EXTERNAL AND FIRM FACTORS EFFECTING TAKAFUL INDUSTRY PERFORMANCE IN MALAYSIA

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MASTER IN ISLAMIC FINANCE AND BANKING

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Abstract

This study was conducted to assess the performance of Islamic insurance companies in Malaysia. This study attempts to test internal factors, namely liquidity, return on equity, leverage, company size, underwriting risk, investment and external factors; gross domestic product and inflation on the performance of Islamic insurance companies referring to return on assets. This study involved all *Takaful* operators in Malaysia for thirteen years, namely from 2011 to 2023. It was reported that 15 Islamic insurance companies registered with Bank Negara Malaysia (BNM) were included in this study. Secondary data collected in this study came from the annual financial reports (balance sheets and income statements) of Islamic insurance companies; and from the World Bank Indicators for gross domestic product per capita and consumer price index. The method used in this study is Multiple regression analysis. This study found that the performance of Islamic insurance companies is determined by leverage, size of firm, GDP, and Inflation Rate. However, this study found that the factors of liquidity, equity return, underwriting risk, and investment did not have a significant effect on the performance of Islamic insurance companies in Malaysia. The implications of this study can be a guide for investors in making investment decisions, customers in choosing profitable *Takaful* policies, and the government in developing the Takaful industry in Malaysia.

Keywords: *Takaful* Performance, *Takaful* Companies, Internal Factors, External Factors

Abstrak

Kajian ini dijalankan untuk menilai prestasi syarikat insurans Islam di Malaysia. Kajian ini cuba menguji faktor dalaman, iaitu kecairan, pulangan ke atas ekuiti, leverage, saiz syarikat, risiko pengunderaitan, pelaburan dan faktor luaran; keluaran dalam negara kasar dan inflasi ke atas prestasi syarikat insurans Islam merujuk kepada pulangan aset. Kajian ini melibatkan semua pengendali Takaful di Malaysia selama tiga belas tahun iaitu dari tahun 2011 hingga 2023. Dilaporkan sebanyak 15 syarikat insurans Islam yang berdaftar dengan Bank Negara Malaysia (BNM) telah dimasukkan ke dalam kajian ini. Data sekunder yang dikumpul dalam kajian ini datang dari pada laporan kewangan tahunan (lembaran imbangan dan penyata pendapatan) syarikat insurans Islam dan dari pada Petunjuk Bank Dunia untuk keluaran dalam negara kasar per kapita dan indeks harga pengguna. Kaedah yang digunakan dalam kajian ini ialah analisis regresi berganda. Kajian ini mendapati prestasi syarikat insurans Islam ditentukan oleh leverage, size of firm, GDP, dan Kadar Inflasi. Walau bagaimanapun, kajian ini mendapati faktor kecairan, pulangan ekuiti, risiko pengunderaitan, dan pelaburan tidak memberi kesan yang signifikan terhadap prestasi syarikat insurans Islam di Malaysia. Implikasi kajian ini boleh menjadi panduan kepada pelabur dalam membuat keputusan pelaburan, pelanggan dalam memilih polisi Takaful yang menguntungkan, dan kerajaan dalam membangunkan industri Takaful di Malaysia.

Kata kunci: Prestasi *Takaful*, Syarikat *Takaful*, Faktor Dalaman, Faktor Luaran

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CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Takaful, an Islamic insurance concept, operates on the principles of *Ta'wun* (mutual aid) and *Tabarru'* (donation). Unlike conventional insurance, *Takaful* emphasizes mutual aid, where participants contribute funds to help each other in times of need, without the primary goal of making a profit (Ali et al., 2020). *Takaful* is emerging as a major component of the Islamic financial system, particularly in Southeast Asia, where Malaysia are key players.

Malaysia, as a pioneer in *Takaful*, has established a robust regulatory framework, resulting in a more mature market (Wan Daod et al., 2019). Malaysia provides a unique context for studying the determinants of *Takaful* profitability, given their different regulatory landscape and economic conditions (Rahman, 2009).

The inception of the *Takaful* industry in Malaysia, which took place in the early 1980s, was for the most part an often-cited idea that presented itself with the National Fatwa Committee of Malaysia's pronouncement, which went the direct opposite to the words of the previous contract. The life insurance in its current form is a void contract because it contains elements of *gharar* (uncertainty), *riba* (usury), and *maisir* (gambling). The decree was issued in response to the growing needs of the Muslim public for a shariah-compliant alternative to conventional insurance as well as to supplement the functioning of the Islamic bank founded in 1983 (Bank Negara Malaysia, 2012).

Profit is a vital component for *Takaful* operations in long-term "sustainability" and effective operations. ROA (Return on Assets): Most of the investors use it to return on the assets and decide which is the most profitable company through earning by the means of the resources it owns. Raising the company's Return on Assets (ROA) is one of the key factors to prevent financial loss in the *Takaful* sector, which faces tough competition in the insurance field; thus, do remain true to their policyholders and reach operational efficiency (Saeed, 2019).

Profitability in *Takaful* companies is influenced by a combination of internal (firm-specific) and external (macroeconomic) factors (Arshad et al., 2020). Internal factors such as liquidity, equity return, leverage, firm size, underwriting risk, and investment strategies are crucial indicators of a company's financial health and operational efficiency, with liquidity and equity return shown to significantly impact the performance of *Takaful* companies in Malaysia. External factors, including macroeconomic conditions like GDP and inflation rate, are also critical in determining profitability, as evidenced by the positive influence of GDP on *Takaful* performance in Malaysia, which highlights the relationship between economic growth and the demand for *Takaful* products.

Given the differences in the regulatory framework, economic environment, and market maturity, there is a need to understand how the determinants of profitability vary across Malaysia. A comparative analysis will provide insight into how internal factors such as liquidity, leverage, and underwriting risk interact with macroeconomic conditions such as GDP and inflation. This understanding is critical for stakeholders-including regulators, policy makers, and *Takaful* operators-to formulate strategies that can improve profitability and support the growth of the Malaysian *Takaful* industry.

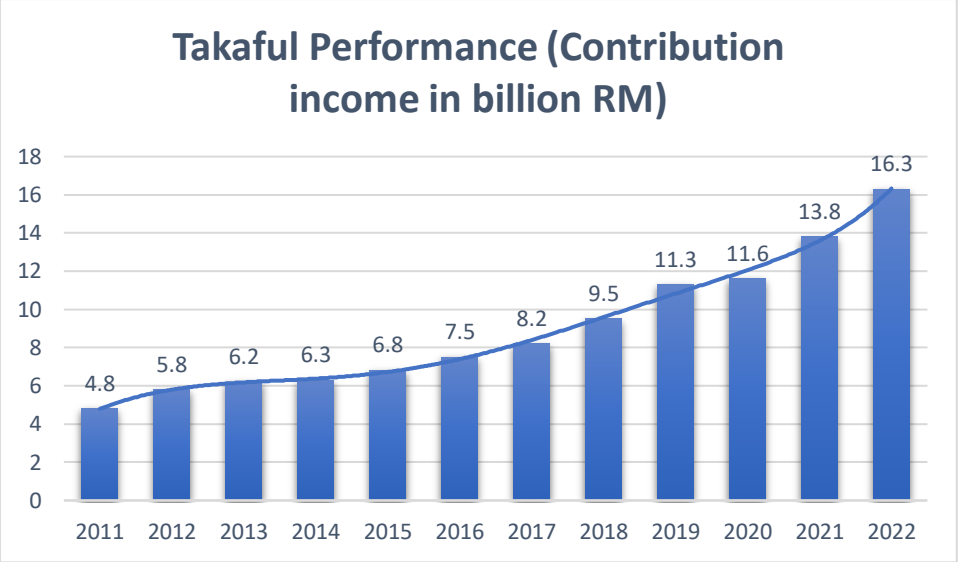

Figure 1. 1
Takaful's Performance in Billion. (2011-2022)
Source: Bank Negara Malaysia

The performance of the *Takaful* industry in Malaysia shows consistent growth from 2011 to 2022 the value of *Takaful* increased every year without any decline, starting at 4.8 in 2011 and reaching 16.3 in 2022. This represent a growth of almost 3.4 times in a 12 year period. At the initial stage, the increase occurs gradually, but after 2017 the growth becomes more pronounced. From 2019 to 2022 the growth rate accelerates, reflecting the increasing awareness and demand for *Takaful* protection. The significant spike in this period may be influenced by factors such as increased financial awareness, higher protection needs due to global challenges such as the COVID-19 pandemic, as well as basic government support. Overall, these statistics reflect the positive development of the *Takaful* industry in Malaysia, with growth prospects that continue to be encouraging.

The growth of the *Takaful* industry in Malaysia can be attributed to several key factors. One of the government's strategies to increase the public preference for *Takaful* is to increase consumer awareness. In this regard Bank Negara Malaysia collaborated with

Insurance and *Takaful* Operators to undertake several actions through educational activities and awareness campaign on the importance of insurance and *Takaful* protection in enhancing consumers financial security (Bank Negara Malaysia, 2023). In addition, the adoption of digital technology is also another important factor. By providing consumers with internet access to *Takaful* products, Malaysia's *Takaful* industry will become stronger (Ahmad et al., 2023).

Generally, there are two categories of Takaful which are general *Takaful* and family *Takaful*. General *Takaful* mainly deals with short-term risks on property and liability. The participants make a contribution to a mutual fund managed by a *Takaful* operator. The contribution made by participants is divided among the various risk management, operational cost, and surplus distribution. The General *Takaful* covers all types of risks on fire, marine, engineering, and motor-related hazards. The key feature of General *Takaful* is that there is no savings component present but immediate financial assistance is extended on material losses faced by participants.

The key offering products in general *Takaful* like home and motor *Takaful* are aimed at providing Shariah-compliant insurance solutions to complement Islamic banking products, especially those based on debt financing, such as the *murabahah* contract (Kantakji et al., 2020). *Murabahah* is one of the widely used Islamic financing structures whereby the bank buys an asset and sells it to the customer with a profit margin, hence allowing for a transparent and ethical transaction. *Takaful* products are the protective measures of these financing arrangements, hence providing coverage to participants against certain risks associated with their financed assets.

On the other hand, Billah (2019) explained that family *Takaful* is a long-term financial planning tool that encompasses savings and investment aspects, together with risk coverage pertaining to human life. It has been designed to provide financial security to the beneficiaries of participants upon the event of death or disability. Contributions to family *Takaful* are divided into two key accounts: the participants' account, which is for investment with an intention of return, and the participants' special account, used for covering the risk through donations - *tabarru'*. Regarding this concept, participants can protect their loved ones financially and, in addition, generate savings over a period of time. Family *Takaful* plans are usually designed with features such as profit sharing and flexible premium payments, making them adaptable to the individual's financial goals and circumstances.

The promising contribution of *Takaful* industry toward the global Islamic economic growth requires the industry to maintain its sustainability. One of the most important factor in *Takaful* industry operation is the underwriting process (Htay et al., 2013). Underwriting entails risk assessment and classification of the risks associated with the participants. It is therefore very critical in determining appropriate contributions or *tabarru'* that are to be made by participants. By classifying risks correctly, *Takaful* operators can avoid a situation of overpricing for potential participants and under-pricing that threatens the financial stability of the fund. The study also points out that underwriting in *Takaful* should be directed to the principle of Shariah, which is fairness and justice. This is important because fairness among participants will help gain trust and ensure that the operations are Shariah-compliant. This means that effective underwriting risk management is indispensable to sustain the *Takaful* operator for its

survival in rendering sound financial protection with conformance to the ethical behaviour in Islamic finance.

Takaful performance can also be derived from a country's economic status such as market stability, consumer purchasing power and investment returns. Economic growth increases disposable income and the need for all kinds of *Takaful* products becomes greater inflation affects premium payments. Interest rate movements affect the *shariah* compliant investments into which *Takaful* funds are placed. In addition, exchange rate stability is critical to *Takaful* international operations, particularly in the context of cross border contracts. Good economic conditions encourage growth in contributions to *Takaful* as well as good fund performance, while poor economic conditions can compromise profitability and sustainability. As such economic conditions are an important factor in *Takaful* business operations and financial performance Sahudin et al. (2020).

1.2 Problem Statement

The *Takaful* industry in Malaysia has emerged as an important component of the Islamic financial system, contributing to the country economic growth and financial inclusion, However, the performance of *Takaful* operators is affected by a combination of external factors (such as macroeconomic conditions) and firm specific factors (such as financial and operational characteristics). Key variables such as Liquidity, Research by Ismail, (2013) shows that liquidity has a positive and significant effect on the financial performance of *takaful* companies, especially in increasing Return on Assets (ROA). This shows that companies with good liquidity management tend to be more efficient in using assets to generate profits.

Equity Return, Almajali et al. (2012) conducted on insurance companies in Jordan also supports these findings. They concluded that ROE is one of the most influential factors on the financial performance of insurance, as it indicates the managerial efficiency and business strategy implemented by the company.

Size of Firm, Ambarwati et al. (2018) in their research on sharia insurance companies in Indonesia found that company size has a positive and significant effect on company solvency. This shows that companies with larger sizes tend to have better ability to meet their long-term obligations, which reflects more stable financial performance.

Leverage, another study by Almajali et al. (2012) found that leverage is one of the main factors affecting the profitability of insurance companies. Companies with a healthy capital structure and optimal leverage show better financial performance than companies that rely too much on external loans.

Underwriting Risk, Previous research conducted by Nuhin et al. (2022)found that underwriting performance has a significant positive effect on the profitability of Islamic insurance companies in Indonesia. This shows that good underwriting risk management can improve company performance.

Investment, Optimal investment results have a direct impact on various financial performance indicators of *Takaful* companies, such as Return on Assets (ROA), Return on Equity (ROE), and net income. Profitable investments will increase the company's income, strengthen its liquidity position, and support the surplus of *tabarru'* funds that

can be distributed to participants. Conversely, if the investment experiences a loss, the company's overall performance can decline (Agustin Ekadjaja, 2020).

Takaful companies as part of the Islamic financial industry are very sensitive to changes in macroeconomic indicators such as GDP. In a growing economy, demand for *Takaful* products tends to increase because people have better purchasing power, and awareness of financial protection is usually higher. However, in a recession or declining GDP growth, people tend to reduce spending on products that are considered non-priority, including insurance. This can lead to decreased contributions, increased claims, and potential operational losses for *Takaful* companies (Nuhin et al. 2022).

Inflation Rate are important determinants of industry performance. Despite the growing importance of the *Takaful* industry, there is limited research that comprehensively examines how these variables collectively affect its performance in Malaysia. Inflation also has an impact on the performance of the *takaful* company's investment portfolio. Most *takaful* companies rely on investment returns from participant and shareholder funds to support operations and increase surpluses. However, if the inflation rate is higher than the investment return (for example from sukuk or mudharabah deposits), then the real investment return becomes negative. In other words, the real value of investment income decreases, negatively affecting profitability

While research conducted by Adebola Solarin et al., (2011) has explored the role of macroeconomic factors such as GDP and inflation, the result can be used to analysed how GDP growth and inflation rate affect the demand and profitability of the *Takaful* industry. Another study conducted by Abdullah et al., (2022) focused on firm specific

factors such as leverage and firm size, the results can be related to how firm size and capital understanding how these external and internal factors interact to shape the overall performance of the *Takaful* industry.

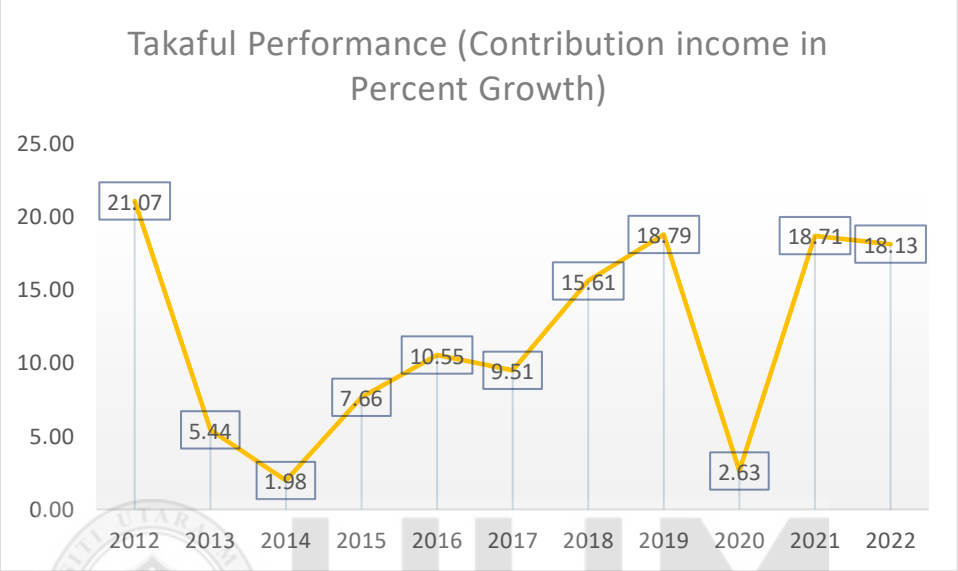

Figure 1. 2 *Takaful Performance Growth Rate 2012-2022*
Source: Bank Negara Malaysia

Based on Figure 1.2, shows the contribution of *Takaful* continues to change from year to year. In 2012 the total contribution was 21.07% and fell in 2013 to 5.44% in 2014 it fell to 1.98%, which most of the country at that time experienced financial distress due to the decline of oil price. However, the rate kept rising to 10.55% until 2016 before it fell 1.04% in 2017 which was 9.51%, and continued to increase 15.61% and 18.79% in 2018 and 2019. In 2020 it decreased significantly due to COVID-19 making an impact on the growth of *Takaful* contributions, and increased in 2021 to 18.71% and 2022 to 18.13%.

This study aims to investigate the combined effects of external factors (GDP inflation rate) and internal factors (liquidity, equity return, size of firm, leverage, underwriting

risk, investment) on the performance of the *Takaful* industry in Malaysia. By integrating insights from existing literature. This study aims to provide a holistic understanding of the determinants of *Takaful* performance. The findings will offer valuable insights for policy makers, *Takaful* operators and investors to enhance the industry resilience, competitiveness and sustainability in the face of evolving economic and operational challenges.

1.3 Research Questions

1. Does Internal Factors (Liquidity, Equity Return, Leverage, Size of Firm, Underwriting Risk and Investment) Significantly Affect *Takaful* Performance in Malaysia?
2. Does External Factors (Gross Domestic Product (GDP) and Inflation Rate) Significantly Affect *Takaful* Performance in Malaysia?

1.4 Research Objectives

1. To Investigate the Effect of Internal Factors (Liquidity, Equity Return, Leverage, Size of Firm, Underwriting Risk and Investment) on *Takaful* Performance in Malaysia.
2. To Investigate the Effect of External Factors (Gross Domestic Product (GDP) and Inflation Rate) on *Takaful* Performance in Malaysia.

1.5 Significance of the Study

The significance of this study lies in its potential to make a substantial contribution to the academic literature and practical applications in the *Takaful* industry. This study addresses a major gap in the existing literature by providing a comparative analysis of the determinants of profitability in Malaysian *Takaful* companies. Most previous

studies have focused on a single market or a limited set of determinants, thus failing to capture the complexities associated with different economic and regulatory environments. By examining internal factors, such as liquidity, leverage, and underwriting risk, as well as external factors, such as GDP and inflation, in two different markets, this study aims to provide a more comprehensive understanding of what drives profitability in the *Takaful* industry.

This research will also provide practical insights for *Takaful* operators in Malaysia on the factors that significantly affect their profitability. By understanding the differences in how various determinants affect Return on Assets (ROA) in each market, *Takaful* operators can make more informed decisions regarding financial management strategies, optimize their asset utilization, and effectively mitigate risks to improve profitability. Such insights are invaluable for strategic planning and for identifying areas where operational efficiency can be improved to sustain long-term growth.

In addition, the findings of this study have important implications for policymakers and regulators. By highlighting the impact of different regulatory frameworks on *Takaful* profitability. Regulators can use these findings to promote financial stability and resilience in the *Takaful* sector, taking into account the specific needs and challenges of each market. The ability to develop customized regulatory policies will be critical in supporting the growth of the *Takaful* industry in Malaysia.

Finally, this research supports the broader development of Islamic finance by identifying the key drivers of success of *Takaful* companies, which are an important component of the Islamic financial system. By improving the financial performance of *Takaful* operators, this research contributes to the growth of ethical and Shariah-

compliant insurance solutions, promoting financial inclusion and offering a viable alternative to conventional insurance in Malaysia. As such, the insights gained through this research can help advance the adoption and acceptance of *Takaful* as a mainstream financial service, enhancing its contribution to economic development in Malaysia.

1.6 Scope of the Study

The scope of this study focuses on a comparative analysis of the determinants of profitability of *Takaful* operators in Malaysia. Specifically, this study will examine the internal factors (liquidity, return on equity, leverage, firm size, underwriting risk, and investment) and external factors (macroeconomic conditions such as GDP and inflation rate) that affect the Return on Assets (ROA) of *Takaful* companies. The study will cover the period from 2011 to 2023, during which *Takaful* operations in Malaysia have undergone significant regulatory and economic changes.

This study aims to understand how these factors affect the profitability of *Takaful* in Malaysia. Data will be collected from the financial statements of industrial *Takaful* operators in Malaysia, as well as from macroeconomic indicators published by relevant government agencies. The findings from this study will provide insights to stakeholders-including regulators, policy makers, and *Takaful* operators - on strategies that can improve profitability and drive sustainable growth in the *Takaful* industry.

1.7 Definition of Key Terms

1. Takaful: An insurance concept as per Islamic teaching that are based on the subjects of *Tabarru* (giving) and *Ta'awun* (mutual cooperation). It is more about

the idea of mutual aid, where people give money to help each other in times of need rather than profit therefore (Ali et al., 2020).

2. Return on Assets (ROA): A financial ratio used to assess an organization's profitability in relation to its total assets. It shows how well a business makes use of its resources to turn a profit. ROA is a metric used in the *Takaful* context to assess the operators financial performance (Citarayani et al., 2021).

3. Liquidity: The capacity of an organization to fulfil its immediate financial commitments. Sufficient liquidity is essential in the *Takaful* sector to enable claims to be settled quickly and effectively (Diamond, 2016).

4. Leverage: The process of financing a company's assets with borrowed funds. Leverage in *Takaful* might be one of the determining factors of the risk and reward of participants and can be a source or profit or loss for *Takaful* operators (Doğanay, 2019).

5. Underwriting Risk: The risk associated with the process of evaluating, pricing, and insuring policies. Effective underwriting is crucial for *Takaful* operators to maintain profitability and manage potential claims (Razinah Mohd Zain et al., 2022).

6. Firm Size: A measure of a company's scale, typically based on total assets or revenue. In the *Takaful* industry, the size of a firm may influence its ability to generate profits and compete effectively in the market (Aryonindito et al., 2020).

7. Gross Domestic Product (GDP): An indicator of a country's economic performance, representing the sum value of all goods and services produced. The economic improvement in the country could push the growth in *Takaful* as a result of higher demand for insurance items, that is why GDP is an important external factor (Geiger, 2018).

8. Inflation Rate: The general pace of increase in prices for goods and services that results in a decline in buying power. *Takaful* profitability may be impacted by inflation since it can change the value of donations as well as operating expenses (Chiripanhura, 2010).

1.8 The Organisation of the Study

The study is organized into five different chapters.

The first chapter has provided an overview of the *Takaful* that will be investigated, a problem statement, research questions, the purpose of the study, the scope of the investigation, and the relevance of the investigation are discussed.

Chapter 2, which is an overview of that research, this overview also contains a discussion of the *Takaful* and some theories overview. In addition, this chapter discusses all of the aspects that might potentially impact the *Takaful* performance, this include liquidity, equity return, leverage, size of firm, underwriting risk, GDP, inflation rate, and investment.

Chapter 3 outlines and discusses the employed research methodology in this study. It will discuss the research design, theoretical framework, hypotheses development, and operation definition. Furthermore, this section will define the population and sample, procedures, as well as data collection method, and data analysis methods.

Chapter 4 presents analysis results and research findings. The results obtained will be discussed in detail to provide answers to the research questions listed.

Chapter 5 includes an overall discussion of the significant findings and provides conclusions, implications, and limitations of the study. In addition, recommendations are also provided in this part for investigation in the future.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This study begins with a review of literature related to the *Takaful* industry in Malaysia, internal and external factors practiced by *Takaful* operators in Malaysia. This chapter also focuses on the theoretical background, and ends with a summary.

2.2 Takaful Performance

Takaful insurance structurally differs from its conventional counterpart, especially in terms of sharing risk among the insured rather than transferring risk from the insured to Takaful operators (TO) (Sallemi et a. 2024). According to IFSB (2009) guidelines, *Takaful* Insurance is known for its hybrid nature between proprietary and mutual entities. *Takaful* Insurance is based on the principles of *Riba's* cooperation and interdiction. The basic difference is that the *Takaful* insurance-related obligations and rights impose an absolute separation between the insured funds and those provided by shareholders of *Takaful* insurance. However, the insured parties are not only regarded as customers paying premiums to hedge against the loss suffered but also as participants. The insured parties participate through their premiums paid, where, TO manage this fund in their name according to the rights imposed by contracts types used by *Takaful* insurance *(Wakalah, Mudharabah and Hybrid).*

Md Saad (2011), Guendouz, (2018) the performance of a company is the most important in the business world. This show the ability of an organization in terms of financial or management performance. Eldaia et al. (2023) and Norma Md. Saad (2012) conducted the research on the performance of conventional insurance and Takaful,

where they used commission and company costs as input factors, while the output factors are net investment income and insurance premiums. The results found that conventional insurance performed better than *Takaful*. Another study of Guendouz, (2018) showed that profitability is affected by liquidity, company size, inflation, and Gross Domestic Product (GDP). Further research on insurance performance in Malaysia and Brunei has been conducted by (Saad et al. 2011), where they used Return on Assets (ROA) and Dupont ratio as profitability measurement. Generally, Dupont Ratio was established in 1919, however ROA is more common used to see the performance of a company.

According to Ismail, (2013), measuring the financial performance of Takaful companies is generally done with indicators such as Return on Assets (ROA), Return on Equity (ROE), underwriting surplus, and claim ratio. ROA and ROE reflect efficiency and profitability in the use of the company's assets and capital, while underwriting surplus is the main indicator in seeing the success of *Takaful* operations in generating surpluses from insurance activities (Ismail, 2013).

In addition, the claims ratio (loss ratio) and operating expense ratio are also used to measure the efficiency of risk and cost management. (Rosli et al., 2023)noted that Takaful companies in Malaysia faced challenges in controlling high operating costs, especially in the early phase of growth.

2.3 Underpinning Theory

2.3.1 Agency Theory

Agency theory is already in use since its inception (1976) and is considered a well-known and recognized theory economics, finance, and management. the founders of

agency cost theory, describe agency relationships within companies as: “a agency theory is a contract in which one person (principal) engages another person or agent to perform some transaction on their behalf that involves the delegation to the agent of some decision making authority”. Agency theory emphasizes that agency conflicts can occur if there is a management misunderstanding and if the company divides or separates management and ownership, problems also occur when between leaders and office staff. This theory also explains how the relationship between company performance with liquidity and company size. Furthermore, the opposing determination of firm performance is called agency cost. This suggests the lower of agency cost will increase the firm value and performance.

The study of Najaf (2021) emerged that agency theory is important and will determine business performance. When viewed from a sharia perspective, this refers to the concept of agency in Islamic financial agreements. In Islam, agency contracts are known as *wakalah.* Therefore, Takaful company can effectively utilize this model in their agency system and promote Takaful to their customers. Under the *wakalah* contract, the *Takaful* company will act on behalf of the client or participant to manage the Takaful fund and therefore, the *wakalah* fee will be charged to the participant. In the end, if nothing happens to the participant, the *Takaful* company will return a small portion of the profit to the participant.

2.3.2 Signalling Theory

Signalling theory is a way of viewing shareholders about future company opportunities where information is provided by company management to shareholders (Agustin Ekadjaja, 2020). Signal theory suggests how a company provides signals or information

to users of financial statements. The information provided is about how management can realize the wishes of the owner (Eka et al. 2021). The signals that have been given are expected to be well received by the company so that later it will have a good impact on the company's financial performance. The reason for using signalling theory in this study is based on the assumption that financial performance is able to signal to stakeholders about the increase or decrease in financial performance. This signal provides a sign for investors to consider investing in the company.

The relationship between signal theory and the variables of this study is how each variable should signal the company to users of financial statements. First, liquidity, if the liquidity value increases, the company is able to cope with its short-term obligations well and this can be used as a signal for management to attract investors to invest in the company. Second, leverage related to the use of debt is a signal to investors that the company's financial performance and future prospects will be favourable. Third, company size, the higher the size of the company, the higher the company's profit generated by the company, which gives a positive signal to stakeholders. The fourth is institutional ownership, the existence of institutional ownership will encourage an increase in optimal supervision of managers by investors.

2.4 Internal Factors

In previous studies, it was shown that several factors affect the performance of *Takaful* companies. These can be divided into two categories: internal of the organization and external of the organization (Dana et al., 2021). There are various internal factors including liquidity, which provides return on equity, leverage, business size, and underwriting risk.

2.4.1 Liquidity

In the financial sector, liquidity of a firm refers to the cash owned by a company, where it can be measured by quick ratio. This ratio shows how often a company's assets can cover its liabilities. Arshad et al. (2020) conducted a study on Jordanian insurance companies from 2002 to 2007. Based on their study, the authors determined that liquidity has a significant positive relationship with company performance. Further research by Malik (2011) also revealed a positive and significant relationship between return on assets and liquidity of *Takaful* companies.

Based on study result by Adams et al. (2003) that liquidity is used in evaluating the capacity of insurance businesses to meet their obligations to policyholders and other stakeholders. From there, they found that general insurance businesses are in line with their views. To improve financial performance, companies should keep low liquidity levels where it could help to reduce agency costs then force managers to achieve better results.

In their article on financial comparison of Islamic vs conventional insurance companies in Pakistan, Tahira et al. (2014) studied the financial ratios of four Islamic companies during the years 2008 and 2011. The findings showed a positive correlation between operational performance and liquidity of Islamic insurance companies in Jordan. They found that the average return on assets across 25 insurance companies in Jordan for the period 2002 to 2007 indicated that liquidity does affect the performance of the companies. The findings concluded that liquidity does have a positive correlation with the financial performance of insurance companies.

Research by Ismail, (2013) shows that liquidity has a positive and significant effect on the financial performance of *Takaful* companies, especially in increasing Return on Assets (ROA). This shows that companies with good liquidity management tend to be more efficient in using assets to generate profits. The study also confirmed that efficient fund management contributes to the achievement of a stable underwriting surplus.

2.4.2 Equity Return

Return on Equity (ROE) is one of the main indicators in measuring a company's profitability. ROE describes the extent to which a company is able to generate a net profit from the capital owned by shareholders. In the context of *Takaful* companies, ROE reflects how efficiently the company manages funds from shareholders' funds to create economic value (Ismail, 2013). A high ROE value indicates that the company has the ability to maximize return on capital, which is an important benchmark in attracting investors and maintaining stakeholder trust.

ROE plays a direct role in assessing a company's financial performance because it reflects the company's internal ability to generate profits, both from main operational activities (underwriting) and from investment activities. Takaful companies with high ROE can be said to have a healthy and sustainable financial structure, and are able to manage risks effectively.

In the Takaful system, the capital structure is divided into two main parts: participant funds *(tabarru')* and shareholder funds. Shareholder funds are used to cover operations, investment, and business development costs. Therefore, ROE in Takaful companies is more relevant to measure management performance in managing shareholders' funds, not trust funds.

According to research by Ismail, (2013), ROE is one of the main determinants in assessing the financial performance of Takaful companies in Malaysia. In his research, it was found that ROE has a significant and positive effect on the growth of the company's profit. This shows that *Takaful* companies that are able to manage capital efficiently have a greater chance of making a profit and strengthening their financial position.

A similar study was conducted by Ansari, (2022)which analysed the influence of ROE on the financial performance of Islamic insurance companies in Indonesia and Malaysia. The results show that ROE is positively correlated with asset growth and gross contribution, which indicates a relationship between capital use efficiency and *Takaful* company business expansion.

In addition, Htay et al. (2013), in a comparative study between *Takaful* and conventional companies noted that although *Takaful* companies have challenges in achieving ROE as high as conventional insurance companies, in the long run, stable ROE is an important indicator of the sustainability of *Takaful* companies, especially in maintaining underwriting surpluses.

Research by Almajali et al. (2012) conducted on insurance companies in Jordan also supports these findings. They concluded that ROE is one of the most influential factors on the financial performance of insurance, as it indicates the managerial efficiency and business strategy implemented by the company.

Talib et al. (2025)analyzed the effect of ROE on the financial performance of sharia insurance companies in Indonesia and Malaysia. The results of the study showed that ROE was positively correlated with asset growth and gross contribution, indicating a relationship between capital use efficiency and business expansion of *Takaful* companies.

2.4.3 Leverage

Leverage is a ratio that shows the extent to which a company uses borrowed funds (debt) to finance operations and business expansion. In the context of *Takaful* companies, leverage is used to assess the capital structure and the company's ability to meet its long-term obligations. High leverage indicates that the company uses more debt than its own capital, which can increase financial risk but also has the potential to increase profits if used efficiently (Masood et al. 2017).

Commonly used leverage ratios include debt to equity ratio (DER) and debt ratio. DER measures the proportion of debt to equity, while debt ratio measures total debt to total assets. In the *Takaful* industry, well-controlled leverage can help companies increase returns through the use of external capital for productive investments, but excessive leverage can disrupt financial stability and reduce long-term performance.

The ability of a company to meet its long-term obligations payment is captured by a ratio known as leverage. Another aspect to determine the company's performance is the total amount of its debt, where the greater amount of debt will lower the business's profits. Based on solvency, the leverage ratio measures the ability of a business to pay off its long-term debt or liabilities in the event of liquidation. This ratio is expected to give expression to the proportion of a company's assets that are funded through debt.

This percentage reveals how secure the bank is. This ratio relates the total amount, primarily assets, recognized by the business to its current and long-term liabilities. As stated by Yusril et al. (2024), this ratio gives an indication of the percentage of your total assets that are funded by capital obtained through loans.

Leverage refers to debt financing, which can be used to obtain company resources. As an investment strategy leverage requires the use of borrowed capital to increase the potential return on investment. Based on research conducted by Ibrahim et al. (2015), it is know that the majority of companies utilize leverage to achieve their operational goals. It is expected that companies that use debt will experience increased risk and increased opportunities in the company, (Borhan et al. 2014) also noted in their findings that high risk tends to coincide with high profits.

(Almajali et al. 2012) stated that debt leverage reflects the level of borrowing by an entity. Businesses with high leverage will be at risk of bankruptcy if there is a default and will also have difficulty in obtaining further loans. In addition, if managed properly high leverage can have a positive impact on shareholder value. Adams and buckle 2000 used a five year panel study from 1993 to 1997 on the financial performance of the insurance industry in Bermuda. They based their study on the assumption that high leverage is beneficial to company performance. Other studies conducted by Bashir, (2003)also support this statement. Chen et al. (2004) conducted a survey to prove the theory of capital structure and reported that suboptimal leverage levels increase risk and decrease company value. Empirical evidence shows that insurance companies with low leverage tend to achieve higher ROA. Although many agree that there are some benefits from leverage the benefits tend to be small.

Another study by Almajali et al. (2012) found that leverage is one of the main factors affecting the profitability of insurance companies. Companies with a healthy capital structure and optimal leverage show better financial performance than companies that rely too much on external loans.

2.4.4 Size of Firm

Firm size is one of the important factors that influence the financial performance of companies, including in the Islamic insurance or *Takaful* industry. Company size is generally measured through total assets, total revenue, or number of employees, which reflects the operational capacity and financial strength of the company.

According to economies of scale theory, larger firms can reduce per-unit costs through increased scale of operations, which in turn increases efficiency and profitability. In the context of *Takaful* companies, this can mean more efficient management of tabarru' funds and investments, as well as the ability to bear a larger amount of risk collectively.

In addition, larger companies have a better capacity for product innovation, information technology development and aggressive marketing strategies. All of these will directly or indirectly contribute to an increase in return on assets (ROA), return on equity (ROE), and underwriting surplus. However, not all studies show a positive relationship. In some cases, oversized companies face high managerial and operational complexity, which can reduce internal efficiency.

In the insurance industry in Ethiopia Sambasivam Yuvaraj (2024) the findings were that the larger the company, the better its performance, similarly Harasheh at al. (2012)

in his study on commercial banks in Palestine also found that commercial banks performed better as the size of the bank increased. Furthermore Saad et al. (2011) compared life insurance companies in Malaysia and Brunei in terms of their efficiency. This study was based on a sample of life insurance companies two from Brunei and nine from Malaysia. The results showed that large companies tend to waste less available resources in terms of producing products and services.

Company size is used to reveal the fact that insurance companies with larger sizes have a better position than smaller companies in utilizing economies of scale in transactions by generating higher profits. From the results of research Sharma, (2024) found evidence that company size has statistic significant and positive relationship to financial performance. According to empirical results, company size is statically significant to the performance of general *Takaful* in Malaysia. Company size as a factor that has a statically significant effect on financial performance identified by (Malik, 2011).

(Rusilawati 2024) in their research on insurance companies listed on the Indonesia Stock Exchange found that company size has no significant effect on *Takaful* performance. This suggests that other factors such as liquidity and operational efficiency may play a greater role in determining the financial performance of insurance companies. Ambarwati et al. (2018) in their research on sharia insurance companies in Indonesia found that company size has a positive and significant effect on company solvency. This shows that companies with larger sizes tend to have better ability to meet their long-term obligations, which reflects more stable financial performance.

2.4.5 Underwriting Risk

In the context of the insurance industry, including *Takaful*, underwriting risk refers to the potential loss faced by the company due to a mismatch between premiums received and claims paid to participants. This risk arises from the selection and risk assessment process of insured individuals or groups, as well as from the accuracy in setting premiums that match claim expectations.

In *Takaful* companies, underwriting risk is also closely related to sharia principles, such as justice, mutual assistance *(ta'awun),* and the management of *tabarru'* funds. Since participants' funds are not owned by the company, underwriting risk management must be carried out carefully so as not to harm participants' funds or disrupt the operational sustainability of Takaful companies.

Clear underwriting guidelines are critical to the profitability of insurance companies. Underwriting risk depends on the risk appetite of the life insurance company (Ahmad Wani et al. 2013). In addition, Santomero et al. (1997) explain that clear underwriting guidelines are critical to the success of insurance companies consisting of accurate risk estimation and fair exposure pricing. The majority of companies should pursue acceptance at standardized levels for most risks but always apply adjusted premiums that take into account loss experience and other risk factors that do not have uniform requirements.

(Chen et al. 2004) Increased revenue growth will improve the company's financial performance. This will provide an inflow of revenue for the company. Underwriting performance signals that the *Takaful* company will face financial difficulties involving

underwriting cash flows. This means that the company can survive in the face of such difficulties (Chen et al. 2004). According to the Accounting, Auditing and Governance Standards for Islamic Financial Institutions (AAOIFI) (2008), underwriting performance actually depends on the cost of claims to be borne by stakeholders. This is a way for Takaful companies to cover all applications by reducing the risk of the fund.

Previous research conducted by Nuhin et al. (2022) found that underwriting performance has a significant positive effect on the profitability of Islamic insurance companies in Indonesia. This shows that good underwriting risk management can improve company performance.

2.4.6 Investment

Investment is one of the main sources of income for *Takaful* companies besides underwriting surplus. In the sharia financial system, investment is only made in instruments that comply with sharia principles, such as *sukuk*, *sharia* stocks, *mudharabah* deposits, and sharia money market instruments. *Takaful* companies usually manage two types of funds, namely tabarru' funds (owned by participants) and shareholder funds (owned by the company), both of which can be invested to generate profits.

According to Santomero et al (1997)investment results have a major influence on the efficiency and performance of *Takaful* companies. Income from investment results not only increases the company's profit but also strengthens the company's ability to bear risks and meet claim obligations. Therefore, effective investment portfolio management is essential to ensure the sustainability and profitability of *Takaful* companies.

Investment is investing an assets either in the form of funds, with the hope that it can provide profit and income to increase its value in the future. In contrast, financial investment is the act of purchasing securities with the aim of making future capital gains (Rahmawati, 2009). Meanwhile, the company progress is the main factor expected by every investor so that each company can provide the desired return the company progress is always increasing. Which is expected to encourage expectations for investors because investment opportunities with large profits are expected to be achieved.

Investment results are the results of the insurance company's operations through capital market instruments, therefore a large amount of money is collected and the amount of money collected and the proceeds are distributed to *Takaful* customers. When a *Takaful* company has better potential in managing investments, it is predicted to be able to increase assets. This is because the investment results will boost wealth (Susmayanti, 2021)

Optimal investment results have a direct impact on various financial performance indicators of *Takaful* companies, such as Return on Assets (ROA), Return on Equity (ROE), and net income. Profitable investments will increase the company's income, strengthen its liquidity position, and support the surplus of *tabarru'* funds that can be distributed to participants. Conversely, if the investment experiences a loss, the company's overall performance can decline (Ekadjaja, 2020).

In addition, stable investment results also help companies overcome dependence on underwriting income, especially in conditions of increasing claims. With the diversification of income sources, companies can be more resistant to the risk of operational volatility.

Yakob et al. (2014) in their study in Malaysia found that investment performance is positively correlated with the efficiency of *Takaful* companies. They suggested the importance of sustainable and transparent sharia-based investment portfolio management.

2.5 External Factors

Other external factors also have an important impact on *Takaful* performance, relating to the economic and regulatory conditions confronting operators. Those external factors including GDP, inflation, interest rate, and equity returns will direct and/or indirectly affect the performance of *Takaful* operators Kantakji et al. (2020); (Kaunain et al. 2016). Additionally, the general state of economic stability and investment climate determines the returns of *Takaful* operators which are earned from investment portfolios and their ability to offer competitive products. Therefore, the understanding and adaptation of these external factors are vital for the success of *Takaful* companies, which enable them to focus their strategies in accordance with the market and grab every available opportunity to grow and attain profitability.

(Ishtiaq et al. 2019) and Kaunain et al (2016) conducted research on *Takaful* performance, where they analysed factors contributing to their performance. The finding showed that external factors like GDP, inflation, interest rate significantly

influence the *Takaful* performance. Inflation also has been considered to have a positive and negative impact on profitability. The positive impact of inflation is that it reduces the real value of debt, hence making it easier for companies to manage their obligations. However, it increases demand and makes profitability challenging. In contrast, Asadullah et al. (2021) and Ismail, et al. (2018) showed factors like GDP and inflation have no significant effect on insurance performance. The studies indicated that the economic system of developing country might have less influence on the performance of insurance sectors.

2.5.1 Gross Domestic Product

Gross Domestic Product (GDP) is a macroeconomic indicator that reflects the total value of goods and services produced in a country during a certain period of time. Increasing GDP indicates economic growth, which is usually accompanied by an increase in people's income, consumption, and investment. In the context of the *Takaful* industry, high GDP is often associated with increasing demand for financial protection products, including sharia insurance or *Takaful* (Abdullah et al. 2022).

Increasing GDP allows people to allocate more funds for protection needs such as life, health, and asset insurance. In addition, good economic growth also increases the company's capacity to develop products, expand networks, and strengthen financial structures.

Takaful companies as part of the Islamic financial industry are very sensitive to changes in macroeconomic indicators such as GDP. In a growing economy, demand for *Takaful* products tends to increase because people have better purchasing power, and awareness of financial protection is usually higher. However, in a recession or declining GDP

growth, people tend to reduce spending on products that are considered non-priority, including insurance. This can lead to decreased contributions, increased claims, and potential operational losses for *Takaful* companies (Nuhin et al. 2022).

Guendouz et al. (2018) GDP is commonly used as a measure of a country's aggregate economic growth. It is expected that as the level of GDP increases, the performance of companies will also increase. This is witnesses by Redzuan et al. (2009), Guendouz et al. (2018) that GDP has a positive impact on *Takaful* demand in Malaysia. Therefore, it can be assumed that GDP affects *Takaful* performance.

2.5.2 Inflation Rate

Inflation is a macroeconomic phenomenon that describes a general and continuous increase in the price of goods and services in an economy over a certain period. High inflation will reduce people's purchasing power because the value of the currency experiences a real decline. In the context of the financial industry, including the sharia insurance *(Takaful)* sector, inflation is one of the external factors that greatly affects the operational and financial performance of the company (Mankiw, 2021).

In the *Takaful* industry, the impact of inflation can be direct or indirect. Directly, inflation can affect the value of contributions (premiums) paid by participants. When the prices of basic necessities increase, people tend to focus more on urgent and consumptive expenses, so that the allocation of funds for protection products such as *Takaful* will decrease (Nuhin et al. 2022). This decrease in contribution has an impact on reducing the company's income and weakening the growth of *tabarru'* funds.

Indirectly, inflation also increases the operational costs of *Takaful* companies. The increase in the price of goods and services, including labour costs, technology, and financial services, increases the operational burden that must be borne by the company. If these costs are not offset by increased income from participant contributions or investment returns, the company's profit margin will be squeezed (Yakob et al., 2014).

In addition, inflation has important implications for claims paid, especially for health and life *Takaful* products. For example, medical treatment and care costs tend to increase with inflation, so the value of claims submitted by participants also increases. This can disrupt the stability of tabarru' funds and the company's solvency if not managed efficiently (Sherif et al., 2013)

On the other hand, inflation also has an impact on the performance of the *Takaful* company's investment portfolio. Most *Takaful* companies rely on investment returns from participant and shareholder funds to support operations and increase surpluses. However, if the inflation rate is higher than the investment return (for example from sukuk or mudharabah deposits), then the real investment return becomes negative. In other words, the real value of investment income decreases, negatively affecting profitability (Ahmad et al., 2021)

Furthermore, *Takaful* companies also face challenges in long-term planning amidst inflation uncertainty. Unstable inflation fluctuations cause additional risks in the preparation of contribution rates, claim projections, and business expansion planning. Therefore, inflation risk management is an important aspect in the financial strategy of

Takaful companies, both through investment diversification and the application of operational efficiency technology (Ismail, 2013).

Table 2. 1 *Summary of Relationship between Independent Variables to Dependent Variable from Previous Literature*

No	Researchers	Year	Research Title	Variable	Relationship With Takaful Performance
1	Ismail, M.	2013	Determinants of Financial Performance in Takaful Companies	Liquidity	Liquidity has a significant effect on Takaful performance.
2	Talib & Shahab	2012	Evolution of Takaful research: abibliometric analysis	ROE	ROE has a positive effect on asset growth and gross contribution.
3	Almajali et al.	2012	Factors Affecting the Financial Performance of Insurance Companies in Jordan	Leverage	Leverage has a significant effect on the profitability of insurance companies.
4	Ambarwati & Hasib	2018	The Influence of Company Size, Investment Returns and Profitability on the Solvency of Sharia Insurance in Indonesia	Size of Firm	The size of firm has a significant effect on the solvency of the company. Companies with larger sizes tend to have better capabilities.
5	Nuhin & Suprayogi (2022)	2022	The Influence of Management Performance, Efficiency, Underwriting Performance and Liquidity on the Profitability of Sharia Insurance	Underwriting Risk	Underwriting has a significant positive influence on the profitability of Islamic insurance companies in Indonesia. This shows that good underwriting risk management can improve a company's

			Companies in Indonesia		financial performance.
6	Yakob R & Yusop	2014	Financial Management Efficiency Performance of Insurers and Takaful Operators in Malaysia	Investment	Investment has a positive effect on *Takaful performance.* Investment has a strong impact on the financial stability and solvency of *Takaful operators,* especially in maintaining the stability of technical and capital reserves.
7	Guendouz Ouassaf	2018	Determinants of Saudi Takaful Insurance Companies Profitability	GDP	GDP has a positive impact on *Takaful* demand in Malaysia. Therefore, it can be assumed that GDP affects *Takaful* performance.
8	Ahmad & Haron	2021	The Role of Family Ownership in the Relationship between Board Characteristics and Corporate Social Environmental Reporting: Evidence from Malaysia	Inflation Rate	inflation has an impact on the performance of the *Takaful* company's investment portfolio.

2.6 Summary

In short, this chapter discusses the literature related to the research. Table 2.1 shows a summary of the relationship between independent variables and dependent variables from previous studies. The theories underlying this research are Agency Theory and Signalling Theory.

Agency theory emphasizes that agency conflicts can occur if there is a management misunderstanding and if the company divides or separates management and ownership,

problems also occur when between leaders and office staff. This theory also explains how the relationship between company performance with liquidity and company size. Furthermore, the opposing determination of firm performance is called agency cost. This suggests the lower of agency cost will increase the firm value and performance. Signalling theory in this study is based on the assumption that financial performance is able to signal to stakeholders about the increase or decrease in financial performance. This signal provides a sign for investors to consider investing in the company.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

The previous chapter discussed the literature review and the knowledge gap that led to the need to conduct this research. The main purpose of this chapter is to discuss the methods that will be used in the research to achieve the goals that have been set. This chapter is structured as follows: The first part begins with the research framework and then the hypothesis is followed by the research design that will be used to identify the relationship between liquidity, equity return, leverage, company size, underwriting risk, investment, GDP and Inflation rate to *Takaful* performance. Followed by data sources and collection methods, sampling design, data analysis methods, model specifications.

3.2 Research Framework

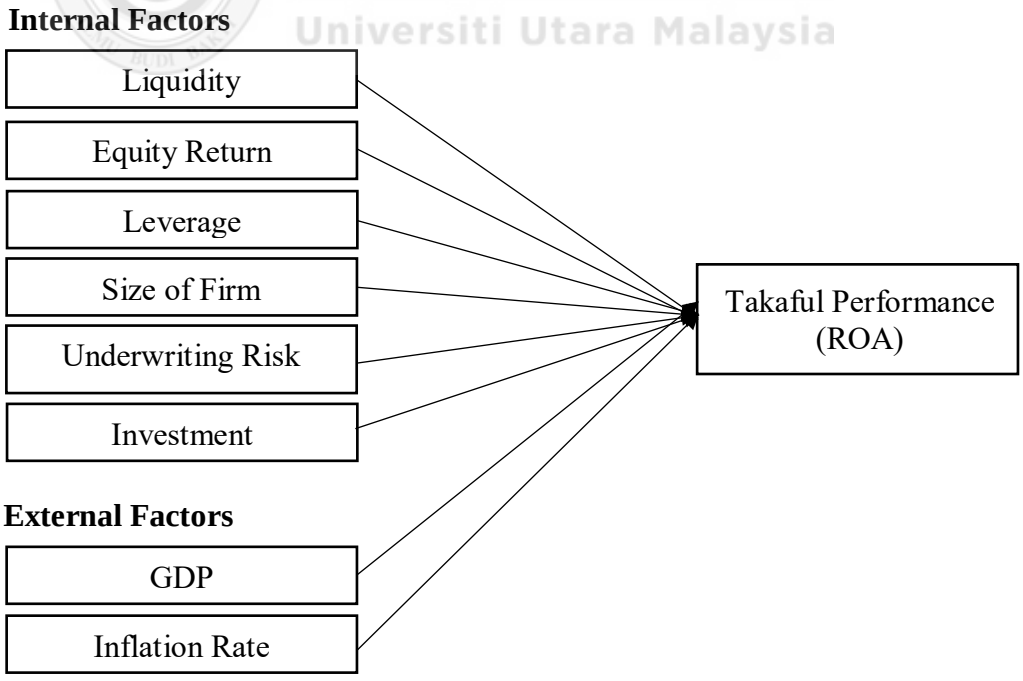

Figure 3. 1 *Research Framework*

The theoretical model is a diagram that connects theory and logic based on variables to provide a clearer picture of the hypothesis to be tested (Hair, 2007). This model has 2 independent variables on internal factors namely liquidity, equity return, leverage, size of firm, underwriting risk, investment and external factors namely GDP and inflation rate. The dependent variable which is the main objective of the research is *Takaful* performance. The theoretical framework of this study is shown if figure 3.1.

3.3 Hypotheses

A summary of the hypothesis to be tested developed in the previous chapter to fulfil the 8 objectives of this study is stated

H1 = Liquidity Significantly Affect *Takaful* Performance in Malaysia

H2 = Equity Return Significantly Affect *Takaful* Performance in Malaysia

H3 = Leverage Significantly Affect *Takaful* Performance in Malaysia

H4 = Size of Firm Significantly Affect *Takaful* Performance in Malaysia

H5 = Underwriting Risk Significantly Affect *Takaful* Performance in Malaysia

H6 = Investment Significantly Affect *Takaful* Performance in Malaysia

H7 = GDP Significantly Affect *Takaful* Performance in Malaysia

H8 = Inflation Rate Significantly Affect *Takaful* Performance in Malaysia

3.4 Research Design

The research design adopted for the study **External and Firm Factors Effecting Takaful Industry Performance in Malaysia,** is a structured quantitative methodology to examine the relationship between certain internal factors, namely liquidity, leverage, size of firm, equity return, underwriting risk and investment. External factors GDP and inflation rate on *Takaful* Industry Performance in Malaysia. The study will use

secondary data obtained from the audited financial statements of all 15 registered Takaful operators in Malaysia over a thirteen -year period 2011-2023, return on assets (ROA) is measured in the case of *Takaful* performance.

Quantitative techniques include descriptive statistics, normality test, and multiple regression through the statistical package for social sciences, which examines the degree and strength of the relationship that may exist between the factors using STATA 17. The research design is purely based on the theoretical framework of Agency Theory, which will provide insight into the external and internal factors that affect firm performance. This design will allow for the exploration of hypothesis to determine whether and how the independent variable affect the dependent variable, financial performance, in the context of the *Takaful* industry in Malaysia.

3.5 Measurement of Variables

In this study using 8 independent variables and 1 dependent variable, the specific definition and measurement of variables used in this research are explained in Table 3.1 shows that the proxy to determine *Takaful* performance.

Table 3. 1 *Variable Measurement*

Variable		Measurement	Source
Dependent Variable	Takaful Performance (ROA)	**Net Profit / Total Assets**	Guendouz & Ouassaf (2018)
Independent Variables	**Internal Factor**		
	Liquidity	**Cash Equivalent / Total Liability**	Ismail (2013)
	Equity Return	**Net Income / Total Equity**	Ismail (2013)
	Leverage	**Total Debt / Total Assets**	Arshad et al. (2016)
	Size of Firm	**Total Assets**	Arshad et al. (2016)
	Underwriting Risk	**Total Claim Paid**	Hidayat & Abdulla, (2015)
	Investment	**Investment Income**	(Ismail, 2013)
	External Factor		
	GDP	**Per capita**	(Shahid, 2018)
	Inflation Rate	**Consumer price index**	(D Han Chang, 1995)

3.6 Data Collection

In achieving the objectives and in accordance with the research methodology used, the data used is secondary data, compared to primary data, secondary data has better quality, higher reliability and more accurate data validity. This is because the data is fixed and does not change and can be reviewed by other users and the level of data dependence is relatively higher. Most of the research conducted on *Takaful* performance measurement, which also used secondary data review was researched by Arshad et al. (2020), Ismail (2018), Almajali (2021).

The data for this study was collected from the audited financial statements for each *Takaful* operator. The data was collected through each *Takaful* operator website and Bank Negara Malaysia (BNM) website. The data was taken from the statement of financial position and income statement that had been audited by a qualified auditor to maintain the validity of the data. The study was conducted on 15 *Takaful* operators over a thirteen-year period. The all data are extracted from the financial annual reports like balance sheet and income statement of companies, which are produced by the Malaysia accounting and auditing standards namely the original audited financial statements.

3.7 Sampling

The population of this study are all *Takaful* operators registered with Bank Negara Malaysia (BNM). According to BNM data, the number of registered Takaful operators is 15 companies. Four *Takaful* operators run general *Takaful* business, while the other eleven operators only run family *Takaful* business.

Table 3.2 *Variable Measurement*

No	Takaful Operator	Type of Takaful
1	AIA Public Takaful Berhad	Family Takaful Bussiness
2	AmMetLife Takaful Berhad	Family Takaful Bussiness
3	Etiqa Family Takaful Berhad	Family Takaful Bussiness
4	Etiqa General Takaful Berhad	General Takaful Business
5	FWD Takaful Berhad	Family Takaful Bussiness
6	Great Eastern Takaful Berhad	Family Takaful Bussiness
7	Hong Leong MSIG Takaful Berhad	Family Takaful Bussiness
8	Prudential BSN Takaful Berhad	Family Takaful Bussiness
9	Sun Life Malaysia Takaful Berhad	Family Takaful Bussiness
10	Syarikat Takaful Malaysia Am Berhad	General Takaful Business
11	Syarikat Takaful Malaysia Keluarga Berhad	Family Takaful Bussiness
12	Takaful Ikhlas Family Berhad	Family Takaful Bussiness
13	Takaful Ikhlas General Berhad	General Takaful Business
14	Zurich General Takaful Malaysia Berhad	General Takaful Business
15	Zurich Takaful Malaysia Berhad	Family Takaful Bussiness

Source: Bank Negara Malaysia

Based on the population provided, the sample of this research is aligned with its population amount. Where all the 15 *Takaful* operators are taken as the sample as well.

3.8 Techniques of Data Analysis

Multiple regression analysis to evaluate the dependent variable against the values of the independent variables. The aims is to reveal the magnitude of the influence of *Takaful* performance depending on the selected independent variables. This method will also determine whether liquidity, leverage, size of firm, equity return, underwriting risk and investment, GDP and inflation rate are the main factors that determine *Takaful* performance. The multiple regression model was chosen to be used because there are previous studies that also use the same method, namely research conducted by (Arshad et al. 2020).

Panel data and this test are used to analyses the dependent variable in relation to the value of the independent variable. Time effects can be detected through changes in variable relationships during this statistical analysis research. The objective is to reveal the magnitude of the effect of *Takaful* performance depending on the selected independent variables Test were also conducted for estimation analysis. The regression equation for this study is as follows

The regression equations for this study are as follows:

$$PEF_{it} = \beta 0 + \beta 1LQ_{it} + \beta 2EQ_{it} + \beta 3LV_{it} + \beta 4SIZE_{it} + \beta 5UWR_{it} + \beta 6INV_{it} + \beta 7GDP_{it} + \beta 8INF_{it} + \varepsilon_{it}$$

Where, β_0 = Constant
i = Country
t = Time period
ε_{it} = Error term of country i on time t

Dependent variable:
PEF = Takaful Performance

Independent Variables:
LQ = Liquidity
EQ = Equity Return
LV = Leverage
SIZE = Size of Firm
UWR = Underwriting Risk
INV = Investment
GDP = Gross Domestic Product
INF = Inflation Rate

In addition, there are several important consideration factors while running a multiple linear regression on panel data. Initially, the dataset both in cross-sectional and time-series dimensions have to meet the classical assumption tests to validate normality, multicollinearity, heteroscedasticity, and autocorrelation of the data. Next, while the data already met classical test, the model specification tests will be done to considering

the most appropriate model between common effect model, fixed-effect model, and random-effect model. Finally, the interpretation of the result will be showed from analyzing the coefficients, significance level, and goodness-of-fit measures (e.g., R^2 and F-statistic).

3.8.1 Classical Assumption Test

In regression analysis, classical assumption tests are necessary to check the basic underlying assumptions of the Ordinary Least Square (OLS) technique. These assumptions are a safeguard that the estimates through a regression model are unbiased, consistent, and efficient. Violation of any one of these assumptions will mislead results and inference. Therefore, there is a need to carry out a series of diagnostic tests to check on the validity of these assumptions before conducting the interpretation of the results of a regression analysis. The major classical assumptions include normality, autocorrelation, homoscedasticity, and no multicollinearity.

a. Normality Test

The normality assumption promotes that residuals of regression model should be normally distributed. The normality assumption is essential for hypothesis testing and building intervals confidence where most statistical tests depend upon the normality of error terms. The assessment of the normality may be visualized graphically through Q-Q plot or residuals' histogram. Besides, it can be checked with formal statistical tests, including Shapiro-Wilk or Kolmogorov-Smirnov tests. If the assumption of normality is violated, transformations of the dependent variable may be necessary, or one may use nonparametric methods that do not depend on this assumption.

b. Multicollinearity Test

Multicollinearity assumption promotes that the independent variables should not be highly inter-correlated. High multicollinearity can result in very large standard errors of the coefficients, making it impossible to identify the separate influence of each independent variable on the dependent variable. The VIF is a common way to check for multicollinearity. A VIF above 10 is generally considered to be a problem. If multicollinearity is detected, the potential remedies include removal of highly correlated variables, combining them into one variable, or using techniques like principal component analysis to reduce dimensionality.

c. Heteroscedasticity Test

In regression analysis, heteroscedasticity refers to a situation wherein the residuals' variance is not the same for all levels that define different values of independent variables. It can lead to inefficient estimates and biased standard errors in the usual estimations. Various researchers prefer to check this by graphical methods, relating residuals against the predicted, or through formal tests, including the Breusch-Pagan test and the White test. Solutions can include transforming the dependent variable, using weighted least squares regression, or applying robust standard errors if heteroscedasticity is present to ensure more reliable results from the regression model.

d. Auto-Correlation Test

Auto-correlation (serial correlation) means that a variable is related (correlated) with prior values of itself over successive periods. Generally, in term of regression analysis, the residuals are correlated across observations especially within time series data. Where independence is violated, inefficient estimates can give distorted statistical inference. Researchers usually examine the Durbin-Watson statistic or the Wooldridge

test, one of the common tests on first-order auto-correlation. Once this is spotted, the incorporation of lagged variables, application of ARIMA, or usage of generalized least squares correction for estimates would address this kind of problem, making the results from regression more credible.

3.8.2 Model Specification Test

In panel data analysis, there are mainly three models that are used to capture the effects of independent variables on dependent variables which are Common Effects Model (CEM), Fixed Effects Model (FEM), and Random Effect Model (REM). In order to determine the most appropriate model for the analysis, tests such as the Hausman test, chow test, and Lagrange multiplier test are used to determine which model is appropriate for analysis.

a. Common Effect Model (CEM)

The Common Effects Model (CEM), or pooled Ordinary Least Squares (OLS) model, pools cross-sectional and time-series data into one dataset, assuming a single relationship between independent and dependent variables across entities and time. It has a constant slope and intercept, allowing the modeling of general trends but possibly missing individual entity characteristics. Therefore, this model is suitable for preliminary analyses which focuses on general relationships rather than differences across individual entities.

b. Fixed Effect Model (FEM)

The FEM controls for individual heterogeneity, allowing each entity to have an intercept that reflects unique characteristics with a constant slope. It is focused on within-entity variations over time and thus can be applied to the same entity over some

period. This model controls for unobserved time-invariant factors that may influence the dependent variable. However, it does not estimate the effects of the time-invariant variables, which could restrict its usability in some contexts.

c. Random Effect Model (REM)

REM assumes that the individual effects are random and uncorrelated with independent variables, hence, it embeds within-unit and between-unit variations in its estimation. Particularly for large sample sizes, the model proves to be effective by enhancing efficiency in estimation and offering wider insights into the population. This treatment of individual effects as an error term offers generalized conclusions of the relationships among variables. However, it is valid under the assumption that random effects are uncorrelated with the independent variables where violations can result in biased estimates.

d. Hausman Test

The statistical test of Hausman test is conducted in order to choose between a Fixed Effect Model (FEM) and Random Effect Model (REM). Where the test will consider the consistency of the estimation from both models then determine the appropriate model at hand. Where the hypothesis of the test is:

H_0 : Random Effect Model is more appropriate

H_a : Fixed Effect Model is more appropriate

Based on the test result, if the p-value is more than 0.05 then H_0 will be accepted. Otherwise, the less than 0.05 p-value will reject the H_0.

e. Chow Test

In addition, chow test is conducted to choose a model selection between Fixed Effect Model (FEM) and Common Effect Model (CEM). It checks whether the individual entities, such as firms or countries, have different intercepts, which justifies the application of FEM instead of the simpler CEM. Where the hypothesis of the test is:

H_0 : Common Effect Model is more appropriate

H_a : Fixed Effect Model is more appropriate

Based on the test result, if the p-value is less than 0.05 then H_0 will be accepted. Otherwise, the more than 0.05 p-value will reject the H_0.

f. Lagrange Multiplier (LM) Test

The LM test help to decide between Random Effect Model (REM) and Common Effect Model (CEM). The test analyses whether the variance of individual-specific effects different from zero. Where the hypothesis of the test is:

H_0 : Common Effect Model is more appropriate

H_a : Random Effect Model is more appropriate

Based on the test result, if the LM is more than 0.05 then H_0 will be rejected. Otherwise, the less 0.05 p-value will accept the H_0.

3.9 Summary

This section describes the research method used to achieve the objectives. The theoretical framework is used to show the relationship between independent variables (liquidity, equity return, leverage, size of firm, underwriting risk, investment, GDP and inflation rate) to the dependent variable (*Takaful* performance). This relationship refers to the agency theory and is supported by the signaling theory. Eight hypotheses are developed to ensure the objectives are achieved. This research is quantitative research and the data used for this research is secondary data obtained from the financial statements of *Takaful* operators.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

The previous chapter is an explanation of the relevant research methods used to achieve the objectives. This chapter will discuss the findings and analysis of the results. This chapter is divided into four parts, starting with descriptive statistical analysis and followed by normality analysis. To determine the relationship between variables (liquidity, equity return, leverage, size of firm, underwriting risk, investment, GDP, inflation rate to *Takaful* performance) multiple regression method is used. The last is a summary of the findings.

4.2 Descriptive Statistic

Minimum, maximum, mean, and standard deviation are some of the descriptive statistics obtained for the dependent variable and the interval-scale component. The mean value, which is often used as a measure of central tendency or average value, is discussed in tables during data analysis. Meanwhile, the standard deviation shows the distribution of the distance of the mean value. A higher data set deviation indicates that the data points are further away from the mean. For data that has been collected, the lowest and largest values represent the range.

Table 4. 1 *Descriptive Statistic*

Indicator	Mean	Median	Maximum	Minimum	Std. Dev.
ROA	0.092095	0.031136	1.000000	0.000000	0.156025
LQ	0.066657	0.047448	0.271545	0.000887	0.061510
EQ	2.421122	0.921334	103.6184	0.028477	8.546590
LV	1.102257	0.882572	25.66149	0.055135	2.357537
SIZE	20429783	1757214.	6.35E+08	113925.0	82298015
UWR	12.32247	12.16603	18.62893	6.329721	1.950871
INV	530192.5	31734.50	20953079	19.98100	2543994
GDP	41501.88	41856.28	51895.72	31264.38	6422.264
INF	2.203554	2.110000	3.870000	0.660000	0.961346

The descriptive statistics presented provide an overview of the distribution and variability of the various variables analyses. The average Return on Assets (ROA) is 9.21% with a relatively high standard deviation (0.156025), indicating significant variability in profitability. Liquidity (LQ) has an average of 6.67% with a maximum value of 27.15%, suggesting that some companies have high liquidity. Equity (EQ) and leverage (LV) show very high variability, with maximum values far exceeding the median, indicating significant outliers. Firm size (SIZE) also exhibits very high variability, with some extremely large companies. Underwriting risk (UWR) and inflation rate (INF) show more stable distributions with moderate variability. Investment (INV) and GDP have high averages with large standard deviations, indicating significant variation in the data. Overall, these statistics suggest that the data has high variability, particularly in firm size, equity, and investment, which should be considered in further analysis.

4.3 Diagnostic Test

a. Normality Test

Normality test is a statistical procedure used to determine whether a dataset follows a normal distribution, which is an important assumption in many parametric analyses such as t-test, ANOVA and linear regression. However, in this study the normality test can be excluded because the amount of observational data used is very large. Based on Ramadhan et al., (2023), Central Limit Theorem When the sample size is large enough, the sample distribution tends to approach the normal distribution, regardless of the original population distribution.

This allows researchers to ignore the normality test on large samples, because the distribution of the sampling error term has approached normal. Some sources state that a sample size of more than 30 is considered adequate for this assumption. Ghozali et al. (2014) state that we need to pay attention that this residual normal distribution assumption is mainly for small sample sizes. Therefore, it can be ignored for large sample sizes. We should emphasize classical assumption testing on heteroscedasticity and autocorrelation which can cause statistical inference to be invalid.

b. Multicollinearity Test

Table 4. 2 *Multicollinearity Test*

	LQ	EQ	LV	SIZE	UWR	INV	GDP	INF
Liquidity	1.0000							
Equity Return	0.0955	1.0000						
Leverage	0.0390	0.0257	1.0000					
Size of Firm	-0.1208	-0.0455	-0.5300	1.0000				
Underwriting Risk	0.1838	-0.0594	-0.0081	-0.5493	1.0000			
Investment	0.0542	-0.0636	0.0888	0.0715	-0.0580	1.0000		
GDP	0.0804	-0.0862	0.0136	0.2502	0.1402	0.0558	1.0000	
Inflation Rate	-0.0143	-0.0508	0.1270	-0.0748	0.0201	-0.0405	0.0146	1.0000

The multicollinearity test results show the correlations between the independent variables used in the analysis. Overall, there are no very high correlations (typically above 0.8 or 0.9) between the independent variables, indicating that multicollinearity may not be a significant issue in this model. However, there is a relatively high negative correlation between Size of Firm (SIZE) and Leverage (LV) at -0.5300 and between Size of Firm (SIZE) and Underwriting Risk (UWR) at -0.5493, suggesting significant relationships between firm size, leverage, and underwriting risk. The size of firm has a significant effect on the solvency of the company. Companies with larger sizes tend to have better capabilities Ambarwati, (2018), and good underwriting can improve a

company's financial performance Nuhin, (2022)**.** Other correlations are relatively low, with the highest being 0.1838 between Liquidity (LQ) and Underwriting Risk (UWR).

c. Heteroscedasticity Test

Table 4. 3 *Heteroscedasticity Test*

Chi2 (1)
2.54
Prob > chi2
0.1112

The heteroscedasticity test results show a Chi-square (X^2) value of 2.54 with a probability (prob > chi^2) of 0.1112. Since the probability value is greater than the common significant level ($\alpha = 0.05$ or 0.10), there is insufficient evidence to reject the null hypothesis (H_0), which states that there is no heteroscedasticity in the regression model. Therefore, it can be concluded that the variance of the residuals in the model is considered constant, so the assumption of homoscedasticity is met. This shows that the regression model used does not experience heteroscedasticity issues, making the regression estimates more reliable and unbiased.

d. Auto-Correlation Test

Auto correlation test conducted to see whether there is correlation across residual data observation. Generally, the decision making of the test will be taken through the value of Durbin-Watson test. Where in order to avoid auto-correlation issue, the value should be between the value of dU and 4-dU. However, according to Basuki, (2015), in panel data, it is not required to use an auto-correlation test because the panel data is cross section, while autocorrelation only occurs in time series data. Like the research

conducted by Awaludin et al., (2023) did not conduct an auto-correlation test because it used panel data observation.

4.4 Model Specification Test

a. Chow Test

The results of the model specification test with the chow test can be seen in the table 4.4 next:

Table 4. 4 Heteroscedasticity Test

F (8,146)	28370.86
Prob > F	0.0000

Chow test is conducted to determine the best model between Common Effect Model (CEM) and Fixed Effect Model (FEM). Where the probability value of the result will decide the specification. Based on chow test result, it shows that p-value at 0.0000 < 0.05, indicates that FEM is better than CEM.

b. Hausman Test

The results of the model specification test with the Hausman test can be seen in the table 4.5 as follows:

Table 4. 5 Hausman Test

Chi2 (6)	99.07
Prob > chi2	0.0000

When FEM is selected at chow test, the Hausman test need to be taken in order to see the best selection model between FEM and REM. The decision of this analysis will be taken based on prob>chi2 value. Based on the result, prob>chi2 of the test is at 0.000 < 0.05, indicates that FEM is the best model for this panel regression. When FEM already

selected in Hausman test, Lagrange multiplier test will be not carry out anymore since the best model already selected.

4.5 Panel Data Test

Table 4. 6 Panel Data Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Liquidity (LQ)	1.040455	2.179037	0.48	0.634
Equity Return (EQ)	-.0026286	.0116093	-0.23	0.821
Leverage (LV)	.6895214*	.0031893	216.20	0.000
Size of Firm (SIZE)	1.470773*	.1803903	8.15	0.000
Underwriting Risk (UWR)	1.32e-09	9.49e-09	0.14	0.889
Investment (INV)	.0015436	.0021471	0.72	0.473
GDP	-.0001246*	. 0000191	-6.52	0.000
Inflation Rate (INF)	. 240344*	.0952186	2.52	0.013
cons	-17.85796	2.232416	-8.00	0.000
R-squared	0.9962			
Prob > F	0.0000			

The regression analysis results show the relationship between the dependent variable and several independent variables. Liquidity (LQ) and Equity Return (EQ) do not have a statistically significant effect on the dependent variable, with p-values of 0.634 indicates that 63.4%, and 0.821 indicates that 82.1% respectively. On the other hand, Leverage (LV) and Size of Firm (SIZE) have a significant positive effect, with p-values of 0.000 for both. GDP shows a significant negative effect with a p-value of 0.000, while Inflation Rate (INF) has a significant positive effect with a p-value of 0.013 signify 1.3%.

Companies with a healthy capital structure and optimal leverage show better financial performance than companies that rely too much on external loans Almajali et al. (2012) and the size of firm has a significant effect on the solvency of the company. Companies with larger sizes tend to have better capabilities Ambarwati (2021), Increasing GDP indicates economic growth, which is usually accompanied by an increase in people's

income, consumption, and investment. In the context of the *Takaful* industry, high GDP is often associated with increasing demand for financial protection products, including sharia insurance or *Takaful* (Abdullah et al., 2022).

The variables Underwriting Risk (UWR) and Investment (INV) are not statistically significant with p-values of 0.889 and 0.473 respectively. The constant in this model is also statistically significant with a p-value of 0.000. The R-squared value of 0.9962 indicates that 99.62% of the variation in the dependent variable is explained by the independent variables in the model, suggesting that the model has an excellent ability to explain the variation in the dependent variable. Overall, the model is statistically significant as indicated by the Prob > F value of 0.0000, meaning that at least one independent variable has a significant effect on the dependent variable.

4.6 Summary of Finding

This study was conducted to determine the factors that affect the performance of the *Takaful* industry in Malaysia. The independent variables tested were liquidity, equity return, leverage, size of firm, underwriting risk, investment, GDP and inflation rate. Secondary data were collected through audited financial statements of 15 *Takaful* operators in Malaysia. The data were entered into an Excel spreadsheet and imported into STATA 17 for analysis. Data screening showed no outliers. The results are summarized in Table 4.7.

Table 4. 7 Summary of Actual Result

Factors	Variables	Expected Result	Actual Result/ Sign
Internal	LQ	Positive and Significant	Not significant
	ROE	Positive and Significant	Not significant
	LV	Positive and Significant	Positive and significant
	SIZE	Positive and Significant	Positive and significant
	UWR	Positive and Significant	Not significant
	INV	Positive and Significant	Not significant
External	GDP	Positive and Significant	Negative and significant
	IF	Positive and Significant	Positive and significant

The table shows the factors that are estimated to affect the performance of *Takaful* companies, both internal and external.

Internal Liquidity (LQ), Equity Return (ROE), Underwriting Risk (UWR) and Investment (INV) factors are expected to have a positive and significant influence on the performance of *Takaful* companies, but the actual results show that these factors are not significant. Leverage (LV) and Size of Firm (SIZE) have an influence that is in accordance with expectations, namely positive and significant on *Takaful* performance.

External factors Gross Domestic Product (GDP) is expected to have a positive and significant impact, but the actual results show that GDP has a negative and significant impact on *Takaful* performance. Inflation (IF) is in line with expectations, which has a positive and significant influence on *Takaful* performance.

Based on the results of the table, there are two internal factors that affect the performance of *Takaful* companies, namely Leverage and Size of Firm, which means that these variables are important in looking at the performance of *Takaful* companies. And also for external factors, there are also two factors that affect the performance of *Takaful* companies in Malaysia.

Liquidity it highlight than better liquidity can improve the ability of *takaful* operates paying back their short term debt from assets this can positively impact *Takaful* performance. However this correlation is not significant.

For equity return the negative sign of equity return might be caused by another factors like solvency concerns, with sometimes affect ROE to be negative which than negatively impact *takaful* performance.

Leverage can provide *Takaful* the amount of borrowed fund to invest in high return project, firm size can also increase *Takaful* with large assets indicate that it has enough resources to enhance *Takaful* performance

Size of firm indicate that the increase of firm size also can increase *takaful* performance, because *takaful* with large assets indicate that it has enough resaurces to enhance *takaful* performance.

Underwriting risk it indicate that better underwriting risk management can positively increase *takaful* performance sign a good underwriting risk assessment leat *takaful* effectively reduce lost rasio. Therefore can increase the *takaful* performance. However this correlation this not significant.

Investment it indicate that the return from investment product positively effect *takaful* performance. However this correlation this not significant.

GDP has a negative impact indicates that complex city of the economy condition such as inflation and government debt can lead to GDP fluctuation, therefore this fluctuation can a give a negative effect on *takaful* performance.

Inflation rate the positive sign indicates that high inflation may assosciated with high uncertainty which encourage higher demand of *takaful* product which the influence the performance.

4.7 Conclusion

This chapter discusses the findings through the analysis conducted. The analysis begins with a discussion of the results of descriptive statistics and continues with the normality test, autocorrelation test, chow test and Hausman test. To test the hypothesis that has been formulated, multiple regression analysis is conducted. This analysis describes the relationship between dependent and independent variables and their influence on *Takaful* performance. Of the eight variables tested, only 4, namely leverage and size of firm, GDP and inflation rate have a significant relationship to *Takaful* performance. The next chapter will discuss the entire study, conclusions, limitations, and recommendations for further research.

CHAPTER FIVE

DISCUSSION

5.1 Introduction

This chapter will discuss, conclude, and provide recommendations based on the findings from the previous chapter. This chapter is divided into four parts, starting with a discussion, followed by Research Implications and Recommendations, limitations and recommendations for future research, and ending with a conclusion.

5.2 Discussion

This study examines internal and external factors that affect *Takaful* performance in Malaysia, this study involves *Takaful* in Malaysia, a period of 13 years from 2011 to 2023 using statistical analysis software, this study uses the multiple linear regression method to measure the performance of *Takaful* companies. In analysing the variables that affect the performance of *Takaful* companies, the researcher focuses on 6 internal factors, namely, liquidity, equity return, leverage, size of firm, underwriting risk, and investment and external factors, namely GDP and inflation rate.

The results of the findings of this study Leverage, size of firm, inflation rate significantly affect the performance of *Takaful* companies and GDP significantly affects *Takaful* performance but has a negative impact. This study supports research from Almajali et al., (2012) for leverage, for size of firm, for inflation rate (Shahid, 2018). For other factors such as liquidity, equity return, underwriting risk and investment no significant to the performance of *Takaful* companies.

Thus, this study achieves the research objectives (1) to identify the relationship between internal factors and *Takaful* performance, (2) to identify the relationship between external factors and *Takaful* performance. In the internal factor, 2 variables are significant, namely leverage and size of firm, in the external factor, the second variable is significant.

5.3 Research Implications and Recommendation

Takaful is one of the companies that has a good performance in good cooperation between members in a group, this study aims to find out the relationship between two internal and external factors on the performance of *Takaful* companies in Malaysia. This study found 4 variables that are significantly related to the performance of *Takaful* companies, the performance of *Takaful* companies is calculated by ROA and or other factors to determine their efficiency, as well as looking at the performance of *Takaful* companies. Currently, the demand for sharia insurance is increasing, therefore to ensure that the performance of *Takaful* companies looks good and good *Takaful* measurement requires specific data to be evaluated.

Recommendations for individuals, they pay close attention to the *Takaful* policy taken. *Takaful* operator stability is important. Customers will choose *Takaful* operators who can ensure they will get proper compensation in the event of something happening Therefore, through this research, customers will definitely choose *Takaful* operators with higher assets.

For the government, this research can assist the Government through Bank Negara Malaysia in creating policies that can improve the financial performance of takaful operators in Malaysia and contribute to national revenue.

Recommendations for *Takaful* Companies, with this study, it can be known how Takaful Companies manage their finances, increasing customer needs and demands for products and service practices from *Takaful* Companies is needed so that it can make the *Takaful* industry more known among the public.

5.4 Limitation of the Study

The study only focused on secondary data consisting of financial ratios obtained from the annual financial statements of fifteen *Takaful* companies registered with Bank Negara Malaysia. Therefore the inability to obtain available data was published for use in this study.

5.5 Future Research

This study only uses 8 variables including Liquidity, Equity Return, Leverage, Size of Firm, Underwriting Risk, Investment, GDP and Inflation Rate, further research can add variables or examine other variables that are also significantly related to the performance of *Takaful* companies in Malaysia.

5.6 Conclusion

This study presents an investigation based on the performance of fifteen *Takaful* companies registered with Bank Negara Malaysia, which was carried out by collecting data during the period 2011 to 2023. In this study, there are two independent factors, there are six variables in internal factors, namely Liquidity, Equity Return, Leverage,

Size of Firm, Underwriting Risk and investment, 2 variables in external factors, namely Gross Domestic Product (GDP) and Inflation Rate. Then one variable dependent, namely *Takaful* performance (ROA) The objective in this research is to find out the relationship between operational factors and the performance of *Takaful* companies in Malaysia. Based on the results of the multiple linear regression test, it was found that the variables Leverage, size of firm, GDP and inflation rate were significant to the performance of *Takaful* companies (ROA).

Liquidity it highlight than better liquidity can improve the ability of takaful operates paying back their short term debt from assets this can positively impact *Takaful* performance. For equity return the negative sign of equity return might be caused by another factors like solvency concerns, with sometimes affect ROE to be negative which than negatively impact *takaful* performance. Leverage can provide *Takaful* the amount of borrowed fund to invest in high return project, firm size can also increase *Takaful* with large assets indicate that it has enough resources to enhance *Takaful* performance.

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Appendix A Descriptive Statistic

Date: 02/17/25 Time: 00:00
Sample: 2011 2023

	ROA_Y	SIZE_OF_FI	LOG_UNDE	LIQUIDITY_X1	LEVERAGE_	INVESTMEN	INFLATION_	EQUITY_RE	GDP_X7
Mean	0.092095	20429783	12.32247	0.066657	1.102257	530192.5	2.203554	2.421122	41501.88
Median	0.031136	1757214.	12.16603	0.047448	0.882572	31734.50	2.110000	0.921334	41856.28
Maximum	1.000000	6.35E+08	18.62893	0.271545	25.66149	20953079	3.870000	103.6184	51895.72
Minimum	0.000000	113925.0	6.329721	0.000887	0.055135	19.98100	0.660000	0.028477	31264.38
Std. Dev.	0.156025	82298015	1.950871	0.061510	2.357537	2543994.	0.961346	8.546590	6422.264
Skewness	3.265228	5.583232	0.900051	1.123416	9.266919	6.074181	-0.033123	10.29961	0.096718
Kurtosis	16.18668	35.58812	5.599037	3.871480	89.45042	40.60249	1.991650	120.3280	2.036106
Jarque-Bera	1497.703	8207.840	69.13454	40.17012	54068.82	10800.58	7.063018	98148.72	6.685018
Probability	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.029261	0.000000	0.035348
Sum	15.28781	3.39E+09	2045.530	11.06511	182.9747	88011948	365.7900	401.9063	6889313.

Appendix B Multicollinearity

```
. corr Liquidity_X1 EquityReturn_X2 Leverage_X3 ln_SizeofFirm_X4 UnderwritingRisk_X5 Investment_x6 GDP_X7 InflationRate_X8
(obs=168)
```

	Liquid~1	Equity~2	Levera~3	ln_Siz~4	Underw~5	Invest~6	GDP_X7	Inflat~8
Liquidity_X1	1.0000							
EquityRetu~2	0.0955	1.0000						
Leverage_X3	0.0390	0.0257	1.0000					
ln_SizeofF~4	-0.1208	-0.0455	-0.5300	1.0000				
Underwriti~5	0.1838	-0.0594	-0.0081	0.5493	1.0000			
Investment~6	0.0542	-0.0636	0.0888	0.0715	-0.0580	1.0000		
GDP_X7	0.0804	-0.0862	0.0136	0.2502	0.1402	0.0558	1.0000	
InflationR~8	-0.0143	-0.0508	0.1270	-0.0748	0.0201	-0.0405	0.0146	1.0000

Appendix C Heteroscedasticity

```
. quietly reg ROA_Y Liquidity_X1 EquityReturn_X2 Leverage_X3 ln_SizeofFirm_X4 UnderwritingRisk_X5 Investment_x6 GDP_X7 InflationRate_X
> 8

. hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
         Ho: Constant variance
         Variables: fitted values of ROA_Y

         chi2(1)      =     2.54
         Prob > chi2  =   0.1112
```

Appendix D Chow Test

```
. xtreg ROA_Y Liquidity_X1 EquityReturn_X2 Leverage_X3 ln_SizeofFirm_X4 UnderwritingRisk_X5 Investment_x6 GDP_X7 InflationRate_X8, fe

Fixed-effects (within) regression               Number of obs      =       168
Group variable: takaful                         Number of groups   =        14

R-sq:                                           Obs per group:
     within  = 0.9994                                         min =         6
     between = 0.9863                                         avg =      12.0
     overall = 0.9962                                         max =        13

                                                F(8,146)           =  28370.86
corr(u_i, Xb)  = -0.0574                        Prob > F           =    0.0000
```

ROA_Y	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Liquidity_X1	1.040455	2.179037	0.48	0.634	-3.266076	5.346986
EquityReturn_X2	-.0026286	.0116093	-0.23	0.821	-.0255727	.0203155
Leverage_X3	.6895214	.0031893	216.20	0.000	.6832183	.6958245
ln_SizeofFirm_X4	1.470773	.1803903	8.15	0.000	1.11426	1.827287
UnderwritingRisk_X5	1.32e-09	9.49e-09	0.14	0.889	-1.74e-08	2.01e-08
Investment_x6	.0015436	.0021471	0.72	0.473	-.0026999	.005787
GDP_X7	-.0001246	.0000191	-6.52	0.000	-.0001624	-.0000868
InflationRate_X8	.240344	.0952186	2.52	0.013	.0521591	.428529
_cons	-17.85796	2.232416	-8.00	0.000	-22.26998	-13.44593
sigma_u	2.7012082					
sigma_e	1.1644413					
rho	.8432902	(fraction of variance due to u_i)				

F test that all u_i=0: F(13, 146) = 6.43 Prob > F = 0.0000

Appendix E Hausmant Test

	Coefficients (b) fe	(B) re	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
Liquidity_X1	1.040455	4.098245	-3.05779	.9512599
EquityRetu~2	-.0026286	-.0027278	.0000992	.
Leverage_X3	.6895214	.6698483	.0196731	.0023401
ln_SizeofF~4	1.470773	.1992745	1.271499	.1511171
Underwriti~5	1.32e-09	-3.50e-08	3.63e-08	4.19e-09
Investment~6	.0015436	-.0000371	.0015807	.
GDP_X7	-.0001246	-.000022	-.0001026	6.01e-06
InflationR~8	.240344	.2754188	-.0350748	.

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(6) = (b-B)'[(V_b-V_B)^(-1)](b-B)
= 99.07
Prob>chi2 = 0.0000
(V_b-V_B is not positive definite)

Appendix F Panel Data Test

```
R-sq:                                           Obs per group:
     within  = 0.9994                                        min =          6
     between = 0.9863                                        avg =       12.0
     overall = 0.9962                                        max =         13

                                                F(8,146)          =   28370.86
corr(u_i, Xb)  = -0.0574                        Prob > F          =     0.0000
```

ROA_Y	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Liquidity_X1	1.040455	2.179037	0.48	0.634	-3.266076	5.346986
EquityReturn_X2	-.0026286	.0116093	-0.23	0.821	-.0255727	.0203155
Leverage_X3	.6895214	.0031893	216.20	0.000	.6832183	.6958245
ln_SizeofFirm_X4	1.470773	.1803903	8.15	0.000	1.11426	1.827287
UnderwritingRisk_X5	1.32e-09	9.49e-09	0.14	0.889	-1.74e-08	2.01e-08
Investment_x6	.0015436	.0021471	0.72	0.473	-.0026999	.005787
GDP_X7	-.0001246	.0000191	-6.52	0.000	-.0001624	-.0000868
InflationRate_X8	.240344	.0952186	2.52	0.013	.0521591	.428529
_cons	-17.85796	2.232416	-8.00	0.000	-22.26998	-13.44593
sigma_u	2.7012082					
sigma_e	1.1644413					
rho	.8432902	(fraction of variance due to u_i)				

```
F test that all u_i=0: F(13, 146) = 6.43                     Prob > F = 0.0000
```

Appendix Takaful Company

AIA Public Takaful Berhad

Tahun	Cash Equivalent	Total Liability	Liquidity	Net Income	Total Equity	Equity Return	Total Debt	Total Assets	Leverage	Size of Firm	Underwriting Risk	Investment	Net profit	Assets	ROA
2011	2,974	93,320	0.031868838	31,594	93,320	0.338555508	93,320	113,925	0.819135396	113,925	23,665	2,963	10,907	113,925	0.0957384
2012	10,306	84,906	0.121381292	101,037	84,906	1.189986573	84,906	176,710	0.480482146	176,710	58,054	4,019	41,812	176,710	0.2366137
2013	4,672	79,945	0.058440178	90,229	79,945	1.128638439	79,945	210,645	0.379524793	210,645	69,252	5,302	90,229	210,645	0.4283463
2014	28,132	360,873	0.077955403	207,973	71,241	2.91928805	360,873	432,114	0.835133784	432,114	136,209	10,814	207,973	432,114	0.481292
2015	57,374	486,938	0.117826089	290,966	60,245	4.829712009	486,938	547,183	0.889899723	547,183	173,021	15,661	290,966	547,183	0.5317526
2016	86,411	603,468	0.143190691	483,525	52,898	9.140704753	603,468	688,397	0.876627876	688,397	307,394	20,464	17,845	688,397	0.0259225
2017	161,397	833,216	0.193703673	657,096	99,413	6.609759287	833,216	932,629	0.893405631	932,629	416,684	28,867	24,748	932,629	0.0265357
2018	286,334	1,091,123	0.262421377	828,877	178,694	4.638527315	1,091,123	12,698,817	0.085923201	12,698,817	531,172	49,188	34,797	12,698,817	0.0027402
2019	345,154	1,457,741	0.236773199	1,051,198	198,466	5.296615037	1,457,741	1,656,207	0.880168361	1,656,207	691,795	43,135	41,688	1,656,207	0.0251708
2020	271,328	2,068,388	0.131178483	1,302,138	242,907	5.360644197	2,068,388	2,275,019	0.909173945	2,275,019	880,714	60,524	49,641	2,275,019	0.02182
2021	333,043	2,552,823	0.13046067	1,490,590	826,088	1.804396142	2,552,823	2,933,788	0.870145696	2,933,788	939,566	86,302	66,179	2,933,788	0.0225575
2022	293,089	2,562,175	0.114390703	119,032	945,120	0.125943795	2,562,175	3,507,295	0.730527372	3,507,295	454,386	12,719	81,005	3,507,295	0.0230961
2023	210,786	3,090,888	0.068195936	164,006	1,109,126	0.147869584	3,090,888	4,200,014	0.735923261	4,200,014	650,738	230,886	103,980	4,200,014	0.0247571

AmMetLife Takaful Berhad

Tahun	Cash Equivalent	Total Liability	Liquidity	Net Income	Total Equity	Equity Return	Total Debt	Total Assets	Leverage	Size of Firm	Underwriting Risk	Investment	Net profit	Assets	ROA
2011															
2012	29,139	5,752,957.00	0.005065047	10,288,526	88,666,101	0.116036748	5,752,957.00	104,342,235	0.055135459	104,342,235	217,043	13,448	10,288,526	104,342,235	0.098603657
2013	2,940,677.00	41,990,471	0.070032008	44,302,477.00	80,635,134	0.549419029	41,990,471	122,625,605	0.342428247	122,625,605	29,015,653	3,844.30	4,501,486	122,625,605	0.036709185
2014	1,999,160.00	96,093,351	0.020804353	6,850,257.00	68,924,311	0.09938811	96,093,351	165,017,662	0.582321612	165.017,662	44, 69 8,3 19	4,829.50	6,846,635	165,017,662	0.041490316
2015	8,803,036.00	120,463,857	0.073076159	6,846,635.00	60,702,186	0.112790584	120,463,857	181,166,043	0.664936182	181,166,043	33,948,867	5,892.00	6,850,257	181,166,043	0.037812036
2016	20,855,927	153,139,362	0.136189199	7,472,767	69,378,941	0.107709442	153,139,362	222,518,303	0.688210183	222,518,303	40,254,937	7,130.60	7,472,767	222,518,303	0.033582707
2017	17,691,101	167,819,314	0.10541755	10,003,970.00	60,230,710	0.166094174	167,819,314	228,050,024	0.735888166	228,050,024	35,576,369	8,270.10	10,003,970	228,050,024	0.043867437
2018	14,707,725	213,354,574	0.068935597	11,599,771	48,546,353	0.238942171	213,354,574	11,599,771	18.39299879	11,599,771	58,233,704	8,770.90	11,599,771	11,599,771	1
2019	7,227,672.00	244,439,629	0.029568332	9,525,542	49,352,437	0.19301057	244,439,629	9,525,542	25.66149296	9,525,542	45,464,250	10,634,726	9,525,542	9,525,542	1
2020	48,266,095	296,330,779	0.162879115	10,813,533.00	296,330,779	0.036491427	296,330,779	345,700,250	0.857189947	345,700,250	70,581,939	11,948,759	10,813,533	345,700,250	0.031280084
2021	75,534,696	393,925,773	0.191748551	24,061,885.00	393,925,773	0.061082282	393,925,773	450,120,620	0.875156026	450,120,620	123,151,968	12,776,765	24,061,885	450,120,620	0.053456527
2022	59,289,294	491,307,924	0.120676446	13,872,189.00	53,160,844	0.260947494	491,307,924	544,468,768	0.902361996	544,468,768	116,750,711	15,845,946	13,872,189	544,468,768	0.025478393
2023	64,236,466	579,159,580	0.110913241	23,188,299	55,866,525	0.41506607	579,159,580	635,026,105	0.912024837	635,026,105	119,049,305	20,953,079	23,288,299	635,026,105	0.036672979

Etiqa Family Takaful Berhad

Tahun	Cash Equivalent	Total Liability	Liquidity	Net Income	Total Equity	Equity Return	Total Debt	Total Assets	Leverage	Size of Firm	Underwriting Risk	Investment	Net profit	Assets	ROA
2011	88,828	8,278,353	0.010730154	43,516	630,244	0.069046274	8,278,353	8,908,597	0.9292544	8,908,597	3,310.00	173,471	1,463,769	8,908,597	0.164309711
2012	76,767	9,454,747	0.008119413	125,723	759,296	0.165578378	9,454,747	10,214,043	0.92566156	10,214,043	7,057.00	372,186	3,770,016	10,214,043	0.369101246
2013	187,661	9,976,947	0.018809461	188,524	1,214,099	0.155278935	9,976,947	11,191,046	0.89151157	11,191,046	288,789	428,877	3,322,432	11,191,046	0.296883062
2014	120,576	10,878,577	0.011083803	186,260	1,389,107	0.134086143	10,878,577	12,267,684	0.88676697	12,267,684	348,427	475,949	2,988,576	12,267,684	0.243613709
2015	126,541	11,565,515	0.010941233	142,320	1,532,605	0.092861501	11,565,515	13,098,120	0.88299046	13,098,120	454,006	511,398	2,857,641	13,098,120	0.218171845
2016	153,027	12,396,904	0.012343969	230,862	1,770,688	0.13037983	12,396,904	14,167,592	0.87501842	14,167,592	332,115	495,789	1,565,344	14,167,592	0.110487654
2017	61,412	13,159,018	0.004666914	339,829	1,757,922	0.1933129	13,159,018	14,916,940	0.88215264	14,916,940	283,039	551,618	1,674,088	14,916,940	0.112227307
2018	147,196	11,405,249	0.012905987	182,383	1,640,813	0.111154044	11,405,249	13,046,062	0.87422925	13,046,062	307,691	566,438	1,678,715	13,046,062	0.128675994
2019	126,111	12,476,551	0.010107842	203,519	1,792,488	0.113539951	12,476,551	14,269,039	0.87437921	14,269,039	549,527	586,675	1,925,709	14,269,039	0.134957161
2020	232,157	13,257,520	0.017511345	191,874	1,985,213	0.096651594	13,257,520	15,242,733	0.86976004	15,242,733	550,355	551,113	1,875,406	15,242,733	0.123036072
2021	58,808	13,073,813	0.004498152	270,691	2,219,096	0.121982555	13,073,813	15,292,909	0.85489379	15,292,909	591,022	580,922	1,729,239	15,292,909	0.113074563
2022	59,972	12,675,669	0.004731269	106,663	2,585,558	0.041253377	12,675,669	15,261,227	0.83057994	15,261,227	752,872	629,134	1,479,591	15,261,227	0.096950986
2023	23,681	13,580,719	0.001743722	290,208	2,748,135	0.105601799	13,580,719	16,328,854	0.83170068	16,328,854	264,917	672,785	1,223,609	16,328,854	0.074935387

Etiqa General Takaful Berhad

Tahun	Cash Equivalent	Total Liability	Liquidity	Net Income	Total Equity	Equity Return	Total Debt	Total Assets	Leverage	Size of Firm	Underwriting Risk	Investment	Net profit	Assets	ROA
2011															
2012															
2013															
2014															
2015															
2016															
2017															
2018	80,229	2,265,833	0.03540817	1,423,645	1,028,386	1.384348873	2,265,833	3,294,219	0.687820998	3,294,219	738,321	114,270	115,233	3,294,219	0.03498037
2019	44,838	2,568,250	0.017458581	1,738,400	1,226,406	1.417475127	2,568,250	3,794,656	0.676807068	3,794,656	914,430	133,607	135,235	3,794,656	0.035638277
2020	40,338	2,830,142	0.014252995	1,693,430	1,338,156	1.265495204	2,830,142	4,168,298	0.67896825	4,168,298	980,309	123,713	124,326	4,168,298	0.029826562
2021	3,344	3,610,604	0.000926161	1,869,104	1,409,007	1.326539897	3,610,604	5,019,611	0.719299563	5,019,611	846,519	145,510	144,144	5,019,611	0.028716169
2022	8,630	3,291,644	0.00262179	1,945,115	1,651,837	1.177546574	3,291,644	4,943,481	0.665855497	4,943,481	1,290,585	147,536	167,486	4,943,481	0.033880175
2023	50,152	3,597,076	0.013942435	2,192,820	1,882,587	1.164790791	3,597,076	5,479,663	0.656441099	5,479,663	1,371,323	207,759	192,754	5,479,663	0.035176251

FWD Takaful Berhad

Tahun	Cash Equivalent	Total Liability	Liquidity	Net Income	Total Equity	Equity Return	Total Debt	Total Assets	Leverage	Size of Firm	Underwriting Risk	Investment	Net profit	Assets	ROA
2011	93,676	719,805	0.130140802	370,438	59,260	6.251063112	719,805	779,065	0.92393446	779,065	95,466	11,310	384,153	779,065	0.493094928
2012	71,808	878,733	0.081717655	294,946	91,749	3.214705337	878,733	970,482	0.905460379	970,482	104,764	18,208	370,438	970,482	0.381705173
2013	93,451	1,071,349	0.087227411	271,967	102,754	2.646777741	1,071,349	1,174,103	0.912482976	1,174,103	81,980	17,729	294,946	1,174,103	0.251209647
2014	65,740	1,186,579	0.055402969	301,815	106,355	2.837807343	1,186,579	1,292,934	0.917741354	1,292,934	85,911	25,734	301,815	1,292,934	0.233434189
2015	51,227	1,238,142	0.041374091	260,920	118,339	2.204852162	1,238,142	1,356,481	0.912760297	1,356,481	69,934	36,576	260,920	1,356,481	0.192350648
2016	54,804	1,253,210	0.043730899	193,291	118,741	1.627837057	1,253,210	1,371,951	0.913450991	1,371,951	53,189	42,867	193,291	1,371,951	0.140887685
2017	82,483	1,373,096	0.060070818	190,569	126,350	1.508262762	1,373,096	1,499,446	0.915735545	1,499,446	39,085	35,277	190,569	1,499,446	0.12709294
2018	81,306	1,272,218	0.063908858	183,995	128,232	1.434860253	1,272,218	1,400,450	0.908435146	1,400,450	45,582	41,137	183,995	1,400,450	0.13138277
2019	194,252	1,230,850	0.157819393	158,575	257,712	0.61531865	1,230,850	1,488,562	0.82687184	1,488,562	68,972	33,800	158,575	1,488,562	0.106528986
2020	89,049	1,419,167	0.062747372	283,641	155,459	1.824538946	1,419,167	1,574,626	0.901272429	1,574,626	173,800	37,521	283,641	1,574,626	0.180132298
2021	136,260	1,602,587	0.085025025	470,682	174,453	2.698044746	1,602,587	1,777,040	0.901829447	1,777,040	254,748	41,847	470,682	1,777,040	0.264868545
2022	277,035	1,683,899	0.164519962	532,182	261,559	2.034653749	1,683,899	1,945,458	0.865554024	1,945,458	292,875	44,361	532,182	1,945,458	0.27355101
2023	380,913	1,670,611	0.228008196	245,443	552,105	0.444558553	1,670,611	2,222,716	0.751607943	2,222,716	305,686	97,663	245,443	2,222,716	0.110424814

Prudential BSN Takaful Berhad

Tahun	Cash Equivalent	Total Liability	Liquidity	Net Income	Total Equity	Equity Return	Total Debt	Total Assets	Leverage	Size of Firm	Underwriting Risk	Investment	Net profit	Assets	ROA
2011															
2012															
2013															
2014															
2015															
2016															
2017	269,039	2,730,217	0.098541251	1,635,927	308,466	5.303427282	2,730,217	3,038.68	898.4869432	3.382000176	502,424	578,40	1,822,524	3,038.68	599.77431
2018	454,267	3,048,547	0.149010988	1,822,524	377,716	4.825117284	3,048,547	3,426,263	0.889758609	3,426,263	546,442	70,586	1,635,927	3,426,263	0.47746685
2019	525,157	3,837,277	0.136856682	2,021,345	427,215	4.731446695	3,837,277	4,264,492	0.899820424	4,264,492	625,001	81,165	2,021,345	4,264,492	0.47399432
2020	210,501	4,856,694	0.043342447	2,260,843	478,223	4.727591521	4,856,694	5,334,917	0.910359805	5,334,917	662,342	93,592	2,260,843	5,334,917	0.42378223
2021	571,213	5,670,702	0.100730562	2,757,916	488,376	5.647116156	5,670,702	6,159,078	0.920706314	6,159,078	876,266	135,421	2,757,916	6,159,078	0.44778066
2022	280,906	6,182,188	0.045437958	3,083,032	496,238	6.212809176	6,182,188	6,678,426	0.925695366	6,678,426	1,297,539	140,084	3,083,032	6,678,426	0.46164051
2023	428,437	6,114,941	0.070063963	1,927,393	1,717,615	1.122133307	6,114,941	7,832,556	0.780708239	7,832,556	3,547,499	223,428	127,488	7,832,556	0.01627668

Great Eastern Takaful Berhad

Tahun	Cash Equivalent	Total Liability	Liquidity	Net Income	Total Equity	Equity Return	Total Debt	Total Assets	Leverage	Size of Firm	Underwriting Risk	Investment	Net profit	Assets	ROA
2011	3,214	39,937	0.080476751	11,561	81,053	0.142635066	39,937	120,990	0.330085131	120,990	19,922	3,187	18,947	120,990	0.15659972
2012	6,777	96,540	0.070198881	34,106	87,274	0.390792218	96,540	183,814	0.525204827	183,814	19,832	3,688	13,779	183,814	0.07496165
2013	12,307	81,596	0.150828472	8,998	81,596	0.110275013	81,596	252,763	0.322816235	252,763	64,790	5,238	4,054	252,763	0.01603874
2014	10,352	83,381	0.124152984	7,457	83,381	0.089432844	83,381	352,731	0.236386935	352,731	117,789	7,880	2,300	352,731	0.00652055
2015	8,363	374,312	0.022342324	16,901	71,956	0.234879649	374,312	446,268	0.838760565	446,268	104,987	11,751	11,055	446,268	0.02477211
2016	14,966	515,493	0.029032402	22,721	53,168	0.427343515	515,493	568,661	0.906503171	568,661	132,514	14,545	15,348	568,661	0.02698972
2017	14,897	621,725	0.023960754	37,326	74,208	0.502991591	621,725	695,933	0.893369046	695,933	146,457	18,228	11,018	695,933	0.01583198
2018	21,372	789,630	0.027065841	8,175	63,772	0.128191056	789,630	853,402	0.925273201	853,402	196,851	23,720	33,006	853,402	0.03867579
2019	30,815	1,720,973	0.017905569	46,273	67,101	0.689602241	1,720,973	1,788,074	0.96247303	1,788,074	526,375	28,958	3,047	1,788,074	0.00170407
2020	34,120	3,002,352	0.011364424	95,184	115,342	0.825232786	3,002,352	3,117,694	0.963004066	3,117,694	394,691	36,521	9,212	3,117,694	0.00295475
2021	400,679	3,648,491	0.109820471	18,466	133,253	0.138578494	3,648,491	3,781,744	0.964764141	3,781,744	371,983	40,493	18,466	3,781,744	0.00488293
2022	503,360	5,313,337	0.094735192	14,611	147,862	0.098815111	5,313,337	5,461,199	0.972924993	5,461,199	778,420	48,459	14,611	5,461,199	0.00267542
2023	680,800	2,507,131	0.271545444	20,800	235,410	0.088356484	2,507,131	2,742,541	0.914163544	2,742,541	1,888,334	78,952	17,369	2,742,541	0.00633318

Hong Leong MSIG Takaful Berhad

Tahun	Cash Equivalent	Total Liability	Liquidity	Net Income	Total Equity	Equity Return	Total Debt	Total Assets	Leverage	Size of Firm	Underwriting Risk	Investment	Net profit	Assets	ROA
2011	28,714	237,730	0.120784083	22,672.00	94,591	0.239684537	237,730	332,321	0.715362556	332,321	8,367	3,720	6,891	332,321	0.02073598
2012	29,029	267,853	0.10837661	37,644.00	93,479	0.402700072	267,853	361,332	0.741293326	361,332	14,598	3,663	8,572	361,332	0.02372333
2013	75,787	289,304	0.261963194	91,376.00	85,810	1.064864235	289,304	375,114	0.771242875	375,114	50,005	10,069	10,090	375,114	0.02689849
2014	34,305	333,155	0.102970089	88,525.00	87,008	1.017435178	333,155	420,163	0.792918463	420,163	46,090	9,622.00	9,961	420,163	0.02370747
2015	33,145	357,489	0.09271614	91,907	87,875	1.045883357	357,489	445,364	0.802689485	445,364	43,921	12,080	462	445,364	0.00103735
2016	96,788	447,471	0.216300051	112,880.00	80,493	1.402357969	447,471	527,964	0.847540741	527,964	59,850	13,877	7,393	527,964	0.01400285
2017	35,814	521,903	0.068621947	96,824	80,879	1.197146354	521,903	602,782	0.865823797	602,782	60,384	13,973	147	602,782	0.00024387
2018	76,973	597,225	0.128884424	152,331.00	88,521	1.720845901	597,225	685,746	0.870912845	685,746	92,896	16,895	8,191	685,746	0.01194466
2019	88,524	623,877	0.141893354	239,334.00	192,539	1.243041669	623,877	816,416	0.764165572	816,416	176,246	25,803	4,018	816,416	0.00492151
2020	129,262	787,617	0.164117839	262,649	205,480	1.278221725	787,617	993,097	0.793091712	993,097	182,855	32,438	12,941	993,097	0.01303095
2021	110,315	898,912	0.122720578	312,995.00	212,929	1.469950077	898,912	1,111,841	0.808489703	1,111,841	186,876	35,130	7,449	1,111,841	0.0066997
2022	250,130	1,220,423	0.204953528	508,300.00	209,003	2.432022507	1,220,423	1,429,426	0.853785366	1,429,426	287,689	39,120	3,926	1,429,426	0.00274656
2023	235,511.00	1,607,420	0.146514912	265,656	191,148	1.389792203	1,607,420	1,798,568	0.893722117	1,798,568	490,240.00	55,162.00	17,855	1,798,568	0.00992734

Sun Life Malaysia Takaful Berhad

Tahun	Cash Equivalent	Total Liability	Liquidity	Net Income	Total Equity	Equity Return	Total Debt	Total Assets	Leverage	Size of Firm	Underwriting Risk	Investment	Net profit	Assets	ROA
2011	37,265	676,960	0.055047566	159,651	137,988	1.156991912	676,960	814,948	0.830678767	814,948	117,065	16,305	14,917	814,948	0.01830424
2012	20,141	464,552	0.043355749	174,581	161,498	1.081010291	464,552	626,050	0.742036579	626,050	180,084	18,714	18,494	626,050	0.02954077
2013	38,141	524,364	0.07273764	269,925	169,903	1.588700612	524,364	694,267	0.755277148	694,267	79,522	20956	19,192	694,267	0.02764354
2014	28,889	665,544	0.043406597	327,368	188,368	1.737917268	665,544	853,912	0.77940584	853,912	77,878	26,760	25,539	853,912	0.02990823
2015	19,520	804,583	0.024261015	432,869	213,096	2.031333296	804,583	1,017,679	0.790605879	1,017,679	120,520	35,971	35,257	1,017,679	0.03464452
2016	23,743	973,688	0.024384608	548,360	302,243	1.814301737	973,688	1,275,931	0.763119636	1,275,931	166,218	45,032	44,655	1,275,931	0.03499797
2017	18,964	1,142,146	0.016603832	515,465	377,925	1.363934643	1,142,146	1,520,071	0.751376745	1,520,071	195,272	51,382	51,250	1,520,071	0.03371553
2018	27,050	1,156,160	0.023396416	458,327	410,448	1.116650587	1,156,160	1,566,608	0.738002104	1,566,608	190,907	57,113	55,284	1,566,608	0.03528898
2019	16,444	1,349,166	0.01218827	442,306	419,417	1.054573372	1,349,166	1,768,583	0.76285139	1,768,583	188,807	60,397	57,573	1,768,583	0.03255318
2020	8,905	1,640,045	0.005429729	651,145	482,800	1.348684756	1,640,045	2,122,845	0.772569359	2,122,845	210,234	62,788	59,025	2,122,845	0.02780467
2021	12,467	2,134,139	0.0058417	1,054,675	476,018	2.215619998	2,134,139	2,610,157	0.817628595	2,610,157	346,278	72,908	67,089	2,610,157	0.02570305
2022	17,292	2,490,243	0.006943901	1,087,908	506,239	2.149000768	2,490,243	2,996,482	0.831055551	2,996,482	358,937	89,296	80,732	2,996,482	0.02694226
2023	24,445	3,205,826	0.00762518	416,452	669,897	0.621665719	3,205,826	3,875,723	0.827155604	3,875,723	707,559	107,402	102,461	3,875,723	0.02643662

Syarikat Takaful Malaysia Berhad

Tahun	Cash Equivalent	Total Liability	Liquidity	Net Income	Total Equity	Equity Return	Total Debt	Total Assets	Leverage	Size of Firm	Underwriting Risk	Investment	Net profit	Assets	ROA
2011	8,226.00	5,406,432	0.001521521	865,104	477,492	1.81176648	5,406,432	5,883,924	0.918848034	5,883,924	251,485	14,382		5,883,924	0
2012	288,172	4,590,669	0.062773421	1,159,386	11,189	103.6183752	4,590,669	4,579,480	1.002443291	4,579,480	490,187	186,381	647	4,579,480	0.00014128
2013	82,388	6,334,644	0.01300594	1,511,650	589,899	2.562557319	6,334,644	6,924,543	0.914810407	6,924,543	628,557	28,586	139,318	6,924,543	0.02011945
2014	38,790	6,568,342	0.0059056	1,248,121	596,446	2.092596815	6,568,342	7,164,788	0.916753154	7,164,788	437,579	29,172	144,463	7,164,788	0.02016291
2015	36,698	6,818,352	0.005382239	1,311,831	708,769	1.850858319	6,818,352	7,527,121	0.905837969	7,527,121	365,155	29,500	317,179	7,527,121	0.04213816
2016	167,256	7,014,537	0.023844197	1,771,557	743,143	2.383870937	7,014,537	7,757,680	0.90420551	7,757,680	679,679	283,376	319,003	7,757,680	0.04112093
2017	83,986	7,361,146	0.011409365	1,857,676	833,454	2.228888457	7,361,146	8,194,600	0.89829229	8,194,600	774,131	308,281	207,668	8,194,600	0.02534205
2018	57,402	7,919,418	0.00724826	2,265,858	1,012,158	2.238640607	7,919,418	8,931,576	0.886676439	8,931,576	848,843	318,525	230,106	8,931,576	0.0257632
2019	107,884	9,091,586	0.011866356	2,734,504	1,254,520	2.179721328	9,091,586	10,346,106	0.878744718	10,346,106	1,359,124	359,499	720,697	10,346,106	0.06965877
2020	116,885	10,251,335	0.01140193	2,483,275	1,541,803	1.610630541	10,251,335	11,793,138	0.869262702	11,793,138	1,181,047	371,246	720,697	11,793,138	0.06111155
2021	119,080	10,866,451	0.0109585	2,654,457	1,842,383	1.440773715	10,866,451	12,708,834	0.855031311	12,708,834	1,267,835	376,994	636,144	12,708,834	0.05005526
2022	136,038	11,866,279	0.011464251	2,884,802	1,443,459	1.998534077	11,866,279	13,309,738	0.891548654	13,309,738	-2,197.00	426,429	563,582	13,309,738	0.04234358
2023	276,390	12,961,694	0.021323602	3,363,173	1,714,196	1.961953592	12,961,694	14,675,890	0.883196454	14,675,890	6,924.00	507,799	347,079	14,675,890	0.0236496

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Takaful Ikhlas Family Berhad

Tahun	Cash Equivalent	Total Liability	Liquidity	Net Income	Total Equity	Equity Return	Total Debt	Total Assets	Leverage	Size of Firm/ Total Assets	Underwriting Risk	Investment	net profit	assets	ROA
2011	120,897	1,554,320	0.07778128	8,941.00	191,525	0.046683201	1,554,320	1,745,845	0.890296676	1,745,845	14,111	5,375.00	14,420	1,745,845	0.00825961
2012	79,166	1,880,399	0.04210064	11,398	304,052	0.037487009	1,880,399	2,184,451	0.860810794	2,184,451	13,465	58,514	79,338	2,184,451	0.03631942
2013	67,415	2,272,768	0.02966207	10,119	308,006	0.032853256	2,272,768	2,580,774	0.880653633	2,580,774	103,375	67,649	98,893	2,580,774	0.03831912
2014	26,390	2,570,713	0.01026563	16,132	312,340	0.051648844	2,570,713	2,883,053	0.891663455	2,883,053	20,856	83,509	17,637	2,883,053	0.00611747
2015	76,412	2,781,096	0.0274755	19,369	322,452	0.060067855	2,781,096	3,103,548	0.896102139	3,103,548	27,806	101,220	36,797	3,103,548	0.01185643
2016	154,793	3,129,799	0.04945781	92,856	287,816	0.322622787	3,129,799	3,417,615	0.915784546	3,417,615	-30,579	105,402	-22,170	3,417,615	-0.006487
2017	63,000	3,489,289	0.01805525	140,661.00	279,867	0.502599449	3,489,289	3,769,156	0.925748099	3,769,156	561	118,981	528	3,769,156	0.00014008
2018	77,808	3,715,263	0.0209428	37,764	356,934	0.105801072	3,715,263	4,072,197	0.912348543	4,072,197	38,873	117,902	38,008	4,072,197	0.00933354
2019	33,272	3,342,964	0.00995284	28,352	457,544	0.061965625	3,342,964	3,800,508	0.879609778	3,800,508	22,719	132,986	-58,040	3,800,508	-0.0152716
2020	59,924	3,566,366	0.01680254	44,613	505,821	0.088199185	3,566,366	4,072,187	0.875786402	4,072,187	49,286	144,270	19,130	4,072,187	0.00469772
2021	39,573	3,818,759	0.01036279	19,508	486,191	0.040124149	3,818,759	4,304,950	0.887062335	4,304,950	28,749	139,708	67,331	4,304,950	0.01564037
2022	13,030	4,026,776	0.00323584	30,785	509,116	0.060467556	4,026,776	4,535,892	0.887758351	4,535,892	27,077	143,083	74,733	4,535,892	0.01647592
2023	9,982.00	4,203,811	0.00237451	16,704	586,579	0.028476983	4,203,811	4,790,390	0.877550888	4,790,390	21,026	158,189	-1,789	4,790,390	-0.0003735

Takaful Ikhlas General Berhad

Tahun	Cash Equivalent	Total Liability	Liquidity	Net Income	Total Equity	Equity Return	Total Debt	Total Assets	Leverage	Size of Firm	Underwriting Risk	Investment	net profit	assets	ROA
2011	47,511	339,706	0.139859172	232,756	194,173	1.198704248	339,706	350,198	0.970039806	350,198	132,417	8,560	8,941	350,198	0.02553127
2012	22,212	336,189	0.066069978	204,516	303,784	0.673228346	336,189	345,285	0.973656545	345,285	138,475	10,782	8,509	345,285	0.02464341
2013	32,549	385,220	0.084494575	23,114	308,006	0.075043993	385,220	451,972	0.852309435	451,972	58,486	10,403	10,119	451,972	0.02238856
2014	7,551	418,122	0.018059322	29,883	312,340	0.095674585	418,122	405,566	1.030959203	405,566	64,787	11,035	16,132	405,566	0.03977651
2015	24,116	429,310	0.05617386	40,329	322,452	0.125069778	429,310	484,650	0.885814505	484,650	69,926	12,712	19,369	484,650	0.03996492
2016	26,846	449,057	0.059783056	39,999	287,816	0.138974206	449,057	543,115	0.826817525	543,115	102,488	12,838	34,830	543,115	0.06413006
2017	10,519	499,368	0.021064626	42,909	279,867	0.153319255	499,368	618,695	0.807131139	618,695	89,032	14,739	8,586	618,695	0.0138776
2018	27,589	511,340	0.053954316	47,492	356,934	0.133055411	511,340	631,593	0.809603653	631,593	99,334	16,609	7,043	631,593	0.01115117
2019	460	518,464	0.000887236	22,938	457,544	0.050132883	518,464	651,285	0.796063167	651,285	19,803	8,641	20,299	651,285	0.03116761
2020	20,979	606,306	0.03460134	44,996	505,821	0.08895637	606,306	757,551	0.800350075	757,551	100,363	17,664	20,299	757,551	0.02679556
2021	8,173	672,070	0.012160936	61,415	486,191	0.126318669	672,070	832,055	0.807723047	832,055	106,954	17,257	27,428	832,055	0.03296417
2022	7,167	841,174	0.008520235	68,740	509,116	0.135018346	841,174	1,011,754	0.831401704	1,011,754	153,036	16,794	32,862	1,011,754	0.03248023
2023	47,196	1,111,496	0.042461691	84,086	586,579	0.14334983	1,111,496	1,288,617	0.86254954	1,288,617	212,047	22,886	40,081	1,288,617	0.03110389

Zurich General Takaful Malaysia Berhad

Tahun	Cash Equivalent	Total Liability	Liquidity	Net Income	Total Equity	Equity Return	Total Debt	Total Assets	Leverage	Size of Firm	Underwriting Risk	Investment	net profit	assets	ROA
2011	109	222,449	0.00049	126,879	214,046	0.592765107	222,449	214,046		214,046	17,317	2,408	12,517	214,046	0.05847808
2012	38	228,140	0.000166564	155,800	226,515	0.687813169	228,140	226,515		226,515	12,751	2,893	12,999	226,515	0.05738693
2013	400	320,958	0.001246269	95,068	320,958	0.296200749	320,958	320,958		320,958	27,074	3,046	1,625	320,958	0.00506297
2014	1,708	500,306	0.003413911	115,428	499,755	0.230969175	500,306	499,755		499,755	35,131	3,840	551	499,755	0.00110254
2015	6,954	483,113	0.014394148	144,884	483,113	0.299896712	483,113	483,113		483,113	69,194	5,522	551	483,113	0.00114052
2016	1,455	478,840	0.003038593	154,640	478,840	0.322947122	478,840	478,840		478,840	76,101	6,421		478,840	0
2017		393,924					393,924	411,575	0.957113527	411,575				411,575	0
2018	184,723	622,052	0.296957489	358,174	622,052	0.575794307	622,052	622,052		622,052	215,922	9,131	15,561	622,052	0.02501559
2019	404,193	752,803	0.536917361	605,034	752,803	0.803708274	752,803	752,803		752,803	386,339	20,037	26,157	752,803	0.03474614
2020	305,837	899,135	0.340145807	586,319	899,135	0.652092289	899,135	899,135		899,135	355,440	21,594	34,495	899,135	0.03836465
2021	333,915	1,114,587	0.299586304	658,381	1,114,587	0.590695029	1,114,587	1,114,587		1,114,587	397,250	24,158	33,430	1,114,587	0.02999317
2022	247,265	1,307,199	0.189156356	727,641	1,307,199	0.556641338	1,307,199	1,307,199		1,307,199	436,696	31,087	36,075	1,307,199	0.02759718
2023	37,205	1,498,445	0.024829073	920,963	1,498,445	0.614612482	1,498,445	1,498,445		1,498,445	597,193	47,376	72,752	1,498,445	0.04855167

Zurich Takaful Malaysia Berhad

Tahun	Cash Equivalent	Total Liability	Liquidity	Net Income	Total Equity	Equity Return	Total Debt	Total Assets	Leverage	Size of Firm	Underwriting Risk	Investment	net profit	assets	ROA
2011	2,173	493,333	**0.00440473**	301,475	113,204	**2.663112611**	493,333	606,537	**0.813360108**	**606,537**	**55,261**	**13,253**	4,707	606,537	0.00776045
2012	3,102	351,638	**0.00882157**	213,882	116,117	**1.841952513**	351,638	351,638	**1**	**351,638**	**121,242**	**9,263**	432	351,638	0.00122854
2013	5,924	396,720	**0.01493245**	296,531	396,720	**0.747456644**	396,720	396,720	**1**	**396,720**	**193,400**	**12,252**		396,720	0
2014	8,385	495,404	**0.01692558**	369,244	484,056	**0.762812567**	495,404	484,056	**1.023443569**	**484,056**	**271,621**	**14,423**	4,695	484,056	0.00969929
2015	8,128	515,390	**0.01577058**	265,398	499,347	**0.531490126**	515,390	499,347	**1.032127959**	**499,347**	**165,914**	**11,283**	11,348	499,347	0.02272568
2016	51,518	534,800	**0.09633134**	259,291	526,066	**0.492886824**	534,800	526,066	**1.01660248**	**526,066**	**148,102**	**9,899**	7,309	526,066	0.01389369
2017	78,269	619,554	**0.1263312**	306,941	17,651	**17.38943969**	619,554	601,903	**1.029325323**	**601,903**	**188,302**	**20,432**	8,941	601,903	0.01485455
2018	84,329	615,500	**0.13700894**	303,449	23,942	**12.67433798**	615,500	591,558	**1.040472785**	**591,558**	**172,273**	**24,131**	6,291	591,558	0.01063463
2019	91,802	740,338	**0.12400012**	411,427	32,321	**12.72940194**	740,338	708,017	**1.045650034**	**708,017**	**256,509**	**18,733**	8,379	708,017	0.01183446
2020	77,117	833,151	**0.09256065**	401,146	21,712	**18.47577377**	833,151	811,439	**1.026757403**	**811,439**	**236,515**	**21,291**	10,609	811,439	0.0130743
2021	110,751	900,039	**0.12305133**	388,915	15,390	**25.27063028**	900,039	884,649	**1.01739673**	**884,649**	**209,170**	**20,564**	6,322	884,649	0.00714634
2022	93,029	851,226	**0.10928825**	506,945	229,472	**2.209180205**	851,226	851,226	**1**	**851,226**	**535,559**	**23,924**	28,390	851,226	0.03335189
2023	82,112	912,925	**0.08994386**	468,892	248,255	**1.888751485**	912,925	912,925	**1**	**912,925**	**510,205**	**25,740**	17,574	912,925	0.01925021