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The Sri Lankan Journal of Banking and Finance (SLJBF) is a refereed Journal bi-annually published research papers and scholarly work by the Department of Banking and Finance, Wayamba University of Sri Lanka. The main objective of the SLJBF is to publish scientific research findings that address issues and developments related to economics in general and money, banking, financial markets in particular at both national and international level. All research articles submitted are double blind reviewed prior to publishing. Views expressed in the research articles are not the views of the Department of Banking and Finance, Wayamba University of Sri Lanka or the Editorial Board.

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S L J B F

Department of Banking and Finance

Faculty of Business Studies and Finance

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Editorial Preface

We are pleased to present Volume 5(1) of the Sri Lankan Journal of Banking and Finance (SLJBF), a refereed journal of Banking and Finance published by the Department of Banking and Finance, Wayamba University of Sri Lanka. SLJBF provides a unique platform for researchers, academicians, professionals, and research students to impart and share knowledge in the form of high-quality research papers to infuse innovative systems and methods to the economy and finance as a whole. In line with that SLJBF invites you to join with us by writing quality manuscripts in the discipline of economics, banking and finance.

We received a good response for the call for papers and out of the paper received six papers selected for the publication through the rigorous blind review process. We wish to thank all the authors who contributed to this issue by submitting their novel research findings. The volume 5(1) of SLJBF deals with timely important topics, ohlson's Model as a tool to predict performance: A comparative study between Commercial Bank of Ceylon PLC and Banking Industry, Determinants of customer satisfaction on health insurance in Sri Lanka, Factors affecting to the unethical behavior of insurance sales people: Evidence from Sri Lankan Insurance industry, The effect of capital adequacy requirements on profitability: An empirical study n Licensed Finance Companies in Sri Lanka, The impact of government expenditure on inflation: evidence from Sri Lanka and India and The impact of Covid-19 on the African Economy and the role of global institutions: A Review. Thus, the journal has widened its scope to appeal to a wider readership with varied interest and needs. On this occasion, I would like to extend my sincere thanks to the dedicated panel of distinguished reviewers, members of the editorial advisory board, members of the editorial board and the assistant editors for their unstinting and voluntary contribution to make this issue a success. The continued support of the governing body of the Wayamba University of Sri Lanka in this endeavor is also acknowledged.

Prof. R.A Rathanasiri
Editor in Chief/ Sri Lankan Journal of Banking and Finance
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Aims and Scope

The Sri Lankan Journal of Banking and Finance (SLJBF) is a refereed Journal bi-annually published research papers and scholarly work by the Department of Banking and Finance, Wayamba University of Sri Lanka. Sri Lankan Journal of Banking and Finance (SLJBF) publishes theoretical and empirical papers spanning all the major research fields in economics, banking and finance The aim of the SLJBF is to bringing the gap existing in the theory and practice of Economics, Banking and Finance by encouraging researchers, academicians, professionals, and research students to impart and share knowledge in the form of high quality research papers to infuse innovative system and methods to the economic and financial system as a whole. Thus, the journal's emphasis is on theoretical and empirical developments and policy-oriented research in economics, banking and finance.

Core Principles

- Publication in the journal of banking and finance is based upon the editorial criteria cited and the evaluation of the reviewers (each manuscript will be sent two reviewers);
- Priority is given for novelty, originality, and to the extent of contribution that would make to the particular field.
- Conceptual papers based upon current theory and empirical findings and contribute to the development of theory in the domain of Banking and Economics are also welcome.

The journal welcomes and publishes original articles, literature review articles and perspectives and book reviews describing original research in the fields of economics, banking and finance. The core focus areas of the journal include;

- Financial Intermediation
- Bank Solvency and Capital Structure
- Banking Efficiency
- Bank Failure and Financial crisis
- Behavioral Finance

- Corporate Finance
- Corporate Governance and Ethics
- Credit Rating
- Derivative Pricing and Hedging
- Financial Economics and Mathematics
- Financial Engineering
- Financial Modeling and Forecasting
- Financial Risk Management and Analysis
- Investment and Portfolio Management
- Public finance
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OHLSON'S MODEL AS A TOOL TO PREDICT PERFORMANCE: A COMPARATIVE STUDY BETWEEN COMMERCIAL BANK OF CEYLON PLC AND BANKING INDUSTRY

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ABSTRACT

The Banking Industry provides a substantial contribution to the Sri Lankan economy. This research aims to compare the forecast performance indicators of the Commercial Bank of Ceylon PLC with the Banking industry. The researcher has selected the Commercial Bank of Ceylon PLC as a sample since it is ranked 1st in the Banking Sector on Colombo Stock Exchange and the only Sri Lankan bank to be ranked for the 10th consecutive year by "The Banker". In this study, the researcher has used statistical software named R to analyze the data considering Profitability, Liquidity, and Capital Adequacy indicators. Data has been gathered over ten years from 2009 to 2018, and the predictions were made adopting Ohlson's Forecasting Model for the subsequent years 2019 and 2020. The Commercial Bank PLC is on track with the industry norms except in areas, especially Net Interest Margin, Liquidity, and Core Capital Ratio, where significant improvements are needed to bring their performance on track, the findings reveal. The Ohlson model's robustness was tested using Mean Absolute Percentage Error (MAPE). It

confirms that the model best fits the two variables used in the study named Core Capital Ratio and Total Capital Ratio.

Keywords – Financial performance, Banking Industry, Profitability, Liquidity, Capital Adequacy

1. INTRODUCTION

Commercial Bank of Ceylon, a public limited company that belongs to the Banking Industry of Sri Lanka, is the largest private bank in the country with total assets of over 1 trillion. It has 266 branches and 830 ATMs throughout the country. The bank has expanded its operation across Sri Lanka, Bangladesh, Maldives, Myanmar, and Italy.

Sri Lanka's best bank has a big story dating back to the pre-independence era (Annual report, 2020). In the 1920s' during British colonial time, the commercial bank was born. However, in 1969, the Commercial Bank of Ceylon became an independent entity. The bank had been established with the adoption of the second constitution in 1978. It established its foreign currency banking unit to promote its offshore banking business in 1979. The Commercial Bank of Ceylon expanded its business with two associate companies named Commercial Insurance Service Pvt (Ltd) and Commercial Leasing Ltd. The Commercial Bank uses a state-of-the-art core banking system and ATM system at all its branches. This bank is the largest ATM provider in Sri Lanka, with ATMs installed across the country. Moreover, it provides the service such as utility bill payments, funds transfer between accounts, and many other functions in addition to cash withdrawals.

The Commercial Bank of Ceylon is the largest lender in Sri Lanka to SMEs for the past five years, with a total disbursement of Rs. 952 Bn. The US $ 790 Mn's market capitalization accounted for 4.31% of the Colombo Stock Exchange's total market capitalization (Annual report, 2019). The Commercial Bank of Ceylon is the first private bank to exceed Rs.1000 Bn regulatory capital. Moreover, the Commercial Bank of Ceylon is the first Sri Lankan bank to be included in the top 1000 banks globally and has maintained this status over the past ten consecutive years. According to the above information, it is clear that the Commercial Bank of Ceylon provides a substantial contribution to the Sri Lankan economy. So, it is imperative to compare the Commercial Bank of Ceylon's performance with the industry average since it can be used as an essential piece of information to identify the Commercial Bank of Ceylon PLC's contribution to the banking industry and eventually to the nation.

During the British colonial period (1802 -1948), banking was introduced to the Sri Lankans as branches of foreign banks. In 1950, the Central Bank of Sri Lanka had been established under the Monetary Law Act No. 58 of 1949. The banking industry, which belongs to the service sector, provides a valuable service to the Sri Lankan economy. The banking sector provides 60% of the contribution to the gross domestic product of Sri Lanka. Commercial banks expanded their service from traditional to different kinds of new sectors. Investment, banking, finance, marketing advisory service, leasing, insurance, etc., can be identified as examples for new sectors.

In the early years, banking activities had been conducted manually. The development of technologies led to all the activities becoming controllable through computers and the internet, known as e-banking. New rules and regulations have been introduced to the banking sector owing to the vast competition among different private and state banks, locally and internationally.

The Banking Industry of Sri Lanka has been thriving amidst challenges. The last decade witnessed a surge in the services provided by the financial institutions, despite the setbacks. The country has twenty-six commercial banks now, operating as regulated by the Central Bank of Sri Lanka. Ten of them were formed locally, whereas the rest are functioning as foreign banks' branches. Most businesses in the country, both big and small, find the banking sector their staple source of financing.

The basic presumption, which supports a large part of the financial performance research and discussion, is that growing financial performance will improve organizations' capacities. The subject of financial performance and research into its estimation is well advanced within management and finance fields. If organizations need to confront the rivalry effectively, it is vital to accomplish powerful and productive financial performance. In this study, the researcher has selected one bank from the Banking Industry to analyze the financial performances with the banking sector's industry performance.

This study proposes discussing and comparing Profitability, Liquidity, and Capital Adequacy, which are financial performance indicators, to study the Commercial Bank of Ceylon's performance. It will help fulfil the need for a wide range of internal and external users to make their business decisions. To evaluate the Commercial Bank of Ceylon's internal performance, financial indicators are constructed from its financial statements. Through financial analysis, the company's performance can be predicted, leading to face future business threats successfully. On the practical dimension, this study may help decision-makers in the banking sector to focus on the critical financial

movements that may expand the bank positioning and performance positions compared with other banks. Such information should assist commercial banks with making suitable financial stratagems to achieve the planned performance.

This research intends to identify any trends between the Commercial Bank of Ceylon and the Banking Industry's performance metrics. In this context, the research objective is to compare the forecast performance metrics of the Commercial Bank of Ceylon PLC with the Banking Industry. Management can overcome their problems and determine what strategies could be used to achieve their financial goals through such information. Similarly, by comparing the selected bank's performance, current investors can know about their investment yield, whereas prospective investors can choose the best opportunity for their investment among possible alternatives. Further, the study seeks to contribute to multiple stakeholders by providing them with a clearer understanding of the future direction in the wake of unfolding megatrends.

2. LITERATURE REVIEW

The Ohlson model (1995) aimed to formalize the relationship between accounting information and firm value (Silvestri & Veltri, 2012). The Ohlson model has been used to evaluate the relevance of historical accounting information, the accuracy of forecasting information and the model's efficiency in predicting a firm value and market expectations.

Multiple studies have analyzed and tested the Ohlson model to validate it with multiple variables. Martinez (2012) examined the reliability and validity of the Ohlson model to predict Latin American stock prices through an empirical application of a panel data analysis of 1,112 companies over the period from 2002 to 2009. The model can be used successfully in some countries in Latin America, the findings revealed. In these lines, Silvestri and Veltri (2012) tested the Ohlson model on the financial sector of the Italian Stock Exchange. Using multiple regression analysis, the researchers found that the relation between accounting variables and the market price is fully proved on the Italian Stock Exchange. This is one of the pioneering studies that tested the validity of the Ohlson model.

Zhang (2016) examined the value relevance of historical and forecast accounting information in the Chinese market using the Ohlson model along with the Feltham-Ohlson model. The test results reveal that contrary to several previous research studies, historical information by itself is more closely related to the current firm value rather than when it is combined with forecast information, whereas forecast information might have helped to improve the accuracy of models. Rivera et al. (2018), along the lines of Zhang, conducted a study to investigate the value of Big Data for AT&T by applying the Ohlson

model. The scholars intended to quantify the relevance of the relationship between accounting information and firm value. The findings reveal no statistically significant association between the constructs of the Ohlson model, big data, and firm value. The authors recommend expanding the sample size and/or examining more periods to get a vivid picture regarding the valuation of the Ohlson model and big data.

Aravind and Nagamani (2013) investigated the State Bank of India's financial performance for 2000-2012. The researchers have researched different ratios like Capital Adequacy Ratios, Asset quality Ratios, Capability Ratios, Profitability Ratios, and Liquidity Ratios. The researchers have examined that the bank's financial performance has been almost progressive over the operational periods considered for the study. The analysis shows the points where the banks need to increase and sustain financial performance development.

Aspal and Malhotra (2013) computed Indian public sector banks' financial performance using the CAMEL model and employing tests like Anova, F test, and arithmetic test for the data collected years of 2007-2011. They determined that the top two performing banks are Baroda and Andhra banks because of high capital adequacy and asset quality. The worst performer is the United Bank of India, owing to its management inefficiency, low capital adequacy, and inadequate assets and earning quality. The Central Bank of India secured the last position, followed by UCO Bank and Bank of Maharashtra.

Jeevarajasingam (2014) has studied the liquidity and profitability of Private Banks in Sri Lanka, which showed that liquidity ratio has a strong positive correlation with return on assets. In a similar context, Thayaparan and Pratheepan (2014) studied the total factor productivity growth of commercial banks in Sri Lanka. The outcomes presumed that relatively chosen private banks are more effective than state banks in the investigation time frame in Sri Lanka.

Anojan and Nimalathasan (2014) conducted a comparative study on Financial Performance of State and Private Sector Commercial Banks in Sri Lanka. This investigation analyzes public and private business banks' financial performance utilizing the Capital Adequacy, Assets Quality, Management Soundness, Earnings, and Liquidity (CAMEL) rating framework in Sri Lanka from 2008-2012. In this investigation, the CAMEL rating framework used to analyze banks' financial performance is one of the quantitative methods, and it is generally utilized in the current world. CAMEL rating framework affirmed that the Commercial Bank of Ceylon PLC was one or stable. Bank of Ceylon (BOC) was two or more satisfactory, Hatton National Bank (HNB) PLC was rated as three or reasonable, and People's Bank rated as four or negligible. As

indicated by the CAMEL framework results, as scholars endorse, HNB PLC and People's Bank should expand financial performance through effective plans to contend and successfully uphold the business in the Sri Lankan banking area.

Velnampy and Anojan (2014) conducted a study on private and state banks' financial performance during and after the post-war period from 2007 to 2012 in Sri Lanka. The outcome has shown that private banks' financial performance is higher than the state banks' financial performance during this time. The state banks attempt to improve the financial performance to survive, and private banks attempt to accomplish the planned financial performance for long haul endurance.

Santamero and Watson (2015) conducted a research in which they explained that by enacting onerous regulations for the capital market, banks had reduced their credits, leading to the collapse of productive investments. They discussed that in terms of society, the best degree of capital for the financial framework should be resolved through the focuses where the latter results of the bank capital are accurately equivalent to the latter expenses of the bank capital.

Moudud-Ul-Huq (2017), in his research, examined the financial performance of the banking industry of Bangladesh for the period of 2013-2014. According to the composite rating system, in which the researcher ranked them, ten private commercial banks have been considered. CAMEL model has been used to evaluate the financial performances of these banks. The research disclosed that most banks rely more on the managerial capability in formulating strategic plans and the competent execution of their strategies. Upholding asset quality is the major challenge seen in the paper and is forecast to remain so.

Kobika (2018) investigated the financial performance of the banking sector in Sri Lanka, the purpose being the comparison of financial performance of state and private sector banks. The study compares state and private commercial banks' financial performance with the use of Capital Adequacy, Assets Quality, Management Soundness, Earnings, Liquidity (CAMEL) rating system in Sri Lanka from 2013-2017. Private sector banks fare better than state banks in terms of capital adequacy, earnings, and liquidity position of the banks, the findings demonstrated.

Spotting the Gap

The development of the banking industry will be a boost to a country's economy. However, in Sri Lanka, there is a lack of comparative information relating to the banking industry's performance. Various researches conducted

by the Sri Lankan researchers relating to the banking industry have compared the state banks with private sector banks and disclosed the banks, which showed better performance in different periods. It is indispensable to compare a single bank's performance with the industry to give the stakeholders a deeper look of the areas in which the bank concerned outperforms the mainstream Banking Industry. Comparing the Commercial Bank of Ceylon's performance with the industry's performance will fill the lacuna created in the Banking industry of Sri Lanka due to lack of comparative information. Great deal of research has been done using the Ohlson Model for western countries, but no such research exists concerning Sri Lanka and, more specifically, the Banking industry. This has led to the researcher initiating the study, concentrating on this particular interest in these relatively less researched areas.

3. RESEARCH METHOD

Sample and Data Collection

For any research study, data collection is the most crucial factor. The collection of data for the study directly affects the results which the researcher wants to achieve through the study. In this study, secondary data has been used throughout the research. The data was gathered from the banks' financial statements published by both CSE and the Commercial Bank of Ceylon to achieve the research's objective. By calculating vital financial ratios, the researcher obtained the research's annual data, from 2009 through 2018, of the Commercial Bank of Ceylon and Banking Industry. To evaluate industry data, Central Bank data were used.

Forecasting Model

The Ohlson model has been used in this study to evaluate historical accounting information's relevance in estimating future performance metrics. The Ohlson model (1995) is the best-known models of value relevance aimed at formalizing the relationship between accounting values and firm value. This model constitutes a solid theoretical framework for market evaluation based on fundamental accounting variables and other kinds of information that may be relevant in predicting firm value. The accounting information used in this study is based on the selected financial performance metrics as ROA, ROE, NIM, Liquid Assets Ratio, Core Capital Ratio, and Total Capital Ratio.

Description of Variables Used in The Study

The Table 1 shows the constructs, variables, and measurement indicators for operationalizing the study.

Table 1: Operationalization of Variables

Construct	Variable	Measurement	Description
Profitability Ratios	Return on Assets (ROA)	(Profit After Tax ÷ Average value of Total Assets) *100	A profitability ratio calculated as profit after tax expressed as a percentage of average total assets, used along with ROE, as a measure of profitability and as a basis of intra-industry performance comparison.
	Return on Equity (ROE)	(Net Income ÷ Share Holders' Equity) *100	After-tax profit less preferred share dividends, if any, expressed as a percentage of average ordinary shareholders' equity.
	Net Interest Margin (NIM)	(Net Interest Income ÷ Average Value of the Total Assets) *100	The distinction between what a bank attains on resources, for example, advances and securities, and what it pays on liabilities, for example, deposits, refinance funds, and inter-bank borrowings expressed as a percentage of Average Total Assets.
Liquidity Ratios	Liquid Assets Ratio (LAR)	(Total Average Liquid assets ÷ Total Deposits) * 100	Liquid assets are held in cash or in a form that can be converted to cash readily, such as deposits with other Banks, Bills of Exchange, and Treasury Bills expressed as a percentage of Total Deposits.
Capital Adequacy Ratios	Core Capital Ratio (CCR)	(Tier I Capital ÷ Risk-Weighted Assets) * 100	Tier I capital is expressed as a percentage of Risk-weighted assets. It is also known as the Core Capital. Tier I Capital comprises of share premium, statutory reserve fund, the total of paid-up ordinary shares, non-cumulative, non-redeemable preference shares, general and other reserves, published retained profits, less goodwill. Risk-weighted assets are the face

		amount of lower-risk assets that are discounted using risk weighting factors to reflect a relative risk per rupee among all types of assets.
Total Capital Ratio (TCR)	(Tier I Capital +Tier II Capital) ÷ Risk-Weighted Assets * 100	Total capital is the sum of Tier I capital and Tier II capital. Tier II capital consists of revaluation reserves, general provisions, hybrid capital instruments, and approved subordinated debentures. The percentage of risk-adjusted assets upheld by capital as characterized under the framework of risk-based capital norms established by the Bank for International Settlements (BIS) and as amended to suit local requirements by the Central Bank of Sri Lanka.

Source: Author's systemization

4. DATA ANALYSIS AND FINDINGS

Compare The Forecast Performance Metrics of Commercial Bank of Ceylon and Banking Industry

Return on Assets

Table 2: Ohlson's forecasting estimates of Return on Assets

Forecast Data						
Year	**CBC**			**BI**		
	Point forecast	**Interval forecast**		**Point forecast**	**Interval forecast**	
2019	1.30	0.33	2.28	1.28	0.67	1.9
2020	1.22	0.25	2.19	1.26	0.65	1.88

Note: The interval estimates at 95% confidence level

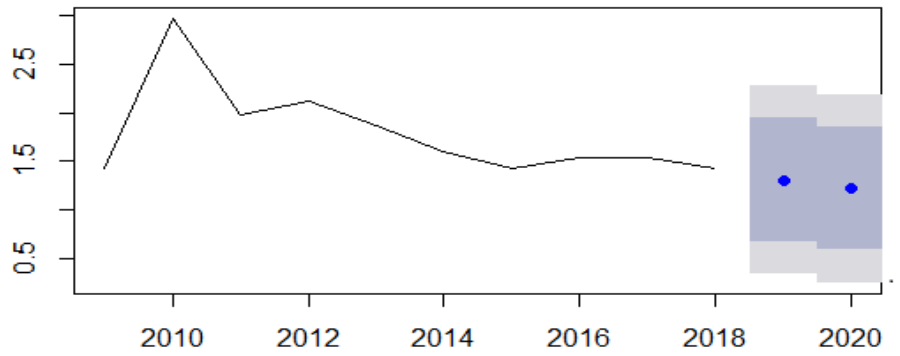

Figure 1: Commercial Bank of Ceylon PLC - ROA

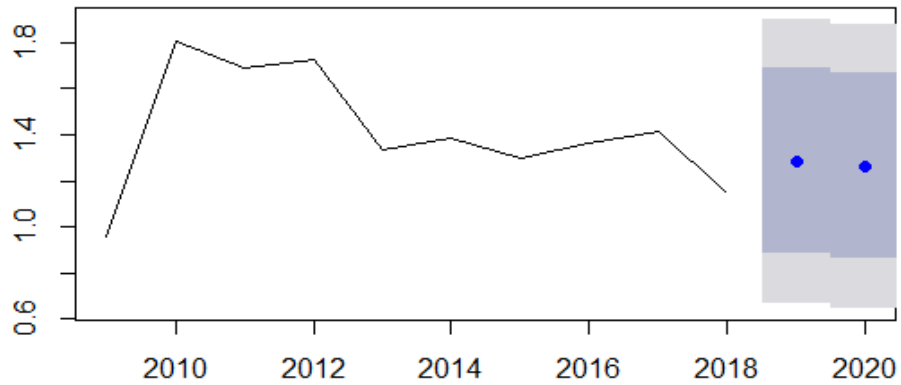

Figure 2: Industry Average – ROA

In virtually every decision they make, managers of today consider different types of forecasts. In this context, the researcher has followed the Ohlson's forecasting method using annual data from 2009 to 2018 to predict the Commercial Bank of Ceylon and Banking Industry's performance for 2019 and 2020. As it is apparent from table 2, the point estimates of Return on Assets of Commercial Bank of Ceylon were forecast to be at 1.3 in 2019 and 1.22 in 2020, while the estimates for Banking Industry were expected to be at 1.28 in 2019 and 1.26 in 2020. In interval estimates, the forecast values were expected to be within a minimal range for the Banking Industry than Commercial Bank of Ceylon. For instance, predictions of the interval estimate for Return on Assets for 2019, were between 0.33 and 2.28 for the Commercial Bank of Ceylon and between 0.67 and 1.9 for the Banking Industry, at 95% confidence interval.

Return on Equity

Table 3: Ohlson's forecasting estimates of Return on Equity

Forecast Data						
Year	CBC			BI		
	Point Forecast	Interval forecast		Point Forecast	Interval forecast	
2019	17.48	13.23	21.73	15.70	8.43	22.96
2020	17.39	13.14	21.64	15.45	8.18	22.72

Note: The interval estimates at 95% confidence level

Figure 3: Commercial Bank of Ceylon PLC - ROE

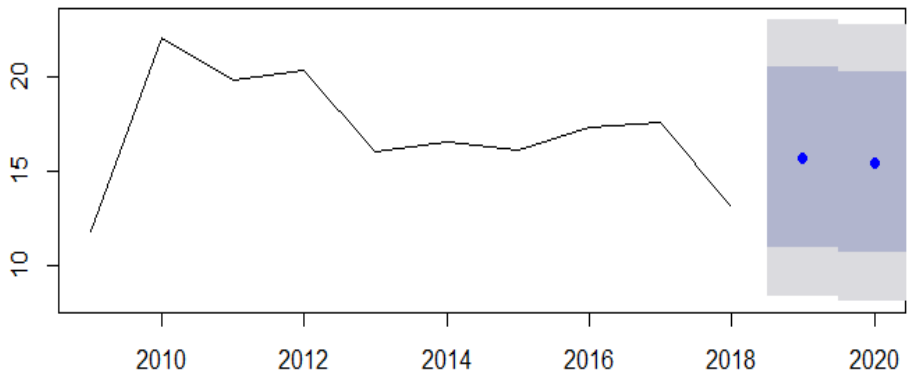

Figure 4: Industry Average - ROE

Table 3 shows the Point Forecast values of ROE for the CBC and the Banking Industry for 2019 and 2020. As revealed from the table and figures, the Commercial Bank of Ceylon's forecast data were 17.48 and 17.39 for 2019 and 2020 respectively. The low and high value remains between 13.23 and 21.73 for 2019 and 13.14 to 21.64 for 2020 at a 95% confidence level. When considering the Banking Industry, the forecast value is 15.70 and 15.45 for 2019 and 2020. The low and high values vary between 8.43 to 22.96 for 2019 and 8.18 to 22.72 for 2020. The Commercial Bank of Ceylon remains well above the Banking Industry, as apparent from the forecast results.

Net Interest Margin

Table 4: Ohlson's forecasting estimates of Net Interest Margin

Forecast Data						
Year	CBC			BI		
	Point Forecast	Interval forecast		Point Forecast	Interval forecast	
2019	1.57	-1.59	4.72	3.50	2.99	4.01
2020	1	-2.15	4.17	3.40	2.68	4.11

Note: The interval estimates at 95% confidence level

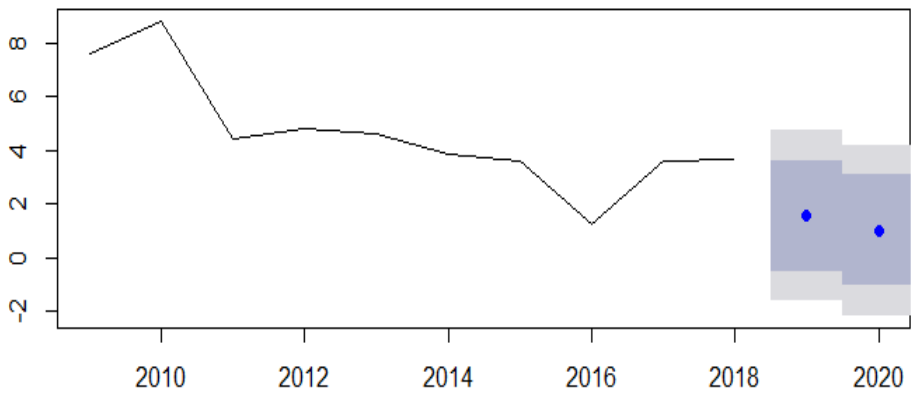

Figure 5: Commercial Bank of Ceylon PLC - NIM

As a critical component of profit, the researcher has predicted the NIM ratio for 2019 and 2020 at 95% significance level. Table 4 portrays the value of 1.57 and 3.50 as forecast data for the Commercial Bank of Ceylon and Banking Industry for 2019 respectively. The low and high values remain

between -1.59 to 4.72 for the Commercial Bank of Ceylon and 2.99 to 4.01 for the Banking Industry.

For the year 2020, the Banking Industry's predicted value is 2.68, while the Commercial bank of Ceylon's is 1.0. The NIM of CBC remains between -2.15 to 4.17, while the banking industry's value remains between 2.68 to 4.11 in 2020. It is evident from the table that the Commercial Bank of Ceylon's performance as proxied by NIM is inferior to the Banking Industry for both years.

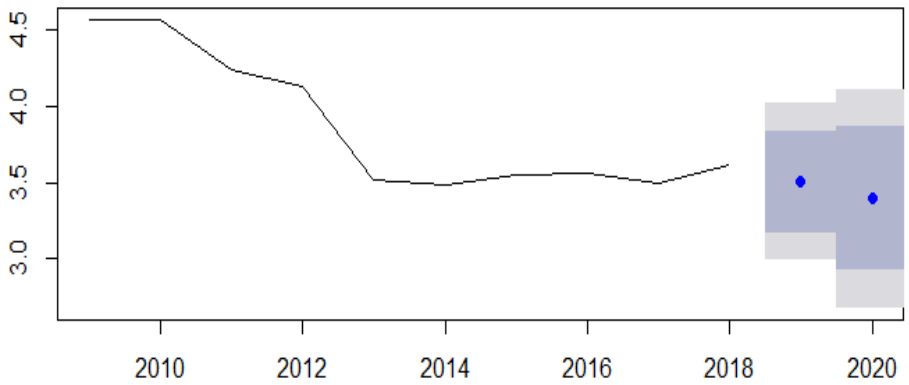

Figure 6: Industry Average - NIM

Liquid Assets Ratio

Table 5: Ohlson's forecasting estimates of Liquid Assets Ratio

Forecast Data						
Year	CBC			BI		
	Point Forecast	Interval forecast		Point Forecast	Interval forecast	
2019	24.96	15.94	33.98	29.17	21.63	36.71
2020	24.14	15.12	33.17	28.31	20.77	35.85

Note: The interval estimates at 95% confidence level

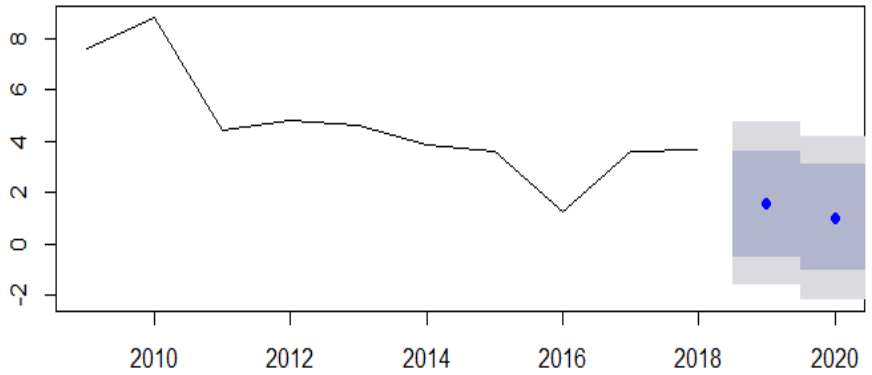

Figure 7: Commercial Bank of Ceylon PLC - Liquid Assets Ratio

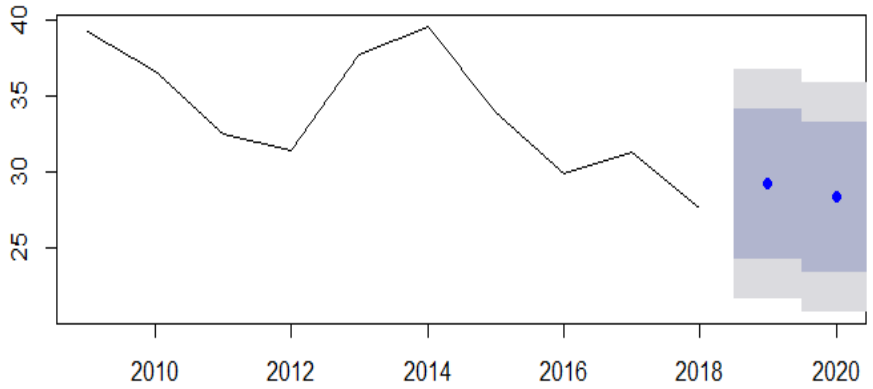

Figure 8: Industry Average - Liquid Assets Ratio

The above table and figures reveal the forecast data regarding liquidity for the year 2019 and 2020. CBC's predicted value is disclosed to be 24.96 for the year 2019 and 29.17 for the Banking Industry. At 95 % confidence level, the predicted data varies between 15.94 to 33.98 for the Commercial Bank of Ceylon and 21.63 to 36.71 for the Banking Industry.

The Commercial Bank of Ceylon shows 24.14 as forecast value for 2020. When it comes to the banking industry, it is revealed to be 28.31. The interval estimates for Liquidity ratio were projected to be between 15.12 and 33.17 for the Commercial Bank of Ceylon and between 20.77 and 35.85 for the Banking Industry for the year 2020 at 95% confidence interval. The point forecast values impart that Commercial Bank of Ceylon PLC is far behind the industry norms in both the years.

Capital Adequacy - Core Capital Ratio

Table 7: Ohlson's forecasting estimates of Total Capital Ratio

Forecast Data						
Year	CBC			BI		
	Forecasting Data	Interval forecast		Forecasting Data	Interval forecast	
2019	16.48	14.30	18.66	16.13	14.71	17.54
2020	16.81	14.63	19.00	16.10	14.69	17.52

Note: The interval estimates at 95% confidence level

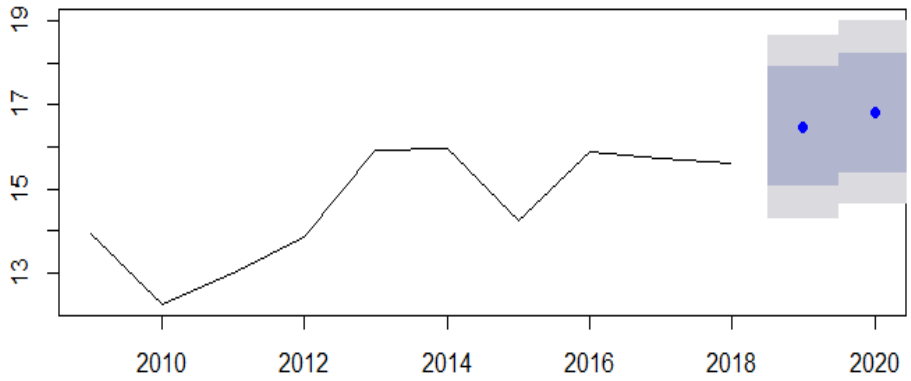

Figure 11: Commercial Bank of Ceylon PLC - Total Capital Ratio

Figure 12: Industry Average - Total Capital Ratio

Table 7 reports the two years of forecast data related to the Commercial Bank of Ceylon and the Banking Industry's Total Capital Adequacy. As apparent from the above table, the Commercial Bank of Ceylon exhibits a value of 16.48 for the year 2019 as the forecast value. Under the 95% confidence level, the low and high values are disclosed to be 14.30 and 18.66, respectively.

When it comes to the Banking Industry, the forecast value is obvious as 1.28 for the year 2019. At 95% confidence level, low and high values are shown as 0.67 and 1.90, respectively. As proved from table 7, Total Capital Adequacy of CBC for the year 2020 shows 16.81 as the forecast value. At 95% confidence level, there is a possibility of variation in the Total Capital Adequacy of CBC from 14.63 to 19.00. In the case of Banking Industry, the forecast value is 16.10, and it varies between 14.69 to 17.52. As mentioned above, the forecast results signal that the Commercial Bank of Ceylon's Capital Adequacy Ratio as proxied by Total Capital Ratio is on par with that of the Banking Industry for 2019 and 2020.

Determining the Aptness of the Ohlson's Model via Residuals and Mean Absolute Percentage Error (MAPE)

Table 8: Analysis of Residuals

Year	Metrics	Commercial Bank of Ceylon PLC				Banking Industry			
		Actual	Forecast	Residuals	MAPE	Actual	Forecast	Residuals	MAPE
2019	ROA	1.27	1.30	(0.03)	2.36	0.9	1.28	(0.38)	42.22
	ROE	13.54	17.48	(3.94)	29.09	10.3	15.70	(5.40)	52.42
	NIM	3.51	1.57	1.94	55.27	3.60	3.50	0.10	2.77
	LAR	30.42	24.96	5.46	17.94	31	29.17	1.83	5.90
	CCR	12.30	11.89	0.41	3.33	13	12.84	0.16	1.23
	TCR	16.15	16.48	(0.33)	2.04	16.50	16.13	0.37	2.24
2020	ROA	1.05	1.22	(0.17)	16.19	1	1.26	(0.26)	26
	ROE	11.28	17.39	(6.11)	54.16	11.40	15.45	(4.05)	35.52
	NIM	3.17	1	2.17	68.45	3.10	3.40	(0.30)	9.67
	LAR	44.99	24.14	20.85	46.34	37.30	28.31	8.99	24.10
	CCR	13.22	11.87	1.35	10.21	13.0	12.65	0.35	2.69
	TCR	16.82	16.81	0.01	0.05	16.5	16.10	0.4	2.42

Table 8 reveals the actual values, forecasts, forecast errors, and the Mean Absolute Percentage Error (MAPE) of the performance metrics for the Commercial Bank of Ceylon PLC and the Banking Industry for the years 2019 and 2020. The difference between the observed value (Yt) and the predicted value (Ft) is called the forecast error or the residual. The errors measure how closely the model fits the actual data at each point. A perfect fit

would lead to residuals of 0 each time. The table exemplifies the residuals close to 0 for the metrics named TCR and CCR. It is signaling that the model is robust at forecasting the variables mentioned above. The forecast errors were significantly deviating from 0 for the variables named ROA, ROE, NIM, and LAR. Therefore, the model is considered not to provide the best fit for these variables. This implication is reaffirmed by calculating the Mean Absolute Percentage Error (MAPE). It is irresponsible to set arbitrary forecasting performance targets without the context of the forecastability of the data. Further, there is no hard and fast rule on what value of MAPE should be the cause for concern. Even though it is preferable to set +/- 10% error term as threshold. The firm with the lowest error probably has the data that is easiest to forecast.

5. CONCLUSION AND DIRECTIONS FOR FUTURE RESEARCHES

Conclusion

Financial performance is crucial to almost every bank to remain well in the industry. It comprises a wide range of dimensions, namely Capital Adequacy, Assets Quality, Profitability, and Liquidity. Forecasting data plays a crucial role in defining the way the banks are functioning and are of utmost importance to the current and prospective investors. Commercial Bank of Ceylon PLC is no exception to it. Its development determines the growth of the Banking Industry of the country. The Commercial Bank of Ceylon PLC is the largest private bank in Sri Lanka, providing a substantial contribution to the Sri Lankan economy. It is crucial to predict CBC's performance and the entire industry since investors can use that information to make prudent investment decisions.

As it is evident from the forecast results, the CBC remains well above the industry in terms of profitability as defined by ROE and ROA except for the point forecast value of ROA, which was comparatively low in the year 2020. In terms of Net Interest Margin, the banking industry remains well above the Commercial Bank of Ceylon PLC. NIM's point forecast values were recognized to be lower than the industry average in both years, 2019 and 2020. It is signaling that attention has to be paid by the Board of Commercial Bank PLC to boost the NIM since if the downward pattern continues, it would be detrimental to their success. Commercial Bank of Ceylon PLC's liquidity ratio remains well below the industry average, and no substantial variations were observed from 2019 to 2020.

In terms of Capital Adequacy as proxied by Tier I, Commercial Bank of Ceylon PLC remains below the Banking Industry. However, the Industry's Capital Adequacy ratio defined by Tier II is superior to that of the Commercial Bank of Ceylon PLC in 2019 and 2020. Overall, it can be

concluded that the Commercial Bank PLC is on track with the industry norms except in areas, especially NIM, Liquidity, and Capital Adequacy Ratio as proxied by Tier I, where significant improvements are needed to bring their performance on track.

The investors can decide by observing and depending on these results because the CBC has remained at a considerable profit level. On the other hand, as a single organization, the CBC has the profitability performance above the industry most of the time; regulators can increase the industry's performance by making the other banks encourage looking at the CBC. To stimulate the industry's liquidity position, the CBC should try to increase current assets via recovery of the loan and advances, reduce the investment in non-current assets, and reduce short-term borrowings.

The predictive effectiveness of Ohlson's model tested using MAPE reveals that the model is best in forecasting the variables, especially CCR and TCR since they have the MAPE values, which are found to be less than 10%. According to Lewis (1982), MAPE value of < 10 signaling highly accurate forecasting followed by 10 to 20 - Good forecasting; 20 to 50 - Reasonable forecasting; and > 50 - Inaccurate forecasting. The model inaccurately forecasts the ROE for the Banking Industry and the Commercial Bank of Ceylon PLC in 2019 and 2020 respectively, and NIM for the Commercial Bank of Ceylon for 2019 and 2020.

Directions for Future Researches

1. Since the research is a comparative study involving the performance metrics of Commercial Bank of Ceylon PLC against the industry average, findings would not assist the broader stakeholders.

2. There is a notion that past performance is not indicative of future results. It implies that forecast information might not reflect the actual picture of the Commercial Bank of Ceylon PLC and the Banking industry. Therefore, future researchers can take the study to the next level by broadening the techniques from the model used in the study to predict performance. Technical analysis could be one such technique, among others.

3. The study has utilized only six performance indicators of Commercial Bank of Ceylon PLC and compared them with the industry average. Therefore, future researchers could bring forward this idea by incorporating more variables into the study to get to a more analytic ground of performance.

4. As the study is a positivist approach to predicting performance, the interpretive approach can substantially shape the results since corporate performance is a composite term that encompasses financial and non-financial performance.

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DETERMINANTS OF CUSTOMER SATISFACTION ON HEALTH INSURANCE IN SRI LANKA

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ABSTRACT

Customer satisfaction has become a major consideration in determining the rapid growth in the insurance business. This study emphasizes factors affecting customer satisfaction on health insurance, awareness of consumers about health insurance concept and market, and consumer perceptions about health insurance providers. The data was collected through a structured questionnaire distributed among people who have health insurance policies. The 152 responses were collected via a convenient sampling method. The analysis showed that lifestyle issues, customer awareness, and type of policy significantly impact customer satisfaction with health insurance. Insurance company claim settlement showed a moderate positive insignificant relationship with customer satisfaction. Lifestyle issues, customer awareness, and type of policy show a moderate positive significant relationship with customer satisfaction. People are willing to engage with insurance companies who are maintaining their brand name by doing CSR activities. The slow growth in general insurance due to the contraction in health insurance and the volatility of the growth in industry. Therefore, understanding the factors of the customer satisfaction on health insurance policies within Sri Lanka is important: due to limited number of studies regarding this. Further health insurance companies can consider lifestyle issues, customer

awareness, and type of policy to improve the sales of the company going forward to enhance the market share in the industry.

Keywords – Health Insurance, Customer Satisfaction, Social Factors, Insurance

1. INTRODUCTION

Customer satisfaction can be defined as the number of customers who have experienced a company, its products, or its services (ratings) exceeding specific satisfaction goals, or the percentage of total customers. This is important for businesses, especially insurance businesses. Insurance plays an important role in the economic development process (Vijay & Krishnaveni, 2018). The insurance sector in Sri Lanka consists of 27 insurance companies, 67 insurance brokerage firms and 16 loss adjusters who are allowed to carry on insurance business under the regulation of insurance act No. 43 of 2000. Out of those insurers, general insurance or non-life insurance policies cover payments based on the loss incurred by any financial event including motor, health, travel, and homeowner policies. Health insurance was first introduced by Sri Lanka Insurance Corporation in the late 1960s as a proposal for surgery and hospitalization expenses. Present context, 12 general insurance companies have introduced health insurance policies for both illness and injury to society.

The government of Sri Lanka's contribution to the total health expenditure has increased by 9.8% compared to the previous year of 2018, Although, insurance schemes contribute to health expenditure. It was smaller than the government curative. However, most people are not willing to get private health insurance policies (Karunaratna, Ranasinghe, Chandraratne, & Silva, 2019). This took place due to the free health service provided by the government of Sri Lanka. This study is focused on the health insurance market in the general insurance industry. Suggesting that the insurance industry and other service industries are more concerned with customer satisfaction and would be more willing to retain customers than the manufacturing industry.

Customer satisfaction has been a key factor in determining the exponential growth of the service sector. The researcher emphasizes factors affecting customer satisfaction on health insurance, awareness of consumers about health insurance concept and market, and consumer perceptions about health insurance providers. This study will help insurance companies operating in the health insurance sector to improve the quality of their services and will help state-owned companies to introduce a variety of policy options based on customer demand, as private insurance companies have already implemented.

Further, it is valuable insight and a more reliable guide for policymakers and investors such as government agencies and other stakeholders such as shareholders and employers to monitor the factors affecting customer satisfaction on health insurance in Sri Lanka.

Public sector health services are free or nearly free to the population through the network of government hospitals ((Pallegedara & Grimm, 2017). Therefore, most people are not eager to have health insurance policies. However, government expenditure on health services has increased gradually in the past 03 years to 1.48%, 1.52%, and 1.63% respectively as a percentage of GDP. Therefore, in the last five years, the growth of the health insurance sector can be seen as a fluctuation as it increased and decreased; 12.39%, in 2015, 17.60% in 2016, 45.96% in 2017, -3.33 in 2018, and 17.7% in 2019. (KPMG, 2018) said that one other reason for slow growth in general insurance is the contraction in health insurance. The high cost of the health insurance business is a challenge to all insurance companies in Sri Lanka with a high-net-worth ratio (EconomyNext, 2019). Since the marketing cost and efforts required to retain the existing customer will be less (Vijay & Krishnaveni, 2018), It is important to retain the existing customer rather than attract new customers in the health insurance business. Therefore, It becomes important to understand the factors affecting customer satisfaction on health insurance policies within Sri Lanka. Based on the literature reviews, there is a limited number of scholarly publications on this topic based in the Sri Lankan context. The main objective of this paper is to examine the factors that affect customer satisfaction with health insurance in Sri Lanka. The objectives have been formulated; which are as follows,

- Identify and examine existing customer satisfaction levels on health insurance in the general insurance relationship
- Identify and examine the relationship between social factors which are lifestyle issues, customer awrenesss and customer satisfaction.
- Identify and examine the relationship between insurance factors which are the type of policy, Insurance company, Claim settlement and customer satisfaction.

This study looks into the factors that influence customer satisfaction with health insurance in Sri Lanka's general insurance business. There is a lot of room for more research. Customer satisfaction with health insurance coverage is influenced by a variety of factors. There are a few limitations to this study that you should be aware of. General insurance businesses were excluded from this analysis. Furthermore, the macro components are not considered in a way that future academics can test them.

2. LITERATURE REVIEW

Customer Satisfaction

(Yi, 1990) stated that the controversy over definitions is still a matter of debate about whether satisfaction is a process or a return. More precisely, the definition of customer satisfaction emphasizes the evaluation process (Fornell, 1992). (Biswamohan & & Bidhubhusan, 2012) stated that customers are asking for faster and better services from service providers. Insurance companies need to improve quality, transparency, and integrity to gain and retain customers over long distances to stay competitive. At present, organizations are becoming increasingly aware of the importance of being close to their customers (Biswamohan & Bidhubhusan, 2012).Thus, different customers will express different levels of satisfaction for meeting the same experience or service (Ueltschy, FRSC, Eggert, & Bindl, 2007).

Health Insurance

(Anita, 2008) said that health is a human right which must ensure accessibility and affordability. The cost of medical treatment is unaffordable to the average person. Health insurance is a mandatory component of insurance plans in countries like the United States of America, Canada, Australia, New Zealand, The United Kingdom, Germany, France, and the Scandinavian countries (Varghese, 2013). In Sri Lanka, the concept is so far behind and is rarely followed. The knowledge of insurance literacy is poor and at low levels among millennials especially related to health insurance (Navaratne, 2021). People can buy insurance to protect themselves financially, but they can be very healthy because they care more about their health. This phenomenon, known as the positive selection, balances adverse choices and allows an insurance company to accumulate risks (Wagstaff, 2007). The degree of adverse choices in health and other insurance is often minimal or non-existent (Finkelstein & Poterba, 2004).

Determinants of customer satisfaction on health insurance

Lifestyle Issues

Lifestyle is commonly referred to as the way people live and spend their time and money (Kaynak & Kara, 2001). Developed countries, especially the United States and European countries, have established health insurance plans that cover the medical expenses of their citizens. However, compared to the worldwide health care expenditure patterns, it gives a picture of the domestic contribution to cover health care expenditure in Sri Lanka (VARGHESE & KOSHY, 2013). Lifestyle is based on attitudes on people's thinking, beliefs, and attitudes toward society. The marketing managers analyze the lifestyle of consumers in the target market to improve their sales volume (Zhonget al., 2019). lifestyle is based on people's thinking, beliefs, and attitudes towards society. These have a significant impact on people's decisions. Therefore,

marketing managers analyzing the lifestyle of consumers in a targeted market is an important aspect of improving their sales volume for successful product marketing (Camilleri & Mark, 2017).

Customer awareness

(Shet, Qadiri, Saldanha, Kanali, & Sharma, 2019) pointed out that many people are unaware of health insurance. (Deepa et al., 2018) revealed that some form of health insurance should cover everyone. Millions of Americans are uninsured due to high premium costs. The health insurance sector in Sri Lanka has grown significantly by 17.07% in recent years due to the introduction of new insurance products by the government for children and employees (Insurance Regulatory Commission of Sri Lanka, 2019). The reason for the growth of health insurance is that it guarantees good medical care from trusted health care institutions. Many companies offer health insurance and various health insurance plans, but it is difficult to decide which plan to go for. Therefore, the company advertises the policy to make the customer properly aware of the policy and to offer the lowest premium and best returns (Ishida et al., 2014).

Sum Assured

The Sum Assured for health insurance is the amount paid to the insured in the event of an unforeseen situation such as medical needs. This amount covers the cost of medical treatment or hospitalization (Preckova, 2011). According to (Diagne et al., 2016), the insured is liable for any insurance loss up to the sum insured, even if the sum insured is less than the value of the insured property at the time of the insured event. (Berry , 1995) pointed out that because of the amount of money usually invested in an insurance policy, customers expect a long-term relationship with their insurance companies and relearned agents to minimize risks and uncertainty.

Type of Policy

Negi & Kaur (2010) stated that customers were satisfied with their insurance policies, but they are not satisfied with the quality of the agents. John (2020) said consumers make choices when they shop for health insurance. If a customer buys from the government market or an insurance broker, they can choose from organized health plans based on the level of benefits they offer. (Vijay & Krishnaveni, 2018) have indicated that satisfaction levels are high among group insurance policyholders and low among individual policyholders in their study.

Insurance Company

Policyholder satisfaction is a key factor in renewing policies and choosing companies (Vijay & Krishnaveni, 2018) Customers are selecting insurance companies based on the brand name of the company. Branding is an important part of marketing and is considered a key factor in selling products and

services to brand-conscious consumers (Iglesias et al., 2011). A company that can create a brand preference among its customers enjoys a significant competitive advantage over its competitors. Therefore, there is a positive relationship between customer satisfaction and insurance companies (Ulmerich, 2021).

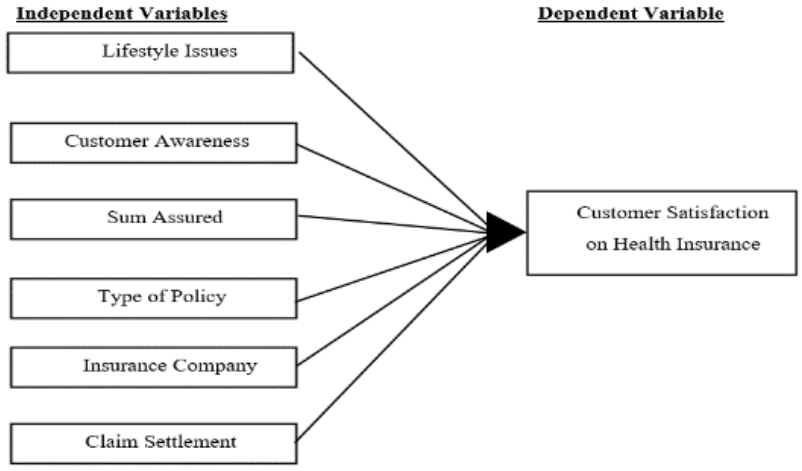
Claim Settlement

Claim settlement is one of the most important factors influencing the satisfaction of health insurance customers (Kuhlemeyer & Allen, 1999). Awasthi (2005) has observed that the internal claims settlement system of insurance companies is not customer-friendly, transparent, and expeditious. (Akshay, 2005) pointed out that policyholders expect fairness in the assessment of claims. Ramakrishna (2005) stated that adequate and clear information about the claims settlement process, transactions, claims processing timelines, and reasons for disclaimer claims should be provided to consumers. Furthermore, if a claim is denied or partially denied, the customer must be given clear and written reasons.

3. METHODOLOGY

Conceptual Framework

Patel (2008) said that a popular method for measuring customer satisfaction is the Customer Satisfaction Score (CSAT). According to such methods Lifestyle Change, Customer Awareness, Sum Assured, Type of Policy, Insurance Company, and claim settlements are the Six Independent Variables and Customer Satisfaction on Health Insurance is the Dependent Variable. Considering relationship research variables, the following conceptual framework is suggested for this study. The factors were filtered and selected in previous scholarly articles.



Source: Author Created (2021)

Figure 01: Conceptual Framework

Hypotheses Development

Social Exchange Theory (SET) which was developed by (Homans, 1958) to explain the factors that contribute to the relationship between two or more parties was used for this research to analyze factors that influence customer satisfaction on health insurance in Sri Lanka. According to that, the following hypothesis can be developed.

H1: There is a positive significant relationship between a lifestyle change and customer satisfaction

H2: There is a positive significant relationship between customer awareness and customer satisfaction

H3: There is a positive significant relationship between sum assured and customer satisfaction.

H4: There is a positive significant relationship between Type of policy and customer satisfaction.

H5: There is a positive significant relationship between Insurance companies and customer satisfaction.

H6: There is a positive significant relationship between Claim settlement and customer satisfaction.

Table 01: Operationalization of the variables

Variables	Sources
Customer Satisfaction	(Varghese, 2013)
Lifestyle Issues	(Varghese, 2013)
Customer Awareness	(Varghese, 2013)
Sum Assured	(Krishnaveni, 2018: Varghese, 2013)
Type of Policy	(Varghese, 2013)
Insurance Company	(Varghese, 2013)
Claim Settlement	(Varghese, 2013)

Source: Author (2022)

The five-point Likert scale is used to measure the dependent and all independent variables which are helped to measure positive or negative responses to statements such as strongly disagree, disagree, neutral, agree, and strongly agree. The study used a quantitative method. Research is explanatory research which may be considered what is currently known about the factors that affect customer satisfaction and the level of such factors affecting customer satisfaction. This can be included by gathering all relevant information and compiling it together in an accessible format that has not been available previously and may reveal gaps in information, leading to

additional studies in the future. Considering the research approach, this study is based on a deductive approach and positivist philosophies as; Believe that researcher participation is very low. The researcher used questionnaires (printed & online) to collect data from a large population.

The population of this research consists of the people who purchased health insurance policies buying in the top 13 general insurance companies available in Sri Lanka. The convenience sampling method is used to collect data. Data is collected from the respondent who is easily accessible to the researcher in Sri Lanka (Bordens & Abbott, 2002). The sample size of this research is 160 policyholders, which was decided based on a previous study by (Assem et al., 2016) done to identify Policyholders' Satisfaction with Health Insurance. Here, the researcher collected primary data from the questionnaire. The questionnaire is divided into two parts. The first part attempted to collect the respondent's demographic data and the second part of the questionnaire included independent and dependent variables. This research is conducted with experienced customers in the insurance industry. The survey was conducted using a structured quantitative questionnaire with studying the model questionnaire correctly used in the insurance industry.

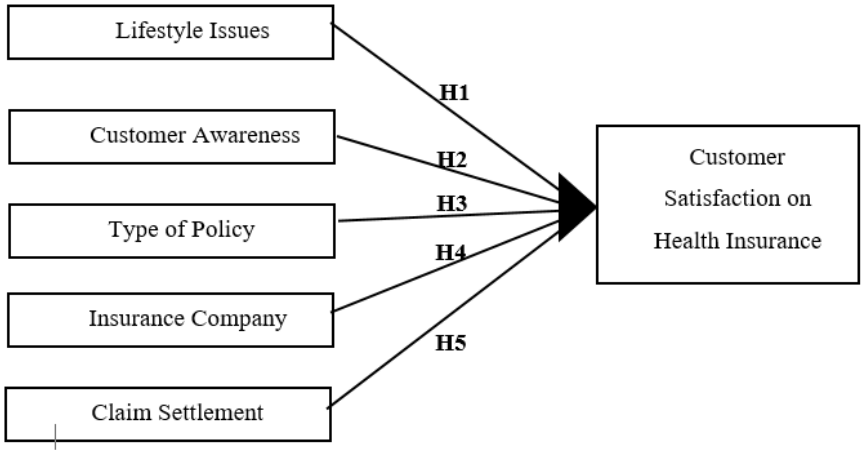
Pilot Survey

The researcher has identified that the questions related to the **Sum Assured** variable are not realized the minimum requirements of the reliability test and validity test. That Cronbach's alpha value is a minus figure and Kaiser-Meyer-Olkin's measure of sampling adequacy is less than 0.5 and it is not significant under the P-value of 5%. Due to that, the entire variable which is Sum Assured was removed from the model and the following Refined conceptual framework is given in figure 02.

Table 02: Pilot Test Results

Variable	Number of Items	Cronbach's Alpha Value	Kaiser-Meyer-Olkin measure of Sampling	Bartlett's Test of Sphericity
Customer	6	0.855	0.772	0.000
Lifestyle Issues	6	0.863	0.777	0.000
Customer	6	0.829	0.779	0.000
Sum Assured	5	-0.521	0.387	0.015
Type of Policy	7	0.821	0.725	0.000
Insurance	5	0.659	0.727	0.000
Claim	6	0.559	0.601	0.002

Source: Author Created (2021)



Source: Author Created

Figure 02: Refined Conceptual Framework

Data Analysis Method

Descriptive Statistical Techniques

Collected data can be summarized or quantitatively displayed using descriptive statistics. It is considered to be the mean (to measure the central tendency for each variable) and the standard deviation. Mean is defined as the arithmetic mean of all numbers. Standard deviation can be defined as the square root of the variance (Donald, 2015).

Multiple Regression Analysis

In statistics, regression analysis involves some techniques that can be used to analyze several variables, focusing on the relationship between a dependent variable and one or more independent variables. Regression analysis helps to understand how the Average value of the dependent variable as an independent variable change (Multiple Regression: A Practical Introduction, 2016). In this research, the researcher tries to identify what kind of relationship is held between the dependent variable and independent variables.

Correlation Analysis

Correlation measures the strength and linear relationship between two variables and assumes that the data are normally distributed. The Correlation coefficient (r) ranges from +1 to -1. A correlation of +1 means that there is a perfect positive linear relationship between variables and -1 means that there is a perfect negative linear relationship between variables.

4. Results and Discussion

The sample size of this research was one hundred 150 respondents. 160 questionnaires were distributed. But eight questionnaires were excluded 36 from the study since those questionnaires were unable to be considered for analysis due to not being properly answered. The respondent rate is 95 %.

Descriptive Statistics

Demographic variables Description

In gender, 43 % of respondents are male, and 56.6 % of respondents are female from 152 total respondents. By age, most people with health insurance coverages are between the ages of 31-40.it is 44.7%. According to marital status, 71.1% of the total samples are married and 28.9% are unmarried. When considering the education qualifications of the respondents, degree holders, Postgraduate and professional degree holders have more health insurance policies rather than below graduated people. In the Employment description, most health insurance policyholders work for private companies. It is 53.3%. 30.3% in government institutions and 3.9% as practicing professionals. When considering the Income Level, the majority of respondents (49.3%) belong to the income level of Rs. 50,001- Rs. 100,000. In premium payment, 60.5% of people are paying a premium monthly wise.

Data Analysis

Table 03: Reliability of Variables

Variables	No of Items	Cronbach's Alpha	Kaiser- Meyer-Olkin measures of sampling adequacy	Bartlett's test of sphericity
Customer Satisfaction	6	0.861	0.848	0.000
Lifestyle Issues	6	0.816	0.795	0.000
Customer Awareness	6	0.928	0.909	0.000
Type of Policy	6	0.855	0.855	0.000
Insurance Company	5	0.684	0.702	0.000
Claim Settlement	6	0.727	0.742	0.000

Source: (Survey Data, 2021)

Cronbach's Alpha and KMO or Kaiser- Meyer- Olkin statistical values should be greater than 0.6 to be acceptable. According to the table, due to all values being greater than 0.7, the reliable and validity test is passing and good for the model. For that, 35 questions were developed based on the dimensions of customer satisfaction.

Descriptive Analysis

Descriptive statistics usually involve measures of central tendency (mean, median and mode) and measures of dispersion (variance, standard deviation, etc.). The mean value is between 3.68-5.00 and the standard deviation is closer to 0 it is at a high satisfactory level. The following indicators are at a level out of 35 indicators showing mean values of 4.09, 4.21, 3.78, 4.01, 3.73, and 3.70 and Standard Deviation as 1.012, 0.743, 0.985, 0.857, 1.036, and 0.755 respectively.

Customer satisfaction is the most important factor in the growth of insurance companies, the cost of healthcare is increasing, and awareness of the benefits that health insurance covers. The Critical Illness cover policies are useful, Brand name is an important factor to select a health insurance company, and the settlement of claims by this insurance company is satisfactory.

Bivariate Analysis

Table 04: Results of t-test on Customer Satisfaction

Gender	Mean	Standard deviation	t- value	Significance
Male	22.80	4.476	0.001	0.791
Female	22.80	4.508	0.001	

Source: (Survey data, 2021)

According to Table 04, male and female respondents have taken relatively the same value (M=22.80). It describes that there is not a significant difference between these two groups on customer satisfaction (t= 0.001, P<0.05).

Table 05: Results of ANOVA on Customer Satisfaction

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	103.405	4	25.851	1.298	.273
Within Groups	2926.674	147	19.909		
Total	3030.079	151			

Source: (Survey data, 2021)

The result of the ANOVA test reveals the F value as 1.298. It is greater than 0.05 (p> 0.05). Therefore, there is no difference between the age group in the customer satisfaction of the respondents.

Correlation Analysis

Table 06: Results of Regression Analysis and Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlation
		B	Std. Error	Beta			
1	(Constant)	3.736	2.479		1.507	.134	
	LI	.216	.101	.171	2.149	.033	.321**
	CA	.194	.069	.210	2.832	.005	.281**
	TOP	.213	.092	.202	2.304	.023	.393**
	IC	.150	.127	.111	1.180	.240	.326**
	CLS	.083	.103	.074	.808	.420	.311**

a. Dependent Variable: CS

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

Source: (Survey data, 2021)

Regression analysis is an analysis, done to trace the mutual influence of variables on one another (Sekaran, 2016). Correlation coefficients close to 0 indicate a very weak linear relationship and values between -1.00 and 1.00 indicate a perfect linear relationship (Schmuller, 2015).

Full Model Testing

Table 07: Model Testing

Adj. R^2	F value	Sig. F
0.230	9.877	0.000

Source: (Survey data, 2021)

Here, $R2$ value indicates that predictor variables for the test can explain 23% variation in Customer Satisfaction and the F value indicates that the assumption of the linear relationship between the independent and dependent variables is not violated.

Table 08: Tolerance & VIF Level

Model		Collinearity Statistics	
		Tolerance	**VIF**
1	LI	.838	1.194
	CA	.930	1.075
	TOP	.682	1.465
	IC	.554	1.804
	CLS	.594	1.682
a. Dependent Variable: CS			

Source: (Survey data, 2021)

Due to all Tolerance values being more than 0.2 and VIF values being less than 5 of all variables, there are no multicollinearity issues among independent variables.

Table 07: Model Summary

Model	R	R Square	Adjusted R Square	Change Statistics					Durbin-Watson
				R Square Change	F Change	df1	df2	Sig. F Change	
1	.505[a]	.255	.230	.255	9.877	5	144	.000	1.840

Source: (Survey Data, 2021)

R square statistics, which is 0.255 with a statistical significance of $p< 0.05$ suggests that 25.5 % of the indicators in customer satisfaction were predicted from the level of lifestyle issues, type of policy, insurance company, customer awareness, and claim settlement.

From the above results, the following regression equation can be derived.

$$\hat{Y}= 3.736 + (0\ .216)X1 + (0.194)X2 + (0.213)X3 + (0.150)X4 + (0.083)X5$$

Where,

$\hat{Y}$ = Customer Satisfaction

$X1$ = Lifestyle Issues

$X2$ = Customer Awareness

$X3$ = Type of Policy

$X4$ = Insurance Company

$X5$= Claim Settlement

Based on the analysis the hypotheses summary is given below.

Table 08: Summary of the Hypotheses Testing

Hypothesis	Relationship
H1: there is a positive significant relationship between a lifestyle change and customer satisfaction	Accepted
H2: there is a positive significant relationship between customer awareness and customer satisfaction	Accepted
H3: there is a positive significant relationship between Type of policy and customer satisfaction.	Accepted
H4: there is a positive significant relationship between Insurance companies and customer satisfaction.	Rejected
H5: there is a positive significant relationship between Claim settlement and customer satisfaction.	Rejected

Source: (Survey data, 2021)

5. DISCUSSION

According to the reliability test done on the questionnaire, the Cronbach's Alpha value on the whole questionnaire was 0.893 and which is higher than 0.7 in Cronbach's Alpha value statistically, the entire questionnaire was correct and reliable. Observing the questionnaire, the researcher has identified that the majority of customers in Sri Lanka prefer to visit Ceylinco General insurance PLC to fulfil their health insurance needs. According to the regression analysis, lifestyle issues, consumer awareness, and type of policy have a significant relationship with consumer satisfaction, and claim settlement, the insurance company have no significant relationship with consumer satisfaction.

Conclusion

The specific objective researcher has identified the most significant factors as lifestyle issues, customer awareness, type of policy, insurance company, and claim settlement which are affecting customer satisfaction in the health insurance industry in Sri Lanka. Literature Review provided a basic idea regarding the theoretical background for the research and previous research perceptions related to independent variables. Regression analysis and bivariate analysis were used to describe the data. The correlation coefficient

between lifestyle issues and customer satisfaction is r=0.321 with a significant value of 0.005 or a 95 % confidence level. The result indicated customer awareness was the most important function to consider as basically for customer satisfaction. The researcher tried to enhance customer satisfaction through lifestyle change, customer awareness, Type of policy, Insurance companies and Claim settlement. Due to the companies having to influence the satisfaction of customers most insurance companies in Sri Lanka are engaged with PR practices. lifestyle issue has a significant relationship with customer satisfaction as it is significant at 0.033. As a mean reflected 4.07 for lifestyle issues; it is in the moderate level. Customer awareness has a significant relationship with customer satisfaction as it is significant at 0.005. As mean reflected 3.71 for awareness. It is at a moderate level. The type of Policy has significantly influenced customer satisfaction. There are six indicators relevant to the type of policy. All those indicators are in the range of 3.68- 5.0. Insurance company in the health insurance industry has not significantly affected customer satisfaction, but it is in a good position as Cronbach's alpha value reflected an amount of above 0.7. the reason for not significant may be the indicators which are company come up with attractive schemes, insurance company improve the health care of the country, relevant company is in the best, company is selected by seeing an advertisement are not affected to customer satisfaction. claim settlement also is not significantly reflected in customer satisfaction. 6 indicators relating to the claim settlement; earlier claim settlement experienced is influenced to renew the policy, irrespective claims had been done or not continuing insurance policy, as satisfactory claim settlement is done by the company, within last two years claims had been made, within 7-day claims are settled, claims easily can be obtained may be not affected to customer satisfaction.

Recommendations

It is recommended that the health insurance providers should thoroughly think about the society, unaided and aided awareness, events, sponsorships, brand association, loyalty, expressed opinions, cost savings, promised services, etc. If they fail to maintain a good and ethical relationship with the public, it becomes a service failure in the health insurance industry, ultimately it will influence the customer satisfaction intention inversely.

Implications of Research

- Future researchers could be able to increase the sample size, it will help to cover more samples of the population than this research and it can collect more information than this research.

- Here researcher examined the relationship between social and insurance factors towards customer satisfaction in the health insurance industry. Future researchers can examine the relationship

between service quality and customer satisfaction or customer loyalty and customer satisfaction instead of social & insurance factors towards customer satisfaction.

- The study can be further extended by researching the various challenges or problems faced by the policyholders, the factors that affected the ethical risks of their purchasing decisions, and the adverse choice associated with health insurance policies.

- This research has limited to the general insurance industry, but future researchers can conduct also it for the life insurance industry, for banking industry and Fast-Moving Consumer Goods sector (FMCG) etc.

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FACTORS AFFECTING TO THE UNETHICAL BEHAVIOR OF INSURANCE SALESPEOPLE: EVIDENCE FROM SRI LANKAN INSURANCE INDUSTRY

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ABSTRACT

There are limited studies on the unethical behaviour of insurance salespeople in Sri Lanka that focused on organizational factors that affect for unethical behaviour of insurance salespeople. The Ethical Impact Theory (EIT) and the Theory of Bounded Rationality theory used as a unique feature in the study. The sample of 330 insurance salespeople confirmed from the top 05 life and top 05 general insurance companies in Sri Lanka based on market capitalization and simple random sampling method. The data collected via questionnaires. The Researcher used income, benefits, job satisfaction, inability to identify customer needs, failure to fulfil responsibilities, sales target, coaching by the supervisor, and ethical training as independent variables. The data analysed using correlation and multiple regression analysis. The study revealed that income, benefits, job satisfaction, failure to fulfil responsibilities, sales target and coaching by supervisors have a significant positive relationship with the unethical behaviour of insurance salespeople whereas job satisfaction indicated a strong positive relationship. Study concludes that there is a negative impact on coaching by supervisor and unethical behaviour of salespeople in the Sri Lankan Insurance industry. The study is limited only to investigating the reasons for unethical behaviour. Further scholars, can study the consequences of these

unethical behaviours and can conduct in-depth interviews to find more insights.

Keywords – Life Insurance, Sales Target, Operational Risk, Job Satisfaction, Unethical Behavior

1. INTRODUCTION

Insurance is a risk management tool. According to that Insurance can be defined as a legal contract that transfers risk from policyholders to an insurance company. In the Sri Lankan insurance industry, there are mainly two types of insurance namely, Life insurance and General insurance. The main source of income for the insurance service business is customer premiums, insurance agents play an important role in collecting that premium. This research has been based on the factors affecting the unethical behaviour of salespeople in the Sri Lankan insurance industry.

Need and Importance of the study

Customer demand for the insurance industry in Sri Lanka is very low compared to other countries in South Asia. The misconduct of insurance agents is a widely talking topic in these days. Sri Lanka is a developing country. Compared with other South Asian countries, Sri Lankan insurance penetration ratio is very low. Industry experts point out that miss-selling is a big problem there, it can be attributed to the lower penetration.

According to an industry expert, the penetration ratio of the insurance industry can be increased by enhancing the trust and improving the level of perceived skill of sales executives. Although it's important to understand the unethical behaviour of salespeople, only a few studies have empirically tested the determinants of unethical behaviour of insurance salespeople. Most researchers have studied only life insurance agents, according to previous researchers, none of them has analysed the unethical behaviour of the life and general insurance salespeople in Sri Lanka. Thus, this study will help Sri Lankan insurance companies to identify the frauds made by insurance agents and also to know about what are the factors affecting the unethical behaviour of insurance agents. This research study provides insurance companies with guidance on how to avoid such unethical behaviours of the insurance salespeople.

Research Problem

Sales occupation is not existence measured as an occupation by numerous persons owing to the wicked involvement although execution of certain connections with an unprincipled sales assistant. It designates that the subject

of integrity is also associated with the sales occupation (Adnan et al., 2013). As per Talwar & Ali (2016), the largest question for any insurance company is the loss-selling of policies to the customers causing in very high causation of policies and very high employee turnover. Prevailing situation according to (Talwar & Ali, 2016) Sri Lanka insurance industry, has the largest policy lapse ratio due to overselling and it identifies the industry's sales production to the clients. These deceptive and misdirecting deals practice by a portion of the salespersons have acquired protection experts and industry a terrible name among individuals. Because of that, more exertion was needed to expand the insurance penetration rate. In this way, it was critical to ensure the individual sales rep's standing just the business notoriety. What's more, the exploitative practices by salespersons cause issues inside deals associations and with other business capacities, harm client connections, decline client maintenance and diminish deals (Somerville et al., 1981); 2005 – 2015 Sandi Kruise Insurance Training. In 2019, insurance penetration, as measured by insurance premiums as a proportion of GDP, was 1.31 percent. Although insurance penetration improved somewhat in 2019 from 1.26 percent in 2018, it remains low in comparison to other Asian countries. In 2019, penetration of the long-term insurance business was 0.59 percent (2018: 0.56 percent), while penetration of the general insurance business was 0.72 percent (2018: 0.70 percent), indicating a minor increase in both long-term and general insurance industries compared to 2018 (IRCSL,2019). University of Kelaniya Head of Department of Marketing Management Dr. Ajith Medis said that the "penetration rates of both life insurance and general insurance can be further improved by increasing the awareness of the people about the insurance industry and by enhancing the trust as well as the perception of the skill levels of sales executives" (Life Insurance Advisors Hold National Forum, 2019).

DG Damayanthi Fernando said that when it comes to insurance salespersons, there is a problem with professionalism and the level of knowledge they have about certain products. Investigations of claims from policyholders in the settlement of claims show that some salespersons do not have proper sales procedures. And also salespeople represent insurers and brokers and therefore they need to acquire businesses to get a commission on behalf of their principals. Therefore, sometimes it is based on commissions rather than being customer-centric. Products are usually sold not to suit customer needs but to meet their business goals or targets ('Daily News', 2020).

According to the investigatory review of the insurance regulatory commission of Sri Lanka as shown in the figure below, the number of annual referrals fluctuated in the past 5 years Graphics.

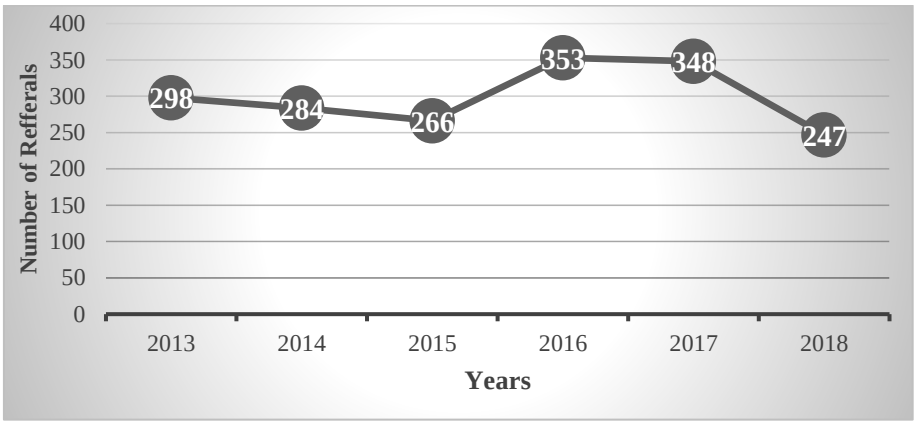

Figure 1: Number of Annual Referrals

Source: IRCSL Annual Report, 2018

This figure 1 as shown the number of matters referred to the commission in the period under review (247) has decreased compared to the previous year (348). These referrals are about various disputes between the claimant and the insurer regarding the settlement of claims and complaints related to market behavior insurance companies, brokers and agents. There were referrals about unfair termination, related to the academic qualifications of the agent.

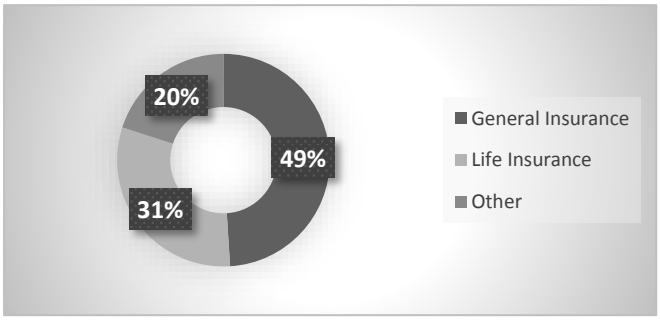

Figure 1: Classification of Total Matters Referred to in the Year 2018

Source: IRCSL Annual Report, 2018

There are other complaints (20%) related to the unethical behaviour of the agent, such as providing information, paying misappropriating premiums with sales staff, fraud, misrepresentation, non-payment claims, unfair termination, backlisting and related to educational qualifications of agents and reported several small cases related to the operation method branch office. The analysis of the root cause of the referral shows that one of the main reasons for life insurance claims disputes is the misunderstanding of the wording of the insurance policy and the insufficient explanation provided by the insurers.

Unsatisfied with the amount of the claim for the same reason. (IRCSL Annual report, 2018).

From the above information, studying the unethical behavior of salespeople is very important to the customers and this study helps the insurance industry to identify the factors affecting the unethical behavior of salespeople. Therefore, unethical behavior has become a major issue for Insurance Salespeople in Sri Lanka. It is important to study the unethical behavior of not only life insurance agents but also general insurance agents. Therefore, the research problem of this study is "What are the factors affecting the unethical behavior of salespeople in the Sri Lankan insurance industry.

According to Chandrarathne and Herath (2020), there are five sorts of unethical behavior among life insurance salespeople that damage the company's reputation: providing supervisory roles, sales targets, organizational culture, code of ethics, and rewarding system. These five items were used to assess life insurance salespeople's unethical behavior. (Cheng et al., 2014) described five types of unethical causing factors among insurance salespeople such as given that improper or false information, or deliberately hide information of the product or service, incapability to introduce customer needs, poor consideration towards the concept, skills or information to implementation of accountabilities, failure to achieve responsibilities due to misconduct that caused the insurance company's status.

Unethical retailing behavior is as regarded the most important unethical activity among workers (Bellizzi & Hasty, 2003). According to the hierarchy of shareholder importance, salespeople appear to perceive ethical wrongdoings against customers as being less ethical than contentious acts against competitors or their employer (Román & Munuera, 2005). When dealing with various stakeholders such as clients, contestants, and employees, the sales assistant may act unethically (Chonko & Hunt, 1985).

2. LITERATURE REVIEW

Theoretical Review

According to the study aim, the existence of those factors that affect the behavior of salespeople was not enough for the ethical behavior, it must be communicated to all employees and needed to be adjusted according to the current ethical situation. Therefore, we need to consider all causing factors that affect the unethical behavior of salespersons facing. Following the literature, the researcher was able to identify two theories namely Ethical impact theory and The theory of bounded rationality. (Giacalone & Rosenfeld, 1987) describe that the Ethical Impact Theory (EIT) is a theoretical outline that defines the effects of unethical working behavior on individual employee

well-being. (Job satisfaction and organizational commitment) According to the (Mulki et al., 2008) describe showing that ethical work climate, leadership support for ethics of working environment, ethics codes, ethics training for employees, and professed corporate social responsibility are all connected with positive effects in the workplaces.

The developed hypothesis about the ethical behavior of new salespeople in response to recurring failure and the impact of factors such as customer-oriented reminder and reward structure on this relationship was tested using the Theory of Bounded Rationality (Simon, 1972; Gigerenzer & Goldstein, 1996).

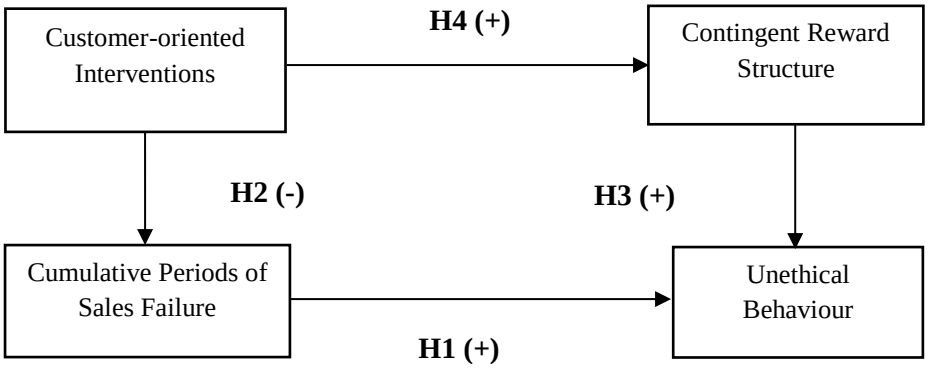

Figure 3- Model relationship and hypothesis

Source: Bolander et al. (2017)

This is somewhat true, according to Bolander et al., (2017), regardless of whether new salespeople are paid for meeting their performance targets. The impact is not just due to the inherent strain and stress that comes with performing poorly, regardless of the compensation structure. As a result, they predict that, even in a non-contingent reward structure, salesmen will engage in more unethical activity after a period of failure. As a result, they stated that in a non-contingent (vs. contingent) compensation structure, repeated periods of failure will lead to higher levels of unethical behavior among inexperienced salespeople.

Empirical Framework

The unethical behavior of salespeople is regarded as an important unethical behavior among employees (Bellizzi & Hasty, 2003; Román & Munuera, 2005). Salespeople frequently work in an unpredictable atmosphere (Roman & Ruiz, 2005). Someone who utilizes illegal or morally reprehensible activity to sell items or acts against society's widely accepted code of ethics is engaging in unethical behavior (Jones 1991; Rest 1986). This research will look into the elements that impact salespeople's unethical behavior.

The insurance sector has a severe problem with selling clients improper products. To maintain the industry's quality, regulators have recommended a variety of regulatory regulations to protect consumers' interests and regulate agents' unethical activity. However, some insurance agents may continue to make incorrect product recommendations, believing that such suggestions are acceptable. The findings suggest that inappropriate product recommendations are highly acceptable when insurance agents experience the handling of sales orientation and sales compensation in the insurance companies. Regulators should therefore be aware that problems with inappropriate product recommendations cannot be ruled out, by regulation alone because the insurer's policies on sales compensation and sales orientation encourage insurance agents to have a positive attitude towards misconduct (Tseng et al., 2016).

Factors influencing the of a Takaful agent have led to ethical issues between them. It is feared that if such ethical issues among Takaful agents do not contain these behaviors that adversely affect the customer, the company and the Takaful industry as a whole, customers will lose confidence and trust in the Takaful industry for good. In addition, the study mentioned that sales target pressure is the most important factor influencing an agent to behave unethically. Past research has shown that leadership in an organization is a critical factor in combating ethical issues among Takaful agents (Rahman et al., 2020).

According to Cheng et al., (2014), there are five categories of unethical behavior among life insurance salespeople.If they are: (1) Incorrect or false product or service descriptions, or deliberately concealed product or service information in the product or service process, (2) Inability to identify customer needs in order to provide appropriate products and services, (3) Lack of concept, knowledge, or skills to implement responsibility, which results in defects in sales or service jobs, (4) Failure to fulfill responsibilities due to conflict of interests, and (5) Misconduct that affects the company reputation.

Rewarding

Organizational rewards, like salaries, commissions, and bonuses, can significantly impact the chance of salespeople participating in unethical sales behavior. (Kurland, 1996; Ross & Robertson, 2003; Trevino 1986). When salespeople are paid on a straight commission basis according to Kurland (1996), they are more likely to engage in unethical activity, to the disadvantage of their clients and the benefit of their business.

In response to their challenge, Chandrarathne & Herath (2020) investigated how the rewarding structure influences salespeople's unethical behavior.

Their findings show that the rewarding structure has a major impact on unethical behavior. To address the rewarding system as a factor influencing unethical behavior, it is necessary to establish a system that compensates salespeople for behaving ethically.

This study data was gathered by Pakistan Telecommunication Company Limited (PTCL) employees through a structured questionnaire on the impact of Islamic Work Ethics (IWEs), Reward System (RS), and Organizational Work Environment (OWE) on Citizenship Behavior of Employees (CBE). The Simple Random Sampling Technique was used to gather data and the sample size for research was employees ranked from executives to general managers working in Lahore.

The construction of the reward system includes basic salary, commissions, health and other benefits, bonuses, holidays and vacations, and all other salaries and rewards. In the insurance industry, the remuneration of direct selling agents is either a mixture of basic salary and commission or a separate commission. Proper communication and a complete reward and evaluation system help improve employee civic behavior and encourage employees to practice professional ethics and a healthy working environment (Abbasi & Rana, 2012).

H1: There is a significant positive relationship between Income and Unethical behavior of Salesperson

H2: There is a significant positive relationship between Benefits and Unethical behavior of Salesperson

Operational Risk

According to Román & Munuera (2005), a salesperson's ethical behavior will increase his or her job happiness. Mainly, because of the previously outlined negative consequences of unethical sales behavior, a firm may expect its salespeople to function ethically, and their study indicated that ethical behavior had an indirect effect on job satisfaction. Román & Munuera (2005) discovered that ethical behavior has an indirect impact on job satisfaction via role conflict, bolstering earlier theoretical reasons and empirical evidence that role conflict has a detrimental impact on job satisfaction.

After selling a product, ethical selling behaviour comprises considering the buyer's needs (for example, by not selling things that buyers do not require). The ethical behavior of salespeople, according to Ingram et al. (2001), reduces role conflict-interceder by at least the amount attributable to the company's and consumers' conflicting expectations.In marketing ethics study, anonymous questionnaires with vignettes have been used to collect data (Singhapakdi et al., 1996). This method can provide greater control over

improper product recommendations that may be difficult to observe. Tseng et al., (2016) used anonymous questionnaires with vignettes to the life insurance agents and found that selling inappropriate products to the customer is a major issue in the life insurance industry.

This article evaluated the impact of role ambiguity (duties and responsibilities), reciprocity norms, and ethical policy on the insurance agent's attitude and intention toward selling insurance to high-risk consumers. According to this study, insurance agents who have had role uncertainty are more inclined to accept questionable practices (such as selling insurance to high-risk customers) than agents who have a clear understanding of their work duties and responsibilities. The researcher used a questionnaire to collect data from full-time life insurance agents and discovered that understanding job tasks and responsibilities between insurance agents and consumers is critical in preventing insurance professionals from selling insurance to high-risk customers (Tseng, 2017).

H3: There is a significant positive relationship between Job satisfaction and Unethical behavior of Salesperson

H4: There is a significant positive relationship between Inability and Unethical behavior of Salesperson

H5: There is a significant positive relationship between Responsibilities and Unethical behavior of Salesperson

Organizational Factors

Chandrarathne & Herath (2020) used 200 insurance salespeople from Sri Lankan life insurance companies to explore the organizational factors influencing unethical sales force behavior in the insurance market. The findings revealed that the supervisory role, as well as sales targets and rewarding systems, are all important predictors of unethical behavior in salespeople. The size of the organization may cause unethical behavior among older salespeople (Cheng et.al., 2014), and unethical sales behavior has nothing to do with the size of the company (Lee & Garrett, 2009). Although some researchers stated that the customer orientation of salespeople's may it is positively correlated with salespeople's behavior, few studies have investigated how sales orientation at the management level encourages employees to engage in unethical selling.

Tseng et.al. (2016) investigated this problem, assuming management sales targets may be a key factor in enhancing insurance agents' positive attitude towards inappropriate product recommendations. Therefore, Tseng et.al. (2016) argued that the sales targets of the management can be used as a

mechanism that enhances the positive attitude of insurance agents towards inappropriate product recommendations.

Haron et al., (2011) used the modified theory of planned behavior to conduct an empirical investigation. He employs a distinct theoretical framework here. He tested the effect of supervisory influence, role ambiguity and sales targets as external variables on the propensity to do unethical behavior. Attitude, subjective norms, perceived behavioral control and moral duty are employed as mediating variables, whereas age and experience are used as control variables in the modified theory of planned behavior. In Malaysia, 246 life insurance agents are participating in the study. The findings of the study show that there is a relationship between supervisory influence, role ambiguity and sales target on an inclination to do unethical action. According to hierarchical multiple regression findings, attitude partially mediates the relationship between supervisory influence, role ambiguity, and the willingness to participate in unethical activity. Nonetheless, subjective norm and moral responsibility were found to mitigate the interaction between supervisory influence and job ambiguity on the intention to engage in immoral behavior.

Chandrarathne and Herath (2020) found that the supervisory role has a significant negative relationship with the unethical behavior of salespeople. It shows that when managers have ethical behavior or leadership, it helps to reduce the unethical behavior of salespeople. To address a supervisory role, more stringent recruitment practices need to be incorporated and potential employees are evaluated based on integrity and ethics. In addressing the behavior of existing managers, the organization can provide ethics training to all its managers and supervisors to make them aware that their behavior is more ethical and organizations can add rewards or incentives to managers' annual salary increases and performance bonuses to demonstrate ethical behavior.

Senior salespeople receive a long period of training and education within the organization, the internalization of sales and service skills is different. In particular, life insurance agents must participate in various training courses at different stages of their career development, in addition to professional knowledge, they also receive moral education. Life insurance salespeople can only be promoted after completing a package of training courses and meeting specific performance standards (Cheng et al., 2014)

Understanding how a sales manager's direct supervision can mould salespeople's ethical behavior may be a major controllable key to understanding unethical sales behaviors that offer upper management strategic options to enrich customer relationships in this study. 240 sales managers were questioned to identify their impact on unethical sales behaviors as part of

this framework for understanding unethical sales behaviors. The findings show the impact on the sales forces' ethical training and hiring ratings (Jr & Good, 2013).

"Determinants of telemarketer misselling in life insurance services," investigates the critical aspects that may assist reduce unethical salespeople in the insurance service business. 204 respondents from five South Korean life insurance companies' telemarketing sections participated in this study. Finally, the degree of ethics instruction and unethical behavior were found to be linked in this study. Insurance salespeople with less ethical training are more likely to engage in unethical activity (Yi et al., 2012).

H6: There is a significant positive relationship between Sales targets and the Unethical behavior of Salesperson

H7: There is a significant positive relationship between Coaching and Unethical behaviors of Salesperson

H8: There is a significant positive relationship between Ethical training and the Unethical behavior of Salesperson

Research gap

According to the theories (Ethical Impact Theory and Theory of Bounded Rationality) and empirical studies conducted in different countries, researchers can conclude that there is a relationship between different types of rewarding, operational risk, and organizational factors, but the importance of the independent variables varies based on the country's context and the methods used to collect data and analysis methods. In the Sri Lankan context, the number of investigations that have examined the unethical behavior of salespeople in the insurance industry is limited. Empirical studies from other developing and developed countries indicate that there are many other factors affecting the unethical behavior of insurance salespeople, but Sri Lanka has examined the only organizational factors that influence Salesforce's unethical behavior in the life insurance industry. So there is an empirical gap and a performance gap. After all these researchers, this study focuses on factors affecting the unethical behaviour of salespeople in the Sri Lankan insurance (both life and general) industry.

3. METHODOLOGY

Data Collection

The current study uses primary data collected through questionnaires distributed among life and general insurance agents. The first part of the questionnaire contains demographic factors about insurance agents, and the second part of the questionnaire contains statements about each structure

coded on a five-point Likert scale. The questionnaire was initially prepared in English and then translated into Sinhala by the researcher. Then data was collected from the insurance agents of the top five life and general insurance companies to ensure that each company made a significant contribution to the sample. The responses were collected by the researcher by distributing questionnaires to each participant. In both quantitative and qualitative research, the researcher must decide the number of participants to choose (sample size) and how to choose the sample members of these members (sampling plan).

This study was designed as a descriptive study by collecting the questionnaire to analyze whether and what factors affect the unethical behavior of salespeople in Sri Lanka. The growing demand for research creates an effective method for determining the sample size required to represent a given population (Krejcie & Morgan, 1970). The study's sample size was 375 respondents in the top 5 life and 5 general insurance companies in Sri Lanka through the "Morgan table" under the 95% confidence level. These 375 salespersons were selected based on the percentages of individual insurance agents registered with insurance companies around Sri Lanka.

In this research, the researcher uses a simple random sample, which is a randomly selected subset of the population. In this sampling method, each member of the population has the same chance of being selected. The sample selection is based on a simple random sampling method, which represents the overall characteristics and research goals. This study uses descriptive and statistical techniques to analyze quantitative data, such as descriptive analysis (mean, median, and standard deviation) and correlation testing between variables more than regression analysis using SPSS software.

The majority of researchers use questionnaires to measure independent variables and unethical behavior in reading literature. Cheng et al., (2014) identified five types of unethical behaviors among life insurance salespersons. Here, researchers use 3 questions (Shahriar Ferdous & Polonsky, 2013) and 2 questions from (Román & Munuera, 2005) to measure salespeople's unethical behavior. Income and benefits are measured by 4 items (Abbasi & Rana, 2012) and 2 items (Tseng et al., 2016).To measure job satisfaction 4 items from each (Fu et al., 2020) was used. The inability to identify customer needs was measured using 05 constructs and sales targets measured by 04 items from (Tseng et al., 2016).

Failure to fulfil responsibilities was measured using 4 constructs developed by Tseng, (2017). Coaching by the supervisor is measured by 06 items from the ethical leadership questionnaire developed by (Yukl et al., 2013). Ethical training was measured using 03 items from the (Yi et al., 2012). The 5 points

in the scale are respectively from 1 to 5; strongly disagree, disagree, neutral, agree and strongly agree.

Before distributing the questionnaire to the final respondents, a pilot study of 50 insurance agents was done. The questionnaire's reliability and validity were tested in a pilot study. This means that the survey is trustworthy and valid. The surveys will then be distributed to 375 insurance agents in the Sri Lankan insurance market. Cronbach's alpha value is used by the researcher to assess the constructs' dependability (Sekaran, 2003). A pilot survey comprising 13% of the sample (50 respondents) was done to detect potential issues with the questionnaire. After that, two factors were excluded from the questionnaire (inability to detect consumer demands and ethical training) to assure the measurements' reliability and validity.

Research Design

Considering the literature as reviewed above, it is evidence that the theories are more vital to be concerned in a practical point of view about salespeople's unethical behavior in this study. Based on the theoretical/conceptual framework of the previous studies done in different countries, the study identified eight more common factors namely; Income, Benefits, Job satisfaction, Inability of identifying customer needs, Failure to fulfill responsibilities, Sales targets, coaching by supervisor and ethical training.

The research design explains a set of methods and procedures used to collect and analyze the measures of the variables specified in the research problem. In short, it is a framework created to answer the research problem. In this study, the researcher used quantitative research. Quantitative research focuses on collecting numerical data to answer specific research questions. When deliberating the empirical analysis of the above review, this research uses a survey research design because it contains more qualitative behavior factors that cannot be collected through secondary data. Therefore, a structured questionnaire set based on the conceptual framework (3.3) is used to collect primary data. The main survey is conducted after the pilot survey to understand the reliability of the data collected through the questionnaire.

Conceptual Framework

The following conceptual framework for this research project was created based on the literature review. The conceptual framework serves as the bedrock for the entire research project. It's a rationally created, defined, and elaborated network of relationships among variables judged significant to the problem situation and identified using methods including interviews, observations, and literature studies. The theoretical framework is also guided by the practical issues of university and intuition.

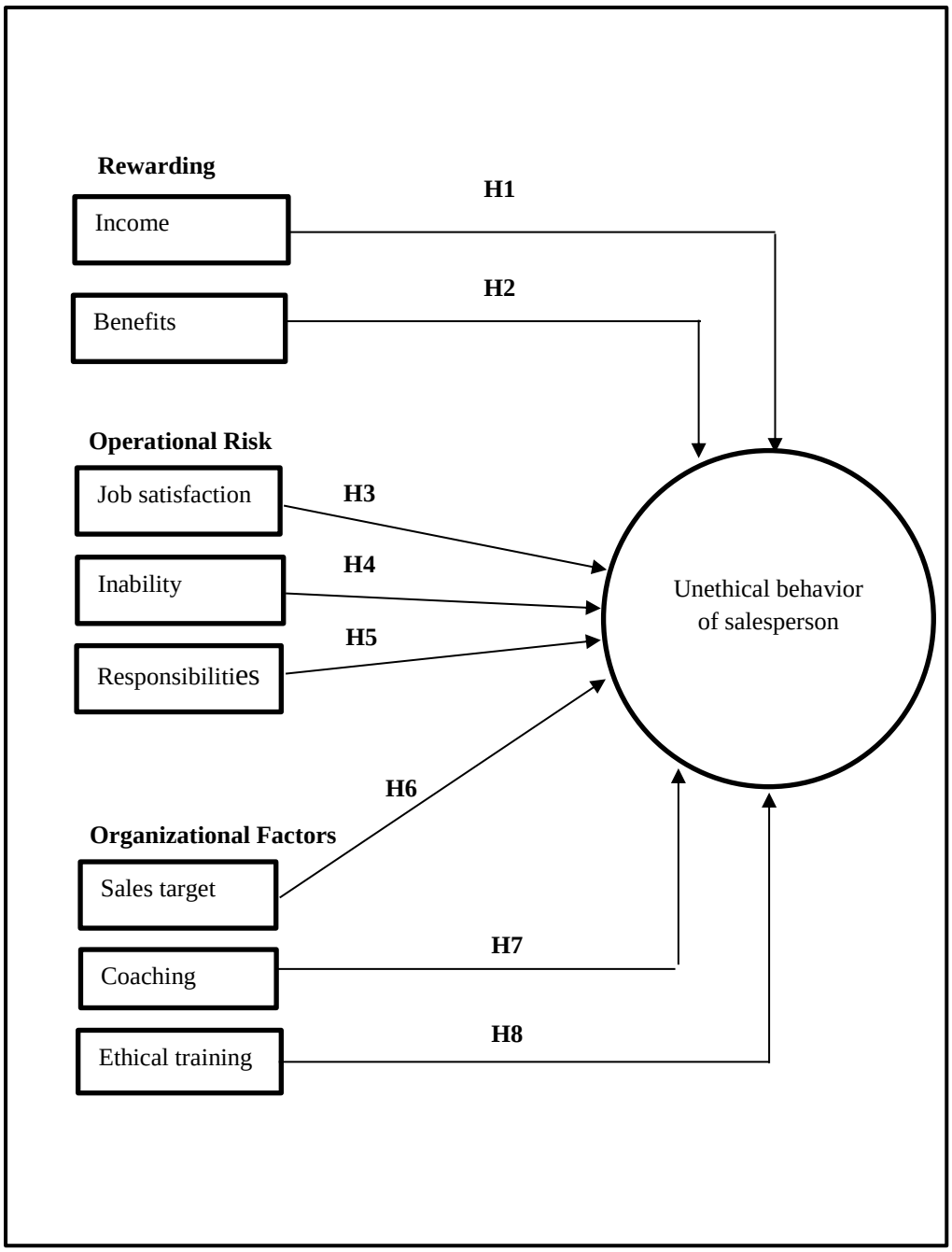

Figure 4- Conceptual Framework

Source: Developed by Researcher (2021)

Operationalization of the Study

Table 1: Operationalization Table

Variable	Measurement Scale	Indicator	Source
Demographic variable	Likert scale from 1 to 5	Age Gender Level of education Experience Monthly Income	Kengatharan & Kengatharan (2014)
Rewarding	Likert scale from 1 to 5	Income Benefits	L.Tseng et al. (2016) Abbasi & Rana (2012)
Operational risk	Likert scale from 1 to 5	Job satisfaction Inability of identify customer needs Failure to fulfil responsibilities	Fu et al. (2020) L.Tseng et al. (2016) L. Tseng (2017)
Organizational factors	Likert scale from 1 to 5	Sales target Coaching by supervisor Ethical training	L.Tseng et al. (2016) Yukl et al. (2013) Yi et al. (2012)
Unethical behavior	Likert scale from 1 to 5		Cheng et al. (2014) Shahriar Ferdous & Polonsky (2013) Román & Munuera (2005)

Source: Developed by Researcher (2021)

4. RESULTS AND DISCUSSION

Response Rate

Only 352 people answered to the 600 surveys that were sent out. However, 22 of the 352 replies were deleted because: 05 questionnaires were completely blank, 09 questionnaires were partially answered—only demographic factors or Likert scale items were evaluated, and 08 respondents had given the same rating to all Likert scale items. As a result, the researcher only considered and entered into SPSS those 330 entirely completed responses.

Sample Composition

The demographic factors of the respondents showed that the highest number of respondents came from the life insurance industry; male respondents; ages from 26-35 years; level of education from high school and lower; experience from under 5 years and monthly income from Rs. 30,000-Rs. 40,000.

Reliability

Cronbach's alpha value is used by the researcher to assess the constructs' dependability (Sekaran, 2003).All of the variables have Cronbach's Alpha values more than 0.5, indicating that the multi-item scale is reliable and that all of the items have had a substantial part in conceptualizing the respective constructs, as shown in Table 2.

Table 2: Cronbach Alpha Value Table

Construct	No of Items	Cronbach's Alpha
Rewarding	6	0.826
Income	4	0.773
Benefits	2	0.638
Operational Risk	8	0.834
Job Satisfaction	4	0.717
Failure to fulfill responsibilities	4	0.723
Organizational Factors	10	0.834
Sales target	4	0.704
Coaching by supervisor	6	0.726
Unethical Behavior	10	0.851

Source: SPSS Output (Compiled by Author)

Validity

The Kaiser-Meyer-Olkin (KMO) measure and Bartlett's test were used to assess sampling adequacy and sphericity, respectively. Because the KMO coefficient for both variables is larger than 0.5 and the Sig. value is less than 0.05, statistically, the study sample of 330 observations is sufficient to proceed with EFA. Furthermore, the results show that there are adequate correlations among the variables to proceed, indicating that sample adequacy is significant in this investigation. There is no need to investigate the Anti-Image Correlation Matrix because the KMO measure of sampling adequacy

passes the minimum criteria. The KMO and Bartlett's test results are presented in (Refer table 3).

Table 3: Validity

Construct	KMO	BTS
Rewarding		
Income	0.761	0.000
Benefits	0.500	0.000
Operational Risk		
Job Satisfaction	0.735	0.000
Failure to fulfill responsibilities	0.744	0.000
Organizational Factors		
Sales target	0.735	0.000
Coaching by supervisor	0.805	0.000
Unethical Behavior	0.911	0.000

Source: SPSS Output (Compiled by Author)

Descriptive Statistics

According to the descriptive statistics, the highest mean is recorded for the "Failure to fulfil responsibilities" and "sales target", the lowest mean is recorded for "unethical behavior". Moreover, "income" shows the highest standard deviation. Table 4 shows the descriptive statistics of each independent variable and the dependent variable.

Table 4: Descriptive statistics

Construct	N	Minimum	Maximum	Mean	Std. Deviation
Income	330	1	5	4.22	0.995
Benefits	330	1	5	4.29	0.841
Job Satisfaction	330	1	5	4.29	0.976
Failure to fulfil responsibilities	330	1	5	4.35	0.964
Sales target	330	1	5	4.35	0.976
Coaching by supervisor	330	1	5	4.26	0.797
Unethical behavior	330	1	5	4.18	0.897

Source: SPSS Output (Compiled by Author)

Correlation Analysis

Correlation analysis shows the relationship between two variables. It can be used to identify the directions of the relationship (Positive, Negative or Zero) and the strength of the relationship between two variables. The correlation coefficient ranges from +1 to - 1.-1 represents a perfectly negative relationship, +1 indicates a perfect positive relationship and 0 indicates no linear relationship. The researcher used Pearson's correlation coefficient to assess the strength of association among the said two constructs. Further, Sig. (2-tailed) the test was applied to test the significance of the correlation coefficient as the advanced hypothesis was non-directional. Accordingly, in correlation analysis, all variables have a significant strong positive relationship with the unethical behavior of salespeople. (See Table 5)

Table 5: Correlation Analysis

Variable	N	Person's Correlation Coefficient	P Value
Income	330	0.770	0.000
Benefits	330	0.712	0.000
Job Satisfaction	330	0.854	0.000
Failure to fulfill responsibilities	330	0.785	0.000
Sales target	330	0.844	0.000
Coaching by supervisor	330	0.709	0.000

Source: SPSS Output (Compiled by Author)

Regression Analysis

Regression analysis can be used to investigate the relationship between one variable and one or more other variables. Regression must forecast the value of a dependent variable based on changes in the independent variable. The R square regression coefficient can be defined as the amount of variance explained by predictors in the independent variable. Based on the value of R-Square it can be concluded that only 86.2% of the variance of unethical behavior can be explained by the model. The rest of the 13.8% is explained by another variable that is not examined by the researcher.

Table 6: ANOVA

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.928[a]	.862	.859	.336

Source: SPSS Output (Compiled by Author)

ANOVA table shows the significance of the regression model. If the output significance value is 0.05 at a 95% level confidence level, the model is significant. According to the table, the output p-value is 0.000 hence the researcher concludes the model was significant. (See Table 6). Multiple regression analysis was used to predict the dependent variable unethical behavior based on Income, Benefits, Job satisfaction, Failure to fulfil responsibilities, Sales target, Coaching by supervisor. The relationship was not significant on coaching by the supervisor (B= 0.034; P> 0.05) and all other variables show a significant impact (P < 0.05) on unethical behavior of salespeople. Therefore, H1, H2, H3, H4 and H5 were supported.

Table 7: Multiple Regression Analysis Results

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.253	.114		-2.218	.027
	Income	.149	.030	.165	5.026	.000
	Benefits	.224	.029	.210	7.700	.000
	Job satisfaction	.342	.041	.373	8.356	.000
	Failure	.187	.039	.201	4.787	.000
	Sales target	.095	.045	.104	2.112	.035
	Coaching	.034	.041	.030	.838	.403

Source: SPSS Output (Compiled by Author)

Discussion

According to Chandrarathne and Herath (2020), the reward structure has a significant impact on unethical behavior. To address the rewarding system as a factor encouraging unethical behavior, a system that compensates salespeople for acting ethically must be established. The researcher discovered that the remuneration system (pay and benefits) has a considerable impact on unethical behavior.

Impact of job satisfaction on unethical behavior shows mixed findings where (Román & Munuera, 2005) found that ethical behavior also has an indirect impact on job satisfaction through role conflict, and provides additional support for previous theoretical arguments and empirical evidence supporting the negative impact of role conflict on job satisfaction. Rahman et al., (2017) mentioned that job satisfaction significantly impacts job performance, job growth, development and good relationships with supervisors and colleagues. Their research shows that if the agent is satisfied or happy at working the probability of the agent's negative behavior will decrease. Conversely, if the agent is unsatisfied at work, he is likely to be affected by unethical behavior. But our results align with (Rahman et al., 2017) that job satisfaction significantly impact unethical behavior of salespeople.

Tseng (2017) used the questionnaire with scenarios to gather the data from full-time life insurance agents and found the significant impact on insurance agents' unethical behavior and it is important to understand their job duties and responsibilities. The current study also found that same context so it can be assuring again the findings of the previous study. It can be concluded that failure to fulfill responsibilities significantly affects the unethical behavior of insurance salespeople.

Chandrarathne & Herath (2020) used 200 insurance salespeople from Sri Lankan life insurance companies to explore the organizational factors influencing unethical sales force behavior in the insurance market. The findings revealed that the sales targets and supervisory role are all important predictors of unethical behavior in salespeople. As was expected, results found that sales targets have a significant positive effect on the unethical behavior of insurance salespeople. Usually, sales pressure comes from the organizational level, from top management and the targets also create selling pressure. According to the findings, this is how sales pressure comes about at the organizational level, motivates unethical behavior by agents. Empirical evidence of the positive effect of sales targets on unethical behavior salespeople (Haron et al., 2011).

In the Sri Lankan context, Chandrarathne & Herath (2020) has observed the impact of supervisory role on unethical behavior of life insurance agents using

10 life insurance companies. They found that the supervisory role has a significant impact on the unethical behavior of insurance agents. The findings of Jr & Good (2013) also confirm that the trust in the manager has a negative relationship for the unethical intentions. Contrary to these, findings of the current study thus indicate a significant impact on the unethical behavior of salespeople. Although both studies in the same country context sample of this study too large sample (330 respondents) top life and general insurance companies that can be causes for the different results of the studies in Sri Lanka. It is hard to change personal characteristics by the supervisors.

5. CONCLUSION

This study looks into the elements that influence salespeople's unethical behavior in the Sri Lankan insurance business. The major goal of this study is to look into the elements that influence insurance agents' unethical behavior in Sri Lanka. The study's main goals were to look into the effects of salary, benefits, job happiness, inability to understand client demands, failure to meet responsibilities, sales targets, supervisor coaching, and ethical training.

The above variables are identified through a comprehensive reading of the previous literature and they were categorized as rewarding, operational risk and organizational factors. Eight hypotheses were built by the researcher accordingly. The researcher conducts a pilot test. Afterwards, 08 questions from 02 variables (Inability to identify customer needs and ethical training) were removed from the questionnaire to ensure the reliability and validity of the measures. Then researcher builds up six hypotheses. According to the results, only coaching by supervisors has no impact on the unethical behavior of salespeople. All other hypotheses were accepted. Furthermore, job satisfaction has a strong relationship with the unethical behavior of salespeople rather than a sales target. The findings of the study support the hypothesis that Income and Benefits significantly affect unethical behavior. In Sri Lanka insurance agents are rewarded through insurance commissions in general insurance it’s around 10% and in life insurance, it's around 30%. Therefore, the researcher suggests aligning the rewarding system with a combination of commission and basic salary since some researchers suggest that the rewarding system significantly affects unethical behavior. By identifying new ways to give employees job responsibility, creating opportunities for interest in the work itself, and improving efficiency by training supervisors, today's insurance industry leaders have the opportunity to positively impact their employees' work lives. Many insurance companies try to put sales pressure on their insurance salespeople but do not give an idea of their responsibilities and the authorities they have. Insurance companies can reduce the unethical behavior made by insurance agents by conducting training programs for their insurance agents and constantly advising and

guiding them. Most of the times insurance companies want to increase their performance. Companies strive to achieve this by giving sales targets to insurance agents to increase the company's performance. Therefore, an agent has to bear the burden and they are tempted to take many actions to reach the target set by the company. As a result, agents resort to unethical behavior to achieve their sales targets. Properly set up a monitoring system to guide the salespeople and not put too much pressure on them to meet challenging short-term financial goals (Abdullah et al., 2020; Chandrarathne & Herath, 2020). Although the results of this study confirm that the supervisory role has no effects on the unethical behavior of insurance salespeople. It indicates that if supervisors'/team leaders have ethical behavior or leadership, it helps reduce the unethical behavior of salespeople. The other studies in the Sri Lankan context confirm that the supervisory role can influence on unethical behavior of salespeople. To address a supervisory role, it is required to adopt more rigorous recruiting practices for prospective employees to be assessed for integrity and ethics. Regarding addressing the behavior of existing managers, the organization could offer ethics training to all its managers and supervisors to sensitize them to more behavior ethically. In addition, the organization could include a reward or incentive annual salary increases and incentives for ethical behavior managers behavior (Chandrarathne & Herath, 2020).

Implications

Insurance companies need to recruit salespeople with high interpersonal skills, sales presentation skills, and marketing skills. Insurers need to offer structured training programs for recruiting salespeople on industry, customer character, product design, and product development. Regulatory authorities must ensure that salespeople have appropriate educational level qualifications and insurance companies need to check that the newly appointed agents have appropriate qualifications (e.g., passed the IBSL insurance exam). The insurance company should ensure that the experienced salespeople stay with the company, as it costs more to train a newly appointed salesperson.

Future studies can also consider personal factors such as age, education, experience, income level, and subjective norms. Organizational factors such as organizational size and environmental factors such as community culture can also be adopted for the course. The current research limits only the investigation of the reasons for unethical behavior, but the researchers can investigate the consequences of this unethical behavior for the Sri Lankan insurance industry. Researchers can do the same study using the qualitative data collected from insurance salespeople with in-depth interviews. Future research can also be done by considering banks, insurance broker companies, and finance companies. Future researchers can do that, factors affecting the unethical behavior of insurance salespeople who use the customer perspective rather than the salesperson's perspective.

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THE EFFECT OF CAPITAL ADEQUACY REQUIREMENTS ON PROFITABILITY: AN EMPIRICAL STUDY ON LICENSED FINANCE COMPANIES IN SRI LANKA

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ABSTRACT

Licensed Finance Companies (LFCs) in Sri Lanka are recognized as authorized and regulated financial institutions to accept public deposits. However, with the recent collapse of a few LFCs in Sri Lanka, a serious concern has been raised about whether the LFC sector in Sri Lanka does not expose its shareholders to excessive levels of risk. Accordingly, the primary objective of this study is to examine the relationship between capital adequacy and the profitability of LFCs in Sri Lanka. This study is classified into the quantitative research approach based on secondary data of 18 LFCs in Sri Lanka from 2011 to 2020. The Core Capital Adequacy Ratio (CCAR), Total Capital Adequacy Ratio (TCAR), and LFC size (SIZE) were used as independent variables and as measures of profitability of LFCs, Net Interest Margin (NIM), Return on Assets (ROA) and Returns on Equity (ROE) were considered as dependent variables. The empirical results indicated that NIM, ROA, and ROE are positively related to CCAR, but none was significant. Further, NIM and ROA show a positive relationship with TCAR; however, only a significant relationship between ROA and TCAR was observed. Accordingly, this study recommends that since ROA would be increased in the capital adequacy level of LFC, all LFCs need to develop their

internal policies to ensure that they have a clear set of capital adequacy expectations in place.

Keywords – Capital Adequacy, Financial Performance, Public Confidence, Financial Risk management, Licensed Finance Companies

1. INTRODUCTION

Investors in finance companies take a certain level of risk; the risk level is higher than investing in banks. This is primarily due to the fact that finance companies adapt to get engaged in various activities which have higher risks compared to banks (McIver, 2005). However, this does not mean that finance companies have the capability to take undue risks. There are appropriate regulatory measures in place in order to ensure that the funds invested by deposit holders in these companies remain safe (Rottke & Gentgen, 2008). Accordingly, this should provide a set of positive results in the context of meeting expected outcomes in terms of managing required funding.

In Sri Lanka, at the end of 2020, there were 40 Licensed Finance Companies (LFCs) with authority to mobilize public deposits while the total assets of the sector stood at Rs. 1,367.6 billion, representing 5.8 per cent of Sri Lanka's financial system (Central Bank of Sri Lanka, 2020). Even though the LFC sector represents 5.8 per cent of the financial sector, these companies are willing to take higher risks than banks and mostly get engaged with people who require financial services but possess low financial literacy without the financial strength to access requirements such as collateral and other guarantees. Accordingly, it is important to identify the important role played by these companies in the Sri Lankan economy as high risk-taking financial services providers.

Since LFCs have the authority to accept public deposits, they need to maintain required capital levels; the main purpose of maintaining the capital reserves is to ensure that such companies would take risks from the equity rather than using the deposit holders 'funds. It is important to note that LFCs must manage their risks and returns in such a way that the deposit holders are not exposed to undue risk levels (Ozili, 2019). Accordingly, finance companies need to look into managing these challenges in order to meet the intended results. These companies need to adhere to regulations and maintain adequate levels of capital in order to cover the risks (Ghosh, 2017).

The Central Bank of Sri Lanka (CBSL) is the main governing body which regulates, supervises and monitors managing the risks associated with LFCs. A central bank has the ability to identify how LFCs need to manage these

risks and what action needs to be taken in order to maintain a balance between the risks and rewards (Saada, 2018). Accordingly, finance companies would be able to ensure that they safeguard the funds that have been invested in them while providing investors with a certain level of return (Bougatef, 2016). Thus, the above mentioned are some of the critical areas which require attention when the overall investment landscape associated with LFCs in Sri Lanka is concerned.

Problem Statement and Objectives of the Study

As discussed above, LFCs have a higher risk portfolio compared to banks. In Sri Lanka, the financial system has experienced LFCs collapsing due to not being able to manage the risk portfolio with the returns they generated. This shows that LFCs need to actively make sure that they would not have to face the same fate that a few of the well-known LFCs have faced in the past. Thus, these are some of the critical areas which require attention when it comes to managing challenges related to LFCs.

The main issue associated with the problem area is that there have been a few large LFCs that have collapsed. The recent cases include The Finance Company PLC (TFCP), ETI Finance Limited (ETIL) and more. As CBSL (2020) announced, TFCP was severely impacted by the failure of several financial institutions within the Ceylinco Group in 2008. Since then, the financial status of the company deteriorated gradually, leading to a severe liquidity crisis. Also, ETIL became insolvent due to various irregularities that had taken place since 2011. Accordingly, some LFCs have provided customers with attractive return schemes which are unrealistic in nature in order to attract funds. However, they have not been able to invest in suitable ventures which have provided appropriate returns in order to service the promises that have been made by the management of these finance companies to the customers (KPMG, 2021). As a result of this, these companies have filed for bankruptcy. Capital adequacy is one of the vital indicators of the financial solvency of the banking industry and it is considered as a safety valve to protect the depositors to promote stability and efficiency in the whole financial system of a country (Herath, 2015 & Ahmad & Ahmad, 2017) and this can be applied to the LFC sector as they also have depositors. Accordingly, the inadequacy of measures on capital adequacy requirement may increase the dissatisfaction of the customers who entered the transactions with LFCs and it creates many other associated problems in Sri Lanka's financial system and which will arise as economic and social problems.

As the regulatory measures are in place to make sure that finance companies have the required levels of capital to manage the required capital adequacy levels, LFCs need to identify the overall capital expectations and ensure that those are available. However, it is important that the effort these companies

take in order to maintain capital adequacy should eventually result in building customer trust and trickle down to the financial performance of the company. Accordingly, these are some of the important aspects of consideration which require attention when it comes to managing company performance aspects in the future. Hence, in this context, it is important to examine whether there is an impact of capital adequacy on financial performance of LFCs. However, it was observed that the researchers paid less attention to examine the effect of capital adequacy requirements on profitability of LFCs in Sri Lanka.

Accordingly, based on the research gap identified above, the need to empirically examine the impact of capital adequacy on profitability was identified. In order to address the research problem, this study intended to answer the research questions i.e., what is the relationship between the capital adequacy requirements and profitability of LFCs in Sri Lanka?; and what is the impact of the capital adequacy requirements on profitability of LFCs in Sri Lanka?

Accordingly, the primary objective of the study is to identify how capital adequacy of LFCs could influence their profitability. This should indicate if capital adequacy is a factor that contributes to increase the profitability of LFCs. Accordingly, the following are the objectives affiliated with the given study area.

- To identify the relationship between capital adequacy and profitability of LFCs in Sri Lanka.
- To examine the effect of capital adequacy requirements on profitability of LFCs in Sri Lanka.
- To provide recommendations on capital adequacy requirement of LFCs to maintain the financial system stability in Sri Lanka.

Scope / Significance of the Study

As mentioned above the main research objective is to identify the relationship between capital adequacy ratios of LFCs in Sri Lanka and their profitability, and how such relationship impacts the overall profitability of the company. The overall profitability of a company is an indication of its financial health. This understanding can be useful to evaluate how these elements are related to each other. The study uses secondary data as the capital adequacy ratios, and the measures of financial profitability are available in the annual reports of LFCs. However, it was observed that all LFCs are not listed in the Colombo Stock Exchange of Sri Lanka (CSE) and LFCs which are not listed in the CSE are not compelled to publish their financial performance details. Therefore, the scope of the study is limited to 18 LFCs and the financial data of only 10 years of the said LFCs according to the available published data in the CSE.

In view of the importance and justification of the study on the relationship between capital adequacy and profitability of LFCs in Sri Lanka, the significance of the study can be recognized. In 2020, CBSL disclosed the LFCs that were non-compliant with the minimum capital adequacy requirement and announced that non-compliance with the minimum capital adequacy requirement of LFCs poses a significant risk to depositors. Accordingly, it is important to investigate the capital adequacy requirement and its consequences. Thus, this understanding remains critical in order to identify how LFCs are able to specifically benefit from managing these challenges in the future. Hence, the academic and timely significance of the given study area remains high. In view of the above challenges, there is a reasonable basis for the researcher to carry out this study on the capital adequacy requirement of the LFC sector in Sri Lanka. Accordingly, the findings of this research would mostly be applicable and useful to all stakeholders of the LFC sector in Sri Lanka, policymakers, and future researchers.

On the other hand, the study also needs to look into development of suitable recommendations to ensure that clear establishment of improvements associated with the financial sector can be developed. Accordingly, these are some of the important aspects of consideration and parties need to take appropriate action to ensure financial soundness through better risk management policies and practices to protect the interest of depositors and maintain public confidence in the financial system. Accordingly, the suggestions made in this study would facilitate the relevant stakeholders such as LFCs, regulators, potential investors, financial analysts in investment decision making and conducting further research. Further, the study will enable the relevant stakeholders to take precautionary actions to maintain the sustainability of LFCs, protect the financial customers and avoid the financial crises affecting the financial system in Sri Lanka.

2. LITERATURE REVIEW

The main purpose of the literature review is to discuss past studies related to the given study area to establish appropriate understanding to evaluate the nature of the relationships between the variables. Past studies can be helpful to identify whether capital adequacy levels associated with the finance companies' sector have driven profitability and other financial performance indicators. Capital adequacy of LFC is a regulatory requirement and as per the Directions related to the capital adequacy requirement of LFCs issued by CBSL, LFCs should always maintain minimum Core Capital and Capital Adequacy Ratios. However, when reviewing previous surveys already done by other researchers on the LFC sector Sri Lanka, it can be observed that the capital adequacy requirement of the LFC sector in Sri Lanka has not received

particular attention of researchers, and moreover, there are no past studies done locally on this study area. Nevertheless, a few research studies on the capital adequacy of the banking sector in Sri Lanka have been conducted (Herath, 2015; Chandrasegaran, 2020). Accordingly, other countries literatures on capital adequacy requirement of banks are also considered to develop this study.

Risks and Returns of the Transactions with Financial Institutions

LFCs need to take risks in different ways; this is primarily because they have to take money from deposit holders and invest in various ventures. Investment in these ventures has a possibility of failure; there are some ventures which have a higher risk of failure than others (Maxted, 1994). However, it is important to note that finance companies need to invest in various ventures in order to make sure that they generate adequate returns so that they would be able to service their requirements of their investors (Porat & Fine, 2009). Accordingly, LFCs need to identify investments which would provide them with the required returns and then make sure that they invest in such assets in the future.

LFCs also need sufficient understanding as to how they can mitigate the overall risks they take. This is primarily driven by the fact that finance companies need to recognize that it is possible that risks would increase if the overall returns provided by the venture also increase (Annuar, 2012). The primary focus of finance companies should be to mitigate the overall risk levels associated with investments, while increasing the returns that these ventures would generate. Thus, they must identify these issues and balance the risks and returns associated with these areas in the future (Cieleback, 2003).

Markets have certain acceptable levels of risks and returns; financial markets would work according to these accepted norms. If the risk levels are higher and the return levels are lower than the markets, it is important that these financial establishments evaluate these areas and ensure that they will be able to identify key issues affiliated with their investment strategies and develop suitable capabilities to correct them (Podder & Al Mamun, 2004). Hence, the risks and returns balance needs to be maintained so that these companies will be able to provide the required benefits to the investors over the long run. This remains a critical concern which requires attention when organizational management aspects are considered (Abaidoo, 2018).

Organizations also need to look into what critical action is required to improve their financial performance aspects. Organizations will need to manage key challenges affiliated with them (Song & Tuoriniemi, 2016). They need to find suitable investment opportunities which have minimum risks while providing maximum returns. Such investment opportunities would

provide investors with many benefits in the future. Finance companies that have these capabilities will be able to continue to develop a strong level of trust with customers and gain a larger customer base for future needs (Swamy, 2018).

Public Confidence (Investor Trust) in Investment Decision Making

In a practical context it is important that finance companies look into the development of customer trust. When there is a high degree of customer trust associated with their company, they will be able to make sure that they would benefit from attracting customers (Otašević, 2015). This is primarily because investors believe that the investments they make with the company remain safe while providing them with maximum beneficial results. The overall capabilities affiliated with building customer trust remain critical for the organization to build the required capabilities in the future (Redenius, 2016).

Investors require clear understanding as to how finance companies manage their risks and returns. Finance companies should have a clear understanding about the risks they are faced with and what action is required to minimize these risk levels and maximize the benefits related to these areas (King, 1991). This may allow them to enhance their overall performance levels and achieve the desired outcomes in terms of managing these challenges. A finance company also needs to communicate to customers that they have these capabilities and the financial strength to meet their requirements (Jacinta, 2013).

The financial strength of the finance company remains a critical indicator that would lead to customer trust levels in the future. If finance companies have developed their capabilities in order to build public confidence, they will be able to improve overall specific outcomes related to these areas and make sure that they achieve the desired results (Hoque, 2003). The building of investor trust also has to be carried out after considering the overall regulatory framework that is in place so that they will be able to develop it in line with the regulatory framework (Otašević, 2015).

Beneficial outcomes can be achieved through the development of investor trust as these companies might look into the development of long-term relationships with investors. On the other hand, investors might also look into a trusted partner for their investment needs and if finance companies have professionalism and the capability to develop services which will meet customer needs, it is likely that they will be able to meet customer expectations and develop investor trust (Gadd, 1998). Accordingly, investor trust is extremely important for a finance company for its survival in the industry; it will benefit both parties in this context.

Justifications for Capital Adequacy Requirement

In many instances, finance companies take various risks to generate better returns. The main benefit associated with taking of risks is that finance companies will be able to contribute something good to society (Košmrlj, et al., 2015). On the other hand, they may also play a critical role in resource allocation within the economy of the country. However, it is also important to note that due to the risk factors associated with finance businesses, finance companies might eventually face a situation where they would lose the total returns on the capital that they have invested. This is a critical issue that requires attention when organizational capabilities development is considered (Matiş & Ilieş, 2014).

Finance companies should not take undue risks when using the funds of deposit holders. Deposit holders have certain expectations when it comes to the risk levels that they are exposed to. Finance companies should not take any measures that would increase the risk levels faced by these parties (Košmrlj, et al., 2015). Thus, they need to specifically identify such issues and ensure that they will be able to achieve the desired results accordingly. Beneficial outcomes will be achieved through managing these challenges in the future (Bagloee, et al., 2016).

The above discussion clearly indicates that companies must identify that they need the required resources to meet risk related challenges they have. Risks could be aggravated to cause certain issues to finance companies and they need to maintain appropriate systems to identify how they can manage these issues so that they will be able to reduce the implications associated with these risk areas (Njeru, 2012). Accordingly, LFCs should not use only deposit holders' funds to take risks. This is the reason why the capital adequacy concept is important. While finance companies will be able to take risks in various matters it is important that they have the required capital in order to cover these risk areas accordingly (Coffman, 2018).

Capital is the money that is invested by the shareholders of the company; this means the company might not have to increase the risk levels associated with deposit holders. The capitalization of the required resources would ensure that they will be able to manage these challenges and achieve the desired results accordingly (Hans & Zuber, 2017). These are some of the critical areas which require attention to investigate the maintenance of the required levels of capital in the future. The role of capital adequacy in this context remains important and parties need to identify how they will manage these areas accordingly. Thus, the CBSL has issued Directions related to capital adequacy requirements for LFCs, and as per the said Directions LFCs should always maintain minimum Core Capital and Capital Adequacy Ratios such as Core Capital to Risk Weighted Assets and Capital Base to Risk Weighted Assets.

Financial Performance of Financial Institutions

Financial performance associated with finance companies indicates their stability. They need to evaluate their capabilities and make sure that they will be able to achieve the expected results in terms of managing these challenges (Pirgaip & Hepsen, 2018). Their financial performance needs to be appropriately managed in order to meet their intended specific results. These are some of the critical areas which require attention when the overall financial performance aspects are considered (Saada, 2018). The appropriate set of indicators has to be developed to identify how the financial performance of these companies has been. Thus, a clear understanding of the capital adequacy level could impact the overall financial performance of the given organizations (Matiş & Ilieş, 2014).

Finance companies need to consider what indicators are required to focus on managing their financial performance. One of the indicators associated with the financial performance of the company is the Net Interest Margins (NIM). NIM is a measurement comparing the net interest income a finance company generates from credit products like loans and leases, and with the outgoing interest it pays holders of savings accounts and term deposits. NIM is a comparative pressure that could be used to identify the ability of the company to generate net profits from generated revenues (Košmrlj, et al., 2015). The percentage of the revenue that eventually trickles down to the net profit level would indicate how attractive the company is for investors. This is primarily since the net profit is the share of benefits for the shareholders of the company.

The financial performance of the company can also be measured using the Returns on Assets (ROA), as well as the Returns on Equity (ROE). Finance companies need to identify how they will be able to evaluate these ratios. These ratios would also indicate how attractive these investments are for shareholders (Tohidi & Jabbari, 2012). ROA is a measure of how much profit a business is generating from its capital, and ROE is calculated by taking the amount of net income returned as a percentage of the shareholders' equity. Accordingly, companies need to look into maximization of the returns generated on shareholders' equity, as well as the returns generated on assets. These will improve the overall benefits to parties and make sure that they will be able to specifically reach the intended outcomes accordingly (Hynes & Elwell, 2016). These are critical aspects which require attention when it comes to overall improvements associated with financial performance of companies.

The financial performance of these companies would indicate whether the overall financial health associated with a given company is positive. This would assist companies to attract more investors as they would have a clear

understanding that they will be able to specifically benefit from the investments they make in these ventures (Syrma, 2017). This may allow them to improve their capabilities to meet the intended specific results and achieve the desired outcomes accordingly. Thus, these are some of the important areas that require attention when it comes to the development of the solutions affiliated with the overall financial performance (Manžuch, 2017).

Capital Adequacy and Financial Performance

Past research that has been conducted related to this area has indicated mixed results on the nature of the relationships between these variables. The primary purpose of improving the capital adequacy ratio would be to make sure that finance companies have the required capital in place (Jones, 2018). With the required capital in place, theoretically, it is likely that these companies will be able to take better risk levels. Thus, they will be able to ensure that they can increase the overall outcomes affiliated with these areas of discussion and then benefit from these areas in the future (Gobo, 2015). The right focus on enhancing capital adequacy remains a critical area of importance which requires attention.

Higher levels of capital adequacy would indicate that the company has certain measures in place in order to minimize the risks associated with customer investments. The investors would be able to identify these areas and then develop a higher level of confidence (Fernandez-Stark, et al., 2011). Accordingly, the development of a suitable set of strategies according to these requirements is important. Appropriate benefits need to be identified, and therefore, suitable strategies also need to be developed to maximize beneficial results linked with these areas. Thus, capital adequacy and financial performance may have a positive relationship in this context (Morris, 2006).

In past studies, researchers have used a theoretical linear regression model to observe the relationship between capital adequacy and profitability of financial institutions using panel data. David and Raymond (2006) have examined the relationship between capital structure and ROE for banks in the United State of America and found that there is a positive relationship between capital adequacy and ROE. Ahmad and Ahmad (2017) have conducted a study to find out the effect of capital adequacy on profitability between two banks in Saudi Arabia and the results indicate that one bank shows a low positive correlation relationship between capital adequacy and ROA and ROE, and a high positive relationship between core capital and ROA. Hope (2017) has investigated the relationship between bank capital and profitability of fourteen banks out of the twenty-eight universal banks operating in Ghana for the period from 2005 to 2015 and observed that capital is significantly and positively related to NIM and ROE. Furthermore, Mwai, Jagongo and Fredrick (2017) have examined the relationship between capital

requirement set by the Central Bank of Kenya and the financial performance of the banks in Kenya and found that capital requirements have a positive linear relationship with ROA and ROE, however insignificant for NIM.

The above discussion clearly indicates that LFCs need to play a crucial role to improve their sustainability as well as the overall trust in the financial system of the country. Thus, the role of finance companies in the context of managing risks with returns remains critical and they must manage issues effectively and provide returns in line with customer expectations (Bougatef, 2016). LFCs need to develop their capabilities according to these requirements. The role of equity in this context remains important because equity would be able to provide necessary cover in case the company has taken higher risks and fails.

Capital adequacy ratios are the measures which would indicate if these LFCs have the required level of capital to face a critical situation. If these companies have the required capability to meet the expectations of markets, they will be able to achieve desired results in the future (Pirgaip & Hepsen, 2018). Thus, taking the right measures and benefitting from these areas are some important considerations which require attention. These are critical to improve the trust associated with customers and achieve the desired long-term results (Porat & Fine, 2009). Using panel data of the banks in Sri Lanka for the period from 2008 to 2019, Chandrasekaran (2020) has conducted a study on capital adequacy requirement and bank profitability and results show insignificant relationships between capital adequacy and ROA and NIM. Based on the results, Chandrasekaran (2020) has recommended that banking regulators should ensure that the gains of the banking reforms processes are sustained, the CBSL should take more significant measures aimed at tightening the risk management of the banking industry of Sri Lanka.

The above discussion clearly indicates that LFCs need to improve their capital adequacy position so that their overall risk-taking capability would increase. This would also enhance the overall trust associated with the potential customers. Hence, all these areas would eventually improve the overall public confidence related to LFCs. This could contribute to enhancing the customer base resulting in increased levels of profitability. However, it is also worth observing the fact that this might not necessarily mean that LFCs would be able to specifically benefit from achieving the desired results in terms of managing these challenges. Even though the above literature contributes to identify the relationship between capital adequacy and financial performance, when considering previous research related to the topic of this study, it can be observed that no researchers have directly focused on the LFC sector in Sri Lanka. As the role of the capital adequacy of LFCs is an important topic which requires special attention in view of the recent collapse of several LFCs

in Sri Lanka, this research developed the conceptual framework and methodology to examine the relationship between the capital adequacy and financial performance of LFCs in and effect of the capital adequacy requirements on profitability of LFCs in Sri Lanka in order to fill the research gap identified above.

3. METHODOLOGY

This section discusses what research data was collected and used for conducting the research, and which research approach and methodology are applied to assess the collected data in order to achieve the objectives of the study.

Research Data and Sources

This research is carried out based on the secondary data relating to 18 LFCs in Sri Lanka. As per the CBSL Annual Report 2020, as at end of 2020, there were 40 LFCs under the purview of CBSL. However, only 18 LFCs were selected as the sample for the study due to the following reasons: data related to LFCs are available only in CSE in Sri Lanka; even CBSL does not publish such data. However, all LFCs are not listed in CSE; hence, data availability of LFCs in CSE is limited. Further, a few LFCs have been listed in CSE during the period that is considered for the study. Accordingly, the data was collected from the annual reports published by the said 18 LFCs which were publicly available in CSE in the 10 years period from 2011 to 2020 and research data was limited to 18 LFCs. However, when considering the size of the selected LFCs, the sample represents about 64.88% of the total assets of the LFC industry in Sri Lanka. Table 1 shows the percentage of the total assets of the selected 18 LFCs from total assets of all LFCs for each year of the selected period. Accordingly, it is expected that the selected LFCs represent at least a majority of the total population dealing with LFCs in Sri Lanka.

Table 1: percentage of the total assets of the selected 18 LFCs from total assets of all LFCs in Sri Lanka

Year	Sample representation of Total Assets of LFCs (%)
2011	46.61
2012	55.74
2013	57.85
2014	64.30
2015	61.47
2016	66.72
2017	69.25
2018	70.83
2019	74.41
2020	81.61
10 Year Average	**64.88**

Source: *Compiled by author* based on data published by Central Bank of Sri Lanka

Variables and Hypothesis of the Research

Variables of the Research

(i) Dependent Variables

After considering past empirical studies conducted by Chandrasegaran (2020), Mwai, Jagongo and Fredrick (2017), Ahmad and Ahmad (2017), and Hope (2017), the three extensively tested dependent variables of NIM, ROA and ROE were selected to measure the profitability of LFCs.

NIM quantifies the difference between the interest income collected on loans less interest expenses paid on deposits and borrowings.

ROA, the accounting ratio calculated as net profit after tax divided by total assets of LFC, is considered as one of the most popular measures of profitability in LFCs. ROA also illustrates how well the management employs total assets of a LFC to make profits.

ROE, the ratio of net income after taxes divided by total equity capital, represents the rate of return on the funds invested in the LFC by stockholders.

(ii) Independent Variables

Capital adequacy ratios i.e., core capital adequacy ratio and total capital adequacy ratio are mainly considered as independent variables in this study and the size of LFC is also used as an independent variable.

Capital Adequacy Ratio is the ratio of equity to total assets and acts as a safety net during adverse conditions, while the capital adequacy ratio enables LFCs to absorb unexpected losses. As per the Finance Business Act Directions (Capital Adequacy Requirement) No. 3 of 2018, the core capital adequacy ratio represents the core capital of a LFC representing shareholders ' equity and reserves, while the total capital adequacy ratio represents supplementary capital such as instruments containing characteristics of equity and debt, revaluation gains and general impairment allowances.

LFC Size is considered to capture the fact that larger LFCs are better placed than smaller ones in taking advantage of economies of scale in transactions to the plain effect that they will tend to enjoy a higher level of profits since LFCs with a larger asset base are preferred as large LFCs are expected to be highly efficient with low cost due to higher operating economies of scales.

The variables which are used in the study are summarized in the following table.

Table 2 – Explanation of the Selected Variables

Category	Variable	Notation	Measure	Expected Relationship	Sources of Information
Dependent Variables	Net Interest Margin	NIM	Net Interest Income / Total Assets	-	Annual reports published by selected LFCs (2011 – 2020)
	Return on Assets	ROA	Profit after Tax / Total Assets	-	
	Return on Equity	ROE	Profit after Tax / Total Equity	-	
Independent Variables	Core Capital Adequacy Ratio	CCAR	Tier 1 capital / Total Risk **Weighted** Amount	Positive	
	Total Capital Adequacy Ratio	TCAR	Total capital / Total Risk Weighted Amount	Positive	
	LFC Size	SIZE	Log value of total assets	Positive	

Hypotheses of the Research

The following hypotheses are developed based on the literature review as a follow-up to the research questions and objectives of the study.

H0: There is no significant relationship between the capital adequacy and the profitability indicators of LFCs in Sri Lanka.

HA1: There is a significant positive relationship between the core capital adequacy ratio and the net interest margin of LFCs in Sri Lanka.

HA2: There is a significant positive relationship between the core capital adequacy ratio and the return on assets of LFCs in Sri Lanka.

HA3: There is a significant positive relationship between the core capital adequacy ratio and the return on equity of LFCs in Sri Lanka.

HA4: There is a significant positive relationship between the total capital adequacy ratio and the net interest margin of LFCs in Sri Lanka.

HA5: There is a significant positive relationship between the total capital adequacy ratio and the return on assets of LFCs in Sri Lanka.

HA6: There is a significant positive relationship between the total capital adequacy ratio and the return on equity of LFCs in Sri Lanka.

HA7: There is a significant positive relationship between the LFC size and the profitability indicators of LFCs in Sri Lanka.

Research Approach

The below conceptual framework clearly indicates that the capital adequacy is the independent variable, and the financial performance should be the dependent variable. The capital adequacy needs to be in line with the regulatory requirements that are specifically in place. However, it is possible that the capital adequacy levels could change depending on the situation that is in the discussion.

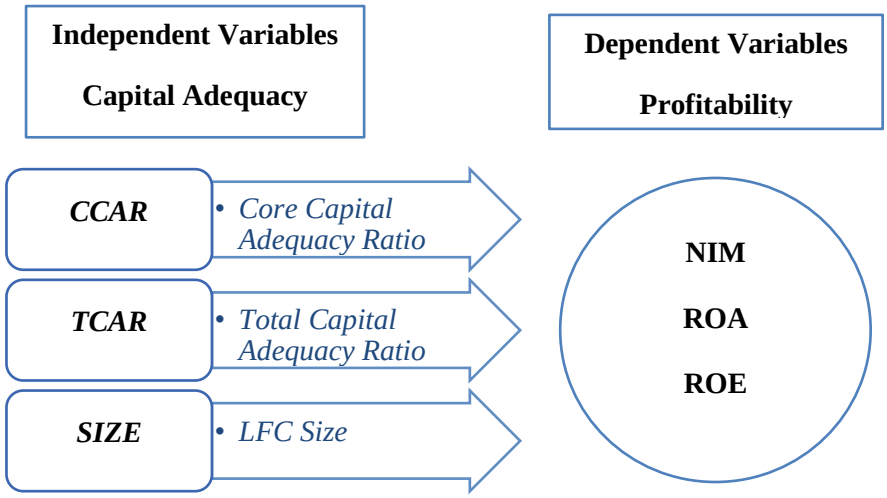

Figure 1 – Conceptual Framework

As depicted in figure 1 above, this study primarily aims at assessing the degree of correlation between the profitability of LFCs and capital adequacy requirements such as the core capital adequacy ratio, total capital adequacy ratio and LFC size. Therefore, this study is classified into the quantitative research approach.

Specification of Econometric Model

In order to identify the nature of the relationships between the variables, the study employs a theoretical linear regression model as depicted in the equation under the section on the Theoretical Regression Model. The theoretical model displays an extraction of the real world by compositing basic characteristics of an economic phenomenon where it is applied using the existing information of LFCs in Sri Lanka.

The economic models specified under the section **Empirical Regression Model** are derived from the theoretical model and past empirical studies. Each of the three regression models (ROA, ROE and NIM) is initially estimated. The regression models, in most past literature, were conducted based on either the Fixed Effects estimation or the Random Effects estimation. The Fixed Effects estimation assumes that the intercept of the regression model is consistent across different cross section units (LFCs). Hence, partial regression coefficients are assumed to exist across the different LFCs. Under the Random Effects estimation, it is assumed that a common mean exists for the intercept, while the error term portrays the effect of cross-sectional differences in the intercept values. Empirical studies have observed minor differences in the parameter values under the Fixed Effects estimation and the Random Effects estimation when the number of cross-sectional units is less while the number of time series is high. As the study is focused on panel data with 18 cross sectional units over 5 years, the Hausman test is conducted to select the most appropriate regression method i.e., the Fixed Effects estimation or the Random Effects estimation in order to derive the coefficient of the empirical econometric model.

Theoretical Regression Model

Based on the literature review, the statistical relationship between the profitability of LFCs and LFC capital adequacy variables can be expressed as follows:

$$\text{Profit} = f(\text{LFC Capital Adequacy}) \quad (1)$$

The above theoretical model is extended in the following manner to exhibit the linear regression equation:

$$Yit = C + \Sigma bXit + uit \quad (2)$$

Where:

Yit : Observation on profitability (NIM, ROA and ROE) for the LFCi for the period t

C : The intercept

Xit : The X^{th} capital adequacy characteristics of the LFCi for the period t

bi : Beta coefficients

uit : Error term

Accordingly, Equation (2) is estimated with Fixed Effects, where it is assumed those differences in characteristics of the LFCs are taken into account by differences in the constant term (intercept).

Empirical Regression Models

To apply the real data of the sample for the study, the theoretical linear regression model is transformed into the following three empirical models to reflect each dependent variable (NIM, ROA and ROE) and those three linear functional forms are adopted in this study as specified below:

(i) Model 1 - NIM:

$NIM_{it} = C + b1\ (CCAR)it + b2\ (TCAR)it + b3\ (SIZE)it + u\ it\ (3)$

(i) Model 2 - ROA:

$ROA_{it} = C + b1\ (CCAR)it + b2\ (TCAR)it + b3\ (SIZE)it + u\ it\ (4)$

(i) Model 3 - ROE:

$ROE_{it} = C + b1\ (CCAR)it + b2\ (TCAR)it + b3\ (SIZE)it + u\ it\ (5)$

Where;

ROAit	: Return on Assets for LFC i at time t
ROEit	: Return on Equity for LFC i at time t
NIMit	: Net Interest Margin for LFC i at time t
CCARit	: Core Capital adequacy ratio of LFC i at time t
TCARit	: Total Capital adequacy ratio of LFC i at time t
SIZEit	: Size of LFC i at time t
C	: Constant
b	: Factor coefficient
t	: 2011 - 2020
uit	: Error term

4. RESULTS AND DISCUSSION

The primary focus of the discussion is maintaining capital adequacy levels in LFCs in Sri Lanka. Capital adequacy level maintenance is important to make sure that LFCs have the ability to take risks without using shareholder funds. This is important to mitigate the exposure of shareholders to risks associated with investments. LFCs generally take higher risks in comparison to banks, and it is important that deposit holders are not exposed to undue risk levels accordingly. Right action needs to be taken to manage these challenges and meet the intended specific targets in terms of achieving maximum results. These are critical aspects which require attention when the overall findings of the study are considered.

LFCs and Capital Adequacy

LFCs have different capital adequacy ratios; the main justification is maintaining enough capital, since these companies have two main sources of funding for financing their operations. One is investor capital while mobilizing deposits from the public. Investors, on one hand, are exposed to high levels of risks; deposit holders should not be exposed to such high levels of risks. This is primarily since they earn a fixed level of return, and they should not be exposed to a risk level beyond the established fixed level of returns. However, if the profitability of a LFC is continuously decreasing, deposit holders may be exposed to high levels of risks since continuous losses affect LFCs 'sustainability. Accordingly, a clear understanding about capital adequacy levels has to be developed so that companies can make the right decisions. LFCs need to maintain a certain level of capital which is above the regulatory requirements directed by CBSL to ensure that they have met the required capital level to cover up the exposure of the risks associated with the different parties. Thus, LFCs are required to comply with the regulatory requirements of CCAR and TCAR to meet the intended targets and achieve the expected results in the future. Right action has to be taken to maintain the capital adequacy levels by LFCs by maintaining the adequacy capital level.

Behavior of the Employed Variables

When considering the behavior of the employed variables based on the data collected in the selected LFCs, Figure 2 indicates that although CCAR and TCAR exhibit a stable pattern, the variables NIM, ROA and ROE show a decreasing trend. Meanwhile, the Size of LFCs tends to increase.

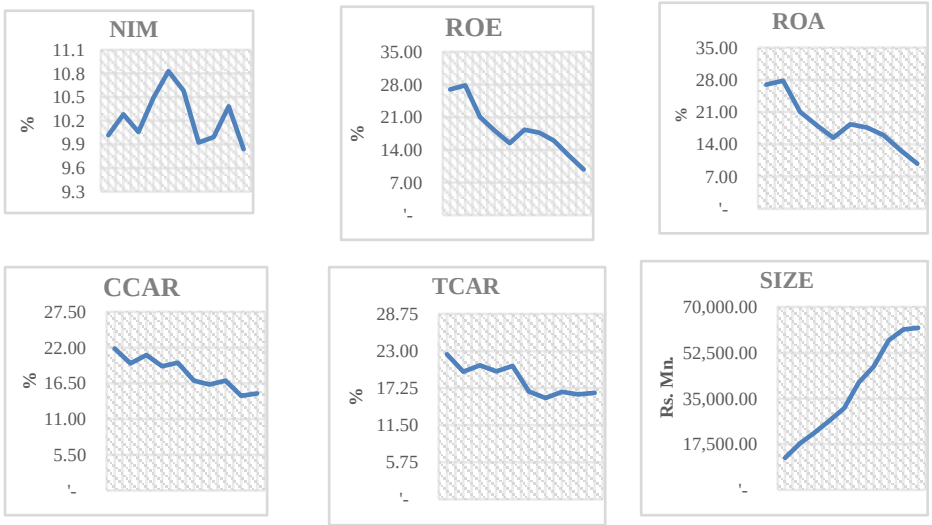

Figure 2 - The Behavior of the Employed Variables over the Period 2011-2020

Figure 4.1 above clearly shows that the LFC Size has aggressively increased over the ten-year period from 2011 to 2020 while ROA and ROE of LFCs have gradually decreased during the same period, and NIM has shown volatility over the period. The LFC industry has seen a decline of the capital adequacy levels over the past few years until 2019, and CBSL has intervened and carried out certain changes to the sector in order to reduce the structural deficiencies and the risk levels of the sector. The decline of capital adequacy might expose deposit holders to higher levels of risk. Thus, this is a main concern.

Descriptive Statistics

The descriptive statistics of the variables are presented in Table 3 NIM, ROA and ROE all have positive mean values i.e., 10.24, 3.56 and 18.38, respectively, with standard deviations of 3.92, 3.01 and 13.14 respectively, indicating that the data is relatively homogeneous. Variations in standard deviation of the variables reflect the behavior of the LFC sector profitability variables and their capital adequacy along the period of study. Low standard deviations of these variables imply the consistency of the data set i.e.; their values are close to their mean values.

Table 3 - **Descriptive Statistics**

Statistics	**Dependent Variables**			**Independent Variables**		
	NIM	**ROA**	**ROE**	**CCAR**	**TCAR**	**SIZE**
Mean	10.24	3.56	18.38	18.08	18.55	10.24
Max	19.31	26.23	69.78	49.92	49.92	11.32
Min	5.06	-3.13	-14.61	2.91	-0.72	8.74
Std. Dev.	3.92	3.01	13.14	8.04	7.84	0.60
Obs.	180	180	180	180	180	180

Source: Compiled by author

The mean values of CCAR and TCAR indicate that the LFC sector complies with the regulatory requirement of capital adequacy as the said means are above the required minimum level of capital adequacy. However, the minimum values of CCAR and TCAR i.e., 2.91 and -0.72 respectively show that there were LFCs which were below the required minimum level of capital adequacy during the period.

Relationship Analysis

In this instance, the independent variable of the study is the capital adequacy level; the capital adequacy level is evaluated in terms of the likelihood of its impact on the overall performance of the company in terms of measuring the overall profitability levels. When the overall outcomes related to these areas are analyzed, it can be ascertained that with the increase of capital adequacy, the overall trust factor related to these organizations would improve and because of this, the return generating capability of these companies would improve as well. The purpose of identifying the nature of the relationships between these variables is to evaluate if these relationships really exist in the context of Sri Lanka.

The relationships between the variables used in the model are also examined using correlations, and the correlations between the LFCs capital adequacy and the profitability of LFCs are shown Table 4 below.

Table 4 **- Correlation Analysis**

	CCAR	***TCAR***	***SIZE***	***NIM***	***ROA***	***ROE***
CCAR	1					
TCAR	0.8948	1				
SIZE	-0.3506	-0.3120	1			
NIM	0.2909	0.2694	-0.0382	1		
ROA	0.3847	0.3649	-0.1027	0.3267	1	
ROE	-0.1642	-0.1504	0.1874	0.2243	0.4613	1

Source: Compiled by author

According to Table 4 above, the correlation analysis shows that NIM and ROA have a positive and significant relationship with CCAR as well as TCAR. However, it is worth noticing that ROE is negatively related to CCAR and TCAR and it can be identified there is no relationship between ROE and capital adequacy ratios. Furthermore, it is observed that SIZE has a positive relationship only with ROE, while SIZE is negatively associated with NIM and ROA.

The above analysis clearly indicates that when the relationship between the capital adequacy ratios and each of the profitability measures were considered, they provided different scores as the outcomes affiliated with the study areas. Thus, the right measures need to be taken in order to identify how these areas are related to each other. The appropriate insights have to be gained in these areas specifically

NIM and Capital Adequacy: When NIM, CCAR and TCAR capital adequacy levels are considered, the overall scores received are 0.29 and 0.26 respectively; while this can be considered as weak scores, they still indicate

that there are modest positive relationships between CCAR, TCAR and NIM. The nature of the relationship is such that with the increase of capital adequacy levels associated with the given LFCs, the overall NIM levels would also increase. Accordingly, the organizations would have the ability to announce NIMs by increasing the capital adequacy ratios.

ROA and Capital Adequacy: The organizational capabilities to generate returns based on the assets remain another key area of importance which requires attention when organizational activities are considered. Right action is required to be taken to manage these specific areas and meet the desired results in the future. The ability to generate returns on assets is an important area which requires attention when overall capital adequacy is considered, and the scores of CCAR and TCAR have reached as 0.38 and 0.36, indicating a moderate relationship between these variables. Thus, while the relationship exists, the strength of the relationship can be considered low. However, it can be considered that with the increase of the capital adequacy levels, the return generating capability of the assets would increase.

ROE and Capital Adequacy: The relationships that have been identified between ROE and CCAR, TCAR remain -0.16 and -0.15 respectively and can be considered as there is no relationship between the variables. Thus, the above scores that have been recognized clearly indicate that the set ROE might not have been impacted by the capital adequacy levels associated with LFCs. Even though the overall pattern over the past ten years has been similar to the changes associated with the capital adequacy levels and the NIMs, the above analysis clearly indicates that capital adequacy levels might not be able to predict the overall return generating capability on the equity.

While the results in the above discussion clearly indicate that there could be a relationship between the variables, further investigation is required in order to establish them clearly. This would indicate if there were clear relationships between the variables and what action should be taken in order to manage these issues effectively. These are some of the important areas of consideration which require attention when capital adequacy levels of LFCs are considered.

Empirical Analysis

After estimating using the Pooled Ordinary Least Square method, panel regression was estimated in the Hausman test to select an appropriate method between random effect and fixed effect (Hausman test tables are given in appendices, p. 35). The Hausman specification test is commonly employed for selecting between the Fixed and Random Effects estimators for panel data. The Random Effects estimator is based on the assumption that there is zero correlation between the regressors and the error term, a situation that should

be considered the exception rather than the rule. It is therefore not surprising that this null hypothesis is frequently found not to withstand empirical scrutiny (Frondel, Vance, and Essen, 2009). In the case of panel data used, it is important to select the results of which one of the two methods i.e., Random Effect and Fixed Effect is appropriate. Basically, if the p-value is greater than 0.05, the null hypothesis is accepted, and then Random Effect is applied. If the p-value is less than 0.05, the null hypothesis is rejected, and Fixed Effect is considered. Accordingly, in this study, based on significance level, Random Effect was selected for NIM as p-value is 0.3995, and Fixed Effect was selected for ROA and ROE as p-values are 0.0001 and 0.0000, respectively. Further, in the ROA model, the heteroscedasticity problem arose. However, this problem was resolved using robust standard errors. Accordingly, the tables below present the regression estimation for NIM, ROA and ROE respectively. Each of the regression models represents a regression of one of the independent variables against the dependent variable.

Capital Adequacy against NIM: Table 5 below shows the regression estimates of capital adequacy ratios and NIM.

Table 5 – Regression Results on NIM

Dependent Variable: NIM; Method: Random Effect			
Sample: 2011-2020; Periods included: 10; Cross-sections included: 18; Total panel observations: 180			
Explanatory Variable (Expected sign)	**Coefficient**	**Std. Error**	**Prob.**
Constant	0.6521	6.3030	0.918
CCAR (+)	0.0110	0.0679	0.871
TCAR (+)	0.0668	0.0576	0.246
SIZE (+)	0.7954	0.5792	0.170

Source: Compiled by author

Accordingly, the result reveals positive relationships between CCAR, TCAR and NIM, which are according to our expectations. However, the p-values of CCAR and TCAR (0.871 and 0.246 respectively) were not statistically significant. Accordingly, these results tell us that the NIM does not directly explain the capital adequacy ratios of LFCs in Sri Lanka.

Capital Adequacy against ROA: Table 6 indicates the results of regression analysis on ROA. Accordingly, the results suggest a statistically significant and positive relationship between TCAR and LFCs ROA since the reported coefficient of TCAR has p-values of 0.001 and it is in line with expectations. Even though a positive relationship between CCAR and ROA was found it was insignificant as the p-value of CCAR is 0.697.

Table 6 – Regression Results on ROA

Dependent Variable: ROA; Method: Fixed Effect			
Sample: 2011-2020; Periods included: 10; Cross-sections included: 18; Total panel observations: 180			
Explanatory Variable (Expected sign)	**Coefficient**	**Std. Error**	**Prob.**
Constant	34.0236	5.2513	0.000
CCAR (+)	0.0251	0.0634	0.697
TCAR (+)	0.0923	0.0231	0.001*
SIZE (+)	-3.1851	0.4920	0.000*
R – squared		0.0198	
P – Value of the overall model		0.0000	

Note:* indicates statistical significance at 5%

Source: Compiled by author

Capital Adequacy against ROE: Table 7 below demonstrations the regression estimates of capital adequacy ratios and ROE.

Table 7 – Regression Results on ROE

Dependent Variable: ROE; Method: Fixed Effect			
Sample: 2011-2020; Periods included: 10; Cross-sections included: 18; Total panel observations: 180			
Explanatory Variable (Expected sign)	**Coefficient**	**Std. Error**	**Prob.**
Constant	176.3336	28.6548	0.000
CCAR (+)	0.0169	0.2827	0.952
TCAR (+)	-0.2120	0.2283	0.354
SIZE (+)	-15.066	2.6399	0.000*
R – squared		0.2885	
P – Value of the overall model		0.0000	
F statistic		11.5	

Note:* indicates statistical significance at 5%

Source: Compiled by author

According to the regression results on ROE as shown in the following table 4.5, a positive relationship between CCAR and ROA is observed, and it is also consistent with our expectations. However, the p-value (0.952) is not statistically significant—this does not reject the null hypothesis that the variable CCAR has no influence on ROA of LFCs in Sri Lanka. Also, a negative and insignificant relationship between TCAR and ROE was observed in LFCs of Sri Lanka as the reported p-value is 0.354, which does not confirm a direct relationship between these two variables. This is also in conflict with our prior expectation

LFC Size against Profitability: When considering the regression results on ROA and ROE, there exists a negative relationship between LFC Size and profitability in Sri Lanka, and the SIZE variable is statistically significant in terms of ROA and ROE with the p-value of 0.000. Also, a positive but insignificant relationship between SIZE and NIM was observed. These results clarify that SIZE does not explain the profitability of LFCs in Sri Lanka, and it is not in line with our expectations as we anticipated a positive relationship because empirical literature has proclaimed an indeterminate relationship between SIZE and profitability.

Discussion on Hypotheses Testing Outcomes

The study set out to establish the outcomes related to their hypotheses testing in order to evaluate how these relationships are constructed. Thus, these are some of the important aspects of consideration when it comes to the development of capital adequacy levels.

Table 8 - Hypotheses Testing Outcomes

Hypotheses	Correlation analysis outcome	Regression analysis outcome	Eventual outcome
H_{A1}: There is a significant positive relationship between CCAR and NIM of LFCs in Sri Lanka.	Accepted	Rejected	Rejected
H_{A2}: There is a significant positive relationship between CCAR and ROA of LFCs in Sri Lanka.	Accepted	Rejected	Rejected
H_{A3}: There is a significant positive relationship between CCAR and ROE of LFCs in Sri Lanka.	Rejected	Rejected	Rejected
H_{A4}: There is a significant positive relationship between TCAR and NIM of LFCs in Sri Lanka.	Accepted	Rejected	Rejected
H_{A5}: There is a significant positive relationship between TCAR and ROA of LFCs in Sri Lanka.	Accepted	Accepted	Accepted
H_{A6}: There is a significant positive relationship between TCAR ROE of LFCs in Sri Lanka.	Rejected	Rejected	Rejected
H_{A7}: There is a significant positive relationship between the LFC size and the profitability indicators of LFCs in Sri Lanka.	Rejected	Rejected	Rejected

The above analysis indicates the nature of the relationships between the variables and the hypotheses are accepted and rejected based on the findings of the study. Accordingly, CCAR and TCAR and profitability i.e., ROA have a positive relationship but only TCAR has a significant relationship. Thus, hypothesis HA5 is in line with the study's expectations while HA2 is rejected. Although past studies on capital adequacy and profitability of LFCs in Sri Lanka were not available, when considering other studies on the same, but with regard to banks, Mathuwa (2009), Ahmad and Ahmad (2017), Mwai, Jagongo and Fredrick (2017), Asikhia and Sokefun, (2013), and Agbeja, Adelakun and Olufemi (2015) have found a positive and significant relationship between capital adequacy ratios and ROA of banks. However, Chandrasekaran (2020) has observed no significant positive relationship between capital adequacy ratios and profitability of banks in Sri Lanka, and the finding of this study discussed above is in contradiction to other researchers, Aruwa and Naburgi (2014), Rufo and John (2017), and Pasaman (2017), who have found that capital adequacy ratios have an insignificant relationship with ROA.

The capital adequacy of LFCs does not significantly influence NIM and ROE of LFCs in Sri Lanka. Hence, hypotheses HA1, HA3, HA4, and HA6 were not supported. Like many other researchers, Chandrasekaran (2020) has found an insignificant relationship between NIM and capital adequacy of banks in Sri Lanka and Abugamea (2018) has observed the same. However, Hope (2017) has observed that capital adequacy ratios are significantly and positively related to NIM and ROE, and the results of the study conducted by Mathuwa (2009) show that ROE is positively related to capital adequacy ratios.

5. CONCLUSION AND RECOMMENDATIONS

In this paper, an empirical framework was specified to investigate and examine the capital adequacy requirements that influence the financial profitability indicators of LFCs in Sri Lanka over the period 2011 – 2020. Accordingly, two main capital adequacy ratios i.e., Core Capital Adequacy Ratio (CCAR) and Total Capital Adequacy Ratio (TCAR) and size of LFCs were identified as independent variables, and using these three variables, measures of profitability of LFCs i.e., Net Interest Margin (NIM), Return of Assets (ROA) and Return of Equity (ROE) were investigated. According to the results of the study, capital adequacy indicators of LFCs in Sri Lanka i.e., CCAR and TCAR were found to have a direct and significant influence on only ROA, while the other two variables of profitability of LFCs i.e., NIM and ROE did not show any direct relationship with CCAR and LFC, which is the main innovation of the study relating to the LFC industry in Sri Lanka.

The results of the study suggest that in general, LFCs which maintain their capital adequacy levels well contribute towards increasing their profitability. A LFC with well-maintained ROA is expected to have higher safety of its stakeholders and this superiority would increase investor confidence and contribute to the long-term sustainability of LFCs. Since ROA of LFCs would be increased in capital adequacy, all LFCs need to develop their own internal policies to ensure that they have a clear set of capital adequacy expectations in place. Also, CBSL needs to take more significant measures and appropriate actions on capital adequacy requirements for long-term sustainability of LFCs in Sri Lanka.

Policy Recommendations

Based on the results and discussion of the study, it can be recommended that LFCs need to focus on improving their capital adequacy levels since capital adequacy would reduce the risks associated with the investments of these LFCs as ROA would be increased in capital level of LFCs. Therefore, LFCs need to maintain strong capital adequacy levels and an acceptable risk portfolio so that they would be able to attract investors / customers and retain them in the long run. Also, while CBSL directs to the regulatory required levels of capital adequacy, all LFCs need to develop their own internal policies to ensure that they have a clear set of capital adequacy expectations in place, and long-term customer trust would be developed accordingly. Thus, this is an important area that needs to be prudently considered in terms of risk management aspects of the LFCs in Sri Lanka.

Furthermore, to maintain financial system stability in Sri Lanka, regulatory authorities are recommended to:

- enhance the existing rules for mitigating risk within the LFC sector in Sri Lanka considering the international regulations designed on capital requirement, since LFCs in Sri Lanka also mobilize public deposits like banks;

- improve the prevailing laws and regulations focusing on strategic monitoring, supervision and evaluation on capital adequacy requirements for long-term stability of LFCs, especially assessing the impact of the COVID-19 pandemic;

- encourage and facilitate research on determinants of capital adequacy of LFCs to take more significant measures and appropriate actions aimed at tightening the risk management of LFCs in Sri Lanka as CBSL has sufficient financial data of LFCs; and,

- expedite the publication of important financial information of each LFC in a timely manner for the benefit of all stakeholders and usage of further research with a special focus on LFCs in Sri Lanka.

Limitations of the Study

This study is conducted in the absence of local literature on capital adequacy and profitability of LFCs in Sri Lanka, and the scope of the study is limited to 18 LFCs with the financial data of the said LFCs related to only a 10-year period due to the lack of published data about LFCs. Hence, further research on this study area is needed to investigate and examine the relationship between capital adequacy and profitability of LFCs in Sri Lanka by incorporating further variables and increasing the sample size and number of observations using appropriate econometrics methods. Those would help to add more value to the LFC regulatory framework and build investors 'trust in the LFC sector in Sri Lanka.

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APPENDICES

Appendix 01: Hausman Test Tables

```
                 ---- Coefficients ----
              |      (b)          (B)            (b-B)     sqrt(diag(V_b-V_B))
              |    NIM_FE       NIM_RE       Difference          S.E.
--------------+----------------------------------------------------------------
    CORECAR   |   -.0180184     .0110662      -.0290847        .0271427
   TOTALCAR   |    .0818629     .0668248       .0150381        .0129187
      LOGTA   |     .972024     .7954925       .1765315        .3625345
--------------+----------------------------------------------------------------
                          b = consistent under Ho and Ha; obtained from xtreg
           B = inconsistent under Ha, efficient under Ho; obtained from xtreg

   Test:  Ho:  difference in coefficients not systematic

                 chi2(3) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                         =        2.95
               Prob>chi2 =      0.3995
```

```
                 ---- Coefficients ----
              |      (b)          (B)            (b-B)     sqrt(diag(V_b-V_B))
              |    ROA_FE       ROA_RE       Difference          S.E.
--------------+----------------------------------------------------------------
    CORECAR   |    .0251477     .0903477          -.0652        .0382611
   TOTALCAR   |    .0923686     .0697554        .0226132        .0074622
      LOGTA   |   -3.185177     -.549472       -2.635705        .5221675
--------------+----------------------------------------------------------------
                          b = consistent under Ho and Ha; obtained from xtreg
           B = inconsistent under Ha, efficient under Ho; obtained from xtreg

   Test:  Ho:  difference in coefficients not systematic

                 chi2(3) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                         =       20.72
               Prob>chi2 =      0.0001
               (V_b-V_B is not positive definite)
```

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THE IMPACT OF GOVERNMENT EXPENDITURE ON INFLATION: EVIDENCE FROM SRI LANKA AND INDIA

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ABSTRACT

This study analyses the impact of government expenditure on inflation in Sri Lanka and India from 1977 to 2019, using ARDL Co-integration, Bounds test, Error Correction version of the ARDL model and the Granger Causality test, while employing inflation, government expenditure and interest rates as study variables. Results for both Sri Lanka and India reveal a statistically significant and a positive relationship between government expenditure and inflation in the long run: A 1% increase in government expenditure tends to increase inflation by 0.0793% and 4.6469% for Sri Lanka and India respectively. The coefficient of the Error Correction Term for both countries carry a negative sign and are statistically significant, indicating an adjustment towards equilibrium at a speed of 63.8% and 93.94% respectively, one period after exogenous shocks. Granger causality test indicates a unidirectional causality stemming from government expenditure towards inflation only in the case of Sri Lanka. This highlights Sri Lanka's need to manage its public expenditure and its impact on money supply in order to achieve price stability. It is advisable for fiscal as well as monetary

policy makers to work closely so as to control inflationary pressure on the economy resulting from rising government expenditure.

Keywords – Government Expenditure, Inflation, ARDL Model, Sri Lanka, India

1. INTRODUCTION

Since the beginning of the Global Financial Crisis in 2008, with nominal interest rates being close to zero, fiscal stimulus in the form of government spending has become a more popular tool used by governments to stabilize and stimulate economies (Buchhols, 2021). The purchase of goods and services by the country's central government, such as public consumption, public investment, and so on, is referred to as government expenditure. The general government total expenditure as a percentage of GDP for Sri Lanka and India were 21.93% and 31.05% respectively in 2020 (Countryeconomy.com, 2022). It is generally argued that fiscal imbalances due to higher government expenditure might have played an important role in explaining price fluctuation in every country.

Increase in the general price level of goods and services is known as inflation. In comparison to the previous year, India's inflation rate was roughly 6.18% whereas it was 6.15% for Sri Lanka in 2020 (World Bank Development Indicators, 2022). In 2020 the worldwide inflation rate amounted to approximately 3.2 percent (Neill, 2021). Many factors such as monetary, fiscal and public finance factors cause inflation. Within the monetary approach, Friedman (1963) argues that inflation is always and everywhere a monetary phenomenon. From the fiscal perspective, Fiscal Theory of Price Levels (FTPL**)** indicates that the fiscal authority that determines prices rather than the monetary authority, as opposed a theorized by the monetarists (Nguyen,2014, Tiwari et al., 2012). In addition, Keynesian economic Explanation is the key theory that establishes a connection between government expenditure and inflation. Within this school of thought, government expenditure (G) is taken as a part of aggregate demand which, in the face of short-run inelastic aggregate supply, can induce an inflationary pressure on the economy.

On the other hand, there are enough evidence among the previous studies related to the relationship between government expenditure and inflation. For example, Nguyen (2014) found that from the fiscal policy perspective government spending can be one of the contributing factors to rising inflation and it affects inflation indirectly through money creation.

The stabilization of the general price level has become a major macroeconomic objective of the monetary authorities. Inflation affects all aspects of the economy, from consumer spending, business investment and employment rates to government programs, tax policies, and interest rates. Demand often outstrips supply of goods during the boom stage of an economic cycle, allowing producers to increase prices. As a result, the rate of inflation increases. Therefore, an analysis of economic history reveals that inflation has been a major issue for policy makers in both Sri Lanka and India. Because, countries have been thrown into long periods of instability due to inflation.

In sum, Expansionary fiscal policy which is increasing government expenditure can temporarily enhance overall demand and economic growth. This increase in demand exceeds an economy's production capacity; the resulting strain on resources is reflected in "demand-pull" inflation. Policymakers must keep the balance between boosting demand and growth when necessary without inflation. Therefore, it is timely needed to explain inflation phenomenon through the central government expenditure in India and Sri Lanka as a comparative study. So, this paper aims to examine the impact of government expenditure on inflation in Sri Lanka and India over the period from 1977 to 2019. More specifically, it investigates the government spending- inflation relationship in the long-run and in the short-run.

2. LITERATURE REVIEW

Theoretical Framework

Keynesian economic explanation

This is a key theory that establishes a connection between government expenditure and inflation. Within this school of thought, government expenditure (G) is taken as a part of aggregate demand which, in the face of short-run inelastic aggregate supply, can induce an inflationary pressure on the economy. Furthermore, government expenditure can stimulate private consumption in an economy increasing aggregate demand even more.

The theory also focuses on the sources utilized by the government to finance the said expenditure since burrowing from local sources can both dampen the funds available for the private sector investments and private consumption at the same time raising the market interest rates. This is known as the crowding-out-effect and it further lowers the output and a decreasing output in the face of increased aggregate demand is once again resulting in a rise in the general price levels of the economy.

Monetarist point of view

From a monetarist point of view inflation is a "monetary phenomenon" (Solomon and de Wet, 2004, in Tiwari et al., 2012). Fisher's equation of Quantity Theory of Money explains how a rise in money supply can cause a rise in the price levels of an economy. This can be connected to government expenditure via government budget deficits, funding of which can lead to inflationary pressure. If the government chooses to print money in order to finance its deficit, according to the Fisher's equation:

MV=PY

{Where, M –money supply, V-velocity of money, P- price levels, Y- output}

Given that V and Y are constant, an increase in M is countered by a proportional increase in P, in other words, inflation. Following this theory, an economy's budget deficit and the burden that G can add to an already existing deficit can ultimately worsen a country's price stability.

Fiscal Theory of Price Levels (FTPL)

A theory "developed by Woodford (1994, 1998), Leeper (1991), Sims (1994), and Cochrane (1998, 2001) and extended to an open economy by Daniel (2001)" (Tiwari et al., 2012) rejects the idea that money creation is the only conveyer of inflation from a fiscal policy change. "In other words, FTPL theory says that a fiscal dominant (i.e., non-Ricardian situation) regime may arise when fiscal policy is not sustainable and government bonds are considered net wealth" (ibid.). This makes it impossible for the monetary authorities to adhere to the plans of holding prices stable (Leeper, 1991; Sims, 1994; Cochrane, 2001, in Afonso et al., 2018).

According to this theory, the monetary authority does not have to print money to keep up with rises in G. If the Fiscal Policy causes G to rise independently of monetary authority, then the public savings (Taxes- G) will fall. This fall in savings will then cause prices in the economy to rise. Furthermore, if the monetary authority choses primary surplus without a constraining effect from public debt, the prices will have to adjust the size of the budget constraint. It becomes possible if the prices are endogenous. The proponents of the theory suggest that the existence of nominal government bonds ensures the practicality of the theory. This indicates that it is the fiscal authority that determines prices rather than the monetary authority, as opposed a theorized by the monetarists (Nguyen,2014, Tiwari et al, 2012).

Empirical Review

In the literature, few studies directly focus on the effect of government expenditure on inflation in both Sri Lanka and India. On the other hand, the number of studies focuses on the effect of budget deficit/ fiscal deficit on

inflation instead government expenditure and, the researchers discuss how government expenditure impacts inflation through the relationship between budget deficit and inflation

Kulatunge (2017) examines the dynamics of inflation in Sri Lanka using the co-integration approach on quarterly time series data. He employed inflation, economic growth, government expenditure, exchange rate, money supply, oil prices and interest rates as the variables for the study. According to his study results, he found that in the long run, all selected variables including government expenditure are determinants of inflation in Sri Lanka. According to the estimated impulse response function, all selected variables excluding government expenditure have an effect on inflation in the short run. Devapriya and Masaru (2012) have done their research work to investigate the relationship and causal structure between government budget deficits, deficit financing sources, and inflation in Sri Lanka for the time period from1950 to 2010. Their estimated results reveal that all coefficients are positively correlated with inflation, and that the budget deficit and inflation have a bi-directional causal relationship. Therefore, Researchers suggest to the policy makers to minimize the money supply burden in the monetary sector, the government can choose from a variety of borrowing options to finance their deficit in Sri Lanka.

Ekanayake (2012) focused on two propositions of fiscal-based theories of inflation in light of the Sri Lankan experience from 1959 to 2008. The MIU model (money-in-the-utility function), the ARDL model, the ECM version of the ARDL model, and the Bound Test were used as the methodology. Ekanayake also has used additional variables such as import price index, public sector wage expenditure, trade openness while selecting similar variables such as CPI and budget deficit. Ekanayake has showed that in the long run, a one percentage point increase in the ratio of the fiscal deficit to narrow money is associated with about an 11 percentage point increase in inflation. Public sector wage cycles underlie the weak relationship between the fiscal deficit and inflation. According to study results, he concludes that inflation is not only a monetary phenomenon in Sri Lanka. Further, public sector wages are a key factor that links the fiscal deficit and inflation and it explains the deficit-inflation relationship.

Nguyen (2015) investigates the effects of the fiscal deficit and broad money M2 supply on inflation in nine Asian countries; Sri Lanka, Bangladesh, Cambodia, Indonesia, Malaysia, Pakistan, the Philippines, Thailand, and Vietnam in the period from 1985 to 2012. The Panel Differenced GMM (General Method of Moment) Arellano-Bond estimator was used as the analytical techniques while choosing fiscal policy variables such as fiscal deficit and government expenditure, monetary policy variables such as broad

money M2 supply and interest rate, and some control variables such as real GDP per capita, exchange rate, and trade openness to investigate effects on inflation. Nguyen has found through his study results that fiscal deficit and government expenditure are the statistically significant determinants of inflation in both methods of estimation and interest rates also cause inflation in the case of Sri Lanka. Therefore, Nguyen concludes that the fiscal deficit, government expenditure, and interest rates are positively correlated with inflation. Therefore, he has commented that the governments of Asian countries should be careful about those variables of fiscal and monetary policies when applying these policies to foster the economy, because they can contribute to high inflation.

Habibullah et. al. (2011) also have done a research work to determine the long-run relationship between budget deficit and inflation in thirteen Asian developing countries: Indonesia, Malaysia, Philippines, Myanmar, Singapore, Thailand, India, South Korea, Pakistan, Sri Lanka, Taiwan, Nepal, and Bangladesh for the time period from 1950-1999. According to study results, researchers found that inflation and budget deficits are co-integrated and that budget deficits cause inflation in the long run. The error-correction term also indicates the speed with which deviations from long-run equilibrium will be corrected. This appears to take place quite slowly, ranging from 32 percent for India to 13 percent for Sri Lanka. The case of Sri Lanka did they find budget deficits to cause inflation in the short run. Therefore, they conclude that budget deficits are inflationary in the selected Asian developing countries.

Few studies in the literature examine government expenditure and inflation in India. While investigating causality, some of these studies attempt to establish short-run and long-run relationships between government expenditure and inflation. For example, Tiwari et. al., (2012) examine the direction of causality among the fiscal deficit, government expenditure, money supply, and inflation in India based on the period from 1970-71 to 2008-09. To achieve their study objectives, they used Dolado and Lütkepohl (DL) (1996) and the Granger-causality approach. They used fiscal deficit, inflation, money supply, and government expenditure as the variables for this study. Estimated results show that inflation does not Granger-cause any of the variables. They have concluded that a reduction in the fiscal deficit may help contain "crowding out" and thus boost investment, which, concomitant with an increase in productivity and production, may help control inflation. Moreover, Nguyen (2014) investigates the long-run and short-run impacts of government spending on inflation in three Asian emerging economies; India, Indonesia, and Vietnam. This study was based on the Johansen co-integration test and the Vector Error Correction Model, and it was performed under two cases, which are the bivariate vector error correction model and the trivariate system. In the first case, variables growth rate of the annual consumer price index

(CPI) and the growth rate of government spending as a percentage of GDP were used, and under the trivariate system, researchers added a new variable, which is the nominal exchange rate. The data from 1970 to 2010 were used for this study. According to estimated results, the bivariate model shows that in the long run, government spending has a positive impact on inflation in all three countries, and government spending causes inflation in the case of India in the short run. Results for India and Indonesia indicate that if inflation deviates from its equilibrium level, government spending will influence bringing inflation back to its long-run level. Moreover, the bivariate model shows that government spending and inflation are positively correlated both in the long-run and in the short-run for India and Indonesia. In the case of Vietnam, government spending appears to have a positive impact on inflation only in the long-run. In the trivariate model, the researcher found that government spending as a share of GDP is statistically significant and positive in the cases of India and Indonesia. In the case of Vietnam, although the sign and size stay the same, government spending is not statistically significant. Therefore, he has commented on the study results that unexpected increases in government spending will likely put upward pressure on inflation, which in turn may hurt growth.

Dikeogu (2018) examines the effect of public spending on inflation in Nigeria from 1980 to 2017. Auto-Regressive Distributed Lag (ARDL) model was performed to analyze data on public capital, recurrent spending as public spending variables, and money supply and exchange rate. According to study results, Cynthia has shown that public capital spending impacts negatively on inflation, and government recurrent spending has a negative and insignificant impact on inflation. Supporting to Cynthia's study in 2018, George-Anokwuru and Ekpenyong (2020) also found that in the long run, government expenditure has a negative and statistically significant impact on inflation in Nigeria. In the short run, government expenditure has a positive and insignificant impact on inflation rate between 1999 and 2019. There was another study done by Oloyungbo (2013) to examine the asymmetry causal relationship between government spending and inflation in Nigeria from 1970 to 2010. He has employed a Vector Auto Regressive model to analyze the data. He found a unidirectional causality that stemmed from negative government expenditure changes to positive inflation changes in VAR. Therefore, Oloyungbo concludes that inflationary pressure in Nigeria is state-dependent, high inflation caused by low or contractionary government spending. These findings differ from previous reviewed literature for Sri Lanka and India. For both countries, previous study results revealed that government spending impacts positively on inflation. Anyhow, Cynthia suggests that the government needs to ensure appropriate channeling of its expenditure on infrastructural development in order to stimulate investment and production, thereby stabilizing the price. Also, there is a need for the

government to efficiently engage monetary policy instruments that are adequate in ensuring a given level of money supply that stabilizes prices.

Numerous research works support economic theories in the cases of selected Asian emerging economies, while some studies report debating results and comments. In the case of Sri Lanka and India, selected articles report the same result: that government spending causes inflation. In the case of Nigeria, Cynthia (2018), Anokwuru and Ekpenyong (2020) and Oloyungbo (2013) have shown through their study results that government spending has a negative impact on inflation.

Accordingly, studies related to the impact of government spending on inflation, though few in number, are available for both Sri Lanka and India. And also, there are similar studies found for other Asian economies as well as countries all around the world. However, a larger proportion of these studies analyze the nexus between government expenditure and inflation, indirectly, by looking at government budget deficit and the resulting inflationary situations. Thus, the aim of this paper is to fill that existing gap in literature and provide a side by side analysis of two economies that heavily depend on government expenditure; Sri Lanka and India. Furthermore, given the economic crisis experienced by Sri Lanka in the post COVID period and the impacts of the pandemic on the South Asian Economies including India, there is a timely need to examine the causal relationship between inflation and government spending within the two countries in order to figure out if a cut in government expenditure may lead to the expected impacts on the economy's inflationary pressure.

3. METHODOLOGY

India and Sri Lanka share numerous commonalities due to their proximity and shared history. Both countries are dealing with rising government spending and a budget deficit. Both are pursuing regulatory reforms in order to cut government spending. However, increased government spending leads to higher inflation. In this study, we employ annual time series data from Sri Lanka and India over the period of 1977-2019 to examine the causal relationship between inflation and government expenditure. The data of consumer price index (CPI), government expenditure (GE) and interest rate (IR) were extracted from the World Development Indicator of the World database. First two variables are transformed into natural logarithms. Following the empirical literature (e.g., Nguyen (2015)) in related to inflation and government expenditure, we develop the long-run relationship between the variable as below:

$$LCPI_t = \beta_0 + \beta_1 LGE_t + \beta_2 IR_t + U_t \qquad (1)$$

Where, variables name are as explained above, U_t is the white noise error term and t illustrate the time period. The estimation of equation (1) begins with the identification of the order of integration of each variable using Augmented Dickey Fuller (ADF) unit root test for this analysis. In the second step of the estimation procedure, we have to identify the optimal lag length that can be used in the model. There have been several methods proposed to deal with the problem of correctly determining the proper lag length for time series models. There are several criterions such as sequentially modified Likelihood Ratio (LR) statistics, Akaike Information Criterion (AIC), Swartz Information Criterion (SC), Hannan-Quin Information Criterion (HQIC) and Final Prediction Error (FPE) to select the optimal lag length that can be included in a time series model. However, we will adopt either one or more of these criterions in our analysis according to results and the requirements. In the third step, we use ARDL cointegration technique developed by Pesaran et al. (2001) to empirically estimate the dynamic relationship between the variables described in equation (1). An ARDL representation of equation (1) is formulated as follows:

$$\Delta LCPI_t = \delta_0 + \delta_1 LCPI_{t-1} + \delta_2 LGE_{t-1} + \delta_3 IR_{t-1} + \sum_{i=1}^{q1} \beta_{1i} \Delta LCPI_{t-i} + \sum_{i=0}^{q2} \beta_{2i} \Delta LGE_{t-i} + \sum_{i=0}^{q3} \beta_{3i} \Delta IR_{t-i} + e_t \quad (2)$$

Where, Δ denotes the first difference operator, δ_0 is the drift component, e_t is the white noise error term, $\delta_1 \rightarrow \delta_3$: denotes the long-run coefficients, the remaining expressions with the summation sign ($\beta_{1i} \rightarrow \beta_{3i}$) represent the short-run dynamics of the model. Net, it has been employed the Bound testing procedure for equation (2) to identify the existence of the cointegrating relationship between the variables. Once we confirmed the cointegrating relationship among the variables using above test, in the next step of the estimation procedure we obtain the short run dynamics of parameters and long run adjustment of the model by estimating the error correction version of ARDL model pertaining to the variables in equation (2) is as follows:

$$\Delta LCPI_t = \delta_0 + \sum_{i=1}^{q1} \beta_{1i} \Delta LCPI_{t-i} + \sum_{i=0}^{q2} \beta_{2i} \Delta LGE_{t-i} + \sum_{i=0}^{q3} \beta_{3i} \Delta IR_{t-i} + \lambda ECT_{t-1} + V_t \quad (3)$$

where, λ: speed of adjustment coefficient which should have statistically significant and negative sign to support the long run adjustment towards steady state line, V_t: pure random error term.

Finally, Granger causality test was employed to check the causality relationship between the variables, which is given below:

$$\Delta LCPI_t = C_i + \sum_{i=1}^{p} \alpha_i \Delta LGE_{t-i} + \sum_{i=1}^{p} \beta_i \Delta LCPI_{t-i} + U_{1t} \quad (4)$$

$$\Delta LGE_t = C_i + \sum_{i=1}^{p} \delta_i \Delta LGE_{t-i} + \sum_{i=1}^{p} \gamma_i \Delta LCPI_{t-i} + U_{2t} \quad (5)$$

4. RESULTS AND DISCUSSION

Table 1a and table 1b presents the result of the augmented Dickey-Fuller (ADF) test for all series involved in the analysis in logarithmic form in levels and first-differenced.

Table 1a: Unit root test (Sri Lanka)

Variable	Level	1st Difference	I(0)/ I(1)
LCPI	0.9847	0.0003*	I(1)
LGE	0.6780	0.0000*	I(1)
IR	0.0003*	0.0000	I(0)

Note: *indicates that variables are statistically significant at 1% level.

Table 1b: Unit root test (India)

Variable	Level	1st Difference	I(0)/ I(1)
LCPI	0.1771	0.0115**	I(1)
LGE	0.0328**	0.0000	I(0)
IR	0.0004*	0.0000	I(0)

Note: *, **indicates that variables are statistically significant at 1% and 5% level, respectively.

Augmented Dickey-Fuller (ADF) tests for Sri Lanka and India show that the consumer price index (LCPI) is non-stationary in level and becomes stationary after first difference. The ADF test were confirmed that Interest rate is stationary in level for both Sri Lanka and India. The government expenditure (LGE) is non-stationary in level and becomes stationary after the first difference for Sri Lanka while LGE is stationary in level for India. So we perform ARDL Bounds test to examine the existence of a cointegrating relationship between government expenditure and inflation. Test results are given in table 2a and 2b. Akaike Information Criteria (AIC) suggested the use of ARDL (1, 1, 1) model for both Sri Lanka and India.

Table 2a: The results of ARDL (1, 1, 1) Model (Sri Lanka)

Panel A: F- Test for the existence of a cointegration			
F- Bound test 95% level of confidence			
F- Statistics	Lower Bound	Upper Bound	
11.93362	3.1	3.87	
Panel B: Long run coefficient estimates			
Constant	LGE	IR	R^2
2.411737	0.079376**	-0.099647***	0.9993
(0.9287)	(0.0191)	(0.0697)	

Note: P- Value is given in parenthesis. **, *** indicates that variables are statistically significant at 5% and 10% level, respectively.

In Table 2a, calculated F- Statistics is 11.93 which is higher than the upper bound critical value (at 5% level of significance), which indicates that there exist cointegrating relationships between the variables considered in this study for Sri Lanka. This infers that all the explanatory variables simultaneously and jointly influenced the variations in the inflation. According to the regression results, LGE has a significant and positive impact on LCPI in the long run. If government expenditure is increased by 1%, inflation increases by 0.0793%, while other things being constant (Possible justification for the positive relationship between government expenditure and inflation is discussed in theoretical review). These results suggest that continuously increasing government expenditure will worsen the price stability in Sri Lanka. Further, IR has a significant and negative impact on LCPI. If the interest rate increased by 1%, inflation decreased by 0.0996%, while other were constant. In general, as interest rates are reduced, more people are able to borrow more money. The result is that consumers have more money to spend. This causes the economy to grow and inflation to increase.

Table 2b: The results of ARDL (1, 1, 1) Model (India)

Panel A: F- Test for the existence of a cointegration			
F- Bound test 95% level of confidence			
F- Statistics	Lower Bound		Upper Bound
10.10650	3.1		3.87
Panel B: Long run coefficient estimates			
Constant	LGE	IR	R^2
-4.264452	4.646972*	-0.294304*	0.9994
(0.2908)	(0.0015)	(0.0010)	

Note: P- Value is given in parenthesis. *indicates that variables are statistically significant at 1% level.

In Table 2b, calculated F- Statistics is 10.10 which is higher than the upper bound critical value (at 5% level of significance), which indicates that there exist cointegrating relationships between the variables considered in this study for India. This infers that all the explanatory variables simultaneously and jointly influenced the variations in the inflation. According to the regression results, LGE has a significant and positive impact on LCPI in the long run. If government expenditure is increased by 1%, inflation will be increased by 4.6469%, while other things being constant. Further, IR has a significant and negative impact on LCPI. If interest rate is increased by 1%, inflation will be decreased by 0.2943%, while other things being constant. In the long run, there is a positive relationship between government expenditure and inflation in both countries. But the impact of government spending on inflation is greater in India than in Sri Lanka. George-Anokwuru and Ekpenyong (2020) also found the same conclusion for Nigeria, that in the long run, government expenditure has negative and statistically significant impact on inflation.

Table 3a: The results of Error correction representation for the selected ARDL (1, 1, 1) Model (Sri Lanka)

Short run coefficient estimates and error correction representation				
Lag order	**$\Delta LCPI$**	**ΔLGE**	**ΔIR**	**ECT(-1)**
0		0.658653***	-0.007537*	-0.638668*
		(0.0946)	(0.0000)	(0.0034)
1	1.106639*	0.026536	0.002316**	
	(0.0000)	(0.4789)	(0.0262)	
R^2	0.757786			

Note: P- Value is given in parenthesis. *, **, *** indicates that variables are statistically significant at 1%, 5% and 10% level, respectively.

Accordingly, ECT (-1) carries a negative sign, which is significant, indicating that there should be an adjustment towards a steady state line with the speed of 63.8% one period after the exogenous shocks in Sri Lanka. The results also provide support to the Keynesian view that one of the possible channels through which government spending can influence inflation is through its effects on aggregate supply and aggregate demand. Government spending boosts aggregate demand through increase in public consumption and investment. Current year IR has a negative and significant impact on LCPI. Whereas, the previous year LCPI, IR (at lag1) and current period LGE have a positive and significant impact on LCPI in the short run. Nguyen (2015) concludes that the fiscal deficit, government expenditure, and interest rates are positively correlated with inflation in short run for Sri Lanka. The Fisher hypothesis suggests that there is a positive relationship between inflation and the interest rate in any economy in the world. This notion is based on the understanding that both variables are money driven affecting both the demand and supply side of an economy, as in the case of debtors and creditors (Semuel & Nurina, 2014). In the short run, with supply being inelastic, increased demand will push prices up. On the supply side, as the government raises its spending or public savings drops, interest rates will rise and investment of the private sector will consequently shrink. As a result, aggregate supply contracts, pushing prices even higher.

Table 3b: The results of error correction representation for the selected ARDL (1, 1, 1) model (India)

Short run coefficient estimates and error correction representation				
Lag order	**$\Delta LCPI$**	**ΔLGE**	**ΔIR**	**ECT(-1)**
0		0.006962	-0.002589 ***	-0.939410*
		(0.9211)	(0.0683)	(0.0001)
1	1.201637*	0.153534**	-0.002050	
	(0.0000)	(0.0238)	(0.1394)	
R^2	0.613303			

Note: P- Value is given in parenthesis. *, **, *** indicates that variables are statistically significant at 1%, 5% and 10% level, respectively.

Accordingly, ECT (-1) carries a negative sign, which is highly significant, indicating that there should be an adjustment towards a steady state line with the speed of 93.9% one period after the exogenous shocks in India. However, long term adjustment speed is higher in India than Sri Lanka. The previous year LCPI and LGE (at lag 1) have positive and significant impact on LCPI in the short run. Further, current year IR has a negative and significant impact on LCPI of India. Next, it has been checked the diagnostics of the selected model for both countries. The results are given below:

Table 4a: The results of diagnostic test (Sri Lanka)

Diagnostic	Test applied	P- Value	Conclusion
Serial correlation	Breusch-godfrey serial correlation LM test	0.1007	No serial correlation
Normality	Jarque- Bera	0.341167	Error is normal
Heteroscedasticity	White test	0.7571	No heteroscedasticity
Omitted variable	Ramsey RESET test	0.0186	No omitted variables

Table 4b: The results of diagnostic test (India)

Diagnostic	Test applied	P- Value	Conclusion
Serial correlation	Breusch-godfrey serial correlation LM test	0.3106	No serial correlation
Normality	Jarque- Bera	0.532726	Error is normal
Heteroscedasticity	White test	0.4662	No heteroscedasticity
Omitted variable	Ramsey RESET test	0.3931	No omitted variables

The results of the diagnostic tests show that model for both Sri Lanka and India are correctly specified and the parameters are correctly estimated. Because, all the diagnostics test probability values greater than the significant level of 1%.

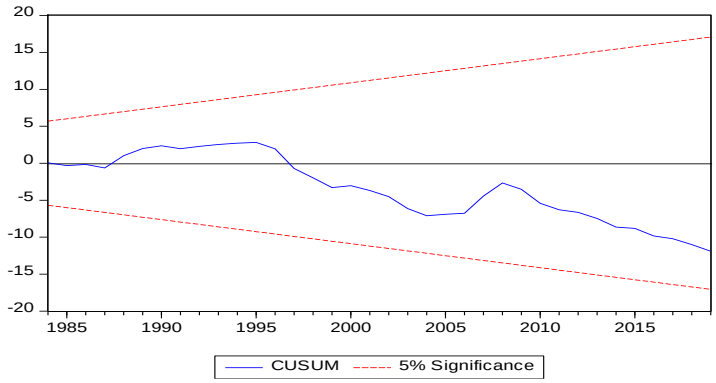

Figure 1a: Cusum test for model stability (Sri Lanka)

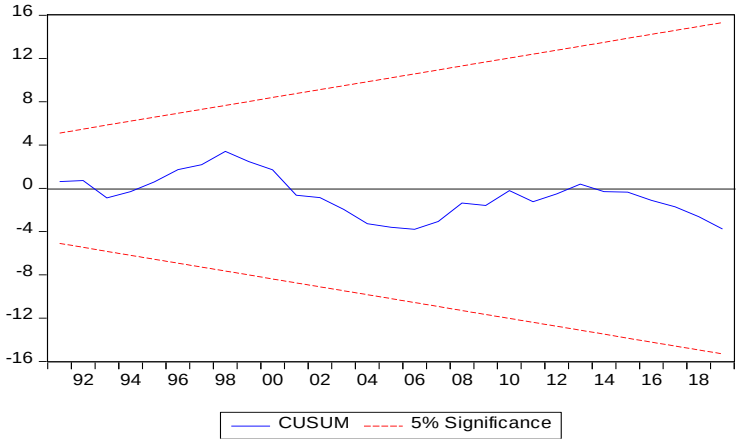

Figure 1b: Cusum test for model stability (India)

Based on the figure 1a and 1b residual lines are within the red line. The residual line is lies within the 5% critical line, which proves models are stable for both Sri Lanka and India.

Table 5a: The results of Granger Causality Test (Sri Lanka)

Null hypothesis	Obs	F- statistics	Prob.
D_LGE does not Granger Cause D_LCPI	40	4.08088**	0.0255
D_LCPI does not Granger Cause D_LGE	40	1.30810	0.2832

Note: ** indicates that variables are statistically significant at 5% level.

The table 5a above and 5b below shows the results of Granger causality test for Sri Lanka and India. The Granger Causality test results for Sri Lanka suggest a unidirectional causality that runs from government expenditure to inflation.

Table 5b: The results of Granger Causality Test (India)

Null hypothesis	Obs	F- statistics	Prob.
D_LGE does not Granger Cause D_LCPI	40	0.98657	0.3830
D_LCPI does not Granger Cause D_LGE	40	0.63923	0.5337

The Granger Causality test results for India suggest that there is no causality relationship between government expenditure and inflation. Some of the existing empirical literature also found similar to these findings for India (Habibullah et. al., (2011) and Tiwari et. al., (2012)).

In summary, the ARDL Bound test and Error Correction Model results show that government spending and inflation are positively correlated both in the

long-run and in the short-run for Sri Lanka and India. Further, the Granger Causality test emphasized that there is a unidirectional causality that runs from government expenditure to inflation in Sri Lanka. But there is no causality relationship between government expenditure and inflation in India.

5. CONCLUSION AND POLICY IMPLICATION

The study was aimed at conducting a comparative analysis between Sri Lanka and India, with respect to the impact of each country's government expenditure on inflation. The study used annual time series data from 1977 to 2019 for both countries and the ARDL Co-integration technique developed by Pesaran et al. (2001) was followed to empirically estimate the dynamic relationships between the two variables: Government Expenditure and Inflation. For better interpretation, the model also included Interest Rates as another explanatory variable. Bounds testing technique was employed to identify the existence of co-integrating relationship as well as long run correlation between variables. Once we confirmed the co-integrating relationship, the short run dynamics of parameters and long run adjustment of the model were estimated by the error correction version of the ARDL model pertaining to the variables in the equation. As the final step, Granger Causality test was used to test the the causality between the variables.

The results for Sri Lanka reveal that there is a statistically significant and positive relationship between government expenditure and inflation in the long run. That is 1% increase in government expenditure tends to increase inflation by 0.0793%, other things held constant. This suggests a possible worsening of price stability in the face of continuously increasing government expenditure. Similarly, the regression output of India indicates that government expenditure has a positive and a statistically significant impact on inflation in the short run as well as in the long run. The results indicate that a 1% increase in government expenditure leads to an increase in the inflation by 4.6469%, depicting that the impact of government expenditure on inflation in India is much higher than that of Sri Lanka. The coefficient of Error Correction Terms (ECT) of Sri Lanka and India carry a negative sign and are statistically significant indicating that there should be a significant adjustment towards steady state line at a speed of 63.8% and 93.94% respectively for Sri Lanka and India, one period after the exogenous shocks. The results also provide support to the Keynesian view that one of the possible channels through which government spending can influence inflation is through its effects on aggregate supply and aggregate demand. Government spending boosts aggregate demand through an increase in public consumption and investment. This can also be explained by looking at the funding sources for government expenditure. If the expenses were met by raising taxes this could be the possible negative impact on private consumption as explained in the

theoretical section of the paper. However, if the expenses are covered via printing money, following the Fisher equation, there will be, once again, inflationary pressure on the economy.

The results of Granger causality test for Sri Lanka suggest a unidirectional causality stemming from government expenditure towards inflation whereas results for India does not identify any causality relationship. Tiwari et al, (2012) also detected similar evidence with respect to India. Thus, this indicates that it is only within Sri Lanka that the government has shown evidence as a factor causing inflation.

Looking at the existing literature, Ekanayake (2012) has come to similar conclusions with respect to government expenditure and its impact on inflationary pressure. Nguyen (2015) has proved that fiscal deficit and government expenditure are statistically significant determinants of inflation.

In sum, the analysis' congruency with the theories as well as empirical evidence makes it clear that government expenditure has a positive and significant impact on inflation in both India and Sri Lanka. There exists, within the Sri Lankan context, a unidirectional impact on inflation coming from government expenditure however, no such causality can be detected for India.

This highlights Sri Lanka's need to manage its public expenditure and its impact on money supply in order to achieve stability in price levels. It is advisable for fiscal as well as monetary policy makers to work closely in policy management so as to control inflationary pressure on the economy resulted by rising government expenditure. Cutting unnecessary public expenditure and privatization of low performing government enterprises to increase efficiency and gains too can be taken up as measures along the way to reducing overall public expenses. Government should also focus on increasing its revenue base by improving tax income. However, policy makers should be vigilant in increasing government revenue without posing too much pressure on the lower income earners when restructuring the tax system. Furthermore, same vigilance is required when it comes to cutting government expenditure for it might affect welfare programs benefiting the poor.

This paper attempts to fulfil the existing gap in literature surrounding a possible direct connection between inflation and government expenditure between government expenditure and inflation. Given the bulk of government expenditure in Sri Lanka and India and the rising inflation in both economies this study thus, fulfils a timely requirement.

Looking at the limitations of the study: The model only includes interest rates as a control variable since variables such as money supply and exchange rate

could not be included due to normality issue and the presence of auto-correlation. Furthermore, data before 1977 has been ignored as a result of Sri Lanka's structural changes. For future research, comprehensive analyses including years with structural changes and an extension of the same model incorporating more developing countries from the Asian region can be suggested.

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THE IMPACT OF COVID-19 ON THE AFRICAN ECONOMY AND THE ROLE OF GLOBAL INSTITUTIONS: A REVIEW

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ABSTRACT

Covid-19 became a global challenge even though the African Region's people were less affected as per reported statistics. The pandemic hit all economies resulting in the deterioration of critical economic indicators. It is evidenced by the abnormal fall of the prices in different sectors, such as energy, mining, agriculture, aviation, and travel industry, and in the financial markets, followed by abnormal unemployment across many sectors. This paper reviewed the impact of COVID-19 on the key economic processes in the African Region. Specifically, it looked at examining the role of leading global institutions in mitigating the economic impact of the pandemic to the countries of the African Region and the role of global institutions in uplifting the African economy. Due to a limited number of researches on the impact of Covid-19, data collection methods are the same as those applied in other systematic reviews. Reporting standards established by other social science journals; the evaluation, statistical and meta-analytic literature; and expert opinions. Two independent reviewers abstracted the study, reconciled it with the development team, and provided feedback. The covid-19 pandemic hit several economic areas such as agriculture, mining, aviation industry, and financial markets. African countries took several initiatives to fight against the Covid-19 pandemic in collaboration with global

institutions such as WHO and IMF. African countries took initiatives in areas such as business innovation and financial support for financial institutions, improving health infrastructure and researches activities on Covid-19 as well improving people's livelihood. Also, African countries are recommended to follow global institutions' advice and guidelines for economic recovery.

Keywords – GDP, Unemployment, Financial Crisis, Price Index

1. INTRODUCTION

The novel Coronavirus has challenged global health, the global economy, and the entire social setup. With over 275 000,000 confirmed cases in 202 countries, by 23rd December 2021, had caused over 5,364,000 deaths (World Health Organization [WHO], 2021). Africa has 47 countries with more than 6,831,000 confirmed cases and more than 154,000 deaths (WHO Africa, 2021). According to UNHABITAT (2020), at the time of the Covid-19 outbreak, only two countries of Africa could test the disease. By 30th March 2020, all 47 countries could test for Covid-19. The extent to which governments can combat Covid-19 is, however, largely depend on the strength of their health systems. Life expectancy and universal health coverage are relatively lower in Africa compared to other continents. According to WHO (2019), Lower respiratory conditions coupled with the HIV epidemic represent the top two causes of both morbidity and mortality in Africa. Both of these can upsurge the deadliness of Covid-19 in Africa, along with other significant public health risks on the continent that have a solid relation to Covid-19. Furthermore, the mortality rate resulting from unsafe WASH services is higher in the African region than in any other world. Africa also has the least global health security (GHS Index, 2019).

Service disruptions associated with COVID-19 are impacting global efforts to end the epidemic of HIV, tuberculosis, and malaria. According to modelling exercises from the HIV Modelling Consortium in collaboration with the WHO and UNAIDS, a six-month 50% disruption in HIV treatment could lead to 300,000 extra AIDS-related deaths in sub-Saharan Africa. Over one year, a region where 440,000 people died of AIDS-related illnesses in 2019, bringing us back to 2011 (Hogan et al., 2020). Likewise, a six-month service disruption in programmes to prevent mother-to-child transmission of HIV could cause new infections among children by 40% - 80% in high-burden countries (Jewell et al., 2020). Africa is where many do not have access to social protection and adequate health care (ILO, 2017). Poverty is another usual threat (Brookings Institute, 2019). These govern how Covid-19 will impact the region, especially for marginalized groups. Already strained rural contexts

of the area are of more significant threat. The growing impact of COVID-19 is affecting health in terms of morbidity and mortality and quickly overburdening healthcare services with negative repercussions for non-COVID-related health problems. With the spread of the virus in the continent, containment measures, including social distancing, the closing of schools, the prohibition of gatherings, and the closure of non-essential businesses and economic activities, may have significant consequences (FAO, 2020; African Union [AU], 2020).

Higher malnutrition and diseases mean Covid-19 could be deadlier for the African population in general than on other continents. COVID-19 arrives at a time of unprecedented global need, with a record 168 million people already requiring humanitarian assistance at the beginning of this year. It is estimated that almost 690 million people went hungry in 2019, up by 10 million from 2018 and nearly 60 million in five years (WFP et al., 2020). Estimates suggest that COVID-19 could double the number of hunger in the world (WFP, 2020) despite the "Zero Hunger" goal. The Global Nutrition Report (2020) estimates that each percentage point drop in global GDP could add 0.7 million to the number of stunted children worldwide, which will affect poor and vulnerable households more because of existing income inequalities. In 2010, six out of the ten most unequal countries worldwide were in SSA, particularly Southern Africa (African Development Bank [AfDB], 2012).

There are also particular risks for enterprises in GSCs, linked to weakened trade and supply bottlenecks. These challenges are particularly significant in the lower tiers of supply chains where Small and Medium-sized Enterprises (SMEs) and informal workers are strongly represented. Especially in developing and emerging economies, most SMEs and casual workers are not directly connected to GSCs. SMEs are disproportionately affected due to their limited resources, their higher relative vulnerability to losses from social distancing measures, and their poorer access to finance than larger enterprises (OECD, 2020a). The latest estimates show that 94% of the global workforce live in countries with recommended or required workplace closures. Consequently, 165 million full-time workers lost their jobs during the first quarter of 2020 (ILO, 2020a).

Many emerging and developing countries rely on income support during the pandemic (Gentilini et al., 2020; ILO, 2020b, 2020c). As they expected to ensure income security, this support is indispensable in the context of COVID-19. For example, lockdown and social distancing measures have left millions of workers jobless and without protection, particularly informal workers. Addressing their basic food and health needs is pivotal (ILO, 2020d). Major contributors to Africa's GDP include; agriculture, forestry and fishing, tourism, industry and manufacturing, mining, and the financial sector, which

are now exposed to supply and demand-side shocks. In these sectors, workers cannot work from home, which increases job losses. Globally, most SMEs have less than one month of cash flow to stay in business (JP Morgan Institute, 2016).

Several empirical pieces of evidence are blooming in addressing the associated social and economic issues worldwide. However, this was not discussed in the African context, particularly within the frame of global institutions' assistance to minimise the impact and be resilient. By performing a review, this study aims at analysing the impact of Covid-19 on the African economy with a complimentary analysis of global institutions' role.

2. LITERATURE REVIEW

Covid-19 impact on different disciplines has turned into a hot topic in the academic arena. Several authors, both theoretically and empirically tried in analysing its effect on global economy (Ozili & Arun, 2020; Maital & Barzani, 2020; McKibbin & Fernando, 2020; Carlsson-Szlezak, Reeves, & Swartz, 2020, human relations (Singh, & Singh, 2020; He, & Harris, 2020; Saladino, Algeri, & Auriemma, 2020; Ibrahim, 2020), social issues (Singh, & Singh, 2020; He & Harris, 2020; Trougakos, Chawla, & McCarthy, 2020), technological issues (Dalal, 2020; Verma & Prakash, 2020; Singh, & Singh, 2020; He & Harris, 2020; Lone & Ahmad, 2020)…etc. However, country-specific analyses are still hardly found except few empirical contributions. Lack of country-specific systematic studies may be attributable to the non-availability of relevant data at regional levels. Importantly, being the second largest continent of the world in terms of population and size, Africa has not been reviewed for the impact of the Covid-19 pandemic. Further, Africa's prevailing fatal socio-economic issues such as HIV, Malaria, the Aging population, and poverty and malnutrition might tighten the deadly virus attack.

3. METHODOLOGY

The paper presents the impact of Covid-19 on the African economy and the potential role of Global institutions. Three scenarios are constructed based on the description from various research and reviews selected for the African economy. Afterwards, the paper assesses the impact of Covid-19 on the African economy, African countries' response, and global institutions' role. The report ends with a conclusion and key policy recommendations. The data collection procedure consisted of several interrelated steps. Initially, the authors tracked the article review process before classifying other intervention and evaluation characteristics. Then, the identification of other pertinent information and additional studies to be reviewed were performed. Since there are only a few researches regarding the impact of Covid-19 in Africa, the

methodology of data collection used for this review is the same as in other reviews; reporting standards established by other social science journals; the evaluation, statistical and meta-analytic literature; and expert opinions. Two independent reviewers abstracted the study, reconciled it with the development team, and provided feedback. The results of descriptive analysis adopt the narrative style of presenting.

4. RESULTS AND DISCUSSION

4.1. Impact of Covid-19 on African Economy

The pandemic is at a less advanced stage in Africa due to its fewer international migrants' arrivals relatively to Asia, Europe, and North America and strong precautions measures in some African countries. African economies remain informal and extroverted and vulnerable to external shocks. Beyond its impact on human health, COVID-19 disrupts an interconnected world economy through global value chains, which account for nearly half of international trade. The disruptions were abrupt fall in commodity prices, fiscal revenues, foreign exchange receipts, foreign financial flows, travel restrictions, declining tourism, frozen labour market, etc. (AU, 2020). However, although it is difficult to measure the exact impact of COVID-19 on the world economy, some stylized facts can show how the world economy and Africa, in general, will be affected.

4.1.1. A Considerable Tumble in Commodity Economy

Commodity prices around the world have fallen significantly since the coronavirus outbreak. The fall of prices may be attributed to the fall in demand in China, where manufacturing, air travel, and transport fuels have been severely affected (Ake International, 2021). The global supply chain and financial system have been disrupted. In particular, lockdowns and the halting of international travel have reduced fuel consumption and caused a lack of oil demand (Shaikh, 2021). Commodity prices reacted strongly to the COVID-19 crisis, showing significant daily and weekly declines since February 2020. Price volatility across all types of commodities has also increased. In particular, the ups and downs of oil prices in March and April 2020 exceeded the fluctuations experienced during the global financial crisis of 2008–2009. In addition, the volatility of metal and agricultural commodity prices exceeded the levels of recent years (Troster & Küblböck, 2020).

(a) Energy: Crude Oil, Natural Gas, and Coal

The outbreak of COVID-19 has had the most significant impact on the crude oil market. Brent crude oil prices have declined 70% from their January peak, and a historically significant production cut by OPEC+ failed to lift prices (World Bank, 2020). The price of Brent crude fell from just under $59 a barrel on February 19 to a 20-year low of around $20 a barrel in late April, before an

agreement from OPEC+ countries to slash global output helped prices recover to current levels of about $41. Also, in late April, with storage capacity running dangerously low in the US, the price of West Texas Intermediate (WTI) crude oil futures plummeted into negative territory for the first time in history (OECD, 2020b), with prices falling as low as -$40 a barrel.

This impact of the price slump was felt in particular by the African continent's net energy exporters, which in many cases affects GDP and revenue from the sale of hydrocarbons. Due to higher oil prices, governments in these countries have had to cut expenditure or source additional finance to adjust to the fall in revenue. Governmental attempts to seek complementary sourcing are more evident in all countries other than Nigeria, Africa's largest oil producer. Oil makes up about 10% of Nigeria's GDP; it accounts for 57% of government revenues and more than 80% of exports. The World Bank predicted that Nigeria's energy sector is set to shrink by 10.6% this year. In response to the price fall, the government's revised budget, passed by Parliament on June 10, altered the Baffeschmark oil price from $57 a barrel to $25, while officials also approved $5.5bn in additional loans to help fund the new budget deficit (Ivudria, 2020; Oxford Business Group, 2020; Orient Energy Review, 2020).

According to the International Energy Agency (IEA) (2020), oil and gas revenues for several key producers fall by between 50% to 85% in 2020; compared with 2019, the losses could be more significant depending on future market developments. The present crisis is happening in the broader context of a declining market for fossil fuels due to commitment towards decarbonisation by several countries and the technological advancement that is gradually making renewable. The largest share of commodity-dependent countries globally is in Africa. Oil and gas make up the majority share of total merchandise exports in a range of developing countries, including Algeria, the Islamic Republic of Iran, Iraq, Libya, and Timor-Leste (UNCTAD, 2019). Between 2011 and 2013, the top ten African oil-exporting countries' crude oil sales were more than 50% of their government revenues and more than 75% of export earnings (Gillies et al., 2014). Despite the global focus on energy transitions and repeated calls to diversify their economies, some countries are more concentrated on commodities than ever (UNCTAD, 2020) energies the preferred energy option (Lahn & Bradley, 2020; Elgouacemi et al., 2020).

Natural gas and coal prices declined in 2020 but have been less affected by COVID-19 than oil because they are primarily used for electricity generation and other industrial and residential uses rather than for transport. The weakness in natural gas prices was due to weak demand and ample global supply. Heating demand at the start of 2020 was fragile due to the hot winter across the world, while COVID-19 mitigation measures have increasingly impacted demand toward the end of the quarter and into April. 40% of natural

gas is used for electricity and around 15% for industrial uses, both of which are increasingly affected by shutdowns (World Bank, 2020).

(b) Agriculture

Global agricultural markets have been less affected so far than industrial commodities. Prices of the leading food commodities have declined by about 9% since January 2020. However, the spread of the COVID-19 pandemic added an entirely different set of factors. Among them were weaker demand, a sharp reduction in input costs, trade restrictions, disruption in supply chains, a much stronger U.S. dollar, and panic buying. Most food commodity prices declined in response to mitigation measures to contain the spread of the COVID-19 pandemic, record production for some grains, and favourable weather conditions in key producing regions. Rice prices, however, increased due to announcements of policy restrictions by some East Asian producers and weather-related production shortfalls (World Bank, 2020).

The World Bank's Raw Materials Price Index gained 1.6% in 2020 first quarter but stood more than 2% lower than a year ago. The Index was expected to decline marginally in 2020 before gaining 1.6% in 2021. Also, other crops such as cotton and natural rubber had begun experiencing considerable losses in March and early April, as mitigation measures to contain the spread of the COVID-19 pandemic reduced transportation considerably. Numerous tire manufacturing facilities have temporarily closed worldwide, especially in Europe, and more than two-thirds of natural rubber supplies are for tire manufacturing. Not only those but also the World Bank's Fertilizer Price Index dropped 4.5% in the first quarter of 2020, the seventh consecutive quarterly decline. In 2020, the Index was projected to fall by 9.9% as the global fertilizer supply remains plentiful. Risks to this outlook are broadly balanced. Upside risks include prolonged widespread supply disruptions, while downside risks include a slower-than-expected recovery in demand (Baffes,n.d; World Bank, 2020).

Social distancing requirements and travel restrictions have prevented farmers from sowing their crops, leading to labour disruption and wreaking havoc on supply chains. As a result, there's been a 30% rise in global food prices since the start of 2020 and a decline in the household incomes of some smallholders farmers, which make up more than 60% of Africa's population (Root, 2021).

(c) Metal Product: Precious Metal

The World Bank's Metals and Minerals Price Index fell 4.7% in the first quarter of 2020 following two consecutive quarterly declines. Despite unprecedented stimulus measures to support demand, the fall reflects a sharp slowdown in global manufacturing due to the COVID-19 pandemic. Rising supply disruptions for most metals have not offset demand losses. Metal

prices are projected to fall by 13.2% in 2020 on expectations of prolonged public health and economic crises. Risks to this outlook are tilted to the downside, including the possibility of a steeper collapse in global industrial demand and less effective policy stimulus (World Bank, 2020).

The World Bank's Precious Metals Index gained 5.4% in the first quarter of 2020, led by gold. The increase in gold prices reflects a flight to safe-haven assets in response to the volatility COVID-19 pandemic as major central banks eased monetary policy. The study of Lamouchi and Badkook (2020) has shown high volatility in gold prices since the emergency of Covid-19. However, silver and platinum prices declined as the slump in physical demand outweighed widespread production disruptions. Precious metals prices are expected to average 13.2% higher in 2020. Upside risks to this outlook arise from a sharper than anticipated global slowdown, while downside risks include further strengthening the U.S. dollar (World Bank, 2020).

4.1.2. Aviation and Travel Industry

Business aviation was less affected than airline traffic, in that top executives' travel is often considered essential. London Biggin Hill Airport reported traffic around 30% of 2019 levels, with transatlantic traffic strong. Once lockdown restrictions are eased, business aviation has an opportunity to capture premium passengers who might previously have chosen airlines but who may prefer the social distancing afforded by a private jet (Murdo, 2020). New research from the International Air Transport Association (IATA) shows the impact on the African aviation industry and economies caused by the shutdown of air traffic due to the COVID-19 pandemic (IATA, 2020).

On 5 March 2020, IATA estimated that the airline industry could lose between US$63 to 113 billion of revenues due to the reduced number of passengers (Financial Times, 2020). IATA had previously estimated revenue losses of around US$30 billion two weeks before their 5 March estimate (CNN, 2020). By 17 March, IATA had stated that its 5 March estimate was "outdated" and that airlines would require $200 billion in bailouts to survive the crisis (Bloomberg, 2020). IATA further revised their revenue loss estimate on 24 March to be $252 billion globally, a 44% drop (Flight Global, 2020; Pierce,2020). An estimate published on 14 April forecasted a revenue drop of 55% and a traffic drop of 48% in passenger count for 2020 (Lewis, 2020). In Africa, Mauritius as from March 2020, suspended all international flights. After making losses for quite years, Air Mauritius entered voluntary administration (Business Traveller, 2020). South African Airways was placed in bankruptcy protection in December 2019. The pandemic led to the complete grounding of all flights. The government refused to make more finance available. The airline is heading for a winding down process, or

liquidation, depending on the outcome of negotiations with unions and workers on retrenchments (Writer Staff, n.d).

4.1.3. African Financial Market

According to IMF (2020), AU (2020), Oxford Economic (2020), ECA (2020), the forecast of economic growth has shown a negative projection. The GDP growth has led to an unexpected fall since the 2019 emergency of the COVID-19 pandemic. Also, researchers such as Adesina (2020), McKinsey (2020), Toure (2020), Coulibaly and Madden (2020) have shown unexpected contraction in African GDP's growth in their studies.

Most African countries lack the fiscal space to respond adequately to the crisis due to economic turmoil after the pandemic because of business contraction between Europe, China, and Asia, including India. Africa could lose up to 20% to 30%of its fiscal revenue because of the pandemic, estimated at 500 billion. African industries import over 50% of their industrial machinery and manufacturing and transport equipment from outside the continent. The lower value-added sectors such as agribusiness, flowers, or garments may suffer the most from shortages in supply and possible restoring of production activities closer to final markets. The contraction in economic activity will reduce Africa's domestic tax and non-tax revenues, and the reduction might be more than proportional concerning the contraction in GDP. The crisis will also affect non-tax revenues, especially rents from exploiting natural resources.

Economic conditions in both Africa and investor countries are affected by private foreign investment. If COVID-19 continues to act as a drag on high-income countries, fewer funds will be available for investment in Africa. At the same time, persistent real or perceived risk and lower growth prospects in Africa will reduce its FDI attractiveness. UNCTAD estimates a decline of up to 40% over 2020-21. Portfolio investors searching for safe assets may further increase their sales of African bonds, stock and other financial assets, triggering more capital outflows. Remittances could decrease if the economic depression in OECD countries and oil-producing countries reduces the income of the African diaspora. Remittances are the most significant source of external financial flows to Africa. World Bank estimates that remittances flow to Sub-Saharan Africa will decrease by 23% in 2020, compared to 20% globally (OECD, 2020).

4.1.4. The Rise of Global Unemployment

With an informality level of over 80%, the continent's labour force often lacks insurance for lost income (ILO, 2018). Working hours during the first quarter of 2020 declined by the equivalent of 130 million full-time jobs. The organization expected that the results could worsen in the second quarter of 2020, with the number climbing to 305 million full-time jobs. This is due to

lockdown measures (ILO, 2020e). Informal workers also often fall through the cracks of social protection systems, lacking access to unemployment and health insurance (Packard et al., 2019). In Africa, at the beginning month of the pandemic, the income of informal workers in the region reduced by 81%. In Africa, 85.8% of employment, and 95% of youth employment, is casual. Therefore, a country, especially African governments, has been subject to affecting by the COVID-19 pandemic, and it needs great attention to overcome this problem as well as to save their economies from recession (Munyati, 2020).

Global forecasts for South Africa's GDP and employment losses tend to be higher than South African government forecasts. IMF's June 2020 forecast for GDP contractions for advanced economies and sub-Saharan Africa indicated that employment losses would be the worst since the 1929 Great Depression and at least 1970 for many Sub-Saharan African economies, especially those reliant on tourism. According to current OECD forecasts, France, Italy, and the United Kingdom will all experience GDP contractions over 10 per cent and approaching 15 per cent. The second wave of July infections hitting the United States several months before the winter season begins means that global demand will already be far weaker than many forecasts. The OECD's June 2020 forecast was for unemployment rates to nearly double for OECD economies as a whole (OECD, 2020c).

4.2. African Countries Economic Response to the Covid-19 Pandemic

Several economic and financial interventions were taken by 20 African countries: Algeria, Coted' Ivoire, Ethiopia, Equatorial Guinea, Eswatini, Gambia, Ghana, Kenya, Nambia, Niger, Madagascar, Mauritius, Morroco. Rwanda, Seychelles, Sierra Leone, South Africa, Tunisia, Uganda, and Zambia. These responses include allocating funds for extraordinary emergence response, reducing interests rates for loans, supporting critical sectorsof the economy, allowing commercial banks to restructure outstanding loans of borrowers facing a temporary cash shortage, providing relief for the borrowers of the central Banks, and reducing the rate of compulsory reserves for borrowers during the pandemic (AU,2020).

4.3. Role of Global Institutions

4.3.1. The World Bank

In Africa, the World Bank's (2020) response is focused around four main areas: saving lives, protecting poor people, protecting and creating jobs, and building back better. Since the start of the pandemic in March 2020, the World Bank has made available nearly $12 billion across Africa to help countries respond to the COVID-19 crisis through a combination of new operations in health, social protection, economic stimulus, and other sectors,

as well as redeployment of existing resources. The World Bank has taken fast action to help African countries strengthen their pandemic response and health care systems. As of October 15, 2020, the first set of emergency health projects in 34 African countries have been launched and was focused on:

- Strengthening prevention and limiting local transmission through improved surveillance systems
- Training of front-line responders
- Supporting vulnerable populations affected by COVID-19 through food and cash transfers,
- Providing medical equipment,
- Improving healthcare facilities and communication systems, and Strengthening regional institutions such as the Africa Center for Disease Control and the West African Health Organization.

Also, the World Bank is supporting health, urban and resilience projects, including more than $316 million through the Contingent Emergency Response Component (CERC) projects in 16 countries.Faster vaccine deployment would accelerate the region's growth to 5.1 per cent in 2022 and 5.4 per cent in 2023 as containment measures are lifted faster and spending increases. The World Bank estimated that every month of delay costs the African continent $13.8 billion in lost GDP. When the COVID-19 is dawning, the world bank has committed over $39 billion for African countries out of $157 billion global commitment as immediate support to combat the impacts of the pandemic. The forms of support included:

Strengthening health systems and services.

- Establishing and expanding social safety nets.
- Weakening the economic effects of the crisis.

Many operations were focusing on the preparation for 2022. For instance, the World Bank has committed $2.92 billion to procure and deploy COVID-19 vaccines in 41 countries in the region (The World Bank, 2021).

4.3.2. The World Health Organization (WHO)

In responding to COVID 19 in the African region, the WHO drives on the goal to ensure that all countries in the African region rapidly establish and sustain the response capacities and capabilities required at national and subnational levels to contain the spread of COVID-19 and mitigate its impact. As per the WHO Regional Director for Africa, Dr Matshidiso Moeti, WHO has found critical gaps in readiness for countries across the continent. Hence, it was required to prioritize strengthening the capacities for governments to investigate alerts, treat patients in isolation facilities, and improve infection, prevention and control in health facilities and communities. Planning for

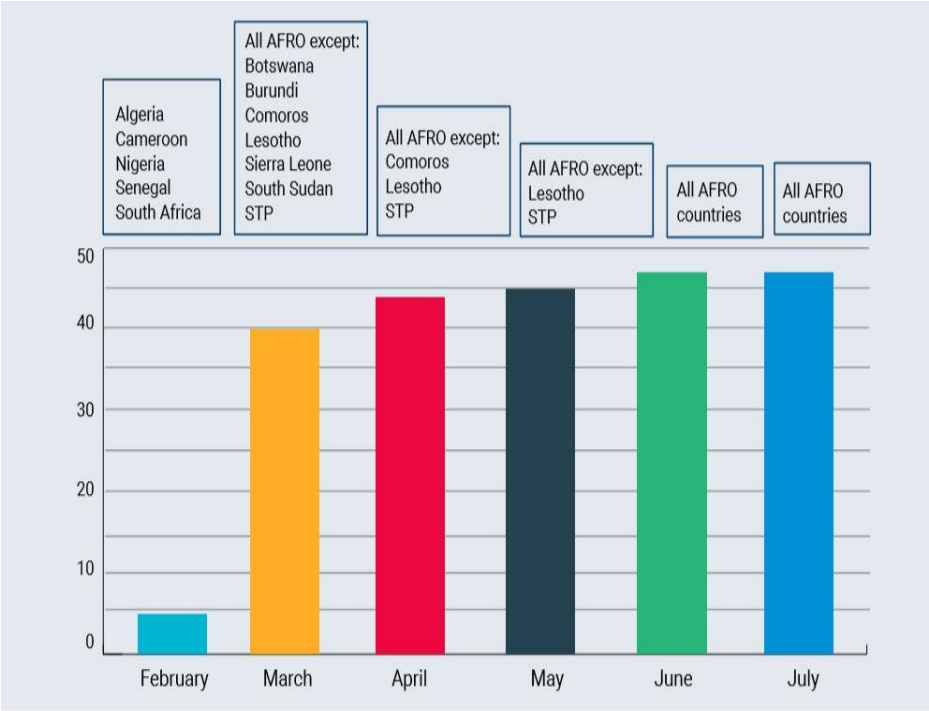
COVID 19 pandemic response activities in the African region was challenging to WHO due to the high rates of HIV/AIDS, tuberculosis (TB), malaria, poverty, and fragile health systems. The presence of millions of Internally Displaced Persons (IDPs), refugees, and other groups affected by protracted humanitarian crises in several African countries, natural disasters such as floods and locusts, prevailing outbreaks of Communicable diseases, including Ebola, Measles, and Cholera, and the ever-threatening issue of malnutrition too inflated the health threat caused by COVID-19 pandemic (WHO, 2020).

WHO took the initiative and coordinated among the member countries and the partners to bring a comprehensive Strategic Preparedness and Response Plan (SPRP) in February 2020, which laid down the initial preparation plan to minimize the spreading of the deadly COVID-19 virus the African member states. SPRP includes the projected precautions to be implemented at regional, national, and subnational levels to avoid transmitting the virus within and among the states. Resultantly, the member countries could fortify their capacity to counterattack the pandemic. SPRP was updated in May 2020 to align with the emergent developments of the pandemic. The Covid-19 was a test of Global solidarity. As a result, a COVID-19 regional incident management system in Dakar and Nairobi hubs was activated. This system facilitated all the regional countries by supplying operational and technical support in all aspects of COVID-19 readiness and response.

In February, the initial regional readiness assessment of 66% reached 80 per cent by June 2020. For example, the region's testing capacity for the COVID 19 showed steady growth during the reporting period of February to July 2020 (Figure 1). The rise in readiness was backed by the inaction of national emergency preparedness and response plans by all countries. As directed by the WHO, counties adapted their national emergency preparedness and response plans as the basis for national resource mobilization. Consequently, the readiness of capital cities, where the virus was first reported, was improved despite a few deviations reported at the district level. For the affected countries, this information of WHO's was the only reliable directive to plan escape routes.

WHO played an enormous role in combating the New Corona Virus attack in Africa. Many organizational groups (both formal and informal) and the donors of various scales maximized WHO's effort. Resultantly, WHO, whence the mainstream of essential medical supplies has flowed. For instance, "Solidarity Flights"; an initial response programme through which one million face masks, gloves, and other items of personal protective equipment (PPE) for treating 30,000 patients, 400 ventilators, 20,000 laboratory test kits per country, and other essential medical supplies to 52 African countries were

staged by the WHO in collaboration with national governments, the World Food Programme (WFP), the AU, Africa CDC, and the Jack Ma Foundation (WHO, 2020).



Source: WHO, 2020

Figure 1. Number of countries with covid 19 testing capacity in the African region (February: July 2020)

Moreover, WHO has also prepared a particular pillar in implementing the role of combating against Covid-19. This pillar is coordination and leadership, which involves strategic planning and management, mentorship and training, situation analysis, and support supervision. The Coordination and Leadership pillar is responsible for the overall management of the COVID-19 response and provides strategic leadership and day-to-day oversight and management of the response (WHO, 2020). For instance, table 1 lists selected leading supplies shipped to African countries by WHO from February to July 2020 since the inception of the pandemic.

Table 1. List of selected supplies to the African region by who from February to July 2020

Item	Quantity
Laboratory testing kits	2.2 million
Sample collection kits	1.9 million
Laboratory reagents	3 million
Oxygen concentrators	2112
Surgical Masks	1439750
N95 masks	24200
Glove	386300
Gowns	46779
Goggles	6930
Face shields	34510

Source: WHO, 2020

4.3.3. International Monetary Fund (IMF)

The effects of the COVID-19 pandemic hit the economies of the developing countries incredibly as they have got significantly less than developed countries to invest for bouncing back. The IMF suggested that debtor countries stand together to initiate negotiations with creditors for possible debt standstills, restructuring, and debt cancellation. As to IMF (2020), African countries have shown green light in taking the lead towards this negotiation process. Overseas Development Institute (ODI): a registered charity institute operating in 50 countries, coordinated the effort of 18 African countries to coordinate and collaborate the debt issues common to African countries in general in the dawn of the pandemic (ODI, 2020).

In response to the financial crisis parented by the COVD-19 pandemic, the IMF has initiated special measures to bring down monetary reliefs to debtor countries, benefitting many African countries. The IMF initiatives are briefed as follows.

- The IMF supports recovering from the COVID-19 crisis in terms of policy advice, financial support, capacity development, and debt relief for the developing countries. IMF extends its assistance to over 160 countries in developing their capacities to mitigate the issues brought by the pandemic. This assistance is multitudinous such as financial supervision, cyber security, economic governance, dispatching emergency financing, grants for debt relief, calling for bilateral debt relief, enhancing liquidity, adjusting existing lending arrangements, policy advice, and capacity development.

- IMF, through its Rapid Credit Facility (RCF), Rapid Financing Instrument (RFI), and augmentations of existing Fund arrangements, has immediately responded to about 81 requests (as of October 2020) for emergency financing from the member countries for the urgent balance of payments support.

- IMF has constituted a Qualifying Public Health Disaster (QPHD) under the Catastrophe Containment (CC) Window of the Catastrophe Containment and Relief Trust (CCRT) aiming to materialize the finding assistance for debt reliefs. Accordingly, 29 of its poorest and most vulnerable member countries of IMF were facilitated by granting debt relief from April 2020 to April 2021. WHO's assessment is also considered as an alternative assessment. IMF negotiated with the World Bank, International Institute for Finance (IIF), and G20 for suspending the debt service payment from poorest countries initially until October 2020, which was later extended to until end-June 2021.

- Six months of immediate debt relief facility (w.e.f. April 14, 2020) was granted to all member countries, costing about SDR 13 million. IMF has established a Short-term Liquidity Line (SLL) to ensure global financial safety. An extension of such debt service relief for up to two years was in action upon the board's determination that a worldwide pandemic exists.

- As an eligible criterion for the CCRT grant and as a push strategy to refuel the damaged economies, the IMF mandated authorities of all grant-seeking member countries to put a macroeconomic policy framework to address the balance of payments needs created by the global pandemic. IMF, subject to the availability of CCRT funds, is considering approving future tranches for all previously qualified countries at the expiry of the initial six months period. A re-applying and re-assessment were granted for future tranches to the present CCRT-eligible countries.

- A total of SDR 11 628.63 million equivalents to US$ 16 103.75 million funds (as of December 1, 2020) were approved for Sub-Saharan Africa under the RCF, ECF, EFF, and RFI schemes. Aggregately, a total debt service relief value of SDR 351.53 million / US, $488.7 million for 29 countries, was granted by the IMF in the first and the second tranches.

By 21st December 2020, a total of the amount in US$ 16,281.71 Million was approved by IMF as specific financial assistance for 34 African countries.

These countries are Angola, Benin, Burkina Faso, Cabo Verde, Cameroon, Central African Republic, Chad, Comoros, Congo, Cote d' Ivoire, Eswatini, Ethiopia, Gabon, Gambia, Ghana, Guinea, Kenya, Liberia, Lesotho, Madagascar, Mali, Malawi, Mozambique, Niger, Nigeria, Rwanda, Sao Tome and Principle, Senegal, Seychelles, Sierra Leone, South Africa, South Sudan, Togo, and Uganda. IMF, in the dawn of the pandemic, projected that the health crisis would lead to economic turmoil in the African region, reflecting three large shocks:

1. Disruption of production and a sharp reduction in demand
2. Spillovers from a sharp deterioration in global growth and tighter financial conditions
3. A severe decline in commodity prices

Resultantly, the region's economy was projected to contract by 1.6 per cent in 2020. In June 2020, the IMF commented that the situation worsened than anticipated in April. Thereby the region's economic activities have projected to contract by around 3.2 per cent. It has pointed out how the falling revenues and limitation of fiscal policies have constrained the governmental initiatives to support the economy. Further, the subsequent economic outlook of IMF in October 2020 pointed out how years of hard-won development have been jeopardized due to unprecedented health and economic crises. Yet, for 2021, it was expected to recover the regional growth by 3.1 per cent (IMF, 2020).

According to IMF (2021), Africa's growth performance and recovery pros-pects vary across regions. The average GDP decline of 2.1 per cent in 2020 and projected recovery to 3.4 per cent growth in 2021 mark significant. In East Africa, in 2021, the development of real GDP is launched at 3.0%, and in 2022, 5.6%. Southern Africa was the hardest hit by the pandemic, with an economic contrac-tion of 7.0 per cent in 2020. It was projected to grow by 3.2 per cent in 2021 and 2.4 per cent in 2022. GDP in West Africa was estimated to have con-tracted by 1.5 per cent in 2020, better than the initial projection of a 4.3 per cent decline in June. In Central Africa, real GDP was estimated to have contracted 2.7 per cent in 2020. Growth was projected to recover to 3.2 per cent in 2021 and 4 per cent in 2022 in Central Africa. The economies of North Africa contracted by an estimated 1.1 per cent in 2020, propped up mainly by Egypt, which maintained 3.6 per cent growth despite the relatively severe health impact of the virus in the country. The effects of COVID–19, internal conflict, and a drop in oil prices caused an estimated 60.3 per cent contraction of real GDP in Libya. North Africa was projected to experience a robust recovery of 4 per cent in 2021 and 6 per cent in 2022. Similarly, Africa's growth performance varies across country groups depending on structural characteristics.

5. CONCLUSION AND POLICY RECOMMENDATIONS

5.1. Conclusion

The COVID-19 has amplified the risks of the world's heavy dependence on a few countries for global supply chains of key products. African countries could position themselves better to attract manufacturing activities as international manufactur-ing firms seek to diversify the sources of supply geographically. For this, African countries need to continue to scale up their infrastruc-ture, improve logistics, invest more in skills development, reduce the cost of doing business and embrace digital technology more broadly, including by leveraging the AFCFTA. Africa could also use its recovery-related financing support to invest in renewable energy sources at a signif-icant scale and to move away from dependence on fossil fuels. Opportunities exist for governments to simultaneously strengthen their healthcare sys-tems and economies while also improving their preparedness and resilience to the impacts of climate change. Investments made today in the green economy can create millions of jobs in the energy, transport, agriculture, conservation, and manufacturing sectors. These investments are critical to attaining the AU's Agenda 2063 and the Sustainable Development Goals (United Nations, 2020).

According to World Economic Forum (2021), the following immediate relief and social protection should be taken by African countries: Scale-up measures to protect livelihoods, including through loans, guarantees, and tax breaks for large businesses and small and medium enterprises; support to critical sectors, such as tourism and the African airline industry, to ensure their sustainabil-ity and liquidity, including through loan guarantees and a temporary waiver of taxes; and cut the cost of remittance fees to close to zero, and at minimum to the 3 per cent, as called for in SDG 10.

5.2. Policy Recommendations

(a) Policies for regional integration and productive transformation of African economies should be prioritised in the medium to long term to reduce the continent's vulnerability to adverse external shocks. The acceleration progress towards the subsequent phases of the AFCFTA, notably on investment, competition policy, intellectual property rights and e-commerce, and the productive transformation of African countries and regions (AUC/OECD, 2019). Africa should support the transformation of the digital economy. Digitalisation can enhance the industrial performance of companies. Policies to scale up the digital transformation of African economies can induce fundamental changes in employment and production structures in Africa (AUC/OECD, forthcoming).

(b) Africa should focus on strengthening health systems, expanding social protection coverage, and integrating gender-sensitive responses as one of the priority policy actions to achieve the SDGs and AU's Agenda 2063. For ensuring this, Africa should also increase local drug manufacturing. Countries should use this opportunity to accelerate the implementation of the Pharmaceutical Manufacturing Plan of Africa and the establishment of the African Medicine Agency by prioritising investment for regulatory capacity development (ECA, 2020). Africa should respond to the changes expected after the COVID-19 crisis, as multinational enterprises from major economies may relocate production centres. Co-ordinated actions in attracting FDI and joint investment in regional public goods could boost local transformation and technology transfer (AU, 2020).

(c) Africa should focus on meeting the goal of at least one per cent of GDP in R&D, according to the 2017 commitment of AU countries, and improving the quality of spending. Productive transformation requires that countries mainstream, facilitate, and enforce technologies. Research and Development (R&D) pipelines for diseases that disproportionately affect African countries are insufficient. In general, only three African countries are close to one per cent of GDP in R&D spending (South Africa, Kenya, and Senegal, at around 0.8 per cent). Increasing R&D expenditure, including for health research (Simpkin et al., 2019), would help build the continent's resilience.

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