

The impact of Company-specific and Macro-economic factors on Company Performance: Evidence from Insurance Sector in Sri Lanka

Gunawardhane, H.P.T.D

University of Kelaniya, Sri Lanka

Wijesinghe, M.R.P

University of Kelaniya, Sri Lanka

Kavinda, D.D.C

The Institute of Chartered Accountants, Sri Lanka

Abstract

This study examines the impact of company-specific and macro-economic factors on insurance companies' financial and market performance in Sri Lanka. The analysis was conducted using a panel regression. The sample consisted of nine listed insurance companies from 2010 to 2019, inclusive of both years. Capital structure, capital adequacy, liquidity position, and company size were considered as company-specific factors, whereas inflation and GDP growth were considered as market-specific factors. Net profit margin, return on assets, return on equity, and earnings per share were considered to measure the financial performance. In contrast, market value-added (MVA) was used to measure the market performance. Capital adequacy and capital structure have a significant negative association with financial performance, whereas the size is positively related to financial and market performance. The GDP growth rate is negatively associated with financial performance. Moreover, the liquidity position of the company is positively related to the MVA. The study provides evidence that the capital structure, capital adequacy, GDP growth rate, size of the company and liquidity position are essential factors that affect the insurance sector's financial and market performance in Sri Lanka. The study recommends that Sri Lankan insurance companies pay due attention to these factors to

Corresponding Author:

Chalith Kavinda, The Institute of Chartered Accountants of Sri Lanka, E-mail: chalith.kavinda@casrilanka.org

address financial and market performance matters. There is a dearth of studies in Sri Lanka on this phenomenon. We contribute as the direct study that analyzes the financial and market performance of the insurance sector in Sri Lanka in a single study.

Keywords: *Company-specific factors, Financial performance, Market performance, Insurance sector, Macroeconomic factors, Sri Lanka.*

Background of the Study

The insurance sector is a vital part of the country's financial system. The performance of this sector would significantly impact the other sectors and the development of the economy. Consequently, insurance companies offer a range of economic and social benefits, such as minimizing the impact of losses, reducing uncertainty and fear, and creating job opportunities (Mazviona et al., 2017). The business world is risky without insurance, and due to the prevailing uncertain business environment, the companies cannot fully absorb the risk (Akotey et al., 2013). The insurance sector in Sri Lanka is contributing largely to the economy while achieving significant execution of their industry averages in terms of Gross Written Premium (GWP), profitability, insurance penetration, and density as well as from the view of the claiming of losses (Gulsun & Umit, 2010; Ansah–Adu et al., 2011). Hence, it is crucial to identify and keep the momentum of the factors that drive this sector's performance.

The growth of a company's financial performance is one of the main objectives of its management (Burca & Batrinca, 2014). The insurance sector is determined by underwriting performance, claims management, risk selection, and marketing campaigns (Malik, 2011). Further, the financial performance of insurance companies is influenced by a variety of company-specific characteristics, industry-specific characteristics, and macro-economic factors. Therefore, investors, financial analysts, researchers, and supervisory authorities are vigilant in identifying the factors that contribute to the financial performance of insurance companies (Burca & Batrinca, 2014).

The problematic factors encountered by the companies are to precisely and reliably identify whether company-specific factors (internal) and macro-economic factors (external) impact a company's financial and market performance. Both developed and developing countries have used company-

specific factors (i.e., capital structure, capital adequacy, liquidity position, age, and size of the company) and macro-economic factors (i.e., GDP growth rate and inflation rate) in their studies (Thangavelu, 2015) to analyze how these independent variables impact the company's financial performance and market performance, relating to various industries. Specifically, in the context of Sri Lanka, a dearth of studies is seen relating to this phenomenon, and the impact on the financial and market performance of the insurance sector may vary due to variable differences among countries.

Moreover, many studies have focused on the financial sector around the world. In the beginning, such studies were conducted in developed countries, mainly focusing on the banking sector (Thangavelu, 2015). Financial institutions cover both banks and insurance companies. Still, due to industry regulations, policies, and other environmental and economic changes related to the insurance sector, findings related to the banking sector cannot be applied to the insurance sector. Thangavelu (2015) reveals that the operations of the banking and insurance sectors are based on different models, and there are significant differences between them. Over time, several studies have been conducted on the financial performance of insurance companies in developed countries and emerging markets in developing countries (Sanni et al., 2019; Kozak, 2011; Ondigi & Willy, 2016; Kaya, 2015; Ahmed et al., 2010).

The insurance sector has been studied and examined in terms of different facets in Sri Lanka. However, a dearth of studies is found regarding the company and market-specific factors and their impact on financial and market performance. A study by Abdelkar (2014) only focused on the private sector of the insurance industry, and that study has not analyzed all the relevant factors in-depth. Cekrezi and Xhuvani (2015) have focused only on investment insurance, and further research is needed on other internal and external factors that affect the financial performance of different insurance companies. Furthermore, this research area has been described in detail by Naseem et al. (2012), but the data used for that research are old (2006-2010). The findings of these studies are based on the information published in those companies for a specific period. Hence, a practice gap has arisen in the consistency of these findings threatened by the current dynamic economic and social environment. Although several studies have been conducted internationally (Ahmed et al., 2010; Chen & Wong, 2004; Asimakopoulos et al., 2009; Alomari & Azzam, 2017; Charumathi, 2012), there is an absence of

consensus on what determines financial and market performance of insurance companies in Sri Lanka. That is, the impact may change country-wise due to the variable differences. That is, though the factors do have a significant effect on financial and market performance in one country, they may not affect the insurance companies in the context of Sri Lanka.

Thus, it also creates a vital gap to identify the insurance sector's financial and market performance factors. Furthermore, existing studies comprise mixed conclusions on the impact of company-specific and macroeconomics factors on financial performance and market performance (Deyganto & Alemu, 2019; Shawar & Siddiqui, 2019). Hence, further investigations should be conducted as the studies are rare in Sri Lanka and contradictory internationally. Accordingly, the objectives of this study are two-fold. Firstly, to examine the impact of company-specific factors on insurance companies' financial and market performance in Sri Lanka. Secondly, to investigate the effects of macro-economic factors on insurance companies' financial performance and market performance in Sri Lanka.

This study contributes to the empirical literature by analyzing an area that is not significantly addressed in the Sri Lankan context. The significance of this study is enhanced when dealing with the insurance sector since insurance companies transfer risk in the economy, promote savings and provide a mechanism to encourage investment activities (Kripa & Ajasllari, 2016). Also, Sri Lanka has an emerging economy and, in the future, the demand of its citizens for insurance will increase. Consequently, the insurance sector will become one of the fastest-growing industries in Sri Lanka. Further, an in-depth analysis of the factors affecting the financial and market performance of the insurance industry in Sri Lanka will lead to the development and improvement and accelerate the industry's growth.

As a practical contribution, this study offers management of the insurance companies to identify the factors that will enhance the financial and market performance of the company and gather required knowledge for economic decision-making purposes. Further, potential investors would also be able to make the right decisions before investing to protect their investments after comparing the performance of the different companies. Moreover, regulators would be able to capture the companies which are not financially strong and can take proactive actions to minimize future financial difficulties.

The rest of the paper is organized as follows. The literature review is presented in the next section. Then, the research methodology to achieve the research objectives is discussed. The following section, i.e., results and discussion section, precede the conclusions section.

Literature Review

When considering the related theories, the Modigliani Miller Theory (MM Theory) states that the company value is primarily impacted by the presence of numerous investment projects with positive net present value, rather than the company's debt level (Obim, Anake & Awara, 2014). The founders developed two theories (MM theory I & II) due to various limitations in theory I, i.e., perfect capital market, absence of taxes, brokerage cost, and symmetric information. MM theory II is closer to the real-world scenario, which states that the cost of equity directly correlates with the leverage level, i.e., borrowing increases shareholder return (Corporate Finance Institute, 2021). These theories lead to investigate how it impacts on company's financial performance.

As per the signaling theory, financial markets exhibit information asymmetry. There have to be effective mechanisms to minimize the information asymmetry to accurately inform investors to appropriately measure the value of the companies (Lotfi, 2019). Company performance is one of the signaling mechanisms, and it governs the resource allocation in an economic system. If a company makes a profit (or loss), more resources (or fewer resources) are allocated for that company. It's a feedback loop that changes depending on performance, i.e., negative feedback if the company loses money and positive feedback if the company makes money (Noung, 2002).

Empirical evidence

Numerous factors can affect insurance companies' financial performance and market performance, and these factors can be categorized as company-specific factors and macro-economic factors. However, most of the studies focus on internal factors that affect financial performance. Financial performance is an indicator of the strength and progress of each company. It shows how the company can efficiently use its resources to increase its shareholders' value (Akotey et al., 2013). However, profitability as a proxy for financial performance alone cannot be used to compare performance between different companies, hence, the financial performance of a company is measured using

specific financial ratios (Abate, 2012). Consequently, many studies focus on various models such as Return on Assets (ROA), Return on Equity (ROE), Gross Profit Margin, Net Profit Margin, and Tobin's Q for examining the financial performance of a company (Malik, 2011; Wahla et al., 2012). Although there are numerous approaches, the financial performance of insurance companies are expressed through the net premiums earned, investment income, profitability from underwriting activities, annual turnover, returns on investment, ROA as well as ROE (Chen & Wong, 2004; Asimakopoulos et al., 2009; Greene & Segal, 2004).

Most of the empirical studies on the financial performance of insurance companies employ ROA and ROE to measure financial performance (Ahmed et al., 2010; Burca & Batrinca, 2014; Naseem et al., 2012; Berteji & Hammami, 2016; Alomari & Azzam, 2017). Besides, Lee (2014), examines the association between company-specific factors that affect the financial performance of the Taiwanese property-liability insurance industry, using the operating ratio and ROA. Hence, it is evident from previous literature that many studies use ROA and ROE to evaluate the financial performance of insurance companies.

The Market Value Added (MVA) is a measure of external performance, which is considered the best indicator of value creation of the shareholders of the company (Khan et al., 2012). Prasad and Shrimal (2015) clarify the importance of using profitability ratios and market value ratios as tools for MVA and shows a positive correlation between MVA and the financial performance of selected infrastructural companies. Further, the study justifies that MVA can explain other financial performance measures and that MVA can be used instead of other financial performance measures. Conversely, Akgun et al. (2018) conducted a study to identify the impact of MVA on the profitability in Turkish information and technology companies via evaluating the financial information content and three traditional accounting performance measures. The study concludes that ROA and ROE have an absence of a significant association with MVA.

Similarly, it is observed that the MVA measure has a lack of a substantial effect on the shareholders' value of Jordanian commercial banks (Saifi & Amarah, 2015). Further, Panigrahi (2017) suggests an inverse association between the market value added and equity value. This is due to, lower level of market value-added relative to the efficiency of the Amman Stock Exchange.

Many banks consider their stock prices to be lower than their fair value, and the market value of those stocks has fallen over the study period, without any indication to justify that decline. The results of a Jordanian study indicate that commercial banks cannot create positive value for shareholders. However, the financial statements of Jordanian commercial banks have shown that banks' profitability is better since banks earn positive ROA and ROE. Throughout the study period, it is observed that there is a positive association between the economic values added (EVA) and MVA, which reflects the potential for commercial banks in Jordan to create positive economic and market value (Al-Awawdeh & Al-Sakini, 2018).

Moving towards the company-specific factors, Harrington (2005) extensively examines the linkage between leverage and financial performance of companies and argues that insurers with lower leverage typically report higher ROA, but lower ROE. This is because ROE does not reflect the risks associated with high leverage. Farhad and Aliasghar (2013), survey the association between capital structure and financial performance in Tehran and observe a positive correlation between ROE and short-term debt, consistent with earlier theories. Accordingly, this suggests that increasing short-term debts with a lower interest rate will lead to increased company profitability and a negative association between ROE and long-term debt. Thus, this study reveals that when companies increase long-term debt, their profitability decreases. Nevertheless, the results reflect a positive association between ROE and total debt. Similarly, Abor (2005) investigated the association between capital structure and financial performance of listed companies in the Ghana Stock Exchange and found identical results.

Nirajini and Priya (2013) examine the capital structure and financial performance of the listed trading companies in Sri Lanka. They conclude that there is a significant positive correlation between the capital structure and financial performance of selected trading companies. The results showed that debt-asset ratio, debt-equity ratio, and long-term debt correlated with net profit margin, gross profit margin, return on asset, return on equity and return on capital employed. Further, it is found that short-term debt has a significant positive correlation with profitability on the Nairobi Stock Exchange. Nevertheless, a study by Shubita and Alsawalhah (2012) determines a significant negative association between profitability and debt; thus, the higher the debt, the lower the company's profitability, which is a contrary view to the study by Abor (2005). However, recommendations based on these findings should be considered to use an optimal capital structure in an entity.

Correspondingly, Mohammadzadeh et al. (2013) state that there is a significant negative correlation between the profitability and capital structure of the company, and it signifies that pharmaceutical companies have adopted the pecking order theory and that internal financing has led to higher profitability.

In line with the pecking order theory, the managers choose to invest, using the company's retained earnings to increase its financial performance and profitability, assuming that the company is in its first stage. This implies that internal financing will continue until the retained earnings of the company reach zero. Also, the faster the company's growth, the more likely it will be for external financing. However, this increase in external financing is mainly an increase in liabilities, and as the company grows consequently, the solvency margin will thus become smaller (Durinck et al., 1997). Although solvency margin is a key indicator of the insurer's financial stability, previous empirical studies conducted on that variable have been limited. Hence, this variable has been extensively investigated in this study, taking into account the gap, particularly in the Sri Lankan context.

Capital adequacy is an essential indicator of the company's financial stability, and insurance companies with high solvency margins are considered financially strong. It denotes the ability to survive in the long run. Available solvency margin is the excess value of the assets of an insurance company over the value of insurance liabilities of policyholders' and shareholders' funds (Charumathi, 2012). While it is theoretically acknowledged that financially stronger insurance companies are better able to attract potential policyholders, in practice, most policyholders' attractiveness is determined by the price. Moreover, since better risks attract more robust and stable insurers, it is worth nothing trying to improve the performance of an insurance company through a higher insurance margin (Tesfaye, 2018).

Consequently, a higher solvency margin in insurance companies may provide better insurance performance. Many researchers have shown in their study a significant positive correlation between financial performance and solvency margin. Insurance companies with relatively high solvency margins outperform companies with lower solvency margins. But this does not mean that solvency is a driver of profit (Shiu, 2004). Shiu (2004) conducts an empirical test based on a panel dataset to analyze the determinants of the performance of UK general insurance companies and show that the performance of insurers was positively correlated with the solvency margin. Studies on capital adequacy further reveal

that this variable and the financial performance of insurance companies are positively related, as the insurer's financial stability is an important benchmark to potential customers (Burca & Batrinca, 2014).

Most of the studies in the insurance industry consider liquidity as a factor that affects financial and market performance, and the current ratio represents the liquidity value. However, different empirical pieces of evidence present that liquidity and financial and market performance yield almost inconsistent results. Several studies conclude the absence of a significant association between the liquidity and profitability of insurance companies (Ahmed et al., 2010), while other studies conclude that the liquidity and financial and market performance of insurance companies have statistically significant negative linkage (Chen & Wong, 2004; Raheman et al., 2010). Due to its close association with routine business operations, liquidity studies are of great importance to both internal and external analysts (Bhunia & Khan, 2011). The dilemma of liquidity management is to achieve the desired trade-off between liquidity and the financial performance of a business (Raheman & Nasr, 2007). For instance, in an investigation of Sub-Saharan countries, Valentina et al. (2009) find a significant negative association between banks' profitability and liquidity. Similarly, Wang (2002) investigated the association between liquidity management and the company's financial performance, corporate value and found that the cash conversion cycle was negatively correlated with the financial performance measured by returns on assets or returns on equity. The authors also found that aggressive liquidity management improves the company's operating performance.

In contrast, several studies provide evidence that the financial performance of an insurance company is positively related to the ratio of liquidity assets in the asset mix (Browne et al., 2001; Charumathi, 2012; Shiu, 2004). Ejigu (2016) reveals that Ethiopian insurance companies had a significant impact on profitability through their liquidity. The companies with relatively higher liquidity assets are less likely to fail and are expected to outperform. Another study discloses a weak positive association between liquidity and profitability of listed banks in the Stock Exchange in Ghana (Lartey et al., 2013). Zygmunt (2013) states that liquidity management is vital to the profitability of Polish listed IT companies. Also, a study indicates that working capital management of a company, i.e., management of short-term assets and liabilities, plays a crucial part in achieving the success of the company. A similar study, focusing on small and medium-sized Spanish companies, reveals that a company's profitability

increases as the cash conversion cycle shortens (Garcia-Terupel & Solano, 2004). % % % % % % %

In Sri Lanka, Priya and Nimalathasan (2013) find a significant linkage between the liquidity and profitability of the listed manufacturing companies. The current ratio and operating cash flow ratio are significantly associated with ROA and ROE of such companies. Previous literature explains that the company's size is positively correlated with its financial performance. The size of a company affects its financial performance in various ways, and it is considered an influential factor since larger companies are well-positioned in the marketplace and enjoy higher benefits of operating with economies of scale. It is widely accepted that large companies have economies of scale in terms of labor costs (Flamini et al., 2009). Besides, it is observed that the size of a company has a positive impact on its profitability, support with greater diversification, economies of scale production, greater access to new technology, and cheaper sources of funding in Canadian companies (Orser, 2000). Further, an analysis of life and non-life insurance sectors in Pakistan finds a significant and positive correlation between the size of the company and its profitability (Malik, 2011). Browne et al. (2001) state that the company's size is positively linked with profitability and financial performance. Further, another study discovers that the size of a company has a significant positive impact on the profitability of insurance companies, (Berhe & Kaur, 2017).

However, a study of a Norwegian company presents that performance and profitability were not subject to its size, which reveals that small companies are as capable enough as large companies, and the main competitive advantage is their products and technology (Moen, 1999). Nevertheless, when the company's size is more significant, there is a higher tendency of having an inverse association between size and profitability, due to lack of coordination and inefficiencies (Majumdar, 1997; Li, 2007). Similarly, several studies state that there is an absence and significant but inverse linkage between size and financial performance of companies in different sectors (Kazeem, 2015; Mazviona et al., 2017; Mwangi & Murigu, 2015; Olaosebikan, 2012; Singapurwoko & El-Wahid, 2011; Saklain, 2012). When considering the macroeconomic factors, inflation is having an adverse effect on insurance companies operating activities, expenses, and technical provisions. (Daykin et al., 1994). If the inflation is substantially higher than anticipated, it triggers financial difficulties for insurance companies (Suheyli, 2015). A previous study has shown that a country's unforeseen inflation would lower the actual returns

of fixed income securities, i.e., bonds than estimated, resulting in compression of profit margins of insurance companies and undermining financial performance (Browne et al., 2001).

Studies related to inflation and banks profitability reveal that if a bank revenue increase is quicker than its cost, the bank profitability would be positively affected by inflation. Negative coefficients are anticipated when the bank costs increase more rapidly than its revenue (Damena, 2011). Besides, several investigations were conducted on the insurance sectors in different contexts, and, considering inflation, reflects that the unanticipated inflation in a country has a significant and negative impact on the profitability of a company (Abreu & Mendes, 2001; Browne et al., 2001; Doumpos et al., 2012; Hailegebreal, 2016). However, several other studies have stated that there is an absence of a significant link between inflation and the financial performance of companies. A study based on Philippine non-life insurance market data shows a lack of evidence of an inflation rate on profitability (Datu, 2015). In addition, research into the Ethiopian banking industry reveals an absence of a significant association between inflation and financial performance (Abera, 2012).

Considering the GDP growth rate, Kozak (2011) and Tesfaye (2018) suggest that increasing GDP growth has a positive and significant impact on the financial performance of non-life insurance companies in Poland and Ethiopia. The investigation of Bashir (2003) reflects that favorable macro-economic conditions, such as the growth of GDP, positively impacted the performance of Islamic banks. It has been identified that all macro-economic factors positively and significantly affect the financial performance of conventional and Islamic commercial banks in GCC Countries, except for inflation (Srairi, 2009). A recent study reveals that GDP has a significant positive impact on the financial performance of insurance companies in Hawassa city Administration, Ethiopia (Deyganto & Alemu, 2019).

Conversely, when examining the association between macro-economic factors and profitability in the Philippine non-life insurance market, the results illustrate an absence of evidence of a correlation between GDP and Profitability (Datu, 2015). Merin (2012) also finds that all external variables do not significantly affect bank profitability, including GDP growth rate. Thus, since many previous empirical studies have emphasized that GDP growth has a significant and positive impact on the financial performance of the insurance sector, this study

also considers GDP growth as an independent variable, intending to contribute to the Sri Lankan context.

Methodology

The purposive sampling technique was used to select the sample, covering the period from 2010 to 2019, inclusive of both years. The insurance companies listed in the Colombo Stock Exchange (CSE) were considered when selecting the sample. Each company must be listed in the CSE during the study period, and relevant data for the analysis must be available. Hence, the final sample consisted of 09 insurance companies listed in the CSE out of the total 27 insurance companies in Sri Lanka. Through a formal review of annual reports, it was observed that the selected insurance companies have sound experience in insurance operations and a sample of 33.33% of the total population of 27 insurance companies in the country was taken.

Secondary data collection was used to collect the data for the study, and appropriate data diagnosis tests were conducted to verify the validity and reliability assumptions. Net Profit Margin (NPM), ROA, ROE, and Earnings per Share (EPS) were considered dependent variables to measure the financial performance. In contrast, MVA was regarded as the dependent variable to estimate market performance¹. Gearing ratio (as a proxy for the capital structure), solvency margin (as a proxy for the capital adequacy), current ratio (as a proxy for the liquidity position), total assets (as a proxy for the company size), inflation rate, and GDP growth rate were deemed as independent variables.

Accordingly, after conducting a comprehensive literature analysis and based on the identified contractionary evidence in empirical findings (Saifi & Amarah, 2015; Panigrahi, 2017; Al-Awawdeh & Al-Sakini, 2018; Harrington, 2005; Abor, 2005; Nirajini and Priya, 2013; Ahmed et al., 2010; Raheman et al., 2010; Lartey et al., 2013; Orser, 2000; Mazviona et al., 2017; Suheyli, 2015; Browne et al., 2001; Datu, 2015; Tesfaye, 2018) the following hypotheses were developed to achieve the objectives of this study.

Developed hypotheses for objective 01

H₁: There is a significant association between capital structure and financial performance.

H₂: There is a significant association between capital structure and market performance.

¹ The measurement of NPM, ROA, ROE, EPS and liquidity position is estimated via their general formulars.

- H₃: There is a significant association between capital adequacy and financial performance.
H₄: There is a significant association between capital adequacy and market performance.
H₅: There is a significant association between liquidity position and financial performance.
H₆: There is a significant association between liquidity position and market performance.
H₇: There is a significant association between the size of the company and financial performance.
H₈: There is a significant association between the size of the company and market performance.

Developed hypotheses for objective 02

- H₉: There is a significant association between inflation and financial performance.
H₁₀: There is a significant association between inflation and market performance.
H₁₁: There is a significant association between GDP growth and financial performance.
H₁₂: There is a significant association between GDP growth and market performance

Moreover, based on the reviewed empirical studies and the objectives of this study, the following conceptual framework (*Figure 01*) is exhibited to illustrate the linkage between selected independent and dependent variables.

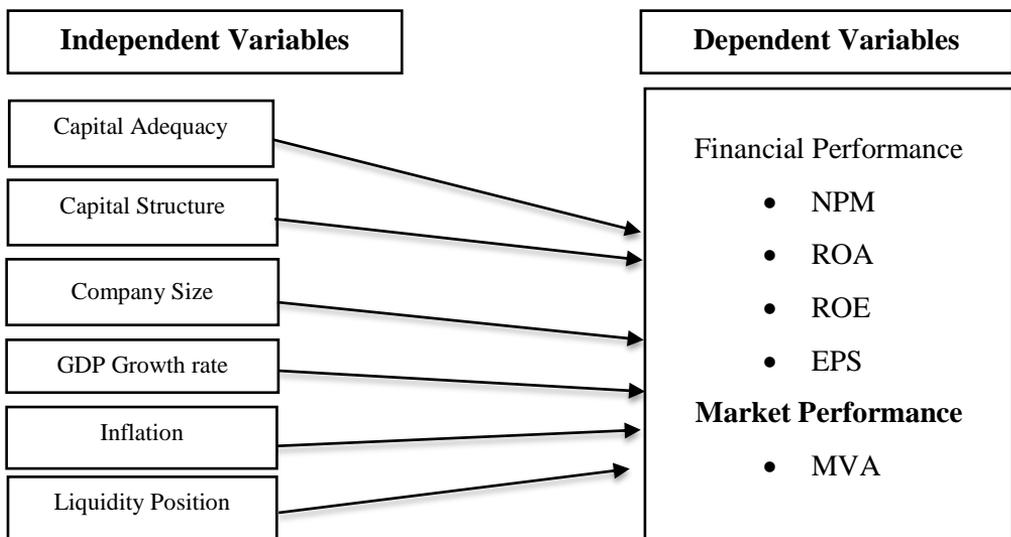


Figure 01: Conceptual Framework

The following table (Table 01) summarises the measurements of the variables.

Table 01: A summary of the measurements of the variables.

Variable	Measurement Item	Calculation	Reference
Capital Adequacy	Solvency Margin	$[\text{Equity capital}/\text{Total assets}] \times 100$	(Tesfaye, 2018; Abebe & Abera, 2019; Ullah et al., 2016).
Capital Structure	Gearing Ratio	$[\text{Debt capital}/\text{Total capital}] \times 100$	(Anojan, 2014; Balasundaram, 2009; Velnampy & Niresh, 2012; Hardita, 2017; Purnamawati, 2016).
Company Size	Company Size/Total Assets	Natural Logarithm of Total Asset	(Tesfaye, 2018; Mehari & Aemiro, 2013; Ondigi & Willy, 2016; Ullah et al., 2016)
GDP Growth	GDP growth rate	Yearly GDP Growth Rate	(Tesfaye, 2018; Lire & Tegegn, 2016; Deyganto & Alemu, 2019; Batool & Sahi, 2019)
Inflation	Inflation rate	Yearly General Inflation Rate	(Tesfaye, 2018; Lire & Tegegn, 2016; Deyganto & Alemu, 2019)
Liquidity Position	Current Ratio	$[\text{Current Assets}/\text{Current Liabilities}] \times 100$	(Tesfaye, 2018; Mehari & Aemiro, 2013; Ondigi & Willy, 2016)
Financial Performance	NPM	$[\text{Net Profit}/\text{Sales}] \times 100$	(Priya & Nimalathan, 2013; Velnampy & Niresh, 2012; Hardita, 2017).
	ROA	$[\text{Net Profit After Tax}/\text{Total Assets}] \times 100$	(Tesfaye, 2018; Mehari & Aemiro, 2013; Ondigi & Willy, 2016).
	ROE	$[\text{Net Profit After Tax}/\text{Equity Capital}] \times 100$	(Priya & Nimalathan, 2013).
	EPS	$[\text{Net Profit}/\text{Total Number of Equity Shares}]$	(Raheman et al., 2019; Arulve & Ajanthan, 2013);
Market	MVA	Market Value of	(Prasad & Shrial,

Performance	Shares Value of Shareholders' Equity	-	Book of Akgun et al.,2018).
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The data were analyzed via a panel regression model. However, the data set was diagnosed for pre-requisite tests which consist of normality, heteroscedasticity, and multicollinearity tests, before conducting the panel regression analysis. Additionally, the Hausman specification test was employed to select the applicable model for this study among random effect (RE) and fixed effect (FE) models.

Finally, we derived the following specified regression models to identify the impact on financial (equations: 01, 02, 03 & 04) and market performance (equation 05).

$$\text{NPM} = \beta_1 \text{ Solvency margin} + \beta_2 \text{ Gearing ratio} + \beta_3 \text{ Total assets} + \beta_4 \text{ GDP Growth rate} + \beta_5 \text{ Inflation rate} + \beta_6 \text{ Current ratio} \dots\dots\dots(01)$$

$$\text{ROA} = \beta_1 \text{ Solvency margin} + \beta_2 \text{ Gearing ratio} + \beta_3 \text{ Total assets} + \beta_4 \text{ GDP Growth rate} + \beta_5 \text{ Inflation rate} + \beta_6 \text{ Current ratio} \dots\dots\dots(02)$$

$$\text{ROE} = \beta_1 \text{ Solvency margin} + \beta_2 \text{ Gearing ratio} + \beta_3 \text{ Total assets} + \beta_4 \text{ GDP Growth rate} + \beta_5 \text{ Inflation rate} + \beta_6 \text{ Current ratio} \dots\dots\dots(03)$$

$$\text{EPS} = \beta_1 \text{ Solvency margin} + \beta_2 \text{ Gearing ratio} + \beta_3 \text{ Total assets} + \beta_4 \text{ GDP Growth rate} + \beta_5 \text{ Inflation rate} + \beta_6 \text{ Current ratio} \dots\dots\dots(04)$$

Impact on Market Performance

$$\text{MVA} = \beta_1 \text{ Solvency margin} + \beta_2 \text{ Gearing ratio} + \beta_3 \text{ Total assets} + \beta_4 \text{ GDP Growth rate} + \beta_5 \text{ Inflation rate} + \beta_6 \text{ Current ratio} \dots\dots\dots(05)$$

Results and Discussion

Moving towards the results of the first objective, it can be observed that solvency margin, gearing ratio, and the GDP growth rate had a significant negative association with NPM and ROA, which was significant at 5% level.

The overall model was significant at the 5% level, where the independent variables have the explanatory power of 32% and 30%, respectively. The gearing ratio and the GDP growth rate had a significant negative association with ROE, whereas total assets were positively associated with ROE at a 5% level. The ROE as one of the measurements of the financial performance was explained 30% by the independent variables, and the model is significant at 5%. When considering the EPS, the only significant variable is the total assets which had a significant positive association with EPS. The model has an explanatory power of 63%, the highest explanatory power out of the given performance measurements (Table 4.1). The results of this study's second objective reflected a significantly positive (negative) association between total assets (current ratio) and the MVA. The overall model is significant at 5% level, and the independent variables explained 27% of the variation of the MVA (Table 02).

As a common factor, it could be observed that the gearing ratio as a proxy for the capital structure and the GDP growth rate has a significant negative association with NPM, ROA, and ROE. At the same time, total assets had a significant positive association with ROE, EPS, and MVA. This would be an exciting finding when making the financial decision of the insurance companies and addressing the growth strategies of the companies with the country's GDP growth rates.

The negative impact of the gearing ratio on financial and market performance contradicted the results of a similar study done in the local context. That is, a study by Nirajini and Priya (2013) suggests that there is a significant positive association between the debt-asset ratio, debt-equity ratio, and long-term debt with the financial performance in Sri Lanka. Further, it is observed that there is an inverse association between the market value-added and equity value since lack of market value-added is relative to the efficiency of the Amman Stock Exchange (Panigrahi, 2017).

However, Shubita and Alsawalhah (2012) provide similar results relating to the outcome of the current study. The authors reveal that there is a significantly negative association between profitability and debt. Thus the higher the debt, the lower the profitability of the company. Nevertheless, recommendations based on these findings should be considered for the company to use an optimal capital structure. Moreover, from the agency cost theory perspective, Chechet and Olayiwola (2014) investigated Nigerian listed companies' capital structure and profitability for ten years and found that the debt ratio is negatively correlated with profitability, but equity is directly related it. Meanwhile, another researcher has scrutinized the association between the capital structure and the

profitability of pharmaceutical companies in Iran, using the net profit margin and debt to asset ratio as indicators of profitability and capital structure, respectively (Mohammadzadeh et al., 2013). The results show a significant negative correlation between the profitability and capital structure of the company, and it denotes that pharmaceutical companies have adopted the pecking order theory and that internal financing has led to higher profitability.

The current ratio of this study has a weakly significant association with financial performance. A similar kind of study by Ahmed et al. (2010) is found, and the authors reveal that the association between liquidity and profitability of the insurance companies is not substantial. Moreover, Larrey et al. (2013) and Zygmunt (2013) observe a weak positive association between liquidity and profitability of listed banks in the Stock Exchange in Ghana. However, evidence finds that liquidity has a significant inverse association with market performance (Chen & Wong, 2004; Raheman et al., 2010). Additionally, Valentina et al. (2009) reveal a significant negative association between liquidity and the banks' profitability and the market performance in Sub-Saharan countries.

The evidence discloses that the financial and market performance are subjected to the size of the company. It is argued that, compared to small insurers, large insurers can easily recruit a large number of employees with great expertise and professional knowledge, resulting in better performance from large insurers compared to smaller insurers. Consequently, Malik (2011) states that there was a significant and positive correlation between the size of the company and its profitability of life and non-life insurance sectors in Pakistan. In the context of the UK, it is found that the size of the company has a positive association with the profitability of the insurance companies. The authors argue that the theory of market power hypothesis states that large companies typically use their market power in utilizing their products to maximize profits (Berhe & Kaur, 2017). Further, it can be understood that the large insurers typically have greater capacity and ability to deal with adverse market fluctuations, but the ability to deal with these fluctuations is relatively low in small insurers. Consequently, the large insurers outperform the market compared to smaller insurers, and unfortunately, the ability of smaller insurers is relatively low (Shiu, 2004). Additionally, smaller companies may have less power compared to larger companies. Hence they may find it challenging to compete with large companies, particularly in highly competitive markets.

As a macroeconomic factor, GDP growth rate has a weakly significant association with profitability. Comparably, it is observed that there is a weakly significant association between the said variables in the context of the Philippines insurance sector (Datu, 2015). Moreover, a study by Abera (2012) states that there is an absence of a significant association between inflation and financial performance in the Ethiopian banking sector. Additionally, Datu (2015) and Merin (2012) discover that GDP growth rate and inflation rate are not having a significant association with profitability.

Table 02: Results of the regression analysis

Variable	NPM		ROA		ROE		EPS		MVA	
	Coeff	Prob.	Coeff	Prob.	Coeff	Prob.	Coeff	Prob.	Coeff	Prob.
Solvency margin	-0.08	0.02	-0.00	0.003	0.032	0.14	0.109	0.64	-4.45	0.43
Gearing ratio	-1.41	0.01	-0.79	0.001	-2.39	0.00	-4.05	0.92	-4.06	0.97
Total assets	4.72	0.70	-9.25	0.82	9.14	0.41	1.11	0.00	0.083	0.001
GDP Growth rate	-0.035	0.00	-0.009	0.006	-0.018	0.04	-2.65	0.13	-9.07	0.65
Inflation rate	0.02	0.82	-0.001	0.65	-0.007	0.52	0.622	0.56	-2.44	0.35
Current ratio	-0.04	0.02	0.014	0.08	0.032	0.14	-1.75	0.36	-1.44	0.003
R ²	0.32		0.30		0.30		0.63		0.27	
Prob.	0.000007		0.000020		0.000020		0.000000		0.000122	

Note: *statistical significance of test statistics at 0.05 level.

The following table summarises the overall results of the tested hypotheses of the study.

Table 03: Summary of the status of the hypotheses

Types of Hypotheses	Status of the null hypothesis
H₁ : There is a significant association between capital structure and financial performance	Not Supported
H₂ : There is a significant association between capital structure and market performance	Supported
H₃ : There is a significant association between capital adequacy and financial performance	Not Supported

H₄: There is a significant association between capital adequacy and market performance	Supported
H₅: There is a significant association between liquidity position and financial performance	Supported
H₆: There is a significant association between liquidity position and market performance	Not Supported
H₇: There is a significant association between the size of the company and financial performance	Not Supported
H₈: There is a significant association between the size of the company and market performance	Not Supported
H₉: There is a significant association between inflation and financial performance	Supported
H₁₀: There is a significant association between inflation and market performance	Supported
H₁₁: There is a significant association between GDP growth and financial performance	Not Supported
H₁₂: There is a significant association between GDP growth and market performance	Supported

Implications and Conclusions

This study examined the impact of company-specific factors on the financial performance and market performance of insurance companies in Sri Lanka and the impact of macro-economic factors on the financial performance and market performance of insurance companies in Sri Lanka. The study covered the period from 2010 to 2019 inclusive of both years. The purposive sampling technique and the secondary data were used for the sample selection and data collection. The final sample consisted of nine listed insurance companies in CSE. We employed panel regression to analyze the study.

As per the first objective, the results revealed a significant negative association between capital structure, capital adequacy, and GDP growth rate with the financial performance of the insurance companies. However, size as an independent variable has a positive association with financial performance. Considering the impact to MVA as per the second objective, it can be concluded that the liquidity of the insurance companies is positively (negatively) impacted to MVA. Hence, these variables could be considered as some of the variables that determine the financial and market performance of insurance companies in Sri Lanka.

As main implications, the inferences of this study will benefit the insurance sector, especially in the Sri Lankan context, i.e. Sri Lanka as an emerging economy with rapid growth in the insurance sector that will attract more

potential investments cum regulatory reforms. Hence, our study's findings will benefit stakeholders at large and, more specifically, potential investors, regulators, and insurance companies to make their economic decisions. For instance, an investor can identify what factors drive the financial and market performance of insurance companies in Sri Lanka. Moreover, the study's findings will also benefit existing investors to make their investment decisions about insurance companies. Hence, this study recommends that Sri Lankan insurance companies should provide due attention to these factors to address financial and market performance matters when conducting their operations.

However, this study focused on six quantitative factors affecting the insurance sector's financial and market performance. Hence, it could be recommended to consider more external quantitative and qualitative factors: the number of the insurance policyholder and the companies' regulatory and compliance structure, since it is rare to investigate the qualitative factors as the determinants of the performance in the insurance sector. Furthermore, having qualitative explorations will corroborate the quantitative findings. We recommend future studies consider internal factors such as loss ratio, the volume of capital, and the age of the life insurance companies since there is an absence of studies investigating them. Moreover, future studies may enlarge the population to involve cross-country analysis.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and publication of this article.

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