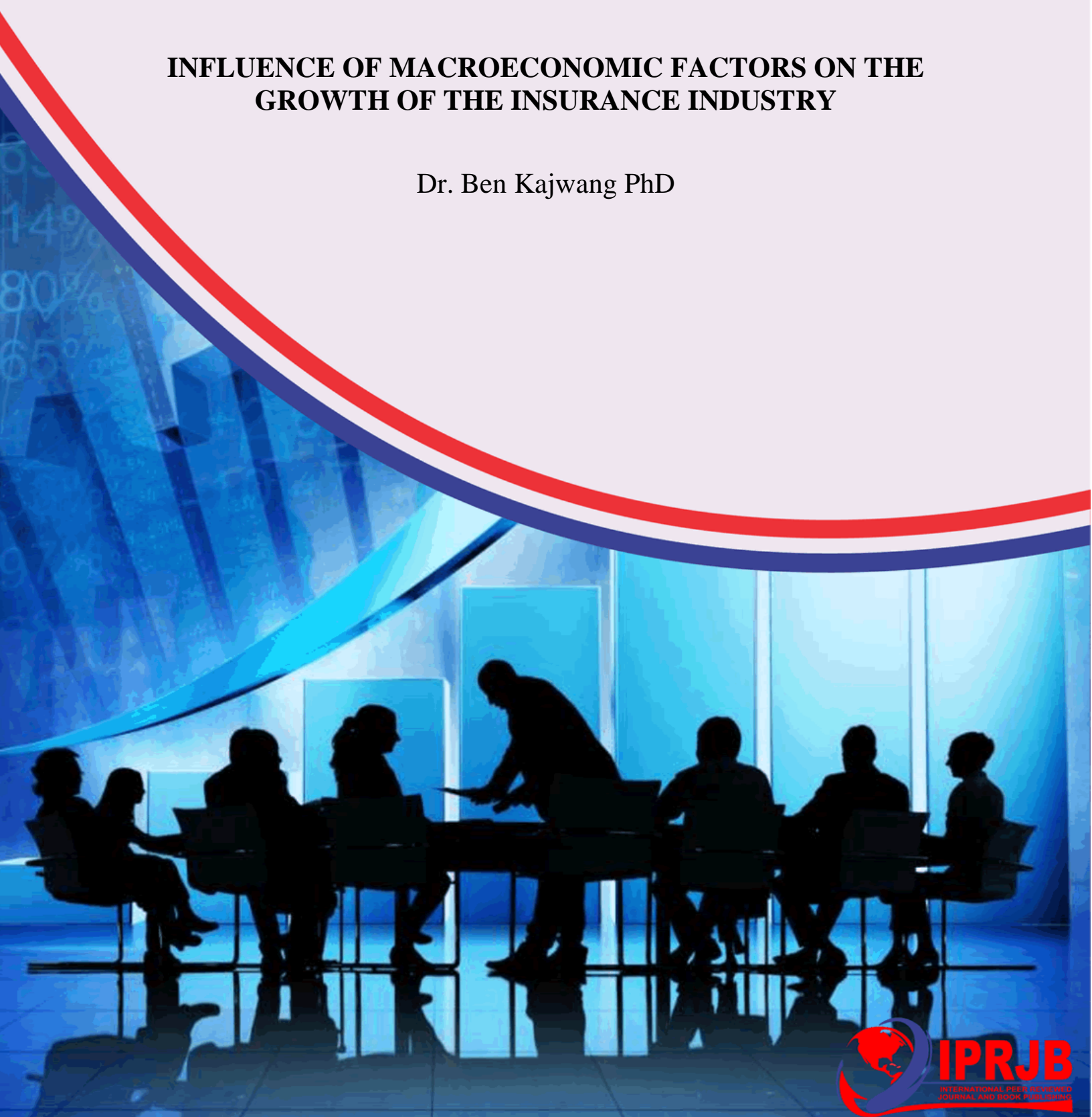


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INFLUENCE OF MACROECONOMIC FACTORS ON THE GROWTH OF THE INSURANCE INDUSTRY

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ABSTRACT

Purpose: The purpose of this study was to examine the influence of macroeconomic factors on the growth of insurance industry in Kenya.

Materials and Methods: The main research approach used in this study relied on review of previous studies related to the study topic. This involves the use of secondary data obtained from institution records, government publications, historical and statistical records etc. This type of data is frequently chosen since it can be conveniently accessed and reduces the need for field research. Therefore, this study will rely heavily on already published studies, journals and annual records of insurance companies in Kenya to obtain secondary data that will be used to draw the results, conclusion and recommendations of the study.

Findings: The findings from the empirical studies were found to have conceptual, contextual and geographical gaps. This is because most of these studies discussed on either internal factors or both internal and macroeconomic factors influencing the performance or profitability of insurance companies. The findings of these studies were also limited to a few measures of growth of insurance firms. In addition, most of the empirical studies were not carried out in Kenya. Hence, the findings of these studies may differ due to the different governing systems used by different countries that also affect the operations of insurance companies.

Unique contribution to theory, practice and policy: This study will be of great benefit to the different stakeholders in the insurance sector in Kenya. The management of the insurance companies will gain a broad understanding of the numerous macroeconomic factors and how they impact the performance and profitability of insurance firms. The policymakers in the insurance industry will also benefit from the suggestions and recommendations given on measures and policies that can be used to reduce the adverse effects of macroeconomic factors on the growth of the insurance industry. The findings of the study can also be used as a reference point to identify the macroeconomic factors that have a positive influence and those with a negative influence on the development of the insurance industry. Further, this study will also be relevant to the different researchers and academicians since the study's findings will be incorporated into their body of literature and act as a basis for their empirical studies. On the other hand, the scholars may also be motivated to carry out additional research in order to improve on the theories used in this study and fill any identified research gaps.

Keywords: *Macroeconomic Factors, Growth, Insurance Industry*

INTRODUCTION

Business growth is defined as an increase in the size or scale of operations of a firm usually accompanied by increase in its resources and output (Davidsson, Delmar & Wiklund, 2017). Growth of businesses is commonly measured in terms of increase in customer base, revenue generation, production, value addition, market shares and profitability. Further, the growth of the insurance industry is measured in terms of the premiums collected, the scale of investments and the social and economic role it plays by covering personal and business risks. Delmar (2019) also noted that the main driver of growth and transformation in the global insurance industry over the recent past is digital technologies that have made the insurance market quite competitive. Digital technologies have enabled insurance companies to develop new business models that have the ability to unlock new revenue streams and better investment opportunities (Eling & Schaper, 2017).

The growth of insurance companies play a vital role as it determines the long-term survival of the business, improves the brand identity of the company, attracts investors and talented employees and drives business performance and profits (Eling & Schaper, 2017). In addition, Rakshit (2017) indicated that having an effective growth strategy often plays a vital role in the insurance management, as it assists managers to set a path or direction and figure a way to achieve its goals. According to Delmar (2019), developing an effective growth strategy highly depends on how effectively insurers manage their investments in people and emerging technologies. Therefore, to meet these factors, the management should develop strategies with flexible work models, balancing automation with the need to maintain a human touch with customers and being more proactive in bolstering stakeholders' trust.

The factors influencing the growth of insurance firms are both internal and external factors which affect the overall performance and profitability of insurance firms (Mazviona, Dube & Sakahuhwa, 2017). Some of the internal factors include; company size, debt ratio, underwriting risk, premium retention etc while external factors oftenly constitute of the macroeconomic factors that are defined as factors that are outside the company but have a significant influence on the increase or decrease of the company's performance both directly or indirectly. They include; economic growth, inflation, exchange rates, interest rates, money supply etc (Cherkasova et al., 2020).

The growth of property-liability (P-L) insurance industry in Taiwan was experienced between 1990 and 1994 when the insurance regulatory authorities opened the insurance market to new domestic insurance companies and foreign insurers (Lee, 2017). In 2009, they also gained a competitive advantage after the regulatory authorities implemented favorable rates of deregulation in the P-L insurance market. This led to an increase in mergers and acquisitions among insurers, indicating a rising trend in market concentration. It also led to a rise in the market share of the large P-L insurance firms from 54.4% in 2006 to 59.83% in 2011 (Hsu, Huang & Lai, 2019). However, Lee (2020) noted that the investment environment in the insurance market has been highly unpredictable and this has led to increased risks in both the investment profits and underwriting profits. As a result, this has reduced chances of policyholders and shareholders to largely invest in insurance firms.

According to a study by Bhatia and Jain (2018), the insurance industry in India plays a vital role in the development of its economy. In 2012, the total premiums grew to \$ 67 million which was 25% of the total Gross Domestic Product (GDP) of the country. On the other hand, the Life Insurance Industry contributed 88% of total life and general insurance premiums in India. The factors that influenced the significant increase in premiums included; population, GDP, per capita income, inflation and unemployment. These factors mainly promoted growth of insurance penetration, insurance density and total insurance premium in India. The results of the study revealed that population growth, GDP and per capita income had positive relationship on the growth of the insurance industry while unemployment and inflation had a negative relationship on the growth of the insurance industry.

According to Akyüz, Tosun and Salih (2020) the growth of the Turkish insurance sector has contributed to 4.2% of the country's GDP and its market share in the Turkish stock market has continued to increase gradually. This is as a result of the non-life insurance firms that have dominated the market accounting for more than 87% of the premiums. The Industrial index that represents the performance of all 401 listed companies in the Turkish stock market also increased significantly due to the market concentration of the non-life insurance firms. However, a study by Hasan et al (2019) noted that macroeconomic factors such as interest rate, Consumer price index as a proxy of inflation, aggregate money supply and exchange rate have significantly influenced the recent fluctuations in the industrial index. The study revealed that inflation, exchange rate, money supply and interest rate have a negative influence on the industrial index. Thus, when the industrial index is negatively affected it also affects the investment return of insurance firms by increasing risks of investment (Toraman, Tetik & Kanat, 2021).

In Kenya, the insurance sector has achieved a premium growth of about 35% since 2014. This totalled up to over 160 billion which was an increase of 23% from 2013 where the total written premiums were 130 billion (Mwangi, 2017). The general insurance firms continues to be the principal driver of the premium growth in the insurance sector, with motor and medical insurance firms making up more than half of the industry's total premium income. This is followed by the life insurance firms where life insurance products such as pensions and life assurance contribute gross premium income of 33% and 28.1% of the total premium income (Maseki, Kung'u & Nderitu, 2019). However, Owuor (2017) noted that the insurance industry penetration in the Kenyan market is still relatively low with the penetration of less than 5%. The main factors that have led to the low penetration include; exchange rates, the low per capita income of individuals, inflation rates and unemployment.

Statement of the Problem

The insurance sector is among the financial service sectors that is growing at an increasing rate after the banking industry. The growth of the insurance industry in Kenya plays a vital role in boosting the country's GDP and in promoting economic growth. This has been attributed to the increase in adoption of new technologies, increasing their range of products to suite most of the customers and its ability to reduce risk of financial losses. However, the insurance sector is still affected by a number of factors that directly and indirectly affect their performance and profitability.

For instance, insurance firms have been affected by the changing interest rates in the investment environment which makes it difficult for them to offset their obligation to their shareholders from the obtained investment and underwriting profits. In 2020, the general insurance business underwriters reported an underwriting loss of KES 879.28 million compared to an underwriting loss of KES 2.66 billion reported in 2019. This was as a result of an increase in incurred claims amounting to KES 43.43 billion by the end of 2020 (IRA, 2021).

On the other hand, the volatility of the exchange rates especially during the Covid-19 pandemic significantly affected the market shares of most of the insurance firms listed in the Nairobi Security Exchange market. The depreciation of the Kenyan currency against the US dollar, Euro and Sterling pound between June 2020 to August 2020, led to a decrease of 3.8% in market shares of insurance firms in the capital markets. However, since September 2020 into 2021 the Kenyan currency appreciated generally against the US dollar which led to an increase of 4% in the market shares of insurance firms in the capital markets (IRA, 2020).

Previous studies on the influence of macroeconomic factors on the business growth of insurance firms in Kenya are scarce. Some of these studies include; Mwangi (2017) study on Effects of Macroeconomic Variables on Financial Performance of Insurance Companies in Kenya and Owuor (2017) study on the Relationship between Macroeconomic Factors and the Mortgage Market Growth in Kenya. None of these studies investigated on the business growth of insurance industry in Kenya. Therefore, this study aims to fill this research gap by examining the influence of macroeconomic factors on the business growth of insurance industry in Kenya.

Theoretical Review

Exogenous Growth Theory

This theory is among the neoclassical economic theories and was developed by Paul Romer in the early 1980s (Jones, 2019). The theory states that exogenous factors are the factors that a firm or individual has no control over and can only be reacted to and not directed. The theory argues that exogenous factors are more critical in determining the success of an economy, industry or individual business than the endogenous factors (Chowdhury, 2020). In addition, the exogenous factors, primarily macroeconomic factors contribute significantly to the growth of a company especially its profitability and viability (Puaschunder, 2020). Macroeconomic factors are assumed to be independent factors within a specific economic system. For instance, technological advances and innovation acts independently with an economic system and are key determinants of maximizing productivity. According to Zhao (2019), internal demand factors such as capital and labour are able to improve the productivity of a firm up to the state of equilibrium but including technology in the production function of a firm propels its productivity beyond the equilibrium point. Therefore, this theory is applicable to this study since its assumptions emphasizes on the influence of macroeconomic factors on the growth of a business or economy.

Modern Portfolio Theory

The modern portfolio theory was postulated by Harry Markowitz in 1952 (Kritzman & Markowitz, 2017). The theory emphasizes on the need to identify an investment strategy that offers high returns and relatively low risks. The strategy was based on two concepts namely; the goal of every investor

is to maximize returns for every level of risk and risk can be reduced by diversifying a portfolio through individual, unrelated securities (Qu, 2019). The theory assumes that investors are risk-averse and prefer a portfolio with less risk for a given level of return. This means an investor will only venture into high-risk investments if they expect high rewards (Runting et al., 2018). Markowitz also explained that a rational investor will always prefer investing in the less volatile assets since they fluctuate at a fairly low rate. This indicates that there is a positive relationship between risk and expected returns of financial assets (Dimmock, Wang & Yang, 2019).

Further, a study by Rodríguez, Gómez and Contreras (2021) tried to explain the interaction between systematic and unsystematic risks on investment returns. The systematic risks are the risks that are specific to a firm or industry, while unsystematic risks are those that affect the entire market. The study asserted that a well-diversified portfolio reduces unsystematic risk, which is influenced by microeconomic variables that are unique to each firm.

However, diversification cannot eliminate systematic risk since it is mostly caused by macroeconomic variables. Therefore, the study concluded that risk and return in a diversified portfolio depend on both domestic and international economic factors. This theory will be relevant to this study since insurance firms also deal with investment in the financial market which are affected by the systematic and unsystematic risks. Thus, it will guide this study when discussing macroeconomic variables that influence choice of investment in insurance firms.

Literature Review

A study by Ismail, Ishak, Manaf and Husin (2018) examined the impact of macroeconomic factors on the performance of insurance companies in Malaysia. The study used secondary data which was obtained from six insurance companies listed in Bursa Malaysia in the period between 1996-2015. The study measured the performance of insurance companies using the Return on Assets (ROA) while the macroeconomic factors were measured by GDP, Consumer Price Index (CPI) and interest rates. The findings from the regression analysis revealed that GDP and interest rates have a positive and significant impact on the performance of insurance companies while CPI had a positive but insignificant impact on the performance of insurance companies.

A study by Lee (2017) investigated on the relationship between specific firm factors and macroeconomic factors on the profitability of Property-Liability (P-L) insurance industry in Taiwan. The study used panel data obtained between year 1999 to 2009. The study also used operating ratio and ROA as the measures of profitability. The results of the study indicated that Return on Investment (ROI), underwriting risk, reinsurance usage, input cost and financial holding group had a positive relationship on the operating ratio and ROA. In addition, the results also found that economic growth rate had a significant influence on operating ratio but was insignificant on the profitability of the P-L insurance industry.

Peleckienė, Peleckis, Dudzevičiūtė and Peleckis (2019) study explored the relationship between insurance firms and economic growth across the European Union countries that belong to the European Insurance Federation. The study used annual data obtained in the period between 2004-2015. The data was then analysed to obtain descriptive and inferential statistics. The findings of the study revealed that there was a positive and statistically significant relationship between insurance penetration and economic growth in Luxembourg, Denmark, Netherlands and Finland.

On the other hand, the results also found that there was a negative and statistically significant relationship between insurance penetration and economic growth in Austria, Belgium, Malta, Estonia and Slovakia. The study also conducted a Granger test and the results indicated that there was a unidirectional causal relationship between GDP and insurance in Luxembourg and Finland, as well as between insurance and GDP in Netherlands, Malta, and Estonia. However, a bidirectional causality relationship between GDP and insurance was demonstrated in Austria while in Slovakia there was no causality relationship between GDP and insurance.

Another study by Pointer and Khoi (2019) examined the predictors of ROA and Return on Equity (ROE) for banks and insurance firms listed on the Vietnamese stock market. The study used quantitative research designs and employed the basic OLS regression model to determine the relationship between the predictors, ROA and ROE. The results of the study indicated that internal variables such as firm size, years in business and earnings per share were statistically significant predictors of ROA and ROE. However, capital structure was found to have a negative and significant relation with ROE. Moreover, the study also indicated that banks earned lower return on their assets and higher return on equity than insurance companies. Therefore, the study concluded that the management of banks and insurance firms should identify the proper combination of debt to equity funding so as to promote future growth.

A study by Ruiz (2018) also analysed the relationship between financial development, institutional investors that is assets, mutual funds and pension funds in insurance companies in Chile and economic growth. The study targeted 116 insurance companies and collected panel data for the period between 1991-2014. The study found that financial development, institutional investors and economic growth have a nonlinear relationship. The financial development indicators, private credit provided by banks and domestic credit provided by the private sector insurance firms were found to be linear to economic growth. The findings of the study also revealed that the three types of institutional investors have a positive effect on the growth of GDP per capita.

Zainudin, Mahdzan and Leong (2018) study explored the influence of internal factors on the profitability of life insurance companies in eight Asian countries. The study obtained panel data from insurance firms in China, Hong Kong, Taiwan, Singapore, Japan, South Korea, Thailand and Malaysia in the period between 2008 to 2014. The study used the resource-based view theory which emphasized that internal resources are essential for a firm to gain competitive advantage. The results of the study found that firm size, volume of capital and underwriting risks were significantly related to the ROA of life insurance firms while premium growth, asset tangibility and liquidity were insignificantly related to the profitability of life insurance firms. The study recommended that life insurance companies should actively pursue new business opportunities by using e-marketing technologies to draw in younger generations of clients; guarantee a wider capital base to finance their market expansion strategies; and put emphasis on intangible assets like goodwill, brand equity, and reputation.

Another study by Killins (2020) examined the effects of firm-specific, industry-specific and macroeconomic factors on the performance of life insurance firms in Canada. The study used an empirical framework that incorporates both fixed and dynamic panel models. The findings from the panel models indicated that risk exposure of life insurers, firm size and liquidity had positive and significant impact on performance of life insurance firms. The industry-specific factors such

as industry concentration was found to have insignificant impact on performance when under the static panel models but under dynamic panel models, industrial concentration had a negative impact on performance. In addition, the macroeconomic factors, GDP growth and equity market returns was found to have a positive and significant impact on the performance of insurance firms in Canada.

A study by Mazviona, Dube and Sakahuhwa (2017) examined the factors affecting the performance of insurance companies in Zimbabwe. The study utilized secondary data which was obtained from 20 short-term insurance companies in the period between 2010 and 2014. The study further, used factor analysis and multiple linear regression models to determine the relationship and impact of the discussed factors on performance. The results of the study indicated that claims' ratio, expense ratio and firm size have a negative and significant impact on insurance performance while leverage and liquidity had a positive and significant impact on insurance companies in Zimbabwe. Thus, the study recommended that insurance companies should implement systems like automated systems that lower operational expenses.

Onafalujo (2019) study investigated on the effects of macroeconomic risks on underwriting performance in the non-life insurance industry in Nigeria. The target population of the study consisted of 23 non-life insurance companies. The study used the secondary data obtained during the period between 1981-2015 and analysed the data using the dynamic least square regression method. The results of the study revealed that interest rates and inflation rates adversely affected the underwriting performance of the non-life insurance firms. On the other hand real GDP was found to have a negative effect on premium growth and loss ratio. Therefore, the study suggested that the government should concentrate on boosting per capita income, lowering income inequality, and lowering the dependency ratio in order to link insurance consumption to actual GDP growth.

Further, a study by Berhe and Kaur (2017) examined the key factors that affect the profitability of insurance firms in Ethiopia. The study investigated on both internal factors and external factors. The internal factors included size of insurance companies, capital adequacy, leverage ratio, liquidity ratio, and loss ratio while the external or macro variables were market share, growth rate of GDP and inflation rate. The study used panel data collected from 17 insurance companies between the periods 2005-06 to 2014. The results from the regression analysis revealed that size of insurance, capital adequacy, liquidity ratio and growth rate of GDP had a significant effect on the profitability of insurance companies. On the other hand, leverage ratio, loss ratio, market share and inflation rate were found to have insignificant effect on profitability. Thus, the study suggested that managers of insurance companies as well as the policy makers should implement better policies and strategies that aimed in improving the overall profitability of insurers.

A study by Mwangi (2017) sought to establish the effects of macroeconomic variables on the financial performance of insurance companies in Kenya. The study adopted a longitudinal design and used secondary data obtained in the period between 2012 to 2015. The performance indicators analysed in this study included ROA, debt ratio, equity ratio and debt to equity ratio. The findings of the study revealed that inflation rates, average interest rates and average exchange rates had a negative relationship with all the performance indicators. The results of the regression analysis also indicated that average exchange rates and inflation rates have a negative effect on the ROA,

debt ratio, equity ratio and debt to equity ratio. The results also found that interest rates had a negative impact ROA of insurance firms only. This is because the interest rates were volatile and influenced minimal variations in the performance indicators. As a result the study recommended that insurance firms need to employ more strategies where they can purchase more futures contracts on government bonds or interest rate futures in order to be able to lock-in interest rate and hedge their various portfolios.

Another study by Too and Simiyu (2018) sought to examine the influence of firm's characteristics on the financial performance of insurance companies in Kenya. The study targeted the 47 general insurance companies in Kenya and used descriptive research designs. According to the study findings, capital structure was found to have the most significant influence on the financial performance of insurance companies in Kenya, followed by firm age and firm size. The findings also revealed that firm size has an inverse influence on the financial performance of insurance companies while firm ownership has no significant influence. In addition, the study found that capital structure and firm age have a positive and significant influence on the financial performance of insurance companies in Kenya. The study established that market share has a significant effect of the relationship between firm characteristics and the financial performance of insurance companies in Kenya. The study also recommends that managers in insurance companies in Kenya should consider aggressive credit policies to maximize the use of debt in capital spending activity so as to improve the financial performance of their companies.

RESEARCH METHODOLOGY

The main research approach used in this study relied on review of previous studies related to the study topic. This involves the use of secondary data obtained from institution records, government publications, historical and statistical records etc. This type of data is frequently chosen since it can be conveniently accessed and reduces the need for field research. Therefore, this study will rely heavily on already published studies, journals and annual records of insurance companies in Kenya to obtain secondary data that will be used to draw the results, conclusion and recommendations of the study.

RESULTS

The results of the study were categorized as follows; geographical, conceptual and contextual gaps.

Conceptual and Contextual Gaps

Studies by Mazviona, Dube and Sakahuhwa (2017), Peleckienė, Peleckis, Dudzevičiūtė and Peleckis (2019), Pointer and Khoi (2019), Ruiz (2018), Zainudin, Mahdzan and Leong (2018), Berhe and Kaur (2017), Lee (2017), Killins (2020) and Too and Simiyu (2018) had conceptual and contextual gaps. This is because most of these studies discussed on either internal factors or both internal and macroeconomic factors influencing the performance or profitability of insurance companies. In addition, the findings of these studies were also limited to a few measures of growth of insurance firms.

Geographical Gaps

Studies by Ismail, Ishak, Manaf and Husin (2018), Mazviona, Dube and Sakahuhwa (2017), Peleckienė, Peleckis, Dudzevičiūtė and Peleckis (2019), Pointer and Khoi (2019), Ruiz (2018),

Zainudin, Mahdzan and Leong (2018), Berhe and Kaur (2017), Lee (2017), Killins (2020) and Onafalujo (2019) were not carried out in Kenya. Therefore, the findings of these studies may differ due to the different governing systems used by different countries that also affect the operations of insurance companies.

CONCLUSION AND RECOMMENDATIONS

There is no doubt that the results of the earlier studies show that the growth of the insurance industry is significantly influenced by macroeconomic factors. As a result, the various Kenyan insurance industry participants will greatly benefit from this study. The management of the insurance companies will gain a broad understanding of the numerous macroeconomic factors and how they impact the performance and profitability of insurance firms. The policymakers in the insurance industry will also benefit from the suggestions and recommendations given on measures and policies that can be used to reduce the adverse effects of macroeconomic factors on the growth of the insurance industry. The findings of the study can also be used as a reference point to identify the macroeconomic factors that have a positive influence and those with a negative influence on the development of the insurance industry.

Further, this study will also be relevant to the different researchers and academicians since the study's findings will be incorporated into their body of literature and act as a basis for their empirical studies. On the other hand, the scholars may also be motivated to carry out additional research in order to improve on the theories used in this study and fill any identified research gaps.

REFERENCES

- Akyüz, G., Tosun, Ö., & Salih, A. K. A. (2020). Performance Evaluation Of Non-Life Insurance Companies with Best-Worst Method And Topsis. *Uluslararası Yönetim İktisat ve İşletme Dergisi*, 16(1), 108-125.
- Berhe, T. A., & Kaur, J. (2017). Determinants of insurance companies' profitability Analysis of insurance sector in Ethiopia. *International journal of research in finance and marketing (IJRFM)*, 7(4), 124-137.

- Chen, Y. L., Chuang, Y. W., Huang, H. G., & Shih, J. Y. (2020). The value of implementing enterprise risk management: Evidence from Taiwan's financial industry. *The North American Journal of Economics and Finance*, 54, 100926.
- Cherkasova, S., Kalaitan, T., Rushchyshyn, N., Yaremko, I., & Yaroshevych, N. (2020). Stimulating and limiting factors for the growth of investment potential of Ukrainian insurance companies. *Investment Management & Financial Innovations*, 17(1), 85.
- Chowdhury, I. H. (2020). Extended Exogenous Growth Model: Application and Investigation the Long-Term Growth Determinants of Bangladesh. *Asian Economic and Financial Review*, 10(1), 35-53.
- Davidsson, P., Delmar, F., & Wiklund, J. (2017). Entrepreneurship as growth: growth as entrepreneurship. *Strategic entrepreneurship: Creating a new mindset*, 328-342.
- Delmar, F. (2019). Measuring growth: methodological considerations and empirical results. In *Entrepreneurship and SME research: On its way to the next millennium* (pp. 199-215). Routledge.
- Dimmock, S. G., Wang, N., & Yang, J. (2019). *The endowment model and modern portfolio theory* (No. w25559). National Bureau of Economic Research.
- Eling, M., & Schaper, P. (2017). Under pressure: how the business environment affects productivity and efficiency of European life insurance companies. *European Journal of Operational Research*, 258(3), 1082-1094.
- Hasan, N., Omer, A. J., Othman, B., Perot, K. A., Majid, A. A., & Kareem, F. A. (2019). Macroeconomic determinates of stock price for industrial companies listed in istanbul stock exchange. *International Journal of Psychosocial Rehabilitation*, 23(2), 947-963.
- Hsu, W. Y., Huang, Y., & Lai, G. (2019). Reserve management and audit committee characteristics: evidence from US property-liability insurance companies. *Journal of Risk and Insurance*, 86(4), 1019-1043.
- Insurance Regulatory Authority. (2021). Insurance Industry Report for the year ended 31st December, 2020. Insurance Regulatory Authority
- Ismail, N., Ishak, I., Manaf, N. A., & Husin, M. M. (2018). Macroeconomic factors affecting performance of insurance companies in Malaysia. *Academy of Accounting and Financial Studies Journal*, 22, 1-5.
- Jones, C. I. (2019). Paul Romer: Ideas, nonrivalry, and endogenous growth. *The Scandinavian Journal of Economics*, 121(3), 859-883.
- Killins, R. N. (2020). Firm-specific, industry-specific and macroeconomic factors of life insurers' profitability: Evidence from Canada. *The North American Journal of Economics and Finance*, 51, 101068.
- Kritzman, M., & Markowitz, H. M. (2017). An interview with nobel laureate harry m. markowitz. *Financial Analysts Journal*, 73(4), 16-21.

- Lee, C. Y. (2017). Product diversification, business structure, and firm performance in Taiwanese property and liability insurance sector. *The Journal of Risk Finance*.
- Maseki, T. T., Kung'u, J. N., & Nderitu, J. W. (2019). Analysis of selected factors influencing financial performance of insurance companies listed at the NSE, Kenya. *European Journal of Economic and Financial Research*.
- Mazviona, B. W., Dube, M., & Sakahuhwa, T. (2017). An analysis of factors affecting the performance of insurance companies in Zimbabwe. *Journal of Finance and Investment Analysis*, 6(1), 11-30.
- Mazviona, B. W., Dube, M., & Sakahuhwa, T. (2017). An analysis of factors affecting the performance of insurance companies in Zimbabwe. *Journal of Finance and Investment Analysis*, 6(1), 11-30.
- Mwangi, G. (2017). *Effects of Macroeconomic Variables on Financial Performance of Insurance Companies in Kenya* (Doctoral dissertation, United States International University-Africa)
- Onafalujo, A. K. (2019). Underwriting performance shocks in the non-life Nigerian insurance industry and macroeconomic risks: A vector auto regressive approach. *Facta Universitatis, Series: Economics and Organization*, 129-144.
- Owuor, N. D. (2017). *The Relationship Between Macroeconomic Factors and the Mortgage Market Growth in Kenya* (Doctoral dissertation, University of Nairobi)..
- Peleckienė, V., Peleckis, K., Dudzevičiūtė, G., & K Peleckis, K. (2019). The relationship between insurance and economic growth: evidence from the European Union countries. *Economic research-Ekonomska istraživanja*, 32(1), 1138-1151.
- Pointer, L. V., & Khoi, P. D. (2019). Predictors of return on assets and return on equity for banking and insurance companies on Vietnam stock exchange. *Entrepreneurial Business and Economics Review*, 7(4), 185-198.
- Puaschunder, J. M. (2020, September). Economic growth in times of pandemics. In *Proceedings of the ConSciencS Conference on Science & Society: Pandemics and their Impact on Society* (pp. 1-9).
- Qu, H. (2019). Risk and diversification of nonprofit revenue portfolios: Applying modern portfolio theory to nonprofit revenue management. *Nonprofit management and leadership*, 30(2), 193-212.
- Rakshit, D. (2017). Analysis of growth of insurance density and insurance penetration in India after initiation of reforms in insurance sector. *International Journal of Research in Economics and Social Sciences (IJRESS)*, 7(6), 164-171.
- Rodríguez, Y. E., Gómez, J. M., & Contreras, J. (2021). Diversified behavioral portfolio as an alternative to Modern Portfolio Theory. *The North American Journal of Economics and Finance*, 58, 101508.

- Ruiz, J. L. (2018). Financial development, institutional investors, and economic growth. *International Review of Economics & Finance*, 54, 218-224.
- Runting, R. K., Beyer, H. L., Dujardin, Y., Lovelock, C. E., Bryan, B. A., & Rhodes, J. R. (2018). Reducing risk in reserve selection using Modern Portfolio Theory: Coastal planning under sea-level rise. *Journal of Applied Ecology*, 55(5), 2193-2203.
- Too, I. C., & Simiyu, E. (2018). Firms characteristics and Financial Performance of general insurance firms in Kenya. *International Journal of Business Management & Finance*, 1 (39): 672, 89.
- Toraman, C., Tetik, N., & Kanat, E. (2021). Effects Of Global Outbreaks On Insurance Companies' Stocks: An Event Study On Stock Markets Of Turkey And G7 Countries. *Hacettepe Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 39(Covid 19 Özel Sayısı), 173-193.
- Zainudin, R., Mahdzan, N. S. A., & Leong, E. S. (2018). Firm-specific internal determinants of profitability performance: An exploratory study of selected life insurance firms in Asia. *Journal of Asia Business Studies*.
- Zhao, R. (2019). Technology and economic growth: from Robert Solow to Paul Romer. *Human Behavior and Emerging Technologies*, 1(1), 62-65.