure 4.2 Sri Lanka GDP (LKR Bn) ............................................................... 33
Figure 4.3 Equity Market Turnover (LKR MN) .................................................. 34
Figure 4.4 Market Capitalization (LKR Bn) ....................................................... 35
Figure 4.5 Share Turnover to Market Capitalization Ratio (STMCAP) ............ 36
Figure 4.6 Dividend Yield Percentage Year End (%) ........................................ 37
Figure 4.7 All Share Price Index (ASPI) ............................................................. 38
Figure 4.8 Debt Market Turnover (LKR ‘000) .................................................... 39
Figure 4.9 Conceptual Framework ...................................................................... 43
Figure 5.1 Normal P-P plot of regression standardized residual ................. 52
Figure 5.2 Scatter Plot ......................................................................................... 53
Figure 5.3 Histogram of the Model ..................................................................... 58
**List of Acronyms**

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>ANOVA</td>
<td>Analysis of Variance</td>
</tr>
<tr>
<td>ASPI</td>
<td>All Share Price Index</td>
</tr>
<tr>
<td>BRIC</td>
<td>Brazil, Russia, India, China</td>
</tr>
<tr>
<td>CSE</td>
<td>Colombo Stock Exchange</td>
</tr>
<tr>
<td>CBA</td>
<td>Colombo Brokers Association</td>
</tr>
<tr>
<td>CBSL</td>
<td>Central Bank of Sri Lanka</td>
</tr>
<tr>
<td>DMT</td>
<td>Debt Market Turnover</td>
</tr>
<tr>
<td>DY %</td>
<td>Dividend Yield Percentage (%) Year End</td>
</tr>
<tr>
<td>EMT</td>
<td>Equity Market Turnover</td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
</tr>
<tr>
<td>GICS</td>
<td>Global Industry Classification Standard</td>
</tr>
<tr>
<td>H</td>
<td>Hypotheses Testing</td>
</tr>
<tr>
<td>LKR</td>
<td>Sri Lankan Rupees</td>
</tr>
<tr>
<td>FDI</td>
<td>Foreign Direct Investments</td>
</tr>
<tr>
<td>MCAP</td>
<td>Market Capitalization</td>
</tr>
<tr>
<td>PESTLE</td>
<td>Political, Economic, Social, Technological, Legal, Environmental</td>
</tr>
<tr>
<td>SAARC</td>
<td>South Asian Association for Regional Cooperation</td>
</tr>
<tr>
<td>SEC</td>
<td>Securities and Exchange Commission</td>
</tr>
<tr>
<td>STMCAP</td>
<td>Share Turnover to Market Capitalization Ratio</td>
</tr>
<tr>
<td>VIF</td>
<td>Variance Inflation Factor</td>
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# Glossary

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital Markets</td>
<td>“Capital Markets” are defined as markets in which equity and debt financial investment tools are traded (Masoud, 2013).</td>
</tr>
<tr>
<td>Developed Nation</td>
<td>“Developed Country’ refers to a country with a high level of economic growth and security (Developed Nation, 2020).</td>
</tr>
<tr>
<td>Developing Nation</td>
<td>“Developing Country” refers to a country with economies that have not reached economic maturity and have a low economic output (GDP) (Developing Country, 2020).</td>
</tr>
<tr>
<td>Economic Growth</td>
<td>“Economic Growth” is the rise of goods and services in a country, produced over a time period, usually measured by an economic indicator such as GDP (Economic Growth, 2020).</td>
</tr>
<tr>
<td>Emerging Market</td>
<td>“Emerging Market” refers to an economy that experiences considerable economic growth and possess characteristics of a developed economy, Also known as countries transitioning from developing stage to a developed stage (Emerging Markets, 2020).</td>
</tr>
<tr>
<td>Securities</td>
<td>Securities are tradable and fungible financial instruments (equities or fixed) used to raise capital in private and public markets with the intention of holding them for investments purchased by intermediary or broker-dealer for quick sale (Securities, 2020).</td>
</tr>
<tr>
<td>Shares</td>
<td>“Shares” represent equity ownership in a corporation owned by investors who exchange returns on capital for these units (Shares, 2020).</td>
</tr>
<tr>
<td>Stock Market, Financial Market or Stock Exchange</td>
<td>“Stock market, Financial Market or Stock Exchange” can be defined as a “very sophisticated marketplace” where constant activity such as buying and selling of shares takes place (Masoud, 2013).</td>
</tr>
</tbody>
</table>
Chapter 1. Introduction

1.1 Background to the Study
Capital markets are a major driving force over the development and economic growth of a nation (Amu et al., 2017). Evidently a nation’s economic growth is precisely linked by the sophistication and efficiency of financial markets (Ewah et al., 2009). Globally, nations are aided by financial markets by putting together financial resources for growth and development in various channels such as liquidity, mobilization of savings, corporate governance and diversification of risk. Capital markets are considered as an institution that aids the prosperity of emerging and developing economies by connecting the non-financial and financial sectors (Aduda et al., 2014; Nordin & Nordin, 2016; Nuhiu & Hoti, 2011). A most enduring discussion is that capital markets give rise to economic growth of a country. According to Levine and Zervos (1998) stock market development and stock market liquidity are strong predictors of economic growth. Levine (2001) found that well operating stock markets are expected to influence growth by increasing capital accumulation and influencing the efficiency of capital allocation. Therefore, stock market development is a key factor for the economic growth of a country. Globally stock markets differ from country to country, with various long-term and short-term aspects that are responsible for their effectiveness and efficiency. Stock markets have become a substitute for bank financing, assisting in reducing financial constrains to potential investors (Badullahewage & Jayewardenepura, 2018).

Capital markets are important for the economic growth of a country and are known as “the barometer” of a nation’s economic activity (Pohoaja et al., 2014). Many researchers on a broader spectrum have explored “capital markets” and “economic growth” in both developing and developed nations. Although many empirical studies investigate the relationship between financial market development and economic growth in diverse regions of the world, the findings cannot be universally accepted for any geographic location. Previous literature found mounting evidence which suggests a strong long-run existing connection between capital markets and economic growth (Aduda et al., 2014; Alam & Hussein, 2019; Amu et al., 2017; Asiri & Abdalla, 2015;
Dayaratne & Wijethunga, 2015; Enisan & Olufisaya, 2009; Jahfer & Inoue, 2014; Lazarov et al., 2016; Levine & Zervos, 1998;

Levine & Zervos, 1999; Masoud, 2013; Mishra et al., 2010; Niranjala & Jianguo, 2015; Nordin & Nordin, 2016; Nowbutsing & Odit, 2009; Oke & Adeusi, 2012; Oprea & Stoica, 2018; Owolabi & Ajayi, 2013; Van Nieuwerburgh et al., 2006). Some other studies found a negative relationship suggesting that capital markets have no causal relationship for economic growth (Aduda et al., 2012; Ewah et al., 2009; Ji, 2010; Nuhju & Hoti, 2011; Pan & Mishra, 2018). Several other studies state, an unresolved debate of a likely existence of a two-way relationship or a bi-directional causality between capital markets and economic growth (Abdalla, 2011; Acquah-Sam & Salami, 2014; Coskun et al., 2017; Ho & Odhiambo, 2012; Pradhan, 2018; Pohoaja et al., 2014; Srinivasan & Prakasam, 2014).

The role of economic growth and stock market development in Sri Lanka has not been well researched. This research attempts to fill this gap.

1.1.1 Sri Lankan Stock Market

Sri Lanka is a small island nation with limited natural resources and a relatively small market. Capital market plays a vital role on the prosperity of the economy in Sri Lanka. There are mainly two forms of markets reliant upon the kind of securities traded, well-known as “stock markets” and “bond markets” (Alam & Hussein, 2019). This research will largely focus on the Sri Lankan stock market.

Stock market development is an influential factor to the growth of the economy in Sri Lanka. The Colombo Stock Exchange (CSE) is the only stock market which operates in Sri Lanka and is proven to be one of Asia’s most functioning stock exchanges (Liyanapathirana & Ranasinghe, 2020). The Sri Lankan stock market dates back to 1896; the origin story running back to the 19th century, when Colombo Brokers Association (CBA) commenced dealing in shares of plantation business limited liability companies. In 1984 CBA established an ‘open outcry system’ public trading floor. After many regulatory and organisational changes such as amalgamating the Stockbrokers Association with the International Federation of Exchanges, and establishment of a
regulator for capital markets through the enactment of Securities Council Act No. 36 of 1987, the name of the stock exchange was changed to CSE (CSE Milestones, 2020; Gunasekarage et.al., 2004). In the context of regional and global integration, the CSE plays a pivotal role among South Asian emerging capital markets as a founder member and the vice president of the South Asian Federation of Exchanges (Gunasekarage et al., 2004).

The government in the 1990s relaxed regulations on exchange control to boost foreign participation in the share market (Gunasekarage et al., 2004). In 1978, financial liberalization measures were initiated to be applied as a consequence of the open economic policy regime of the country. Prior to liberalization, the Sri Lankan stock market was not as well-developed as it became post-liberalization. Market flexibility was witnessed after macroeconomic revitalization in the country (Athapathu & Jayasinghe, 2012; Badullahewage & Jayewardenepura, 2018). The Sri Lankan financial market development over the last three decades made the stock market a main institution of the economy. The Colombo stock market had an extreme turnaround post-war of the country; the condition of politics and security began to improve, and firms and investors were attracted towards the stock market with the boom in the financial system of Sri Lanka (Badullahewage & Jayewardenepura, 2018).

The CSE’s sturdy commitment towards the development activities of Sri Lanka is based on its evolvement and growth as a conduit for investors and savers (Jahfer & Inoue, 2014). According to Dayaratne (2014), the market participation of foreign investors brought benefits to the market and the Sri Lankan economy. The most vital benefit to the economy is that foreign direct investment (FDI) through the capital market led to a rise of productivity of the economy as well as the wealth of public companies and asset structures under this condition of growth. Post-war the dividend yield dropped in comparison to the pre-war period, implying that stockholders during the post-war enjoyed capital gains over dividends. The comparison reveals that, in terms of share market capitalization ratio (MCAP) and gross domestic product (GDP), Sri Lanka is far from similar countries.
1.1.2 Economic Growth of Sri Lanka

Sri Lanka is a developing nation with an upper middle-income status and the GDP per capita of \(^1\)LKR 662,949 (2018) and LKR 688,719 (2019) is among the highest in the region (Sri Lankan Key Economic Indicators, 2020). The country has a total population of 21.8 million (World Bank Sri Lankan Overview, 2020). Sri Lankan GDP value represents 0.07% of the world economy (Sri Lankan Economy, 2020). Despite the 30 years-long civil war that ended in 2009, the country recorded strong economic growth in recent years (World Bank Sri Lankan Overview, 2020). During the global recession and the final stage of the escalation of fighting during the war period, GDP growth recorded negatively at 1.5% in 2001 and after growing to 3.5% in 2009 peaked to 9.1% in 2012 (GDP Growth (annual %) Sri Lanka, 2020). The economic activity rebounded post-war and an International Monetary Fund agreement resulted in 8% growth for two straight years in 2010 and 2011 (Jahfer & Inoue, 2014). The economy grew at a 5.3% average during 2010-2019 a reflection of a peace dividend and determined policy thrust towards growth and reconstruction (World Bank Sri Lankan Overview, 2020).

1.2 Problem Statement

This research seeks to address the following issue: to identify if there is a connection between capital markets and economic growth of Sri Lanka.

In Sri Lanka, there is little attention given to the significant role of capital markets and their effect on the growth of the economy. Given the developing world’s nature, Sri Lanka’s growth levels are slow. According to Deyshappriya (2014), Sri Lankan stock market performance is lagging compared to other South Asian counterparts although Sri Lanka has maintained stable and higher macroeconomic elements that influence the development of the Sri Lankan stock market. Further, in comparison to key markets in the region such as India, Bangladesh and Pakistan, the Sri Lankan stock market performance is in an underdeveloped stage. India is an outlier in terms of the number of listed companies mainly because India consists of 22 major stock exchanges while Sri Lanka, Pakistan, and Bangladesh have one, two, and three respectively. However, although the listed

\(^1\) For the purpose of this study, all monetary figures are based in Sri Lankan Rupees (LKR). No exchange rate is given due to the historical nature of the data. 2021 New Zealand Dollar exchange rate values are very different to the historical figures from 1998-2019.
number of companies in the stock exchange is low, Sri Lanka has long been maintaining a smooth economic and social status compared to the other regional counterparts. Nevertheless, each country was affected by the global financial crisis that took place in 2008 (Deyshappriya, 2014). The growing concern on the failure of capital markets to perform efficiently in recent times creates a need for study to evaluate the role of capital markets on the development of the Sri Lankan economy as well as to assess the level of influence capital markets have on the economic growth of Sri Lanka.

According to Jahfer and Inoue (2014), the Sri Lankan stock market progressed into a new stage of growth with the end of a three-decade war in 2009, strengthening the economic activities. After cessation of the war, market activities moved to unprecedented levels in 2010, ranking CSE as the world’s best performing stock market for years 2010 and 2011 with the best performing share market index among the members of the World Federation of Exchanges (Reuters Company News, 2010; SEC - Capital Market Progress Report, 2014). This also reflected a momentous growth of the economy and of the stock market performance of the All Share Price Index (ASPI). In the course of this period, the ASPI escalated from 1544 levels in 2009 to 7459 levels in 2011, and Sri Lankan GDP growth experienced an upsurge from 3.5% in 2009 to 9.1% in 2012 (Jahfer & Inoue 2014).

The relationship between stock market development and economic growth has extensive discussions in the literature, yet the direction of causality remains unresolved of whether economic growth causes stock market development or if a relationship exists. There were only a very few research articles found on Asian capital markets over the period (2010-2011), when the Sri Lankan share market was recorded as world’s best performing stock market (Reuters Company News, 2010; SEC - Capital Market Progress Report, 2014). However, various authors have examined the capital markets and economic growth of Sri Lanka (Alam, 2020; Athapathu & Jayasinghe, 2012; Amarathunga, 2012; Badullahewage & Jayewardenepura, 2018; Dayaratne, 2014; Dayaratne & Wijethunga, 2015; Deyshappriya, 2014; Gamlath, 2017; Gunasekarage et al., 2004; Herath, 2020; Jahfer & Inoue, 2014; Jaleel & Samarakoon, 2009; Liyanapathirana & Ranasinghe, 2020; Menike, 2006; Niranjala & Jianguo, 2015; Perera & Ichihashi, 2016; Perera & Paudel, 2009; Ramesh & Rajumesh, 2015; Samarakoon et al., 2018).
The studies of Athapathu and Jayasinghe (2012) and Jahfer and Inoue (2014) posit that to obtain a clear overview of the unresolved debate in the Sri Lankan context further comprehensive research needs to be done. There is no extensive research done on Sri Lankan markets to find out the cause and the impact capital markets had on the economy during the time Sri Lankan market performed best in the world, which is essentially important for the future development of capital markets and prosperity of the economy in Sri Lanka.

This study examines the impact of capital markets on the economic growth of Sri Lanka. This research employed a quantitative research methodology by the use of secondary data on stock market indicators and economic growth indicator for a period of two decades representing the war and the post-war period of the country. This study is a longitudinal study that followed a case study strategy approach.

1.3 Significance of the Study
In recent times, due to the global importance, “financial markets”, “stock markets”, “capital markets”, and “economic growth” are the most commonly researched topics in management studies on broader spectrums of economics and finance. This study intends to minimise the distinct gap of knowledge on the capital market of Sri Lanka. Further, this research will support the view of a possible relationship between Sri Lankan capital markets and economic growth (Athapathu & Jayasinghe, 2012; Jahfer & Inoue, 2014). The findings of this research will essentially benefit towards the formulation of state economic policies for the development prospects of Sri Lankan capital markets, which is critical towards the economic progress of the country (Dayaratne & Wijethunga 2015; Jahfer & Inoue, 2014).

The study itself is significant with regards to the capital market scope and is expected to create awareness to different stakeholders in capital markets of Sri Lanka. From a Sri Lankan government perspective, this study is important because the government of Sri Lanka has the mandate to create a conducive environment for investments by developing and encouraging a market infrastructure, for which a sound securities market can thrive. Such policy implications will develop the financial markets and maintain sustainable economic development in the country. This study will help the capital market regulatory authorities (The Securities and Exchange Commission of Sri Lanka
(SEC) and CSE) for the process of regulating, for the future development of capital markets in Sri Lanka. In terms of the fund managers and investment advisors this study will assist those who are responsible for advising clients on top investment options, and be useful towards providing valid input for sound decision making on the portfolio formation process and investing in financial securities. Finally, this study will provide academicians and researchers who will find the base for further study, a wealth of knowledge towards those pursuing studies in investment banking and financial markets and assist public investors to understand the importance of capital market development.

1.4 Research Hypotheses/ Aim and Objectives

The research aim is to determine the impact of capital markets on the economic growth of Sri Lanka. The three objectives of this research are:

Objective 1: To identify the relationship between capital markets and economic growth of Sri Lanka.
Objective 2: To identify the impact of capital market indicators on economic growth during the war and post-war periods.

To achieve objective 1 and 2 the following research hypotheses (H) were developed:

H1: Equity market turnover has a statistically significant relationship with the gross domestic product of Sri Lanka
H2: Market capitalization has a statistically significant relationship with the gross domestic product of Sri Lanka
H3: Share turnover to market capitalization ratio has a statistically significant relationship with the gross domestic product of Sri Lanka
H4: Dividend yield has a statistically significant relationship with the gross domestic product of Sri Lanka
H5: All share price index has a statistically significant relationship with the gross domestic product of Sri Lanka
H6: Debt market turnover has a statistically significant relationship with the gross domestic product of Sri Lanka
Objective 3: To identify the most influential capital market indicator on economic growth.

1.5 Structure of Research Project
Capital markets have a considerable impact on an economy. This research aims to determine how capital markets impact the economic growth of Sri Lanka. This thesis will support the perception of a relationship, which remains under debate, of a possible connection that exists between capital markets and economic growth.

This thesis consists of six chapters:

Chapter 1: Includes a brief background of the study, problem statement, significance of the study, research questions/aims, and objectives.

Chapter 2: Includes an overview of capital markets and a theoretical and industrial analysis underlying the study to gain new insights. The models and frameworks such as PESTLE analysis were used to analyse the external macro environment.

Chapter 3: Provides a review of literature associated with the mentioned research aims and objectives.

Chapter 4: Provides an outline on how the research was conducted with a discussion on the research design, data collection, techniques of data analysis, limitations, and ethical considerations.

Chapter 5: Analyses the data reports and findings of the research, research approach, research aims, objectives, and hypotheses.

Chapter 6: Outlines the researcher’s conclusions and limitations associated with the findings of the study and provides future recommendations.
Chapter 2. Theory and Industry Analysis

2.1 Introduction
This chapter introduces the theory and industry analysis for the impact of capital markets on the economic growth of Sri Lanka. This research chapter has two sections. The first section reviews the theoretical literature which addresses the underlying theoretical models and frameworks to provide insight to the research aim and problem statement concerning the research objectives, and will discuss how these models will be applied to the research. The second section will discuss the analysis of the industry and the external forces which impact the industry of capital markets.

2.2 Theory and Construct
Through this part, theoretical models and frameworks concerning the research aim and hypotheses will be discussed and analysed to understand the theoretical models that can be applied for this research. These models and frameworks will be discussed separately.

2.2.1 Theoretical Review
In any nation, economic growth is much sought-after for the growth and development of the country. It is a key focus area for economists as many factors help the growth of an economy. A growing economy contributes to the increase in the living standard of the country and the rise of per capita income. It allocates resources and improves and ensures the productivity of savings (Srinivasan & Prakasham 2014). A well-developed financial sector will advance the effectiveness of capital markets of any nation by managing large capital volumes that create productive channels for operations. According to the classical school of economics, the income not spent for consumption purposes is savings, and savings go on to form capital accumulation since savings are equivalent to investments. In a closed economy, savings feeds investments in the economy, and changes in capital and net capital accumulation contribute to the output of growth (Athapathu & Jayasinghe, 2012). Thus, a well-developed financial market is important, as suggested by neoclassical growth models as Harrod-Domar suggests that investments and savings are significant for the prosperity and growth of any nation. It further suggests that long-run growth is determined by the savings rate. Solow’s model suggests the growth rate is determined by the rate of technical growth (Athapathu & Jayasinghe, 2012).
2.2.2 The Harrod-Domar Growth Model

The Harrod-Domar growth model states that investment and savings are essential for growth to occur. A country’s growth is dependent upon the level of savings and the output of capital investment which is also known as the capital-output ratio. Further according to the growth model “The origin of ‘capital fundamentalism’ is the notion that physical capital accumulation is the primary determinant of economic growth” (Boianovsky, 2018). The development of a country is dependent upon the level of savings and capital productivity of investments. Thus, the growth of a country can be achieved in two forms; by the increase of national savings or the reduction of capital input level.

Capital formation has a major impact upon the growth and development of nations since developing nations are faced with many macroeconomic problems such as high foreign debt burdens, the balance of payments, high-interest rates, and inflationary pressure (Shuaib & Ndidi, 2015). Developing nations are most often abundant in labour but have a limited supply of capital, thus they experience slow growth and development. Ensuring financial markets are well developed in the country makes it easier for developing nations to absorb capital intake and regenerate growth.

Figure 2.1 The Harrod-Domar Growth Model

Source: Handout: Harrod-Domar Growth Models, (n.d.)
2.2.3 *Neo-Classic Growth Theory*

The well-known Solow growth model, developed by the legendary economist Robert Solow, arose as a reaction to the Harrod-Domar models of 1940-1950. Unlike the Harrod-Domar where growth is determined by savings and investments, the neo-classic growth model determines growth by two-factor inputs such as labour and capital and technology and innovation (Solow, 1999). Although their names are at all times linked, the two versions are significantly different. Harrod is much concerned with unclear thoughts about investment decisions and the growing economy while Domar has straightforward links on natural more recent ideas. A distinction between other theorists is that neo-classical economists are convinced that growth takes place when there is an increase in capital and labour.

Developed countries are more technologically advanced and growth rates are also relatively higher. Further, due to the increase in new technology in productivity, business concepts are considered as external endogenous variables. The increase is an external factor as growth is an independent variable to any input on capital invested. According to the study of Jagadeesh (2015), low economically developed nations do not have adequate incomes to enable high rates of savings and therefore accumulate capital stock through low investments. Thus, economic growth depends upon policies to increase savings and investments by utilizing investments more efficiently through advancements in technology.

![Figure 2.2 The Neo-Classic Growth Theory](source: Jones, 1998)
2.2.4 Endogenous Growth Theory
The endogenous growth theory was developed by a now world-famous economist Adam Smith (in 1776) (Ucak, 2015). Labour productivity (technological progress) and capital accumulation marked the core of this growth theory. Adam Smith started a quest to justify the theory, firstly by suggesting that the income of every country must be regulated in a way in which labour is applied with a ratio of employment and unemployment (giving way to per capita income).

The endogenous growth model focuses on the relationship between financial development and economic growth in the long run, emphasizing that productivity growth is likely to channel transmission from finance development to economic growth performance relating to income distribution and technology. It is found that recent studies have focused on links between financial markets and endogenous growth (Caporale et al., 2005). By identifying the channels between financial markets and endogenous growth models, Bencivenga and Smith (1991) and Levine (1991) are among the first to propose by emphasizing that financial markets help diverse agents on the attraction of savings into productive investments. According to Levine (1991), in this model stock markets may emerge to help agents to cope with liquidity risks by allowing those entrepreneurs getting liquidity shocks to trade (sell) their stocks to other investors.

2.2.5 Capital Market Growth Theory
The portfolio selection work of Markowitz (Jensen, 1972) has resulted in a revolutionary theory of finance laying the foundation for modern capital market theory a generic term used for securities analysis. Capital markets are used mainly for pricing assets regarded as shares. According to Jensen (1972), Markowitz’s mean-variance portfolio model was built upon the capital market theory which stipulates mainly that investors are efficient, and his treatment of investor portfolio as a problem of utility maximisation under condition was a path-breaking contribution. Although Markowitz’s treatment of the portfolio problems was more or less normative, economists immediately extracted positive implications from this approach.

The main role of the capital market is the efficient delivery of the capital stock of a nation. The ideal market is where economic activity contributes towards making informed decisions for all stakeholders on how much to invest, at the right time when sufficient information is available. This
is an efficient market. Similarly, there is however a wide range of theory which constitutes capital markets.

2.3 Summarisation of Key Theories
It is important to understand theoretical models concerning the application of this research. The Harrod-Domar, Neo-Classic growth, and endogenous growth models offer different perspectives on the growth process. Although Harrod-Domar and Neo-Classic theories emphasize traditional factors (labour, human capital, physical capital stock) they ignore the involvement of institutions, such as banks, government, and stock markets opposed to endogenous theory. Capital Market Theory, whose ground lies on the mean-variance portfolio model, deals with the determination of prices of capital assets under situations of uncertainty.

2.4 Industry Analysis
Within the industry analysis, a brief overview of capital markets in Sri Lanka will be provided with a PESTLE analysis of the industry in Sri Lanka. The external analysis will focus on the macro environmental factors which impact the capital markets in Sri Lanka.

When organisations operate within a particular industry many factors will influence the performance of the organisations. Some are within the control of the organisation; some are beyond the control of the organisation. Investors need to understand these factors in the context of the financial system so the financial sector institutions can then adjust their portfolio to lessen losses and maximise profit.

2.4.1 Overview of Sri Lankan Capital Markets
The CSE plays an essential part in being a responsible organisation for the operations of the stock market. The CSE being an emerging market, has obtained immense attention of policymakers, academics, and investors. Sri Lanka is an essential emerging market of the region among developing nations (Kulathunga, 2015; Ramesh & Rajumesh, 2015).

The CSE has twenty-six stockbroking firms and 289 listed companies representing twenty Global Industry Classification Standard (GICS) industry groups with a market capitalization of LKR
2.851.31Bn in 2019 (CSE Data Library, 2020; CSE Stockbroker Firms, 2020). Over the past two decades, the Sri Lankan stock market has recorded a remarkable growth rate in its activities (Gunasekerage et al., 2014). However, now having returned to its pre-war stagnant status, makes it unpredictable how the stock market in Sri Lanka reacts to the pre-war and post-war macro environment (Kulathunga, 2015).

2.4.2 PESTLE Analysis of Sri Lankan Stock Market

Political Factors
Sri Lanka enjoys a relatively high level of good governance and political stability after the three-decade-long period of ethnic violence that ended in 2009. Political stability and fiscal sector efficiency are necessary for the performance of the Sri Lankan economy (Amarathunga, 2012). Sri Lanka’s political situation has been key in public attention among developing countries. The country’s political distress was most destructive during the three-decade war. The CSE had a drastic turnaround post-war, with the conditions of security and politics beginning to improve and firms and investors getting attracted to the stock market with a boom in the financial market in Sri Lanka (Badullahewage & Jayewardenepura, 2018). However, due to the 2014 change in the political regime, political instability was created in the country for the next few years, exhibiting a downward movement of the market capitalization ratio (Herath, 2020). The political instability that prevailed until recently was exacerbated by the 2018 constitutional crisis, witnessed a net foreign outflow that caused an adverse impact on the overall financial sector efficiency (Frontier Markets, 2020).

According to Ramesh and Rajumesh (2015), political events are one of the most important factors that influence the operations of the Colombo stock market which has badly affected the domestic and foreign investors. The political situation of the country has a vast impact on the foreign and domestic investor perceptions for share purchases. Introduction of government policies and budgets, elections, civil wars, terrorist attacks, peace talks, corruption cases, protests, and natural disasters can have a favourable or unfavourable influence over the CSE. Political events create negativity to the CSE implying political uncertainty which is a key factor causing stock market
volatility. Hence the country must reduce this uncertainty to maintain investor confidence and steadiness of the stock market.

Economic Factors

Sri Lanka has long since maintained smooth economic status with high economic factors which supports the development of the Colombo stock market. In the South Asian region, the Sri Lankan economy is highly fluctuating. Since the formation of the Central Bank of Sri Lanka (CBSL) in the 1950s, the financial system of the country had not developed systematically. The increase in demand for financial services in the country commenced in the 1960s. Before that time the banking density was very low in the country. During the 1960s and 1970s the government policies encouraged an increase in the presence of banks in the country (Amarathunga, 2012).

Sri Lanka was the first South Asian region country to introduce reforms to the financial sector. The country initiated financial sector reforms for the enhancement of economic growth and efficiency in financial markets (Perera & Ichihashi, 2016). Sri Lanka saw a total turnaround when the country’s economic policy changed in 1977 with the adoption of an open market economic policy. The reforms were directed mainly towards the country’s leading financial system the banking sector. As in most developing countries, commercial banks are the leading financial intermediaries of the Sri Lankan economy (Perera & Ichihashi, 2016). According to Edirisuriya (2007), there were changes in the capital market, money market, micro-financial market, and electronic market. In the 1990’s the government also relaxed exchange rules for the encouragement of foreign participation in the stock market by removing the 100% property tax imposed discouraging foreign investor share purchases (Gunasekerage et al., 2014; Jaleel & Samarakoon, 2009).

The research of Gunasekerage et al. (2014), states monetary policy has a significant effect on stock prices and fiscal policy moves have an exerted significant laggard over the stock market. A rise or fall in inflation reduces or increases investor purchasing power thus has an impact on equity investments of local investors. Further, the rise and fall of exchange rates make Sri Lankan equity expensive and cheaper (respectively) for foreign investors thus exchange rate fluctuations have an impact on foreign equity investments. High volatility in interest rates, inflation, and exchange rates
creates an inauspicious economic environment making investment decisions harder, and making investors seek only short-term gains from the stock market. While the high levels of inflation occurred during the war period, more stable levels of inflation were observed after the war period (Kulathunga, 2015). The most important benefit the Sri Lankan economy receives through the capital markets is more FDI which leads to the rise of economic productivity with the growth of wealth and asset structures of public companies. However, before 2008, the perception among foreign investors was less favourable due to the ongoing war situation of the country (Dayaratne, 2014).

**Social**

Sri Lanka has long been maintaining a smooth economic and social status compared to the other regional counterparts. According to Deyshappriya (2014), Sri Lanka’s market capitalization and the number of listed companies are not enough to support its current social and economic development. Sri Lanka has experienced high social and education indicators and a stable economy however there is still slow development of the stock market. The progression of the stock markets of other regional counterparts, such as Bangladesh and Pakistan which are under vulnerable social and economic conditions, highlights further low development than the Sri Lankan stock market (Deyshappriya, 2014).

The Sri Lankan government has been playing a critical role in economic and social development formulating, coordinating, and implementing extensive aspects since independence. Sri Lanka, being a developing nation, always kept free education, health, defence and poverty alleviation among the top national policy agenda items. The country enjoys a better than average healthcare system compared to other regional countries. Already Sri Lanka is the only developing nation that provides free tertiary level education in the world as well as billions of money has been allocated towards various programs to bring people out of poverty (Weerasinghe & Madhuwanthi, 2011).

**Technological**

A most important aspect of capital markets is to encourage indigenous enterprises to develop unique technology with the prospect of accessing funds and skills through global networks. Capital markets help technology, infrastructure, and other devices to streamline the direction of
mobilization of funds into fruitful investments (Ewah et al., 2009). Even though Sri Lanka is not the most technologically advanced country in South Asia, in 1991 the CSE was the first exchange in the region to establish a depository for listed securities called the Central Depository System. The CSE also established a successful automated electronic clearing and settlement system in 1997, the Automated Trading System, which has enhanced transparency and efficiency in the securities market of Sri Lanka. In 1998, in recognition of systems, regulations and technology, the CSE was admitted to the World Federation of Exchanges (Jahfer & Inoue, 2014).

Even though CSE share trading in Sri Lanka commenced in 1985, technology advancement was slow and weak until the recent past. Internet trading commenced by one brokerage firm in 2003 and is now facilitated by other brokerage firms. A new CSE website was introduced in 2007 to provide fast, more accurate, and timely market-based information of each quoted company. With this new website, investors can access an array of real-time information, charts, and graphs of company financial data. This helps investors to make sound investment decisions. The adoption of new technology will surely grow the value relevance of financial data (Pathirawasam & Wickremasinghe, 2011). Sri Lanka was better able to manage Covid-19 than most countries. With all functions of its stock exchange being digital, the CSE continued functioning without any disruptions (Frontier Markets, 2020).

**Legal**

Trading rules are essential to maintain ethical standards and best practices of stock markets in this era of advanced information technology to safeguard the interests of both investors and institutions. Regulatory changes and policy-making decisions could have an adverse effect on the future of the Sri Lankan stock market (Gunasekerage et al., 2014). The study of Oprea and Stoica (2018) states controlling stock price volatility advances volume growth, encourages good correlation and stock market transaction.

The CBSL, was established under the Monetary Law Act no. 58 of 1949 is in charge of determining and implementing the Sri Lankan monetary policy to achieve macroeconomic goals, stability, and growth. In 1987, the establishment of the Securities and Exchange Commission of Sri Lanka (SEC) under Act No. 36 has contributed more to the economic development of capital markets by the
protection of the interests of investors, by developing and promoting professional standards, and regulating the equity market in a fair, orderly and transparent way (Central Bank Monetary Act, 2020; Gamlath, 2017; SEC Act, 2020). After Sri Lanka liberalized economic policies in 1977, there was strengthening in the legal and regulatory frameworks of the financial institutions for improving financial sector management. The legal and policy changes and significant measures taken during this time include, deregulating the financial sector, interest rate deregulation, relaxation of market entry for foreign investors, and foreign and local banking firms. Market-based credit policies and appropriate legislative measures to safeguard the financial system were introduced. The policy package of Sri Lankan financial market deregulation can be regarded as the most comprehensive package among all South Asian countries (Perera & Ichihashi, 2016).

Environmental
At the centre of the South Asian region, the geographic location of the country has historically made Sri Lanka a hub for international trade. The environmental sphere of the country creates more opportunities than other countries in the region and establishes a position that cannot be matched. A conducive environment and an investor-friendly atmosphere are important aspects to the progress of a stock market. Peace is a crucial element for capital markets development of Sri Lanka (Dayaratne, 2014). The conflict environment of a 30 year-long civil war in Sri Lanka prevented to a great extent the smooth operations of the CSE which led to loss of confidence in both foreign and local investors. This in turn, led to the market shrinking and becoming unpopular during that period. A large improvement has been witnessed in the CSE after the ending of the war, with the conditions of security and politics beginning to improve and firms and investors getting attracted to the financial boom in the Sri Lankan market (Badullahewage & Jayewardenepura, 2018; Dayaratne & Wijethunga, 2015).

In 2019 Sri Lankan stock index witnessed its worst fall in over seven years after the Easter Sunday terrorist attacks in three hotels and three churches killing more than 300 people (Kodithuwakku & Samarakoon, 2020; Reuters, 2020). Similarly, the recent outbreak of the global epidemic coronavirus disease (Covid-19) hit global trade and from the first confirmed case in Sri Lanka in January 2020 the CSE ASPI plunged more than 20% to its lowest point during the past 5 years. The fall of global investor sentiments during 2020 negatively impacted the prospect of attracting
FDIs to Sri Lanka. The outbreak is likely to affect the private sector business sales and investments through most of 2020 (Shujan et al., 2020).

2.5 Concluding Remarks of the Industrial Analysis
The PESTLE analysis revealed some important external environmental influences over the Sri Lankan stock market. The present macro-environmental factors of Sri Lanka, the political and economic situation looks favourable to attract foreign and local investors. Further, the social and technological factors positively influence the industry. The Sri Lankan industry of capital markets is well-governed and regulated to safeguard the interest of companies and investors. Understanding the PESTLE is beneficial towards maintaining the success of the industry.

Chapter three, will present the literature cited on “capital market” and “economic growth” in various aspects. The literature will explore the perspectives of capital markets and bring useful insight on stock markets of developing nations, stock markets of emerging markets, stock markets of developed nations and the Sri Lankan stock market.
Chapter 3. Literature Review

3.1 Introduction
The capital market is one of the crucial and uplifting aspects of the financial system today. It has become the key dynamic force of international and national economies around the world (Badullahewage, 2018). In the phase of globalization, the advancement of financial markets and economic growth have shown greater importance in many developed nations by efforts put forward towards the improvement of their financial systems. A stable financial market is vitally important for the growth of a nation. A well-established stock market is an indicator of a complete macro-economic performance of a country (Azam et al., 2016). Stock markets perform as the engine of the economic growth by supplying the long term capital needs which are important for the long-run investments (Deyshappriya, 2014). According to Deyshappriya (2014), the stock exchanges in emerging and developing countries are underdeveloped and less efficient in comparison to developed economies. It is obvious from previous global studies, there is existence of conflicting views on the relationship between stock market and economic growth, causing need for further investigation (Jahfer & Inoue, 2014).

This chapter reviews the literature contributed by existing scholars of capital markets and economic growth. It examines different insights into capital markets and economic growth from a broader perspective and reviews empirical literature and findings to examine the relationship between the variables. Firstly, the literature review will explore the perspectives of capital markets. Secondly, the review will explore the stock markets of developing nations and emerging markets. Thirdly, the review will explore the stock markets in developed nations. Finally, the review will explore the Sri Lankan stock market.

3.2 Perspectives of Capital Markets
Capital markets play an important part in the economic prosperity of both developing and emerging economies, connecting the economies financial and non-financial sectors by simplifying the flow of funds between investors and savers (Aduda et al., 2012; Aduda et al., 2014; Amu, 2017; Nuhiu & Hoti, 2011; Oprea & Stoica, 2018; Orlowski, 2020). The development of capital markets in developing nations is likely to improve the mobilization of local resources and encourage more
efficient use of capital. Capital markets of less developed nations have much less depth in terms of market capitalization because of the limited number of individual participants and the limited number of listed companies. Countries with well-established capital markets achieve a higher growth of GDP in comparison to countries without capital markets. The governments of developing nations play a key role to promote FDIs that integrates with global markets (Nuhiu & Hoti, 2011).

Capital markets are defined as markets where financial tools such as debt and equity with a maturity of 12 months or more are traded. Primary markets deal with new securities or shares while secondary markets deal on the trading of shares or securities issued presently or formerly (Alam & Hussein, 2019; Masoud, 2013). Capital markets deal with bonds and stocks, relating to the deployment of financial resources on the longer run. Investors are provided with an effective vehicle to make choices of investments for their own preference on risk and return thus aiding the economy to produce investments on savings in a productive way (Aduda, 2012). The smooth operation of capital markets relies on a network of institutions, individuals, and operators to enable the market consisting of investment banks, stockbrokers, fund managers, venture capital firms and investment firms. The self-regulatory agency is the stock exchange and the statutory regulator is the Securities and Exchange Commission (Amu, 2017).

Financial markets play a decisive role in the economy of a country. Without a well-structured financial market, productive projects will not be exploited due to the failure to raise funds. Thus, this may hinder the economic success of a nation (Nordin & Nordin, 2016). Financial markets were primarily created to universally help and create avenues to effectively mobilize idle funds from surplus economic sectors and channel them into deficit economic sectors for the purpose of longer-term investments (Ewah et al., 2009). If there were no existence of capital markets, the industrialised advancement of a countries would be hampered, as money markets cannot be considered to offer such funds, thus, inefficient capital markets will reduce entry of new ventures and hinder the long-run productivity of an economy (Alam & Hussein, 2019; Pan & Mishra, 2018). Acquah-Sam and Salami (2014) recommend that developing countries place greater emphasis on the development of the financial sector with a special focus on the capital markets to ensure the growth of the economy. For the development of every developing country, it is significant that a
threshold level on inflation is determined. A well-operating financial sector will efficiently distribute the scarce resources of the economy to profitable investments. Developing nations must put more effort to improve the development of infrastructure to boost economic growth.

3.3 Stock Markets of Developing Nations and Emerging Markets

Since the early 1990s, stock markets in emerging markets have developed considerably. According to the World Bank (2018), compared to developed economies, some developing economies grow at a faster pace and they belong to the class of emerging economies. Emerging stock markets play a vital role in international economics, their economic growth can be conveyed to the real sector through specific channels, market capitalization, liquidity, diversification, and risk-sharing (Carp, 2012). In developing economies, the investment needs are much greater than domestic savings since they face capital deficiency, thus require external support through FDI (Mall & Panigrahi, 2019). Muktadir-Al-Mukit et al. (2014) state in recent times a remarkable growth has been witnessed in the South Asian region. Growth was witnessed in the GDP of SAARC countries (South Asian Association for Regional Cooperation) since the 1990s after the start of financial liberalization in the region. Stock markets of SAARC nations have quickly moved towards the path of operational efficiency having observed development and growth in numerous yardsticks as the volume of trade, turnover, market capitalization, etc. The highly associated and most influential factor for real economic growth is the market capitalization of India, Pakistan, Sri Lanka and Nepal. The most influential factor highly associated to the real economic growth of Bangladesh is the market capitalization and stock turnover ratio.

The study of Azam et al. (2016), using cross-country data of four Asian countries reveals that FDI inflows and stock market development play a vital role in the process of development and economic growth in Bangladesh, India, China and Singapore. Further, the study recommends that policymakers create a prudent and effective policy to develop the stock market and boost foreign investments. The outcome of these policies will improve the macroeconomic performance of these economies. The research of Muktadir-Al-Mukit et al. (2014) on five SAARC countries found that the share market considerably impacts the growth of SAARC economies. The study of Ahmed and Ansari (1998) on three major South Asian economies found that major financial development indicators of India, Pakistan and Sri Lanka show phenomenal growth. The financial sector has
grown quicker than the real sector, giving significant rise in GDP ratios and financial indicators, thus, the main policy implication is governments of India, Pakistan and Sri Lanka can promote economic growth by boosting financial sector development by taking liberalization measures. Further studies of Pradhan et al. (2013) and Sinha and Macri (2001) conducted respectively on sixteen and eight Asian countries found a positive long-run relationship between economic growth and the stock market.

The study of Mishra et al. (2010) conducted using a time series of data on market capitalization, total market turnover, and stock price index found that capital markets of India contributes to the country’s economic growth. A study of Brazil, Russia, India and China (BRIC) conducted employing descriptive and regression analysis found differences in economic indicators among all BRIC countries, thus suggesting that each country needs to focus on their respective economic indicators for maximum achievement of growth (Mall & Panigrahi, 2019). Similarly, studies of developing African nations found capital markets have a positive effect on economic growth. The studies conducted using correlation and regression techniques on Kenyan, Nigerian and Ghanaian capital markets make a policy recommendation that a regulatory framework is put together to ease and regulate the development of the capital markets of the respective nations (Acquah-Sam & Salami 2014; Aduda et al., 2014; Amu et al., 2017; Oke & Adeusi, 2012; Owolabi & Ajayi, 2013). Enisan and Olufisayo (2009) studied seven countries in sub-Saharan Africa (Cote D’I voire, Egypt, Kenya, Morocco, Nigeria, South Africa, and Zimbabwe) finding that stock market development has a causal long-run impact on economic growth. Some other studies conducted on other developing nations such as Bahrain, Turkey, Macedonia, Mauritius, and Malaysia found capital markets have a positive effect on economic growth (Asiri & Abdalla, 2015; Coşkun et al., 2017; Lazarov et al., 2016; Nordin & Nordin, 2016; Nowbutsing & Odit, 2009).

3.4 Stock Markets of Developed Nations

Once economies reach a certain level or size, stock markets seem to develop (Oprea & Stoica, 2018). In the era of globalization, many developed countries have considered financial market development important for economic growth by paving the path for improvement of financial systems. A well-developed financial system consists of well-functioning institutions and financial markets that facilitate the ease of raising capital and investments that back economic activity.
(Pradhan, 2018). In a sophisticated stock market, share ownership gives investors liquid means of sharing risk when investing in hopeful projects. Mature stock markets alter the pattern of demand for money, as booming stock markets create liquidity, and hence spur economic growth (Caporale et al., 2004). Developed nations have a higher absorptive capacity for profiting more from the existence of private capital flows than developing nations as they have well-developed stock markets and a high research and development intensity. The ratio GDP to market capitalization is correlated positively with the growth of developed countries, suggesting the bigger the stock market the better the economic performance (Choong et al., 2010).

Stock markets play a crucial role in both emerging markets and advanced economies. There is much evidence that suggests the stock market has an impact on the economic growth of many developed nations such as Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Italy, Japan, Netherlands, New Zealand, Norway, Oman, Portugal, Spain, Sweden, Switzerland, United Kingdom and United States of America (Alam & Hussein, 2019; Boubakari & Jin, 2010; Caporale et al., 2004; Chaudhuri & Smiles, 2004; Choong et al., 2010; De la Torre et al., 2008; Ho & Odhiambo, 2012; Masoud, 2013; Oprea & Stoica, 2018; Orlowski, 2020; Van Nieuwerburgh et al., 2006).

According to Pradhan (2018), to uphold sustainable development in G20 countries, the differences in policy implications should be acknowledged for the development of stock markets and the growth of economies. Thus, a wide variety of activity is required in the stock market, with a good distribution of financial resources, well-operating financial institutions with sophisticated financial systems to facilitate investments and ease activity of raising capital for the improvement of economic activity. Hong Kong stock markets are among the most reputable in Asia with market capitalization increasing continuously more than 350 times over the past three decades. The Hong Kong financial sector growth is convened by the rapid growth of the real sector, having achieved an “economic miracle” over the last few decades, the per capita GDP has increased over threefold (Ho & Odhiambo, 2012).

The study of Orlowski (2020) suggests that stronger reliance on European Union (EU) market-based financing and capital market integration in the euro area will stimulate the growth of an
economy. Since the beginning of the euro in 1999 capital markets have increased significantly in the EU, however EU markets are fragmented, un-synchronized, and too diverse in supporting investments and growth. Better synchronized debt and equity markets are crucial for stimulating stability and economic growth in Europe. The relationship between stock market and economic development imply a dynamic analysis of growth rates, foreign flows, and stock market indicators in EU countries (Carp, 2012). The study of Boubakari and Jin (2010) on some Euronext countries determines the economic activities in developed countries as the United Kingdom and France of which financial proxies are crucial, and its support justifies the leading role of the stock market. In Portugal and Belgium, the stock markets are found to have no significant influence on the economic growth. The causality was found only in countries in which stock markets are highly liquid and significantly active.

The study of Gan et al. (2006), using time series data, found New Zealand stock market is a mixture of mature markets such as the US, Japan, and Korea. Compared to the stock markets of other developed countries, the New Zealand market is small and maybe overly sensitive to macroeconomic factors of global trading partners. Chaudhuri and Smiles (2004) researched the influence of stock variations of markets in Australia and New Zealand. The study found that the stock return variation in the New Zealand and US markets, significantly influences the Australian stock return movements. The study of Nguyen and Pham (2014), also using causality tests on variables such as market capitalization, GDP and FDI found stock market development in Australia is relatively stronger than that in Canada and the rise of the stock market tends to significantly boost the economic growth in Australia.

3.5 Stock Market of Sri Lanka
The Sri Lankan financial system consists of financial markets, financial institutions, financial infrastructure, financial instruments consisting of settlement systems, payments, and legal frameworks. The financial sector institutions of the country are regulated by the CBSL (Amarathunga, 2012). The CBSL is the national authority to implement the monetary policy of the country and is in charge of determining and implementing the monetary policy in Sri Lanka to achieve macroeconomic goals and stability (Perera & Masaru, 2016). In 1978, financial
liberalization measures were initiated in Sri Lanka to be applied consequently to the rule of open economic policy (Athapathu & Jayasinghe, 2012; Perera & Masaru, 2016).

Peace is a crucial element for capital market development in Sri Lanka (Dayaratne, 2014). According to the study of Gunasekerage et al. (2014), Sri Lanka experienced economic and political uncertainty for many years due to civil unrest that prevailed in the south of the country, which escalated into war between northern rebels and the army forces commencing 1980s. The conflict environment of a 30 year-long civil war in the country prevented the smooth operations of the CSE to a greater extent, which led to both foreign and local investors losing confidence and the market becoming shrinking and unpopular during that period. A large improvement has been witnessed in the CSE due to the peace after ending of the war in the year 2009 (Dayaratne & Wijethunga, 2015). In the year 2010, the Sri Lankan stock market progressed into a new level of growth, With the economic heightening post cessation of the war, interest grew in the CSE as an investment destination, pushing market activity to unprecedented levels (Jahfer & Inoue, 2014). Simultaneously, the CSE had a drastic turnaround post-war, with the condition of security and political stability beginning to improve and firms and investors getting attracted to the stock market caused a boom in the financial markets of Sri Lanka (Badullahewage, 2018).

Sri Lanka has long been maintaining a smooth economic and social status compared to the other regional counterparts but the listed number of companies in the stock exchange is low. According to Gunasekarage et al. (2014), in the context of regional and global integration, the CSE plays a pivotal role among South Asian emerging capital markets as a founder member and the vice president of the South Asian Federation of Exchanges. For the years 2010 and 2011, the CSE was ranked by Bloomberg News as the best performing stock exchange in the world and the best performing stock market index among other member countries of the World Federation of Exchanges (Jahfer & Inoue, 2014).

In the South Asian region, Sri Lanka is considered a highly fluctuating economy (Liyanapathirana & Ranasinghe, 2020). According to Herath (2020), over the past three decades the CSE market size has widened significantly. Market capitalization has increased from LKR 36.87 billion in 1990 to LKR 2851.30 billion in 2019. Aggregated market capitalization as a percentage of GDP has
risen from 11.46% in 1990 to 18.99% in 2019. This ratio reached a maximum of 39.44% in 2010. However, due to the 2014 change in the political regime, political instability prevailed in the country for the next few years, exhibiting downward movement of the market capitalization ratio. Furthermore, CSE market liquidity showed considerable fluctuation with slightly positive long-term trends. From 4.24% in 1990, it improved to 25.8% in 2010. By 2019 the turnover ratio decreased to 6.01% (Alam, 2020).

A series of previous empirical studies of the Sri Lankan stock market and economic growth have been conducted by different researchers using various stock market variables on quantitative data analysis, employing multi-regression techniques to examine the relationship between variables. The study of Dayaratne and Wijethunga (2015), using market indicators such as market capitalization ratios and market turnover ratios found a long-run existence of a relationship between the stock market and economic growth in Sri Lanka which does not depend on upon the war and post-war situation of the country. Some other studies of Amarathunga (2012) and Badullahewage (2018) and Deyshappriya (2014) and Gamlath (2017) and Jahfer and Inoue (2014) and Niranjala (2015) using time series of data found a long-run relationship between stock market activity and the growth of the Sri Lankan economy. These various studies were conducted using a range of variables such as GDP, Market Capitalization, Market Turnover of CSE, Savings, Investments, Trades, Real Interest, ASPI, Inflation Rate, Exchange Rates and Money Supply. The studies were analysed using techniques such as Augmented Dickey-Fuller test, Phillips Perron test, Vector Auto-Regression model, Johansen co-integration tests, and the Vector Error Correction Model. Similarly, studies of Athapathu and Jayasinghe (2012), Perera and Masaru (2012), and Perera and Paudel (2009) using some of the same variables and analysis techniques observed a bi-directional relationship between stock market activity and economic development of Sri Lanka.

3.6 Chapter Summary
This review has examined the literature concerning “capital markets” and “economic growth” in various aspects in developing nations and emerging markets, developed nations, and Sri Lanka. Even though there were many common discoveries, the literature offers much understanding of the evidence that propose a solid, long-run presence of a relationship that is existent between stock markets and economic growth in most developing and developed countries. There was some
evidence suggesting a bi-directional or negative causality that also exists in some other countries, however, since the form of literature found on capital markets and economic growth were more country specific, the literature does not specify any findings which are universally acceptable for any specific economic group or any geographic location. The literature suggests policy recommendations for the development of capital markets in the respective countries under study. Furthermore, the studies carried out were using quantitative data, different data samples of various markets and economic indicators, as well as various cross panel regression analysis techniques were employed. In the context of Sri Lanka, there are several gaps identified in the past studies on the debate of a possible connection that may exist between capital markets and economic growth. There was narrow scope of literature available on Sri Lankan capital markets, thus creating a need for more research to be carried out.

Chapter four will present the methodology used for the research, previous studies conducted on capital markets and economic growth and the best suitable framework to be followed.
Chapter 4. Research Methodology

4.1 Introduction
This chapter provides comprehensive information on the research methods and procedures that were used to achieve the set objectives of this research and further explain the findings of the literature. As was stated earlier, this study aims to produce empirical evidence on the impact of capital markets on the economic growth of Sri Lanka. The prediction is that the capital market has an influence over the economy of Sri Lanka. The model specifications used in this study were adopted from Gamalath (2017) and Herath (2020). They investigated the impact of the Sri Lankan capital markets on economic growth; Gamalath (2017) researched on years 1995 - 2014 and Herath (2020) researched on years 1990 - 2019. This model suggests that positive activity in the stock market is a spur for the growth of the economy. Economic growth is proxy by the economic metrics while capital market performance is reviewed by the performance of market indicators.

The chapter will be divided into sections. Firstly, the chapter will outline the introduction to the research. This is followed by models previously used to perform the tests. The third section of this chapter will outline the type of data used, from where and how the data was derived. Fourthly, the section explains the models used for this study by providing any information concerning the model description and data analysis. Finally, there is a conclusion to this chapter.

4.2 Research on Capital Markets
Numerous methodologies have been used to determine the impact capital markets have on the financial growth of many nations. Appendix A illustrates the types of data analysis techniques used by various researchers in developing countries, developed countries, and Sri Lanka. Defining how stock markets influence economic growth will determine upon the variables, the sample size, data sources, and type of analysis techniques used.

All these studies are cross-sectional longitudinal studies carried out over a period to investigate the influence of capital markets over economic growth. These studies are mainly based on different stock market performance indicators and economic growth measures.
4.3 Research Design and Strategy

This section highlights the research design on how data was collected and analysed to answer the research questions. The research strategy is how the researcher followed steps to find answers to the research questions. To follow the above process, the researcher used the research onion depicting layers of the process research design and strategy (Saunders et al., 2016).

4.3.1 Research Onion

The research onion diagram represents a thorough means of depicting the various approaches that can be used by researchers when developing research. Each layer of the research describes a more detailed layer of the process. The research onion provides an effective progression through which research methodology can be processed. Its usefulness lies in the adaptability for almost any type of research methodology and can be used in a varied mix of contexts.

Figure 4.1 The Research Onion Diagram

![Research Onion Diagram](source: Saunders et al., 2016, p. 124)
4.4 Research Philosophy
Research philosophy is the system assumptions and beliefs on the broadening of knowledge in a certain field. There are five major research philosophies: Positivism, Interpretivism, Critical Realism, Pragmatism and Postmodernism (Saunders et al., 2016). The positivist philosophy was used in this research.

4.4.1 Positivism
This philosophy relates to the philosophical stance of the natural scientists, entailing work with observational social reality to produce law-like generalisations. According to Saunders et al. (2016) epistemologically positivists would focus on bringing forth meaningful and credible data by discovering measurable facts. This would include observing causal relationships in quantitative analysis when a phenomenon could be measured to construct law-like generalisation by the use of universal rules and regulations to forecast and describe the behaviours of financial markets. This emphasis will be observed quantifiably leading to statistical analysis. As a positivist, the researcher stayed unbiased and disconnected from the research data to avoid influencing the outcome of this research. The research of Moyo (2013) and Rao (2019) suggest that economic and finance studies are organised by the positivism paradigm where theories and literature of financial market topics are tilt towards functionalism positivism. Thus the most appropriate method to analyse capital markets and economic development will be based upon the positivism paradigm with the use of quantitative research data as the findings could be justified quantifiably and expressed numerically.

4.5 Methodological Choice
Many business and management research projects are designed to combine quantitative and qualitative elements. Differentiating quantitative from qualitative research is to distinguish numeric and non-numeric data. Since many qualitative research data may be analysed quantitatively, they may be viewed at two ends of the continuum in which both practices are mixed. However, the philosophical assumptions inform the methodological choice (Saunders et al., 2016).
4.5.1 Quantitative Research Method and Longitudinal Study

This study is to determine the impact of capital markets on the economic growth of Sri Lanka, by investigating the relationship between Sri Lanka stock market performance indicators and economic growth measures. This study employed a quantitative research methodology. The research tool used in this research project was secondary data which was not originally created for the purpose of research but used for further analysis to obtain different interpretations and conclusions (Bulmer et al., 2009). Saunders et al. (2016) support this procedure. Similarly, other studies on capital markets and economic growth also used this method of using secondary data sources for analysis.

The researcher believes the quantitative approach was the most appropriate method to follow in gathering the data required on the capital markets of Sri Lanka. According to Saunders et al. (2016), the quantitative research method is associated with positivism philosophy and deductive approach of reasoning which uses data to test the theory by examining the relationship between variables which are numerical data that could be quantified to help answer the research objectives and questions of the research project. This type of data could be either primary or secondary data analysed and interpreted to be useful by the use of quantitative analysis techniques to represent the findings on figures or tables which enables comparison and establishment of a relationship between variables and complex statistical modelling. A longitudinal study is most often associated with the positivist methodology, as it is a study of the same variables over a period of several years and can be conducted using published quantitative secondary data and a time series analysis technique (Collis & Hussey, 2009). In this research, the longitudinal time horizon was used by the researcher to collect data.

4.5.2 Case Study Strategy

This researcher believes the case study strategy is the most appropriate strategy to follow in this study, as this study is mainly focused on one geographic location. The study collected a large sample of secondary quantitative data from secondary sources to analyse and give additional knowledge, different interpretations, and conclusions about the impact of capital markets on the economic growth of Sri Lanka (Saunders et al., 2016). Saunders et al. (2016) further state how positivist, quantitative research with the deductive approach used case study design to frame and
detail interpretations by using some mix of archival records. The research of Agrawalla and Tuteja (2007), Brasoveanu et al. (2008), Lazarov et al. (2016), Mishra et al. (2010) and Moyo (2013) all follow a case study approach on different countries to explore the connection between the stock market and economic growth.

4.6 Data Collection
The data were collected from two reliable institutions in Sri Lanka; CBSL and CSE. Data of the stock market indicators were obtained from the Data Library of the CSE. The researcher contacted the Manager, Colombo Office of the CSE directly to obtain this data for a period of two decades. An LKR 500/- cost was incurred to obtain this data. The stock market indicators will provide an overview of the overall performance of the stock market of Sri Lanka over a time period (CSE Indices, ASPI, 2020).

The researcher also contacted the Director of the Census and Statistics Department of CBSL to obtain data on the economic growth metrics of Sri Lanka for a period of two decades. Since this data was readily and publicly available no payment was incurred to obtain this data. The data was extracted from the published key economic indicators of the Annual Reports of the CBSL. The economic indicators will represent the growth rate and size of the economy of Sri Lanka over a time period (CBSL - GDP, 2020).

4.6.1 Data Samples
Data samples were collected on a macro level for a period of two decades (1998 – 2019) to meet the research objective of distinguishing the war and post-war periods of the impact of capital markets on the economic growth of Sri Lanka. The period 1998 – 2008 will represent the final part of the three decade long civil war period of the country. The period 2009 – 2019 will signify the post-war era of the country, also capturing the era when CSE performed best in the world.

The dependant variable: GDP was used in this research to measure the economic growth.
**Gross Domestic Product (GDP)**

GDP constitute the goods and services produced by domestic residents and companies within a nation’s borders for a given period. The GDP defines the size of the economy and this measure is mostly utilized by global economies (CBSL - GDP, 2020; Gross Domestic Product, 2020). Market capitalization as a percentage of GDP in Sri Lanka has risen from 11.46% in 1990 to 18.99% in 2019 (Herath, 2020). See Appendix B.

![Figure 4.2 Sri Lanka GDP (LKR Bn)](source: Central Bank of Sri Lanka)

### 4.6.2 Measuring Stock Market Performance

The review of the literature indicates how economists have adopted various indicators that are capable of describing various aspects of capital markets. The selection of measures of capital markets is focused on the share market of Sri Lanka. It appears Market Capitalization and Market Turnover are widely used in previous studies. GDP is also widely used to indicate economic activity. Additionally, this research has adopted the Share Turnover to Market Capitalization Ratio (STMCAP), Dividend Yield Percentage (%) Year End (DY %), ASPI and Debt Market Turnover (DMT). See Appendix C.
The independent variables; the stock market indicators that were used in this research were, Equity Market Turnover (EMT), Market Capitalization (MCAP), STMCAP Ratio, DY %, ASPI and DMT.

*Equity Market Turnover (EMT)*

The EMT is a stock liquidity measure calculated by the total number of shares divided by the average number of shares outstanding for a period. The higher the share turnover reflects the more liquid the shares are. Market liquidity in the CSE has shown a significant fluctuation over the last three decades. The turnover ratio has increased to a substantial level from 1990 to 2012 from 4.24% in 1990 to 25.8% in 2010. However, after 2010 a gradual decrease has shown in the market liquidity, the turnover ratio decreased to 6.01% in 2019 a slightly higher value compared to the 4.24% ratio in 1990 (Herath, 2020).

![Figure 4.3 Equity Market Turnover (LKR MN)](image-url)
Market Capitalization (MCAP)

The MCAP is considered the value of a business obtained by multiplying the number of shares by the current price of a share. It is also known referred to as how much a company is worth as determined by the stock market. During the years 1990 – 2019, there has been a rapid growth in the three decades regarding the MCAP of Sri Lanka, MCAP has increased from LKR 36.87 Bn in 1990 to LKR 2851.30 Bn in 2019 (Herath, 2020).

Figure 4.4 Market Capitalization (LKR Bn)

Source: Colombo Stock Exchange
Share Turnover to Market Capitalization Ratio (STMCAP)

The STMCAP is a ratio which measures the value of total shares traded to average MCAP at end of a period. A higher turnover ratio is considered good at market level as it reflects a high liquidity and trading volume for traders who trade easily in the stock market. The STMCAP ratio of the CSE has shown significant fluctuations over the past three decades. The ratio has recorded high values in the years 2003, 2010, and 2011.

Figure 4.5 Share Turnover to Market Capitalization Ratio (STMCAP)

Source: Colombo Stock Exchange
**Dividend Yield Percentage Year End (%) (DY %)**

The DY % is expressed as a percentage, is a financial ratio (dividend/price) which indicates the company pays out on dividends each year in relation to the share price. DY % in the stock market has shown significant fluctuations over the past three decades. Years 2001, 2000 and 2008 recorded the highest DY %.

![Figure 4.6 Dividend Yield Percentage Year End (%)](image-url)

Source: Colombo Stock Exchange
All Share Price Index (ASPI)

The ASPI is a larger stock market index designed to quantify the stock market performance of Sri Lanka, comprising of 289 CSE listed companies as of 2019, which represents 20 GICS industry groups. The ASPI is measured by the use of weighted index market capitalization, accounting all CSE listed non-voting and voting ordinary shares (CSE Indices ASPI, 2020). The number of listed companies in Sri Lanka has risen from 175 companies in 1990 to 297 companies in 2018 with the new entry of companies into the market (CSE Data Library, 2020; Liyanapathirana & Ranasinghe, 2020). The number of listed companies has reduced in 2019 compared to 2018 due to de-listing of companies.

Figure 4.7 All Share Price Index (ASPI)

Source: Colombo Stock Exchange
**Debt Market Turnover (DMT)**

The DMT measures the bond market liquidity and shows the extent of trading in the secondary market. The turnover would provide a measure of debt trading activity and market liquidity, indicating the frequency of outstanding issues being traded in the market. The debt market of the CSE has shown significant fluctuations over the past three decades. The turnover has increased from 1990 to 2011 followed by a sudden decreased in 2012, and once again increased from 2013 to 2019. The highest DMT on record was in 2014.

*Figure 4.8 Debt Market Turnover (LKR ‘000)*

Source: Colombo Stock Exchange
4.7 Data Analysis

In this section, the collected dependent variable and the independent variables data are analysed. The tests that were employed were statistical analysis techniques such as correlation tests and multiple regression. These analysis techniques are acceptably supported by Saunders et al. (2016). Some studies of Sri Lankan capital markets as shown in Appendix A have employed these techniques for data analysis (Badullahewage & Jayewardenepura, 2018; Gamlath, 2017).

Economics theory suggests that there is a relationship and co-integrations between variables, and the data employed in that model is what motivates the theory (Asteriou & Hall, 2011). As illustrated in Appendix A, various authors have viewed the empirical outcome of the capital markets and economic growth in the light of the relationship between financial markets and economic growth. Perera and Paudel (2009) found that broad money (money in any form as in banks, deposits, coins or notes in circulation) causes economic growth with a two-way causality and private sector credit contributes positively to the economic growth in Sri Lanka. The studies of Aduda et al. (2014) and Asiri and Abdalla (2015) found that the stock market variables have a significant positive relationship with GDP. Their studies employed similar stock market indicators such as Stock Market Indices, Market Turnover, MCAP, and the economic indicator GDP for a period of two decades.

The quantitative secondary data collected was in its authentic form when analysed. The data computer files stored were verified on the sample size and layout to check the compatibility of the software which is characterized to support the four types of data that were in this research. Considerable attention was given to feeding the data onto the analysis software. All data was checked in advance for noticeable errors to ensure an accurate and truthful output.
4.7.1 Hypothesis Testing (H)

Hypotheses were developed for testing with reference to the literature.

In many significant studies, EMT has been used and has been identified to have an impact on the GDP. In the study of Joshi (2019), EMT shows no relationship with the GDP of India during the period of 2005 to 2016. Aduda et al. (2014) found that EMT cannot be a significant predictor of the GDP. However, the study of Lakstutiene (2008), found a strong correlation between EMT and GDP in EU countries. Similarly, Pradhan et al. (2013) found a co-integration between the stock market development variable EMT and GDP in a panel of sixteen Asian countries. Thus the following hypothesis was developed.

**H1: Equity market turnover has a statistically significant relationship with the gross domestic product of Sri Lanka**

The impact of MCAP on GDP has been successfully checked in the research of Maxwell et al. (2018) who found a positive relationship between MCAP and GDP. Similarly, a causal relationship was found between MCAP and GDP in the study of Raza and Jawaid (2014) of 18 Asian countries conducted for the period 2000 to 2010. Some other past researchers also provide evidence of a relationship between MCAP and GDP with a positive, negative, and no association as per the characteristics of the region of study (Phuong, 2020; Srinivasan & Prakasam, 2014). Accordingly, the following hypothesis was developed.

**H2: Market capitalization has a statistically significant relationship with the gross domestic product of Sri Lanka**

The ratio of STMCAP as stated in the study of Bayar et al. (2014) shows high rate of development and a long-run relationship in the Turkish economy when measured with GDP. Similarly, a significant relationship between STMCAP and GDP was seen in many studies (Herath, 2020; Osamwonyi & Kasimu, 2013). Accordingly, the following hypothesis was developed.
H3: Share turnover to market capitalization ratio has a statistically significant relationship with the gross domestic product of Sri Lanka

The GDP has been a main macroeconomic factor which many authors used to study the connection between stock market performance indicators and macro-economic aspects of various countries. It is proven that DY % has a significant impact on stock market performance of Sri Lanka (Dayaratne, 2014; Liyanapathirana & Ranasinghe, 2020). Further, Musallam (2018) found a significant relationship between dividend yield ratio and stock market returns in Qatar. The research of Ritter (2005) found a relationship in U.S. data between DY % and stock market returns and economic growth.

H4: Dividend yield has a statistically significant relationship with the gross domestic product of Sri Lanka

The ASPI is playing a significant role in the economy of many studies, showing a relationship of the factors with different criteria of the economy in Sri Lanka (Asiri & Abdalla, 2015; Dayaratne 2014; Gamlath 2017). Using Nigerian data, the impact of the leading stock price index on the GDP has been investigated and a significant relationship was found among these variables (Maxwell et al., 2018). Similarly, a positive relationship between the leading stock price index and the exchange rates with the GDP was recorded in some Nigerian companies (Fuwape & Ogunjo, 2015). Accordingly, the following hypothesis was developed.

H5: All share price index has a statistically significant relationship with the gross domestic product of Sri Lanka

The relationship between debt and GDP can be stated as there is a significant relationship between these factors in Sri Lankan companies (Weerasinghe & Mashuwanthi, 2011). Another study in respect to the Pakistan and Bangladesh companies found debt as a factor that impacts the GDP (Mehmood, 2012). Accordingly, the following hypothesis was developed.
H6: Debt market turnover has a statistically significant relationship with the gross domestic product of Sri Lanka

4.7.2 Conceptual Framework
The developed conceptual framework is shown in Figure 4.9.

Figure 4.9 Conceptual Framework

- Equity Market Turnover (EMT)
- Market Capitalization (MCAP)
- Share Turnover to Market Capitalization Ratio (STMCAP)
- Dividend Yield (DY %)
- All Share Price Index (ASPI)
- Debt Market Turnover (DMT)

H1
H2
H3
H4
H5
H6

- Gross Domestic Product (GDP)
4.7.3 Multiple Regression Analysis

Multiple regression is concerned with the determination of the relationship between a dependent variable and a series of independent variables. It statistically measures the linear relationship between two variables. This method can be considered as a widely used method of analysis in many kinds of research with different reasons as to the wide spread of the methodology. The wide spread of the method and ease of use are important factors (Uyanık & Güler, 2013). Furthermore, the robustness of the data being used, the ability to use different types of data, and the ease in the interpretation of the results can be the main reasons for the widespread usage and availability of this statistical method (Aiken, et al., 2012).

Similar to other statistical methods, there are various assumptions which this method needs to follow. The normality of residuals, the normality of independent and dependent variables, the absence of multi-collinearity, autocorrelation test, and the availability of one or more independent variables can be identified are the main assumptions that can be followed in this method. A clear picture of the relationships can be obtained in this method (Uyanık & Güler, 2013). Thus multilinear regression method is applied in this research study.

4.7.4 Correlation Testing

Statistical significance testing of the data was done to determine the relationship and distinguish the figures for the two time periods of research. A correlation test was employed to assess the strengths of the relationships. There are many methods which have been used in correlation analysis by the researchers. The Pearson correlation coefficient has been used here, where the positive and the negative values can be taken for this and the significant p-value needs to be less than 0.05 to be correlated in the 95% confidence interval.

The findings of the data analysis are interpreted by the use of various tables and figures in chapter five to illustrate the trends of the longitudinal data to explain fluctuations and differences on how change happened over distinct time periods.

The deductive approach is most suitable when concepts are to be quantified and reasoned, as well as when showing the connection between variables and models. Collis and Hussey (2009) agree
the most suitable analysis method to use in quantitative studies is the deductive and positivism approach. In this study, to arrive at theories and derive the conclusions logically the deductive analysis of reasoning will be used for the construction of hypotheses and testing. This method was well justified by the findings of causal relationships in the stock market.

4.8 Ethics
Ethics is the wider aspect of research on how emphasis should be given on how data should, be collected, managed and analysed (Saunders et al., 2016). In this study, there was no concern about the risk since there was no vulnerable human participation. Hence no ethics committee approval was obtained. There was no obligation or conflict of interest between the researcher and the government institutions from which the publicly available data was obtained, and there was no necessity for a consent approval to be taken for the use of this data, for the purpose of further research and analysis. The quantitative data was used in its original condition to be analysed and obtain precise and meaningful findings. The figures were not tampered or manipulated in any way. The researcher always remained detached and neutral from the data collected to ensure a reliable and truthful output.

4.9 Limitations
The researcher encountered that although this study was carried out for a period of two decades, which is adequate in statistical terms to primarily meet the objectives of this research, but to further add-on to the findings of this study, the research could be advanced by lengthening the data sampling period. The analysis would need to been carried out on monthly or quarterly basis, for the results of this research to be much enlightening and not a cause of data aggregation. However, it would have been time-consuming to analyse in-depth such a vast quantity of monthly or quarterly data, since this is a longitude study conducted over a period of two decades. Also, concerns on the limited time allowed to carry out this research.

Furthermore, since this study is a single country study and focused on Sri Lankan capital markets and their impact on the economic growth of Sri Lanka, the application of the study is limited to only the country of study and the findings cannot provide any universal acceptance of meanings. Hence, the research findings may not be sufficient to conclude at any widespread notion of the
positivism paradigm, yet the result of this study will explain the behaviours of capital markets and may be useful for global economies experiencing a civil war. Similar studies should be conducted by other countries, particularly emerging markets. Nevertheless, the results of this study will bring valuable understanding.

4.10 Reliability and Validity of Data
The reliability and validity of secondary data in research depends upon the source and functions of the method by which the data was collected (Saunders et al., 2016). The data used in this research are quantitative secondary data collected from trustworthy sources and published data archives on figures publicly made available by two responsible institutions in Sri Lanka, the CBSL and the CSE. The data were valid authentic data used in its original form. The researcher remained detached from the data and did not tamper or manipulate the data in any instance. Hence the findings of the study provide an accurate and reliable output.

4.11 Chapter Summary
Chapter four discusses the methodological approach of this study providing the best research approach to answer the research hypotheses. After reviewing the literature, the researcher identified the best framework for this research would be to follow the positivism research approach where quantitative data would be collected to compare and contrast against past theories. To determine the impact of capital markets on the economic growth of Sri Lanka, secondary quantitative data were collected on stock market equity and debt performance indicators and economic growth measures for two decades to study the war and post-war periods of Sri Lanka. To meet the objectives of this research, statistical analysis techniques were employed to analyse the data. This research had no human participation hence no ethics approval was required to proceed with the data collection.

Chapter five will present the research analysis and findings. Furthermore, interpretation and discussion of results are highlighted.
Chapter 5. Findings and Analysis

5.1 Introduction
This chapter utilizes secondary data to empirically analyse the stock market indicators and economic growth metrics obtained from two Sri Lankan bodies: the CSE and the CBSL. The study employed a quantitative research methodology. A longitudinal study was conducted on the capital markets of Sri Lanka, adopting a case study approach. The secondary data collected were analysed with the use of SPSS software, employing statistical analysis techniques such as multiple regression and correlation analysis. The description of the results is in reference to the research objectives and hypotheses mentioned.

5.2 Descriptive Statistics
As shown in Table 5.1, the descriptive statistics provide a data summary of the variables, as well as a clear identification of the central tendency of variables together with the distribution pattern of variables that can be identified in this study (Raja et al., 2019). The following table provides the descriptive statistics for this research.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMT (LKR Mn)</td>
<td>10,624</td>
<td>570,327</td>
<td>167,796</td>
<td>154,038</td>
</tr>
<tr>
<td>MCAP (LKR Bn)</td>
<td>9.4</td>
<td>55.7</td>
<td>33.7</td>
<td>17.7</td>
</tr>
<tr>
<td>STMCAP (Ratio)</td>
<td>6.0</td>
<td>34.7</td>
<td>15.3</td>
<td>8.2</td>
</tr>
<tr>
<td>DY (%)</td>
<td>1.2</td>
<td>6.8</td>
<td>3.4</td>
<td>1.5</td>
</tr>
<tr>
<td>ASPI (Price Index)</td>
<td>6.1</td>
<td>8.9</td>
<td>7.8</td>
<td>1.0</td>
</tr>
<tr>
<td>DMT (LKR '000)</td>
<td>72,288</td>
<td>7,139,730</td>
<td>1,671,987</td>
<td>2,174,670</td>
</tr>
<tr>
<td>GDP (LKR Bn)</td>
<td>1,018</td>
<td>15,016</td>
<td>6,068</td>
<td>4,776</td>
</tr>
</tbody>
</table>
The descriptive statistics stated clearly are maximum values of variables and the minimum value of variables together with mean and standard deviation values.

*Equity Market Turnover*
This variable has a minimum value of 10,624 and a maximum value of 570,327. Simultaneously, the standard deviation of the variable is 154,038 where the mean value is 167,796. The central tendency and distribution of data clearly explain the values of the variables.

*Market Capitalization*
The minimum value recorded here is 9.4 and the maximum value recorded here is 55.7. The mean value is 33.7 while the standard deviation value is 17.7. Thus, the behaviour of the data is clear.

*Share Turnover to Market Capitalization Ratio*
This variable recorded a value of 6.0 as minimum and 34.7 as maximum. The mean value is seen as 15.3 which means the ratio is at least ranged in 15.3 value and the standard deviation recorded as 8.2 here.

*Dividend Yield*
This variable is having 1.2 of minimum value and 6.8 of the maximum value. Moreover, the mean value of the DY % is 3.4 while the standard deviation is 1.5.

*All Share Price Index*
This variable has a minimum value of 6.1 and a maximum value of 8.9. When considering the time duration, a value of at least 7.8 is needed in the index value and the standard deviation is recorded as 1.0.

*Debt Market Turnover*
This variable recorded a minimum value of 72,288 while a maximum value was recorded as 7,139,730. The mean value is 1,671,987 is the least value that needs to be taken. The standard deviation is 2,174,670.
**Gross Domestic Product**

The variable has a minimum value of 1,018 and a maximum value of 15,016. The difference did not record a larger value and the mean value is recording as 6,068 and the standard deviation value is recorded as 4,776.

**5.3 Hypothesis Testing**

To successfully analyse the key research problem and to determine the impact of capital markets on the economic growth of Sri Lanka, six hypotheses were developed. These are:

H1: Equity market turnover has a statistically significant relationship with the gross domestic product of Sri Lanka
H2: Market capitalization has a statistically significant relationship with the gross domestic product of Sri Lanka
H3: Share turnover to market capitalization ratio has a statistically significant relationship with the gross domestic product of Sri Lanka
H4: Dividend yield has a statistically significant relationship with the gross domestic product of Sri Lanka
H5: All share price index has a statistically significant relationship with the gross domestic product of Sri Lanka
H6: Debt market turnover has a statistically significant relationship with the gross domestic product of Sri Lanka

From these hypotheses, this study conducted a series of empirical tests.

**5.4 Correlation Analysis**

The correlation analysis explains the bivariate association of variables (see Table 5.2). There are different methods to check the bivariate association of variables. In correlation analysis, the Pearson correlation coefficient is one of the famous methods used (Wang et al., 2016). The Pearson correlation coefficient can range from -1 to +1 where negative values explain the negative relations and positive values explain the positive correlations. This becomes valid with a significant p value that are less than 0.1, 0.05, or 0.01 (Raghu et al., 2017).
The correlation analysis results are provided in Table 5.2 as per the results, the correlation which is existing between the variables will be explained in the 95% confidence interval. From this table...
the following results were provided, in summary there was a positive and significant correlation between the variables: (1) EMT and MCAP, (2) EMT and ASPI, (3) EMT and DMT, (4) EMT and GDP, (5) MCAP and EMT, (6) MCAP and ASPI, (6) MCAP and DMT, (7) MCAP and GDP, (8) STMCAP, (9) ASPI and EMT, (10) ASPI and MCAP, (11) ASPI and DMT, (12) ASPI and GDP, (13) DMT and MCAP, (14) DMT and ASPI, and (15) DMT and GDP.

Similarly, the results found there was were statistically insignificant, with no positive correlation between the variables: (1) EMT and STMCAP, (2) EMT and DY %, (3) MCAP and STMCAP, (4) MCAP and DY %, (5) STMCAP and DY %, (6) STMCAP and ASPI, (7) STMCAP and DMT, (8) STMCAP and GDP, (9) DY % and EMT, (10) DY % and MCAP, (11) DY % and STMCAP, (12) DY % and ASPI, (13) DY % and DMT, (14) DY % and GDP, (15) ASPI and MCAP, (16) ASPI and DY % (17) DMT and STMCAP, and (18) DMT and DY %.

5.5 Multiple Regression

Multiple linear regression is a method that can be used for analysis of influences of the independent variables on the dependent variable. The wide use of this method can be seen frequently in previous literature. The method is feasible to be used in various types of data such as panel data (Bhuriya et al., 2017). The simplicity of interpretation of results is yet another advantage of the multiple linear regression method. Accordingly, this study will employ this method for the analysis of the hypotheses. There are assumptions in the statistical method which need to be accepted to have a valid regression model (Salmerón, et al., 2018). Further, the model fit can be measured using different methods such as the R squared value, Analysis of Variance (ANOVA) test, and the t statistics. In this study, the use of ANOVA and the R squared have been employed for model testing.

5.5.1 Assumption Testing

Assumptions are common in statistical methods. At the same time, assumption testing is a very important factor. As per Figure 5.1, the application of the statistical methods to the analysis of the data, the multiple linear regression also had assumptions which were needed to be undertaken, and thus the hypotheses testing was done.
The first assumption tested was the linearity of the residuals of the variables (Kumar & Dhankar, 2011). The following figure gives the normal P-P plot of the regression standardized residuals. The data points are places quite close to the line which is the acceptance of the normality of the residuals. Thus, that assumption can be said to have been accepted in the study.

Figure 5.1 Normal P-P plot of regression standardized residual

![Normal P-P Plot of Regression Standardized Residual](image)

The next assumption was the availability of more than one independent variable. In this research, there are six independent variables and thus the assumptions tested were accepted.

The next assumption is the absence of multicollinearity (Idris & Bala, 2015). This has been tested in this study where the values are represented in Table 5.3. The tolerance measures and the variance inflation factor (VIF) measures have been used in the multicollinearity checking. The VIF values were needed to be less than 10 and the tolerance values were needed to be greater than 0.1 or 0.2 (Mishra, 2018). In this study, all the VIF values are recorded below 10 which has confirmed the absence of the multicollinearity. At the same time, the tolerance values are greater than 0.1 and thus, the absence of multicollinearity is confirmed.
The next assumption is the absence of autocorrelation. This can be checked with the Durbin Watson value which is presented in Table 5.4. The value has been recorded as 1.8 which is between 1.5 and 2.5. to be said that the autocorrelation absence can be achieved. The next assumption is the homoscedasticity of the data (Madhusoodanan, 1998). The values needed to be spread without a pattern in the scatter plot. Figure 5.2 provides a scatter plot of this study which revealed that the homoscedasticity is accepted. Thus, the assumption is accepted.

Figure 5.2 Scatter Plot

5.5.2 Regression Results

Analysis of the results from 1998 to 2019 (War and Post-War Period)

In order to provide a more robust assessment of the results, an empirical assessment was done to compare the results for both war and post-war periods of the Sri Lankan stock market. Overall, the regression results explain the acceptance and the rejection of the hypotheses. Table 5.3 provides multiple linear regression analysis results which clearly explains the impact of the independent variables on the dependent variable.
Table 5.3 Multiple Linear Regression Analysis Results

<table>
<thead>
<tr>
<th>Model</th>
<th>Standardized Coefficients</th>
<th>T</th>
<th>Sig.</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td></td>
<td>.284</td>
<td>.780</td>
<td></td>
</tr>
<tr>
<td>EMT (LKR Mn)</td>
<td>-.409</td>
<td>-3.912</td>
<td>.001</td>
<td>.179</td>
</tr>
<tr>
<td>MCAP (LKR Bn)</td>
<td>.819</td>
<td>4.232</td>
<td>.001</td>
<td>.111</td>
</tr>
<tr>
<td>STMCAP (Ratio)</td>
<td>.186</td>
<td>1.986</td>
<td>.066</td>
<td>.222</td>
</tr>
<tr>
<td>DY (%)</td>
<td>.265</td>
<td>2.452</td>
<td>.027</td>
<td>.166</td>
</tr>
<tr>
<td>ASPI (Price Index)</td>
<td>-.440</td>
<td>-1.113</td>
<td>.283</td>
<td>.112</td>
</tr>
<tr>
<td>DMT (LKR’000)</td>
<td>.092</td>
<td>1.002</td>
<td>.332</td>
<td>.229</td>
</tr>
</tbody>
</table>

**Dependent Variable: GDP (LKR Bn)**

As per the results in Table 5.3, the two variables EMT and GDP are having a significant negative relationship with a 95% confidence interval. The beta value was represented as -0.409 which is negative with the t-value of -3.912 which is negative confirmed a negative relationship. Similarly, the significant p-value is 0.001 is less than 0.05 and thus, the significant relationship is confirmed. The effect of the EMT can be either negative or positive on the GDP. Considering the time duration, the effect can be represented as negative. Thus, hypothesis H1 (EMT is having a significant relationship with the GDP of Sri Lanka) was been accepted at a 95% confidence interval.

The two variables MCAP and GDP have a significant positive relationship with a 95% confidence interval. The beta value was represented as 0.819 which is positive with the t-value of 4.232 which is positive confirming a positive relationship. Similarly, the p-value is 0.001 which is less than 0.05 and thus, a significant relationship was confirmed. The effect of the MCAP can be either negative or positive or have no relationship with the GDP as per the region changes. Considering the time duration, the effect can be represented as positive in this study. Thus, hypothesis H2 (MCAP has a significant relationship with the GDP of Sri Lanka) was been accepted at a 95% confidence interval.

The two variables STMCAP and GDP are having a significant positive relationship with 90% confidence interval. The beta value was represented as 0.186 which is positive with the t value of 1.986 which is positive confirming a positive relationship. Similarly, the significant p-value is
0.066 which is less than 0.1 and thus, the significant relationship is confirmed. The effect of the STMCAP can be either negative or positive or have no relation with the GDP as per the region changes. Considered the time duration, the effect can be represented as positive in this study. Thus, hypothesis H3 (STMCAP is having a significant relationship with the GDP of Sri Lanka) was accepted at a 90% confidence interval.

The two variables DY % and GDP are having a significant positive relationship with a 95% confidence interval. The beta value was represented as 0.265 which is positive with the t-value of 2.452 which is positive confirming a positive relationship. Similarly, the significant p-value is 0.027 which is less than 0.05 and thus, the significant relationship is confirmed. The effect of the DY % can be either negative or positive or have no relation with the GDP as per the region changes. Considering the time duration, the effect can be represented as positive in this study. Thus, the hypothesis H4 (DY % is having a significant relationship with the GDP of Sri Lanka) has been accepted at a 95% confidence interval.

The two variables ASPI and GDP are having no significant positive relationship at a 95% confidence interval. The beta value was represented as -0.440 which is negative with the t-value of -1.113 which is negative and smaller confirming the absence of a relationship. Similarly, the p-value is 0.283 which is greater than 0.05 and thus, the absence of a significant relationship is confirmed. The effect of the ASPI can be either negative or positive or have no relation with the GDP actions as per the region changes. Considering the time duration, the absence of the effect can be recorded in this study. Thus, hypothesis H5 (ASPI has a significant relationship with the GDP of Sri Lanka) has been rejected at a 95% confidence interval.

The two variables DMT and GDP are having no significant positive relationship in a 95% confidence interval. The beta value was represented as 0.092 which is negative with the t-value of 1.002 which is negative and smaller confirming the absence of a relationship. Similarly, the p-value is 0.332 which is greater than 0.05 and thus, the absence of a significant relationship is confirmed. The effect of the DMT can be either negative or positive or have no relation with the GDP as per the region changes. Considering the time duration, the absence of the effect can be
recorded in this study. Thus, hypothesis H6 (DMT has a significant relationship with the GDP of Sri Lanka) has been rejected at a 95% confidence interval.

The regression model can be created with the following variables

\[ \text{GDP} = \beta_0 + \beta_1 \text{EMT} + \beta_2 \text{MCAP} + \beta_3 \text{STMCAP} + \beta_4 \text{DY} \% + \beta_5 \text{ASPI} + \beta_6 \text{DMT} + \alpha \]

Where:

GDP = Gross Domestic Product
EMT = Equity Market Turnover
MCAP = Market Capitalization
STMCAP = Share Turnover to Market Capitalization Ratio
DY % = Dividend Yield
ASPI = All Share Price Index
DMT = Debt Market Turnover
\( \beta_0 \) = constant of the equation
\( \beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6 \) = Regression model line slope
\( \mu \) = standard error.

Accordingly, with this model the following values can be achieved

\[ \text{GDP} = \beta_0 - 0.409 \text{EMT} + 0.819 \text{MCAP} + 0.186 \text{STMCAP} + 0.265 \text{DY} + \alpha \]

The explanation of the model can be identified very clearly. When the EMT is increasing by one unit it will cause a decrease in 0.409 units of the GDP. Similarly, the increase in one unit of the MCAP causes an increase in 0.819 units of the GDP. Further, the increase in one unit of the STMCAP will cause an increase in 0.186 units of the GDP. Moreover, the increase in one unit of the DY % will cause an increase of 0.265 units of the GDP.

5.5.3 Model Fit Analysis

The model fit is very important to understand the level of applicability of the model in practical life. In this study, R squared value and F ratio were used to check the model fit of the created regression model. R squared is the value that represented the portion or the part of the dependent variable as explained by the independent variables around the mean of the dependent variable.
This is called the coefficient of determination. The R squared value can range from 0 to 1 higher the value the model fit also can be explained as higher. The following table is providing the R squared value. There are researchers who have used the adjusted R squared value rather than the R squared value and accepting it as the better value and most fitted value. Thus, in this research, the adjusted R squared has been selected. The adjusted R squared value can be presented as 0.959 which is a very high value. This was represented as 95.9%.

The explanation of the variance of the GDP as explained by DMT, DY %, STMCAP, EMT, ASPI and MCAP can be stated as 95.9% and thus, the acceptability of the model can be considered as high. Table 5.4 explains the model summary of the created model.

<table>
<thead>
<tr>
<th>Model</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>R Square Change</th>
<th>F Change</th>
<th>df1</th>
<th>df2</th>
<th>Sig. F Change</th>
<th>Durbin Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.985</td>
<td>.971</td>
<td>.959</td>
<td>6</td>
<td>82.963</td>
<td>6</td>
<td>15</td>
<td>.000</td>
<td>1.861</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), DMT, DY %, STMCAP, EMT, ASPI, MCAP

b. Dependent Variable: GDP

The model fit can be measured by F statistics as well. The comparison of the means of the statistical models which have been used in this study is done in the F statistic, where the holistic measures were proved about the model. The best-fitted model can be identified here, and at the same time, the F value can take large positive values. The larger the value of the F statistic, the model fitting also becomes stronger. Table 5.5 provides the ANOVA distribution results of the analysis.

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>6</td>
<td>77498619.036</td>
<td>82.963</td>
<td>.000p</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>15</td>
<td>934130.240</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>21</td>
<td>479003667.818</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: GDP

b. Predictors: (Constant), DMT, DY %, STMCAP, EMT, ASPI, MCAP
The F statistic was recorded as 82.963 which is a larger value and similarly, the p-value was recorded as 0.000 which is less than 0.05 confirms the model fit further. Accordingly, the histogram which is shown in Figure 5.3 provides a clear bell shape around the data distributions, confirming the model fit further.

Figure 5.3 Histogram of the Model

Analysis of the Results from 1998 to 2009 (War Period) and from 2009 to 2019 (Post War Period)

The regression analysis was done to achieve the second objective of this study, which is to identify the impact of capital market indicators on economic growth during the war period and post-war period. Table 5.6 provides the regression analysis results of the war period from 1998 to 2009.
Table 5.6 Regression Results of the War Period

<table>
<thead>
<tr>
<th>Model</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EMT (LKR Mn)</td>
<td>.729</td>
<td>1.191</td>
<td>.287</td>
</tr>
<tr>
<td>MCAP (LKR Bn)</td>
<td>639</td>
<td>.233</td>
<td>.825</td>
</tr>
<tr>
<td>STMCAP (Ratio)</td>
<td>-.067</td>
<td>-.262</td>
<td>.804</td>
</tr>
<tr>
<td>DY %</td>
<td>399</td>
<td>1.515</td>
<td>.190</td>
</tr>
<tr>
<td>ASPI (Price Index)</td>
<td>-.218</td>
<td>-.090</td>
<td>.932</td>
</tr>
<tr>
<td>DMT (LKR’000)</td>
<td>.115</td>
<td>-.730</td>
<td>.498</td>
</tr>
</tbody>
</table>

Dependent Variable – GDP (LKR Bn)

As per the results provided in Table 5.6 no capital market variable is having any significant impact on the GDP since the significant p-values are greater than 0.05. Thus, a relationship between the capital market indicators and the GDP cannot be seen during the war period of Sri Lanka. Table 5.7 provides regression results of the post-war period.

Table 5.7 Regression Results of the Post-War Period

<table>
<thead>
<tr>
<th>Model</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td></td>
<td>.058</td>
<td>.956</td>
</tr>
<tr>
<td>EMT (LKR Mn)</td>
<td>-.268</td>
<td>-.463</td>
<td>.668</td>
</tr>
<tr>
<td>MCAP (LKR Bn)</td>
<td>2.115</td>
<td>1.114</td>
<td>.328</td>
</tr>
<tr>
<td>STMCAP (Ratio)</td>
<td>.433</td>
<td>.908</td>
<td>.415</td>
</tr>
<tr>
<td>DY %</td>
<td>.673</td>
<td>1.888</td>
<td>.132</td>
</tr>
<tr>
<td>ASPI (Price Index)</td>
<td>-.747</td>
<td>-.366</td>
<td>.733</td>
</tr>
<tr>
<td>DMT (LKR’000)</td>
<td>.006</td>
<td>.018</td>
<td>.986</td>
</tr>
</tbody>
</table>

Dependent variable – GDP (LKR Bn)

Table 5.7 shows that the post-war period also had no significant positive relationship with the GDP where all the significant p-values are greater than 0.05. Thus, any relationship of the capital market indicators with the GDP cannot be identified during the post war period of Sri Lanka. Accordingly, the war period and the post-war period have been examined and the data was investigated as a
whole without splitting into post-war and the war periods. The hypotheses acceptance summary in all three conditions is provided in Table 5.8.

Table 5.8 Hypotheses Acceptance and Rejection

<table>
<thead>
<tr>
<th>Situation</th>
<th>Hypotheses</th>
<th>Acceptance / Rejection</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>War Period</strong> (1998 – 2009)</td>
<td>H1</td>
<td>Accepted</td>
<td>95%</td>
</tr>
<tr>
<td></td>
<td>H2</td>
<td>Accepted</td>
<td>95%</td>
</tr>
<tr>
<td></td>
<td>H3</td>
<td>Accepted</td>
<td>90%</td>
</tr>
<tr>
<td></td>
<td>H4</td>
<td>Accepted</td>
<td>95%</td>
</tr>
<tr>
<td></td>
<td>H5</td>
<td>Rejected</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>H6</td>
<td>Rejected</td>
<td>-</td>
</tr>
<tr>
<td><strong>Post War Period</strong> (2010-2019)</td>
<td>H1</td>
<td>Rejected</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>H2</td>
<td>Rejected</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>H3</td>
<td>Rejected</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>H4</td>
<td>Rejected</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>H5</td>
<td>Rejected</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>H6</td>
<td>Rejected</td>
<td>-</td>
</tr>
<tr>
<td><strong>Without consideration of the war or post war period</strong> (1998 – 2019)</td>
<td>H1</td>
<td>Rejected</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>H2</td>
<td>Rejected</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>H3</td>
<td>Rejected</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>H4</td>
<td>Rejected</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>H5</td>
<td>Rejected</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>H6</td>
<td>Rejected</td>
<td>-</td>
</tr>
</tbody>
</table>
5.6 Discussion

In order to answer objective 1 and 2, six hypotheses (H) were developed (see chapters one and four). From these hypotheses, this study conducted a series of empirical tests. A full discussion is provided.

5.6.1 Achievement of Objective 1

In order to answer objective 1, the six hypotheses were analysed using correlation analysis with the results of the hypotheses stated as being either proven or unproven as per the table below.

Table 5.9 Hypotheses Results for Objective 1

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Proven/Unproven</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>Proven</td>
</tr>
<tr>
<td>H2</td>
<td>Proven</td>
</tr>
<tr>
<td>H3</td>
<td>Unproven</td>
</tr>
<tr>
<td>H4</td>
<td>Unproven</td>
</tr>
<tr>
<td>H5</td>
<td>Proven</td>
</tr>
<tr>
<td>H6</td>
<td>Proven</td>
</tr>
</tbody>
</table>

The results of the hypotheses above showed some interesting findings. In the case of H1, the study examined the relationship between capital markets and the economic growth of Sri Lanka. The results showed a strong positive correlation, this has been proved by much past literature. The finding supports earlier studies of Lakstutiene (2008), where a strong correlation was found between EMT and GDP in the European markets. A study found a unidirectional relationship between stock market turnover and economic growth and thus the results can be supported in this study as well (Tripathi & Seth, 2014). From a practical market perspective, this shows that high liquidity stocks and efficient stock market performance is important and will lead to the development of the Sri Lankan economy.

In terms of H2, the results show a positive correlation between MCAP and GDP. This was also proven in past literature. There are many pieces of evidence for this finding of the research. The study of Maxwell et al. (2018) identifies a positive significant relationship between MCAP and GDP growth. Similarly, a bi-directional causal relationship was found between the Market Capitalization and the Gross Domestic Product in a study of 18 Asian countries from 2000 to 2010.
(Raza & Jawaid, 2014). From a practical perspective, the size of the stock market and value of businesses is important to determine the growth of the economy of Sri Lanka.

In terms of H3, the results show a negative relationship between STMCAP Ratio and GDP of Sri Lanka. However past literature has found a positive relationship between these variables. A comparative study between Pakistan and Bangladesh clearly shows that Bangladesh stock turnover ratio contributed positively to the economic growth (Ahmad, 2012). A study on the economic development of Turkey shows the results of a positive relationship (Bayar, et al., 2014). From a practical perspective, this current research shows that high liquidity and trading volumes of the stock market do not determine the growth of the Sri Lankan economy.

In terms of H4, the results show a negative relationship between DY % and GDP. Past literature has found a positive relationship: that the DY % is having a relationship between the GDP, interest rates, and the exchange rates (Olanrele et al., 2017). A study confirms the relationship was positive in the Indian markets where the stock return has an impact on the GDP (Joshi, 2019). However, another study conducted over the period 1900 - 2002 over sixteen countries representing 90% of the world’s MCAP shows a negative impact of DY % stock returns over GDP growth (Ritter, 2005). From a practical perspective, this reflects that company’s DY % does not determine the growth of the Sri Lanka.

In terms of H5, the results show a positive relationship between ASPI and GDP. The ASPI is playing a significant role in the economy and various studies are showing the relationships of the factor with different criteria of the economy (Asiri & Abdalla, 2015; Dayaratne 2014; Gamlath 2017). A study provides evidence that there is a relationship between the GDP and the Amman Stock Exchange Index (Al-Abedallat & Al, 2012). Some other studies concerning Nigerian companies found that the influence of the share price index, MCAP, and the number of the equities on GDP shows a positive relationship (Maxwell et al., 2018) however, no relationship between the share index and GDP was recorded in a study of Nigeria (Fuwape & Ogunjo, 2015). From a practical perspective, this reflects that the performance of the overall market is important to determine the growth of the Sri Lankan economy.
In the case of H6, the results show a positive relationship between DMT and Gross Domestic Product. Past literature found a positive relationship between these variables. The study of Aduda et al. (2014) found that bond market turnover has a positive relationship with the GDP of Kenya. However, another study concerning Pakistan and Bangladesh companies found that debt turnover has no relationship with the GDP (Mehmood, 2012). From a practical perspective, this reflects that debt trading activity and market liquidity is important to determine the growth of the Sri Lankan economy.

5.6.2 Achievement of Objective 2
To answer objective 2, six hypotheses were analysed separately using multiple regression for the war period and post-war period as well as a whole without consideration of war and post-war period, with the results of the hypotheses stated as being either accepted or rejected as per the table below.

<table>
<thead>
<tr>
<th>Situation</th>
<th>Hypotheses</th>
<th>Acceptance / Rejection</th>
</tr>
</thead>
<tbody>
<tr>
<td>War Period (1998 – 2009)</td>
<td>H1</td>
<td>Accepted</td>
</tr>
<tr>
<td></td>
<td>H2</td>
<td>Accepted</td>
</tr>
<tr>
<td></td>
<td>H3</td>
<td>Accepted</td>
</tr>
<tr>
<td></td>
<td>H4</td>
<td>Accepted</td>
</tr>
<tr>
<td></td>
<td>H5</td>
<td>Rejected</td>
</tr>
<tr>
<td></td>
<td>H6</td>
<td>Rejected</td>
</tr>
<tr>
<td>Post War Period (2010-2019)</td>
<td>H1</td>
<td>Rejected</td>
</tr>
<tr>
<td></td>
<td>H2</td>
<td>Rejected</td>
</tr>
<tr>
<td></td>
<td>H3</td>
<td>Rejected</td>
</tr>
<tr>
<td></td>
<td>H4</td>
<td>Rejected</td>
</tr>
<tr>
<td></td>
<td>H5</td>
<td>Rejected</td>
</tr>
<tr>
<td></td>
<td>H6</td>
<td>Rejected</td>
</tr>
<tr>
<td>Without consideration of the war or post war period (1998 – 2019)</td>
<td>H1</td>
<td>Rejected</td>
</tr>
<tr>
<td></td>
<td>H2</td>
<td>Rejected</td>
</tr>
<tr>
<td></td>
<td>H3</td>
<td>Rejected</td>
</tr>
<tr>
<td></td>
<td>H4</td>
<td>Rejected</td>
</tr>
<tr>
<td></td>
<td>H5</td>
<td>Rejected</td>
</tr>
<tr>
<td></td>
<td>H6</td>
<td>Rejected</td>
</tr>
</tbody>
</table>

The results of the hypotheses above show some interesting findings for objective 2 in the study to identify the impact of the capital market indicators on economic growth during the war and the post-war periods of Sri Lanka. This was well achieved with the results provided in the analysis. When the analysis was undertaken as a whole, there were 22 data points in the analysis, which had
become smaller than when the analysis was conducted for two separate periods. In this regard, the answers will provide insignificant results. This is merely due to the analysis of a smaller numbers of data points. From a practical perspective, this reflects that there is no evidence of impact of the capital market indicators on economic growth during the post-war and war periods.

5.6.3 Achievement of Objective 3

Objective 3, is to identify the most influential capital market indicator of economic growth. Here the objective was achieved with results that provided a holistic view. Among the six factors which have been considered in the analysis, four have been identified to have higher influences over economic growth which was measured by the GDP of the country. Among these four significant factors, the MCAP has been recorded to have a significant p-value of 0.001 with 0.819 beta value is positive, and 4.232 value which is the largest among all significant variables. Thus, the most influential factor can be selected as the MCAP of the capital market indicators achieving the third objective. From a practical perspective, the size of the stock market and the value of businesses are the most influential factors that measure the economic growth of Sri Lanka. Thus, this shows that the government needs to ensure that capital markets are secure and functioning in an effective manner for them to implement a socio-economic policy that allows Sri Lanka and its people to enjoy higher standards of living.

5.7 Chapter Summary

This chapter has provided the analysis results of this research conducted to meet the research objectives and testing of hypotheses. The descriptive statistics are provided in the data summary. The correlation analysis was conducted and it has been found some pairs of variables were correlating positively, while most pairs of variables were correlating negatively. The results found that the EMT, MCAP, STMCAP Ratio and the DY % were found to be having a direct relationship while the ASPI and DMT has no connection with the GDP. Further, the multiple regression analysis was conducted and it was found that there is no impact on the capital market indicators in the post-war and war period of Sri Lanka. Moreover, from a holistic perspective of the analysis conducted, it was found that MCAP was the most influential capital market indicator on economic growth.
Chapter six, will present the conclusion of the research and discuss the recommendations by the researcher based on the findings in chapter five.
Chapter 6. Recommendations and Conclusion

6.1 Overview of Capital Market Environment and Sri Lanka
Capital markets play an important role over the development and growth of a country, and are also considered as an institution that aids to the prosperity of both emerging and developed economies. The present depression in the world economy has hindered the strengthening of capital markets and polluted the investment environments, resulting in smaller investors especially being afraid of investment returns. Well-developed and efficient stock markets raise capital for new projects as well as expand prevailing businesses. Similarly, some argue that economic growth is important for the development of capital markets, which is also a most enduring discussion of economics and finance. Yet the direction of this relationship remains unresolved. Several empirical studies examine the relationship between capital markets and the economic growth of many nations and most studies found capital markets positively contribute to economic growth.

As a developing country, Sri Lankan growth levels are low; and in Sri Lanka, very little care is given towards the notable impact capital markets have on the country’s economic growth. Hence, in recent times there is a growing concern about the failure of efficient capital market performance which has created a need to evaluate the role and impact capital markets have on the economic growth of Sri Lanka. There were very few studies conducted on the Asian capital markets during 2010 - 2011, the period capital markets of Sri Lanka had performed best in the world. The goal and objectives of this research were to identify the relationship between capital markets and the economic growth of Sri Lanka, to identify the impact of capital market performance indicators on economic growth during the war and post-war periods, and to identify the most influential capital market indicators on economic growth during the post-war period. The hypotheses were developed for testing. Moreover, this study was intended to bridge that gap in the literature.

6.2 Key Theories Exposed and Literature Review
From a theoretical perspective, this study uncovered the important role that Harrod-Domar, Neo-Classic Growth, endogenous growth, and Capital Market Theories and frameworks play in defining the process of capital markets and the economic growth. In particular, it was understood that Harrod-Domar, Neo-Classic growth and endogenous growth models offer different
perspectives on the growth process while capital market theory is grounded on the mean-variance portfolio model.

The industrial analysis provided a PESTLE analysis of the industry in Sri Lanka to understand the certain important factors that influence the performance. The analysis revealed some significant macro environmental effects on the stock market of Sri Lanka. Sri Lanka is a hub that attracts many investors as the markets promote income, employment growth, and living standards. The present macro-environmental factors, the economic and political situation of the country remains favourable for both local and foreign investors as the industry is well-governed to safeguard the well-being of both investors and institutions. Furthermore, the country requires large investments for socio-economic development needs.

An assessment of the extant literature examined empirical works relating to capital markets and economic growth in various aspects mainly in developing and emerging markets, developed nations, and of Sri Lanka. The most common type of literature found was country-specific. The literature provided much insight to evidence suggesting a existence of a long-run relationship between capital markets and economic growth in some developed and developing nations while some evidence was found in some other countries suggesting a bi-directional or negative relationship did exist. However, the most common types of literature found on economic growth and capital markets were country specific and no findings were universally acceptable for any specific geographical location or to any economical group.

6.3 Methodological Review and Hypotheses Testing
Methodologically speaking, this research employed the quantitative research methodology using secondary data of six stock market indicators (EMT, MCAP, STMCAP Ratio, DY %, ASPI, and DMT) and economic growth measure (GDP) for a period of two decades distinguishing the war and post-war periods of the country. This study was a longitudinal study that followed a case study approach. Descriptive statistics showed the summary of data. The independent and dependant variables were statistically measured using multiple regression analysis. Various assumptions were followed. Statistical significance testing of data was done to determine the relationship and distinguish the data for the two periods of study. Further to access the strengths of the relationships
a correlation test was employed. The findings illustrated the trends of longitudinal data. The data were analysed and interpreted using various tables and figures.

The aim and purpose of this research were to determine the impact of capital markets on the economic growth of Sri Lanka. In order to achieve this aim, three objectives and six relevant hypotheses (H) were developed, as shown below:

Objective 1: To identify the relationship between capital markets and economic growth of Sri Lanka.
Objective 2: To identify the impact of capital market indicators on economic growth during the war and post-war periods.

To achieve objectives 1 and 2: the following research hypotheses (H) were developed.
H1: Equity market turnover has a statistically significant relationship with the gross domestic product of Sri Lanka.
H2: Market capitalization has a statistically significant relationship with the gross domestic product of Sri Lanka.
H3: Share turnover to market capitalization ratio has a statistically significant relationship with the gross domestic product of Sri Lanka.
H4: Dividend yield has a statistically significant relationship with the gross domestic product of Sri Lanka.
H5: All share price index has a statistically significant relationship with the gross domestic product of Sri Lanka.
H6: Debt market turnover has a statistically significant relationship with the gross domestic product of Sri Lanka.

Objective 3: To identify the most influential capital market indicator on economic growth.

This study achieved some very interesting findings. The main results showed that EMT, MCAP, STMCAP Ratio and DY % had a positive relationship with GDP while ASPI and DMT had no connection with the GDP of Sri Lanka. Further, the multiple regression findings concluded that
there was no impact of capital markets on the economic growth during the war and post-war era of Sri Lanka. With the results that provided a holistic view it was found that MCAP was the most influencing capital market performance indicator of economic growth.

For objective 1, hypotheses 1, 2, 5 and 6 were proven, while hypotheses 3 and 4 were unproven. In terms of objective 2, for the war period analysis hypotheses 1, 2, 3, 4 were accepted, while hypotheses 5 and 6 were rejected. For the post-war period analysis hypotheses 1, 2, 3, 4, 5 and 6 was rejected. To answer objective 3, over the six factors MCAP was found to be the most influencing factor over GDP.

6.4 Relationship to Previous Research

In particular, this research would be beneficial and the findings are important and will be useful towards the formulation of financial and economic policies, which is critically important for the economic prosperity, and future growth of the Sri Lankan capital markets. This research tends to minimize the gap in literature on Sri Lankan capital markets and economic growth. The findings of this research bring a useful insight into the relationships between the various market indicators and economic growth metrics and help to identify the most influential market indicator. Further, the findings also revealed that during 2010 - 2011, the period when the Sri Lankan stock market was recorded as the best performing market in the world, there was no impact of capital markets on the economic growth of Sri Lanka. These are crucial aspects for future policymaking of the country. This study significantly concerns the capital market scope and will provide useful understanding to numerous stakeholders of the capital markets of Sri Lanka such as the Sri Lankan government, the regulatory authorities of the capital markets of Sri Lanka, the fund managers, and investment advisors, academics and researchers, and public investors. The findings of this research will contribute to the policymaking decisions with an objective to create growth to the capital market sector and economic development of developing countries such as Sri Lanka. This research will further contribute to the body of knowledge of literature in the context of capital markets of Sri Lanka, which will supplement the findings of a series of other previous empirical studies of the Sri Lankan stock market and economic growth. Since the literature in this area of research is still minimal in Sri Lanka, the information collected for this study will define the role and significance of capital markets and economic growth.
6.5 Limitations of the Present Study

The project had minimal limitations. The researcher adopted secondary data for this study, which often poses limitations due to the time and relevance of data. During the analysis in this study, when the data was analysed as a whole without any period of consideration there were higher numbers of data points in the analysis, but they became smaller when the data was divided into war and post-war periods, thus providing insignificant results due to the smaller numbers of data points used in the analysis. This was mainly due to the data sampling period and the annualized data collected which is adequate for this study. However, the analysis could be conducted on monthly and quarterly data for the research findings to be more informative and not to be an outcome of aggregation of data. Yet, it will be very time consuming to analyse in-depth such a vast amount of data which raised concerns of the limited time frame for this research project and relevance of data. Further, this study is a case study on the Sri Lankan capital markets and economic growth and therefore application is limited only to the single country of study thus, the findings cannot provide any universal acceptance to any geographical location and the findings will not be sufficient to arrive at any generalised opinions. Moreover, there was limited literature on the topic-specific to Sri Lanka. The researcher overcame these limitations with the aid of similar studies conducted around the world with the accessibility to the available annual data.

6.6 Recommendations for Future Research and Practice

The following suggestions are made based on the findings and conclusions of this study.

Capital markets play an important role on the economic success of Sri Lanka, which itself indicates the importance of conducting future research in this area which will contribute towards generating a conducive environment for sound investments in the country. This study was conducted in a short time duration as a single country case study, therefore more comprehensive research is recommended which would add new insights and generalisation of views.

Since this research was conducted from a capital market perspective, future research is recommended to be carried out from an economic development perspective. Developing countries should attempt to improve the financial sector as a way of encouraging economic growth from a
long term perspective. A well-established financial sector in the country can absorb and utilize financial resources efficiently and will attract foreign investors into the country. Every country has its distinguishing features that set it apart from others (developed or developing). The volatility of exchange rates and inflation are burning issues. Social and technological factors positively influence the industry. Infrastructure development and a peaceful, sound environment are crucial elements for the attractiveness of capital markets in Sri Lanka.

6.7 Concluding Remarks
In conclusion, the outcome of this research brings valuable knowledge. From a practical market perspective, the study shows the performance of the overall market is essential: high liquidity stocks, efficient stock market performance and debt trading liquidity are important for the economic development of Sri Lanka. Furthermore, it was found that there was no impact of the capital market indicators on economic growth during the post-war and war-periods of the country. From a holistic perspective, MCAP was found to be the most influential factor thus indicating that the size of the stock market and value of businesses determines the economic progress of the country. Sri Lanka is an emerging economy; the empirical review shows that the macroeconomic environment remains favourable and attracts many investors. Although there are few factors hindering the progression of the economy such as the ongoing political instability and development of the financial system, the Sri Lankan government and the private sector plays an important role to effectively mobilize foreign capital and savings to channel productive investments. Moreover, the government needs to maintain a peaceful and conducive environment for investors to ensure secure functionality of capital markets, that will help implement socio-economic policies and promote better living standards in the country.
References


CSE Indices, ASPI. (2020). Retrieved from CSE:
https://www.cse.lk/pages/indices/indices.component.html


Reuters. (2019). Retrieved from Sri Lanka stock index posts worst fall in over seven years after Easter attacks: https://cn.reuters.com/article/instant-article/idINKCN1RZ1L1


# Appendix A

## Appendix A.1 Methodological Approaches used in the study of the Stock Market and Economic Growth of Developing Nations

<table>
<thead>
<tr>
<th>Study</th>
<th>Country Focus</th>
<th>Methodological approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mishra et al. (2010); Aduda et al. (2012); Amu et al. (2017); Ewah et al. (2009); Owolabi &amp; Ajayi (2013)</td>
<td>India, Nigeria</td>
<td>Multiple Regression / Ordinary Least Square</td>
</tr>
<tr>
<td>Mall &amp; Panigrahi (2019)</td>
<td>BRIC Countries</td>
<td>Multiple Regression / Karl Pearson Correlation</td>
</tr>
<tr>
<td>Asiri &amp; Abdalla (2015); Muktadir-Al-Mukit et al. (2014); Badullahewage &amp; Jayewardenepeura (2018); Gamlath (2017)</td>
<td>Bahrain, SAARC Countries; Sri Lanka</td>
<td>Multiple Regression</td>
</tr>
<tr>
<td>Acquah-Sam &amp; Salami (2014)</td>
<td>Ghana</td>
<td>Multiple Regression / Shapiro-Wilk test</td>
</tr>
<tr>
<td>Aduda et al. (2014)</td>
<td>Kenya</td>
<td>Multivariate Regression</td>
</tr>
<tr>
<td>Srinivasan &amp; Prakasam (2014); Pan &amp; Mishra (2018); Oke &amp; Adeusi (2012); Nordin &amp; Nordin (2016); Athapathu &amp; Jayasinghe (2012); Dayaratne &amp; Wijethunga (2015); Deyshappriya (2014); Jahfer &amp; Inoue (2014); Niranjala &amp; Jianguo (2015); Perera &amp; Paudel (2009)</td>
<td>India, China, Nigeria, Malaysia, Sri Lanka</td>
<td>Augmented Dickey-Fuller / Autoregressive Distributed Lag Model / Johansen Co-integration Test</td>
</tr>
</tbody>
</table>
Appendix A.2 Methodological Approaches used in the study of the Stock Market and Economic Growth of Developed Nations

<table>
<thead>
<tr>
<th>Study</th>
<th>Country Focus</th>
<th>Methodological approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Van Nieuwerburgh et al. (2006); Pradhan (2018); Carp (2012); Pohoată et al. (2014); Abdalla (2011); Nguyen &amp; Pham, D. V. (2014), Boubakari &amp; Jin (2010)</td>
<td>Belgium, G20 Evidence, Central &amp; Eastern Europe, Sudan, Canada &amp; Australia, Some Euronext Countries</td>
<td>Granger Causality Tests</td>
</tr>
<tr>
<td>De la Torre et al. (2008), Alam &amp; Hussein (2019)</td>
<td>Latin America, Oman</td>
<td>Multiple Regression</td>
</tr>
<tr>
<td>Oprea &amp; Stoica (2018)</td>
<td>EU Countries</td>
<td>Augmented Dickey-Fuller / Autoregressive Distributed Lag Model / Johansen Co-integration Test</td>
</tr>
</tbody>
</table>
Appendix B

Appendix B.1 Summary of Economic Growth (War Period)

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>GDP (LKR Bn)</td>
<td>1.018</td>
<td>1.106</td>
<td>1.258</td>
<td>1.407</td>
<td>1.583</td>
<td>1.760</td>
<td>2.029</td>
<td>2.366</td>
<td>2.802</td>
<td>3.579</td>
<td>4.411</td>
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</table>

Note: Gross Domestic Product (GDP). The statistics for the table were obtained from the Annual Reports of the Central Bank of Sri Lanka.

Appendix B.2 Summary of Economic Growth (Post-War Period)

<table>
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<tbody>
<tr>
<td>GDP (LKR Bn)</td>
<td>4,835</td>
<td>5,604</td>
<td>6,544</td>
<td>7,582</td>
<td>9,592</td>
<td>10,361</td>
<td>10,951</td>
<td>11,996</td>
<td>13,328</td>
<td>14,366</td>
<td>15,016</td>
</tr>
</tbody>
</table>

Note: Gross Domestic Product (GDP). The statistics for the table were obtained from the Annual Reports of the Central Bank of Sri Lanka.
Appendix C

Appendix C.1 Summary of Key Market Indicators (War Period)

<table>
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</tr>
</thead>
<tbody>
<tr>
<td>EMT (LKR Mn)</td>
<td>17,912</td>
<td>14,292</td>
<td>10,624</td>
<td>13,905</td>
<td>30,183</td>
<td>73,837</td>
<td>59,052</td>
<td>114,599</td>
<td>105,154</td>
<td>104,985</td>
<td>110,454</td>
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<tr>
<td>MCP (LKR Bn)</td>
<td>117</td>
<td>113</td>
<td>89</td>
<td>124</td>
<td>163</td>
<td>263</td>
<td>382</td>
<td>584</td>
<td>835</td>
<td>821</td>
<td>489</td>
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<tr>
<td>STMCAP (Ratio)</td>
<td>14.6</td>
<td>12.5</td>
<td>10.5</td>
<td>13.1</td>
<td>21.1</td>
<td>34.7</td>
<td>18.3</td>
<td>23.7</td>
<td>14.8</td>
<td>12.7</td>
<td>16.9</td>
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<tr>
<td>DY (%)</td>
<td>4.5</td>
<td>5.2</td>
<td>6.5</td>
<td>6.8</td>
<td>4.3</td>
<td>3.1</td>
<td>3.2</td>
<td>2.7</td>
<td>2.2</td>
<td>2.5</td>
<td>5.6</td>
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<tr>
<td>ASPI (Price Index)</td>
<td>597.30</td>
<td>572.50</td>
<td>447.60</td>
<td>621.30</td>
<td>815.10</td>
<td>1,062.10</td>
<td>1,506.90</td>
<td>1,922.20</td>
<td>2,722.40</td>
<td>2,541.00</td>
<td>1,503.00</td>
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<tr>
<td>DMT (LKR’000)</td>
<td>320,812</td>
<td>550,554</td>
<td>425,282</td>
<td>151,933</td>
<td>340,655</td>
<td>180,189</td>
<td>199,530</td>
<td>206,857</td>
<td>405,211</td>
<td>98,903</td>
<td>102,639</td>
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Note: Equity Market Turnover (EMT), Market Capitalization (MCAP), Share Turnover to Market Capitalization Ratio (STMCAP), Dividend Yield (%) Year End (DY %), All Share Price Index (ASPI) and Debt Market Turnover (DMT). The statistics for the table were obtained from the Colombo Stock Exchange Data Library.
Appendix C.2 Summary of Key Market Indicators (Post-War Period)

<table>
<thead>
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<tbody>
<tr>
<td>EMT (LKR Mn)</td>
<td>142,463</td>
<td>570,327</td>
<td>546,256</td>
<td>213,827</td>
<td>200,468</td>
<td>340,917</td>
<td>253,251</td>
<td>176,935</td>
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<td>171,408</td>
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<tr>
<td>MCP (LKR Bn)</td>
<td>1,092</td>
<td>2,210</td>
<td>2,214</td>
<td>2,167</td>
<td>2,460</td>
<td>3,105</td>
<td>2,938</td>
<td>2,745</td>
<td>2,899</td>
<td>2,839</td>
<td>2,851</td>
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<tr>
<td>STMCAP (Ratio)</td>
<td>18.0</td>
<td>34.5</td>
<td>24.7</td>
<td>9.8</td>
<td>8.7</td>
<td>12.3</td>
<td>8.4</td>
<td>6.2</td>
<td>7.6</td>
<td>7.0</td>
<td>6.0</td>
</tr>
<tr>
<td>DY (%)</td>
<td>3.0</td>
<td>1.2</td>
<td>1.8</td>
<td>2.4</td>
<td>2.9</td>
<td>2.1</td>
<td>2.18</td>
<td>2.75</td>
<td>3.19</td>
<td>3.09</td>
<td>3.2</td>
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<tr>
<td>ASPI (Price Index)</td>
<td>3,386</td>
<td>6,636</td>
<td>6,074</td>
<td>5,643</td>
<td>5,913</td>
<td>7,299</td>
<td>6,895</td>
<td>6,228</td>
<td>6,369</td>
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<td>DMT (LKR'000)</td>
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<td>5,677,080</td>
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</table>

Note: Equity Market Turnover (EMT), Market Capitalization (MCAP), Share Turnover to Market Capitalization Ratio (STMCAP), Dividend Yield (%) Year End (DY %), All Share Price Index (ASPI) and Debt Market Turnover (DMT). The statistics for the table were obtained from the Colombo Stock Exchange Data Library.