

UNIVERSITY OF GHANA

**FACTORS INFLUENCING THE GROWTH OF THE
LIFE INSURANCE INDUSTRY IN GHANA**



**THIS THESIS IS SUBMITTED TO THE UNIVERSITY OF
GHANA, LEGON IN PARTIAL FULFILLMENT OF THE
REQUIREMENT FOR THE AWARD OF MPhil RISK
MANAGEMENT AND INSURANCE DEGREE**

MAY,2015

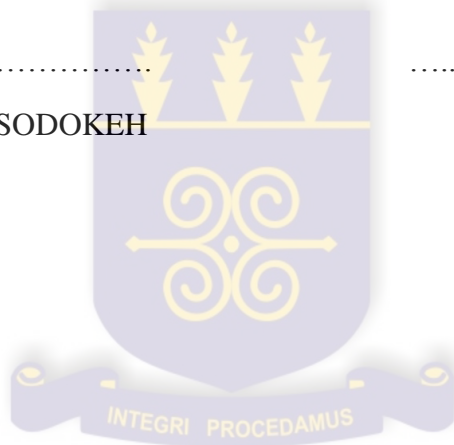
DECLARATION

I do hereby declare that this work is the result of my own research and has not been presented by anyone for academic award in this or any other university. All references used in the work have been fully acknowledged.

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CERTIFICATION

I hereby certify that this thesis was supervised in accordance with procedures laid down by the University.

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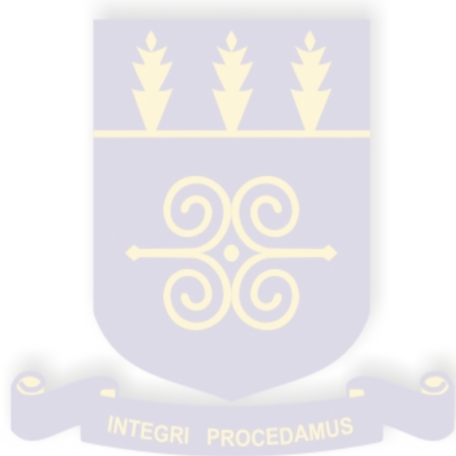


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DEDICATION

This work is dedicated first to Almighty God for giving me the strength and wisdom to carry on this study. I also dedicate it to my husband, Mr. Ellis Koomson, my sons, David Kojo Foh Koomson and Ryan Arabo Koomson and my entire family for their immerse support throughout my study and especially during the research period.



ACKNOWLEDGEMENT

I am indebted to my supervisors, Dr. Simon Kwadzogah Harvey and Prof. Godfred. Alufar Bokpin for their contribution and support during the supervision of this work.

My appreciation also goes to all my course mates for their encouragement throughout the research period.

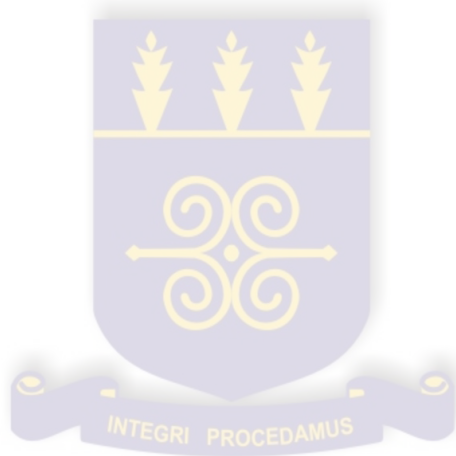


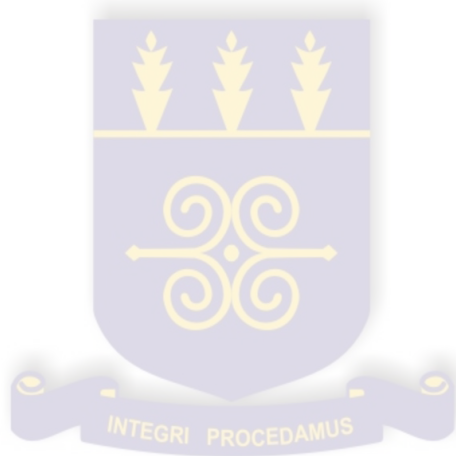
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LIST OF ACRONYMS/ABBREVIATIONS

CPI	-	Consumer Price Index
GDP	-	Gross Domestic Product
GWP	-	Gross Written Premium
UK	-	United Kingdom
UNCTAD	-	United Nations Conference on Trade and Development
UL	-	Universal Life
VUL	-	Variable Universal Life

ABSTRACT

Growth is an important value driver for life insurance firms. Due to the risk pooling nature of their business it is necessary for their business operations to generate the volume of business necessary to ensure efficient pooling of risks. This study investigated the factors influencing the growth of life insurance business in Ghana. The study is based on panel data of life insurers' gross written premium, total assets, age of the business, total commissions earned by their marketers, operational and management expenses, net profit, investment income for life insurance firms covering the period 2007-2012 as well as macroeconomic variables such as interest rate, inflation and real GDP growth rate. The study fitted a random effect regression model. The findings show that total assets, age of the business, total commissions, operational and management expenses, net profit, investment income, interest rate, inflation and real GDP growth rate is positively related to gross written premiums. However, only total assets, operational and management expenses, net profit and investment income showed a significant relationship with gross written premiums. The study, based on the findings recommends a closer supervision of life insurers' operations by their regulator and the imposition of stricter sanctions and penalties to defaulting companies to ensure their compliance. It also suggests the organization of seminars and workshops to educate life insurance managers on issues concerning the efficient management of their organizations and the organization of public awareness programmes to educate the general public on the need for insurance and its benefits. It is also recommended that government passes out a law to make some life insurance

contracts compulsory for the growth of life insurance in the country, the welfare of the society and to boost the economy as well.

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND

Insurance of any type, in the simplest terms, is all about managing risk. In life insurance, the insurance company attempts to manage mortality (death) rates among its clients. The insurance company collects premiums from policy holders, invests the money (usually in low risk investments), and then reimburses this money once the person passes away or the policy matures.

Life insurance may be classified as follows: term, whole life, universal, and endowment life insurance. Term assurance provides life insurance coverage for a specified term. It does not accumulate cash value and is generally considered "pure" insurance, where the premium buys protection in the event of death and nothing else. Whole life insurance provides lifetime death benefit coverage for a level premium in most cases. The advantages of whole life insurance are guaranteed death benefits, guaranteed cash values, fixed, predictable annual premiums, and mortality and expense charges that will not reduce the cash value of the policy. Universal life insurance (UL) is a relatively new insurance product, intended to combine permanent insurance coverage with greater flexibility in premium payment, along with the potential for greater growth of cash values. There are several types of universal life insurance policies which include interest sensitive (also known as "traditional fixed universal life insurance"), variable universal life (VUL), guaranteed death benefit, and equity indexed universal life insurance. Universal life insurance addresses the perceived disadvantages of whole life – namely that premiums and death benefit are fixed. With universal life, both the premiums and death benefit are flexible. Except

with regards to guaranteed death benefit universal life, this flexibility comes with the disadvantage of reduced guarantees. Endowments are policies in which the cumulative cash value of the policy equals the death benefit at a certain age. The age at which this condition is reached is known as the endowment age. Endowments are considerably more expensive (in terms of annual premiums) than either whole life or universal life because the premium paying period is shortened and the endowment date is earlier. Endowment insurance is paid out whether the insured lives or dies, after a specific period or a specific age.

Since most life insurance policies have a long life span which makes consumers sensitive to the reliability of the respective life insurance firms, it is necessary for the firms to remain in a financially sound condition over decades in order to be able to pay out the promised benefits.

Life insurance provides individuals and the economy as a whole with a number of important financial services.

It serves as a means for individuals and families to manage income risk. It serves as an effective instrument for encouraging substantial amounts of savings because life insurance products offer a means of disciplined contractual savings. It also promotes financial stability among households and firms by transferring risks to an entity better equipped to withstand them; it encourages individuals and firms to specialize, create wealth and undertake beneficial projects they would not be otherwise prepared to consider (Das et al., 2003).

Life insurance companies mobilize savings from the household sector and channel them to the corporate and public sectors. The key difference between banks and insurance companies is that the maturity of bank liabilities is generally shorter than that of life insurance companies. This enables life insurers to play a large role in the long term bond market. At the same time, life

insurers' portfolios are typically more liquid than those of banks, which make them less prone to bank liquidity crises (Das et al., 2003).

A strong insurance industry can relieve pressure on the government budget, to the extent that private insurance reduces demands on government social security programs and life insurance can be an important part of personal retirement planning programs (Das et al., 2003).

The life insurance sector also contributes to the development of capital markets because it makes a pool of funds (that is, net premiums generated) accessible to both borrowers and issuers of securities. This is due to the fact that they have longer term liabilities than banks. Catalan, Impavido and Musalem (2000) studied the relationship between the development of contractual savings (assets of pension funds and life insurance companies) and capital markets and found that the growth of contractual savings Granger cause the development of capital markets.

Leveraging their role as financial intermediaries, life insurers are a key source of long-term finance. Because life insurance is so important to trade and development, the United Nations Conference on Trade and Development (UNCTAD) in 1964 at its first session formally acknowledged that "a sound national insurance and reinsurance market is an essential characteristic of economic growth".

The importance of the industry cannot be overemphasized given the numerous benefits, as such there is a need to study what influences the growth of individual life insurance companies since the performance of any firm not only plays a role to increase the market value of that specific firm but also leads towards the growth of the whole industry which ultimately leads towards the overall prosperity of the economy.

1.1.1 Regulation of the Insurance Industry in Ghana

In Ghana, the insurance industry is regulated by the National Insurance Commission (NIC). The NIC is empowered by the Insurance Act 2006, Act 724 to approve, where appropriate, the rate of insurance premiums and commissions in respect of any class of insurance as well as to encourage the development of and compliance with the insurance industry's codes of conduct. The Act makes provision for regular on-site inspection, licensing and appropriate sanctions against defaulting companies.

1.1.2 Insurance development and Potential in Ghana with focus on the life sector

Poor households are particularly vulnerable to catastrophic financial ruin because of their limited resources and options to mitigate, cope with, and manage the financial impact of risks they face on a daily basis. Analysis of the protection gap – the difference between the protection needed and the protection in place to maintain the living standards of dependents in the event of the death of the primary breadwinner – demonstrates that under-insurance is a massive global issue (Swiss Re Sigma 2013 Report).

Globally, non-life insurance dominates the insurance industry. According to Swiss Re sigma 2013 report, Africa's total estimated insurance premium amounted to 72 billion US dollars with life insurance premiums accounting for almost 70% of total premiums. Life insurance premiums amounted to 50 billion US dollars while non-life insurance premium was 22 billion US dollars representing 1.9% and 1.1% of the world market share respectively. South Africa's life insurance market dominates the life insurance industry in Africa. They accounted for about 90% of Africa's total life insurance premium in the year 2012.

In spite of the increasing importance that life insurance has in managing income risk, facilitating savings, providing long-term finance and promoting the growth of the economy, the non-life Insurance sector is rather playing the leading role in Ghana’s insurance industry.

The life insurance industry has experienced progressive growth annually from a gross premium of GH¢14,173,054.00 in 2003 to GH¢270,176,073.00 in 2011, however, comparatively a higher percentage of total insurance industry premiums are generated from the non-life sector.

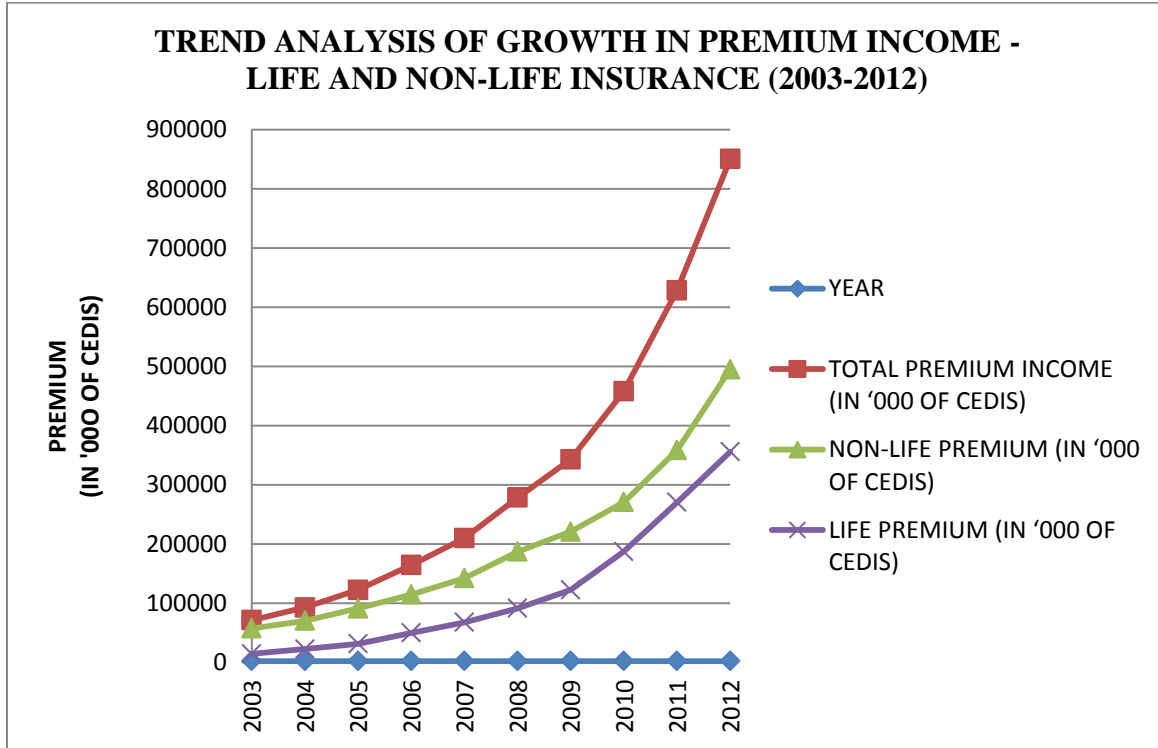
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GROWTH IN PREMIUM INCOME (2003 - 2012)

YEAR	TOTAL PREMIUM INCOME (IN ‘000 OF CEDIS)	NON-LIFE (IN ‘000 OF CEDIS)	LIFE (IN ‘000 OF CEDIS)
2003	71,284	57,111	14,173
2004	92,583	70,278	22,305
2005	122,326	91,075	31,251
2006	164,207	114,598	49,609
2007	209,555	142,020	67,535
2008	278,255	187,010	91,245
2009	342,973	220,704	122,269
2010	458,118	270,774	187,344
2011	628,529	358,353	270,176
2012	850,664	494,899	355,765

Compiled from the 2007 & 2012 NIC Annual Reports

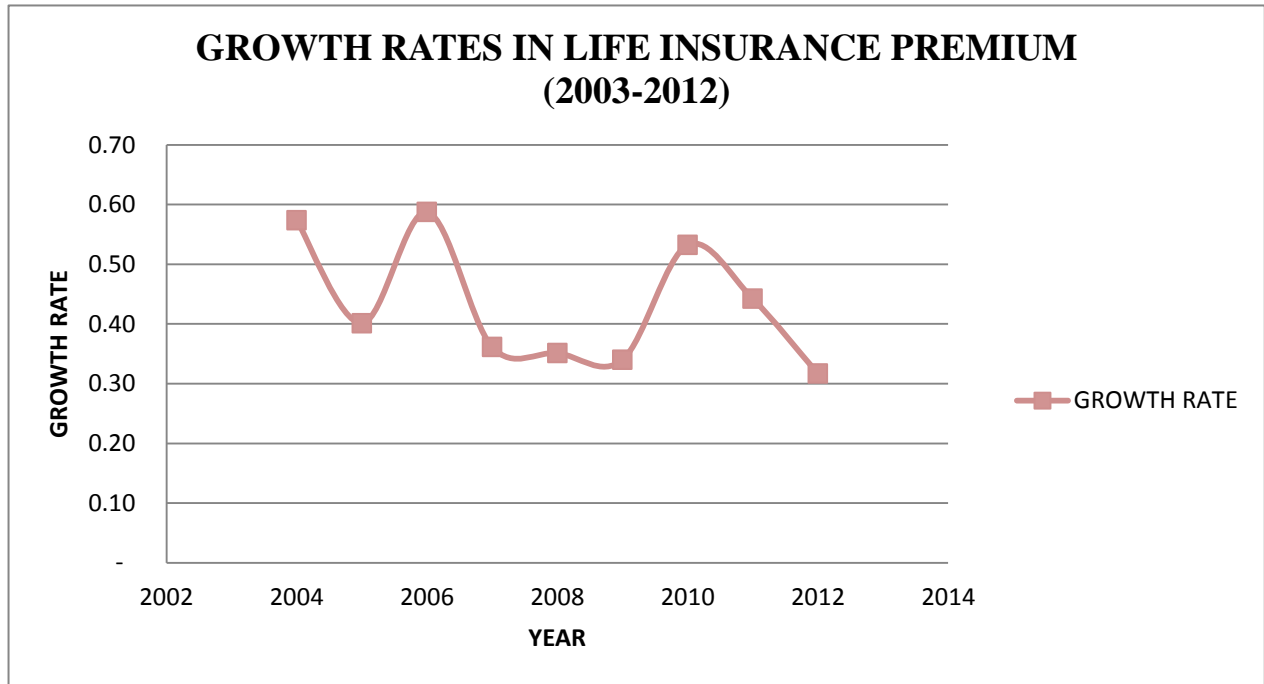
Figure 1.1;



Compiled from the 2007 & 2012 NIC Annual Reports

Growth is an important value driver for life insurance firms. The efficient operation of life companies require considerable economies of scale generated by business volume. Without growth, the insurer may not garner the business volume necessary to ensure collective pooling of insurance risks (Greene & Segal, 2004). During the period of 2003-2012 the annual reports of the National Insurance Commission (NIC) showed large fluctuations in the growth rates of premium income for the life insurance industry in Ghana.

Figure 1.2;



Compiled from the NIC 2007 & 2012 Annual Reports

This variation of premium income among the life insurance companies suggests that firm-specific factors play crucial role in influencing insurance companies' growth. It is therefore essential to identify what are these factors are as well as any problems facing the industry on the whole.

Notwithstanding the rapid growth of the life insurance sector, insurance penetration (Insurance Penetration is defined as the ratio of premium volume to Gross Domestic Product (GDP). It measures the importance of insurance activity relative to the size of the economy) is still less than 1.5% (NIC 2012 Report) which is relatively low. The finscope survey which was

commissioned by the Government of Ghana on the financial sector concluded that excluding those with the national health insurance, only 5% of the population has an insurance product.

1.2 RESEARCH PROBLEM

The growth of the financial services industry is contingent on its demand. Arrays of variables have been empirically examined in studies of life insurance demand and these provide insight into possible explanations for life insurance purchases. These variables are both firm specific as well as social, demographic and economic in nature, and can also be used to explain life insurance growth; however, some of the results are inconsistent.

Lee (1974) indicated that the demand for insurance is a function of variables such as savings, consumer sentiment, and conditions of the financial markets. Williams (1986) found a positive relationship between life insurance demand and life expectancy whiles Browne and Kim (1993) found no significant relationship between the two. Fortune (1972) found that inflation increases the flow of funds into the life insurance sector; however, inflation may shift more funds into other financial institutions than into life insurance products. These findings contrast that of Neumann (1969). Babbel (1981) in a study in Brazil found inflation to be a significant determinant on the demand for life insurance. Browne and Kim (1993) also found dependency ratio, national income and government spending on Social security to be significantly positively related to life insurance demand, however, found inflation to be significantly negatively related to life insurance demand.

Life insurers face risks similar to those faced by other financial intermediaries such as interest rate, liquidity, and credit risk, however, most previous research have primarily focused on

identifying financial statement variables and insurer-specific ratios alone to use as regressors in empirical models to differentiate between low- and high-risk insurers.

Challenges or problems hindering the growth of the industry can be attributed mainly to the adverse macroeconomic environment in which we find ourselves. Market conditions affect firms to varying degrees. The macroeconomic environment plays an important role on the functioning and subsequent growth of the life insurance sector. Therefore, it is important to examine how economic and market conditions impact on the growth cycle of life insurance companies. Browne and Hoyt (1995) in their study assessed the importance of exogenous economic factors for the property-liability insurance industry but little evidence has been presented for the life insurance industry.

Studies by Cummins (1991), Kazenski et al (1995) and Grace and Hotchkiss (1995), suggest that economic factors are significantly related to insurer financial performance which will subsequently promote or hinder growth of the industry. Some of the economic and market variables examined are interest rates, employment conditions, returns on insurer investments (such as bonds, stocks, and real estate returns), and competition.

Previous empirical studies on the growth of the life insurance industry have been concentrated mainly in the United States, Europe and Asia. Some of these studies concentrated on only firm specific variables such as firm size, age, organizational form and profitability to determine the growth of the life insurance industry. One of such studies is by Hardwick and Adams (2002) on the UK Life insurance industry.

Greene (1963) finds that people have underlying attitudes toward risk that dictate how they make risky economic decisions and concludes that there is no connection between one's biographical background and his or her insurance buying behaviour.

In line with the study by Greene (1963), most of the major studies on problems facing the industry in Africa have been concentrated on the attitudes and perceptions of people towards insurance. Notable amongst these studies are the study by Yusuf et al (2009) in Nigeria and Ackah and Owusu (2012) in Ghana.

Despite the well developed literature on life insurance in the developed economies, and lately developing countries such as Ghana, empirical literature on life insurance in Ghana still remains very scanty.

It is therefore important to further our understanding by examining both firm specific and demographic and economic variables to better explain and understand the pattern of growth of the life insurance industry in Ghana.

1.3 RESEARCH PURPOSE

The purpose of this study is to determine the factors that influence the growth of life insurance companies in Ghana, the extent to which they inhibit or promote growth and how these factors can be eliminated or mitigated or improved. It also examines the problems and challenges faced by the insurance industry.

1.4 RESEARCH OBJECTIVES

The objective of this study is;

1. To investigate the factors that influence the growth of life insurance companies in Ghana
2. To ascertain the degree of impact and significance they have on the growth of life insurance companies
3. To identify and examine the problems facing the industry.

1.5 RESEARCH QUESTIONS

In view of the above problem and the perceived benefits association with life insurance, the following research questions deserve keen considerations as a way of evaluating the factors influencing the growth of Life insurance companies in Ghana.

1. What are the factors that influence the growth of life insurance companies in Ghana?
2. How significant are these factors to the growth of life insurance companies in Ghana?
3. What are the problems encountered by the industry and thus inhibiting its growth?

1.6 SIGNIFICANCE OF THE RESEARCH

This research builds on previous researches already conducted on life insurance companies in Ghana. It seeks to add to knowledge and the available literature on life insurance in Ghana as well as serving as a pivot for further research work in this area of the study.

Insights into the organizational-specific factors affecting the growth of life insurance companies can help the National Insurance Commission and policy-makers in formulating policies and strategies necessary for the healthy growth of the life insurance industry such as framing

licensing regulations that discriminate in favour of certain types of new entrant to the market – such as those with adequate financial liquidity.

The study is also likely to be of interest to brokers, policyholders, investors and others concerned with the performance and growth of life insurance in the country.

Also, since life insurance plays a very important role in the economic development of the country in terms of savings mobilization, long-term investment and contribution to the Gross Domestic Product (GDP) of the country, the research seeks to inform government on the significance of the industry to the economy and the effects of its policies on the growth of the industry as well as the need for its support.

Therefore, the adoption of the recommendations from this study may enable the government to pursue appropriate fiscal and monetary policies that will stimulate higher investments to spark the growth of the economy.

The study also sets out the pace for future researchers who would want to do further study into the life insurance industry in Ghana.

1.7 Organization of the Study

This study is a five chapter work which is structured as follows:

Chapter one looks at the introduction with major issues comprising the background of study, statement of the problem, the objective of the study, purpose and significance of the study.

Chapter two looks at a review of literature on the topic. Literature reviewed includes both theoretical and empirical evidence on the topic.

Chapter three is mainly on the methodology used to conduct the study. The issues considered were nature and sources of data, definition and model specification and justification of variables.

Chapter four focuses on data presentation, analysis and discussion. The discussion of the findings was compared to earlier reviewed literature.

Chapter five which is the final chapter presents the summary, conclusion and policy implication of the study.

1.8 Limitation of the Study

The findings of these studies may be limited on the grounds that the study was conducted in Ghana and just like many developing countries; access to quality data is very difficult. Although the data was collected mainly from the National Insurance Commission (NIC), they have their own difficulties in collecting and capturing some of the figures. The companies were also reluctant to make statements available which impeded the smooth flow of the study during data collection.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter reviews earlier research work on the subject and sets the stage for the examination of theoretical foundations of the study. The chapter therefore provides a broad discussion and review of life insurance theories as well as empirical evidence by prior researchers. The chapter has been broken down into two main sections;

- Review of theoretical literature
- Review of empirical literature

2.2 THEORETICAL LITERATURE REVIEW

2.2.1 Theory of Firm Growth and Firm Size in an Industry

Gibrat's Law (Gibrat, 1931) is the first attempt to explain in stochastic terms the systematically skewed pattern of the distributions of firms' size within an industry. He made the proposition that the proportionate organic (or internal) growth rates of firms are independent of their size.

In a classic paper by Viner (1932), he proposed a theory of firm size which predicts a unique size distribution within an industry under the assumption that individual firms have U-shaped long-run average cost functions. He explained that in equilibrium, each firm produces at the minimum point of this curve, with firm entry or exit adapting so as to adjust total industry production to quantity demanded at the zero-profit price. The size distribution which emerges, then, is a solution to an extremum problem: allocate production over firms so as to minimize total cost. By keeping firms small, relative to their most efficient (in a productive sense) scale, such a policy

results in a waste of resources which must somehow be balanced against the gains from reducing monopoly inefficiency. The evidence against this version of the Viner theory is so overwhelming that few economists accept it, except perhaps as a model of plant or store size.

Simon and Bonini (1958) assumed that firm growth is independent of firm size for firms that are larger than the level of minimum efficient size. They argued that presumably, most older firms have reached this level, otherwise they could not have survived for long periods of time. Therefore, the fact that firm growth is not independent of firm size for firms older than 7, 20, and 45 years is not consistent with Gibrat's law.

Ijiri and Simon (1964) also observed that by examining the distribution of firms by size at a single point in time, one can make inferences about the stochastic process which governs firm growth. This insight has been exploited in several directions, and has led to further confirmation of the law that firm growth is independent of size. Later studies of large firms by Kumar (1985), Evans (1987a), and Hall (1987) also found that Gibrat's law fails.

Lucas (1967) in his capital adjustment theory predicted (as a consequence of the assumed constant returns to scale technology) that Gibrat's law holds for the complete size distribution of firms. Again, Lucas (1978) in his theory of the size distribution of firms assumes that Gibrat's law holds for the complete size distribution of firms.

In a study of the United Kingdom (UK) life insurance industry, Hardwick and Adams (2002), tested whether the organic growth rates of United Kingdom (UK) life insurance firms are independent of size, as predicted by Gibrat's (1931) Law of Proportionate Effects over a ten-year period (1987 to 1996) and found no significant difference between the growth rates of small and

large firms, thus supporting Gibrat's Law as a long-run tendency in the UK life insurance industry.

2.2.2 Theory of Firm Growth and Firm Age in an Industry

Since the early 80's most research have made it clear that firm age, that is the time passed from the start-up of a firm, is central in explaining firm growth.

Jovanovic's (1982) model has an especially rich set of testable predictions concerning the life cycle patterns of firm growth. His theory generally implies that firm growth decreases with firm age and assumes that output is a decreasing convex function of managerial inefficiency. Under the special assumption that firm costs are Cobb-Douglas, with decreasing returns to scale, his theory implies that firm growth is independent of firm size for mature firms. His theory implies that firm growth is independent of firm size for firms that entered at the same time under the assumption that the distribution of efficiency is lognormal.

Several other studies have also shown that the age of the firm have been found to have a negative effect on growth.

A study by Evans (1987a) on the basis of panel data from US manufacturing firms found that firm growth is found to decrease with firm age and firm size. The inverse growth-age relationship is consistent with the theory of firm learning proposed by Jovanovic whereas the growth-size relationship is inconsistent with Gibrat's law.

In England, Dunne and Hughes (1994) reached the same conclusion, using continuous age for each firm, that age had a negative effect on company growth based on data from 2000 manufacturing firms.

Harhoff, Stahl and Woywode (1998) also investigated the age-size effect on firm growth in West Germany's construction, trade, manufacturing and service industries and found a negative relationship between both size and age on growth.

2.2.3 Agency Theory

More than 200 years ago, Adam Smith (1776) pointed out that hired managers do not take as much care of their firms as do owners. Researchers in this tradition argue that managers sometimes make decisions in their own interest rather than the interest of the company's owners. Several authors (Berle and Means, 1932; Marris, 1964; Baumol, 1967; Marris and Wood, 1971) have argued that growth sometimes benefits managers rather than owners. The "managerial capitalism" tradition in economics investigates what happens when managers, as opposed to owners, run large corporations.

Jensen and Meckling (1976) define an agency relationship as a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent. He further explained that if both parties to the relationship are utility maximizers, there is good reason to believe that the agent will not always act in the best interests of the principal.

According to agency theory, managers pursue growth because growth benefits them personally—growth guarantees employment and salary increases for managers due to the greater responsibilities of managing a larger firm (Murphy, 1985). To solve the problem of conflicting interests, agency researchers seek mechanisms to align the interests of managers to those of the owners.

From earlier works of Coase (1937, 1960) and others, Jensen and Meckling (1976) address incentive conflicts between contracting parties in the firm. They argue that the principal can limit divergences from his interest by establishing appropriate incentives for the agent and by incurring monitoring costs designed to limit the aberrant activities of the agent. In addition in some situations it will pay the agent to expend resources (bonding costs) to guarantee that he will not take certain actions which would harm the principal or to ensure that the principal will be compensated if he does take such actions. Incentive conflicts result in a costly contracting process among the various claimholders. However, it is generally impossible for the principal or the agent at zero cost to ensure that the agent will make optimal decisions from the principal's viewpoint

2.2.4 Theory of Free Cashflow

Jensen (1986) argues that the existence of free cash flow provides managers with an opportunity to waste cash on unprofitable investments. He defines free cash flow as cash in excess of that required for funding all positive net present value projects. Free cash flow tempts managers to expand the scope of operations and the size of the firm, thus increasing managers' control and personal remuneration, by investing free resources in projects that have zero or negative net present values. These unprofitable investments are an aspect of the basic conflict of interest between owners and managers. Jensen argues that some industries are particularly susceptible to the generation of free cash flow. He posits that leveraged buyout activities are one way of controlling free cash flow because the debt incurred in such transactions forces managers to disgorge excess cash. Several authors (Loh, 1992; Gupta & Rosenthal, 1991; Lehn & Poulsen 1989; Gibbs, 1993; Griffin, 1988; and Moore et al., 1989) provide evidence supporting the free cash flow motivation for financial restructuring. Wells, et al (1995) posit that life insurers

constitute a low-growth industry that is likely to generate such excessive cash flow and argue that, in the life insurance industry, inefficient uses of free cash flow occur to the detriment of the firm's owners and policyholders. They claim that expenditures wasted by management could instead have been distributed to the owners of stock insurers as cash dividends or to the policyholders of mutual or stock firms in the form of higher policy dividends, higher investment return or lowering their premiums.

2.2.5 Behavioural Theory of Firm Growth

Managers make decisions to expand or contract organizations and decisions on market participation that cause the expansion or contraction of the organizations (Greve, 2008). When the relation between organizational size and performance is not well known, they have to make such growth decisions without clear economic guidance. As a substitute, managers use an aspiration level, which is “the smallest outcome that would be deemed satisfactory by the decision maker” (Schneider, 1992). Growth decisions are not based solely on aspiration levels for size, however, but are also affected by aspiration levels on other organizational goal variables (Greve, 2008).

According to the behavioural theory of the firm, organizational decision makers pursue multiple goals that result from internal bargaining, and comparisons of realized goal variables with aspiration levels determine organizational actions (Cyert & March, 1963). In this theory, a goal consists of an aspiration level on a measurable organizational outcome (the goal variable). Organizations are thought to have a wide range of goals, including profitability, sales, and production (Cyert & March, 1963). Some goals are used to assess organizational performance, and others are introduced through the efforts of stakeholders and interest groups to persuade

organizations to pursue their interests (Donaldson & Preston, 1995; Hoffman, 1999). The realized outcome on a goal variable is often called performance. When an organization falls below the aspiration level of a goal variable, decision makers initiate problemistic search for actions that may produce outcomes above the aspiration level (Cyert & March, 1963). Studies on aspiration levels for research productivity and sales (Audia & Sorenson, 2001) and market share and status (Baum, et al, 2005) have, however, used other goal variables.

However, some researchers have argued that failure to meet an aspiration level motivates decision makers to accept the risks inherent in changing their organization (Bromiley, 1991; Fiegenbaum & Thomas, 1988; Greve, 2003c; Lant et al., 1992).

Therefore, aspiration levels affect organizational change through adjustment of problemistic search and acceptance of risk.

2.2.6 Competition and Efficiency of firms in an Industry

It is generally believed by the majority that competition is a good thing. An often-used quantitative indirect measure of competition is efficiency. Increased competition is assumed to force firms to operate more efficiently, so that high efficiency might indicate the existence of competition and vice versa (Bikker & Leuvensteijn, 2008).

Two forms of efficiency are scale efficiency and X-efficiency. Scale economies are related to output volumes, whereas cost X-efficiency reflects managerial ability to drive down production costs, controlled for output volumes and input price levels (Bikker & Leuvensteijn, 2008).

A straightforward measure of competition is the profit margin. Supernormal profits would indicate insufficient competition. Another indirect measure of competition is the Boone indicator (Bikker & Leuvensteijn, 2008).

The Boone indicator measures the extent to which efficiency differences between firms are translated into performance differences. The more competitive the market is, the stronger is the relationship between efficiency differences and performance differences. The Boone indicator is usually measured over time, giving a picture of the development of competition. In competitive markets, efficient firms perform better – in terms of market shares and hence profit – than inefficient firms. The level of the Boone indicator in life insurances can be compared with levels in other parts of the service sector, to assess the relative competitiveness of the life insurance market (Bikker & Leuvensteijn, 2008). This approach is based on the notion that competition rewards efficiency and punishes inefficiency.

2.3 EMPIRICAL LITERATURE REVIEW

Most previous studies on life insurance have been concentrated in North America, Europe and Asia, and the markets there can be described as near-efficient unlike our own developing market in Ghana.

Outreville (1996) investigated empirically the relationship between life insurance premium income, a measure of life insurance development, and the level of financial development and the market structure of insurance institutions in developing countries. He detailed some factors explaining the growth of the life insurance business. One of which is that the fundamental motives for savings in developing countries are not similar to those operating in industrial countries because of the environment in which decisions on savings are made. He explained that this is because the capital markets in many least-developed countries are frequently poorly organized. Another factor he explained is the increase in the growth rate of the population with a large number of young people who tend to consume more than they produce thus reducing

aggregate savings. The third factor he explained is that a relatively large proportion of households in developing countries derive its income from agriculture, and their incomes are subject to large fluctuations owing to variations in world prices of agricultural commodities and to climatic conditions. Finally, he mentioned that there is a prevalence of price distortions in the economies of developing countries. A government can force sales of government debt to the insurance industry or use interest-rate controls. The artificially low real interest rates reduce the overall revenues of life insurance companies, as well as the supply of capital, and therefore the ability of the insurance companies to answer to potential demand. The findings from his article show that life insurance development is significantly related to personal disposable income and to the country's level of financial development and also life insurance is markedly affected by the level of anticipated inflation.

In the study by Hardwick (1997), "Measuring cost inefficiency in the UK life insurance industry" he calculates three measures of cost inefficiency for a sample of life insurance companies, together with a measure of inefficiency for the life insurance industry as a whole and measures of overall economies of scale. The three company inefficiency measures he used are economic inefficiency, which combines both 'technical' and 'allocative' inefficiency, scale inefficiency and total inefficiency. He labelled the industry measure as the structural economic inefficiency. He mentioned that of the three measures, economic inefficiency is probably the most useful indicator of how well an individual firm is using its resources, and is the most appropriate for ranking companies. Premium income was used as an output proxy in the study. He assumed like other insurance researchers (e.g. Colenutt, 1977; Grace & Timme, 1992; Gardner & Grace, 1993) that premium income is the most acceptable indicator currently available of a company's annual provision of insurance services. Two input prices included in

his cost frontier function are a wage rate and a price of capital. He mentioned labour as being undoubtedly the most significant resource used in producing insurance services since for most companies, staff wages and salaries, taxes and commissions account for over 80% of total cost, hence the use of wage rate as one of the inputs. Capital was also used as another input because of the expenses incurred on payments for the use of capital, mainly office buildings, vehicles and office equipment. Some of the findings of the study are that the larger companies are on average more economically efficient than the smaller companies in the United Kingdom, though they are operating on average with costs 25% above the level that could be achieved through a more efficient use of resources. Also, total inefficiency measures suggest that the smaller life insurance companies are at a considerable cost disadvantage compared to larger companies when the average levels of economic and scale inefficiency are combined.

Hardwick and Adams (2002) in their study, "Firm Size and Growth in The United Kingdom Life Insurance Industry", tests whether the organic growth rates of United Kingdom (UK) life insurance firms are independent of size, as predicted by Gibrat's (1931) Law of Proportionate Effects and the relative influence of a number of firm specific factors in the survival and growth of UK life insurance firm to better understand the determinants of corporate growth in the life insurance industry. The factors they examined are input costs, profitability, output mix, company type, organizational form, and location. The findings of the study reveal that high input costs in the current period may impede growth while high input costs in the recent past may lead to higher growth. The latter relationship, they explained, may be because greater financial inducements to staff and increased expenditure on training and information technology only lead to higher growth in the future, or it may be because of the high first-year acquisition expenses associated with the launch of new life insurance products. They also found no support for the

view that higher levels of profitability (in either the current or previous periods) encourage (or discourage) growth in the life insurance industry. Also, the findings, suggest that stock companies' access to market capital is not an important factor in determining growth potential.

Adams and Buckle (2003) studied the determinants of corporate financial performance in the Bermuda insurance market by examining empirically the determinants of corporate (i.e. underwriting and investment related) financial performance among non-captive insurers/reinsurers operating in Bermuda. They found out that highly leveraged, lowly liquid companies and reinsurers have better operational performance than lowly leveraged, highly liquid companies and direct insurers. Jensen (1986) free cash flow hypothesis therefore holds that high financial leverage can increase a company's financial performance because it obliges managers to generate cash flows in order to meet their obligations to fixed claimants. Therefore, managers of highly leveraged insurance and reinsurance companies could also be motivated to use cash flows to fulfil their investment and underwriting obligations. Liquidity measures the ability of managers in insurance and reinsurance companies to fulfil their immediate commitments to policyholders and other creditors without having to increase profits on underwriting and investment activities and/or liquidate financial assets, thus low liquid companies will perform better operationally than highly liquid companies. They also found out that performance was positively related to underwriting risk whiles the size of companies and the scope of their activities (companies licensed either to conduct domestic business or overseas business) were not found to be important explanatory factors.

Beck and Webb (2003) in their study for the World Bank and International Insurance Foundation examined the determinants of the demand and supply of life insurance products across countries

and over time. Using a cross-sectional sample of 63 countries averaged over 1980-96, they found out that educational attainment, banking sector development, and inflation are the most robust predictors of life insurance consumption, while income is only a weak predictor.

Hu et al. (2009) examined the efficiencies of China's foreign and domestic life insurance providers and explored the relationship between ownership structure and the efficiencies of insurers while taking into consideration other firm attributes. They used the data envelopment analysis (DEA) method to estimate the efficiencies of the insurers based on a panel data between 1999 and 2004. Their findings indicated that the average efficiency scores for all the insurers are cyclical. The Tobit regression results showed that the insurers' market power, the distribution channels used and the ownership structures may be attributed to the variation in the efficiencies.

There is little literature available on insurance in Ghana, and most of these literature concentrate on the General Insurance Industry.

Ansah-Adu, et al. (2012) evaluated the efficiency of insurance companies in Ghana using a two-stage procedure to ascertain whether insurance companies are cost efficient and also to examine the efficiency determinants of insurance companies. Their study evaluated the efficiency scores by applying a data envelopment analysis that allowed the inclusion of multiple inputs and outputs in the production frontier. It also employed a regression model to identify the key determinants of efficiency of the Ghanaian insurance industry. The findings of their study suggest higher average efficiency scores for life insurance business than non-life insurance companies. They also observed that the drive for market share, firm size and the ratio of equity to total invested assets are important determinants of an insurance firm's efficiency.

Akotey and Abor (2013) examined the risk management practices of life assurance firms and non-life insurance firms. They used a comparative case study methodology, to assess the state of risk management in both life assurance companies and non-life insurance firms to determine whether they exhibit different or similar risk management practices. The results of the survey were also analyzed and compared to the principles of good practices in financial risk management. Their findings indicates that almost all the life companies have stated their risk appetite levels, which enable them to identify which risks to absorb and which ones to transfer. But non-life insurance firms have not laid down their risk tolerance levels explicitly. The results also further revealed that the industry lacks sufficient personnel with the requisite risk management skills and that the sector does not manage risks proactively, rather they do so in a reactive response to regulatory directives.

Akotey et al. (2013) assessed the financial performance of the life insurance industry of an emerging economy. The study delved into the major determinants of the profitability of the life insurance industry of Ghana. It also examined the relationship among the three measures of insurers' profitability, which are investment income, underwriting profit and the overall (total) net profit. A panel regression using the annual financial statements of ten life insurance companies covering a period of 11 years (2000-2010) indicated that whereas gross written premiums have a positive relationship with insurers' sales profitability, its relationship with investment income is a negative one. Also, the results showed that life insurers have been incurring large underwriting losses due to overtrading and price undercutting. The results further revealed a setting-off rather than a complementary relationship between underwriting profit and investment income towards the enhancement of the overall profitability of life insurers.

The aim of this sub-section is to highlight some empirical literature of factors explaining the growth of the life insurance industry.

2.3.1 Premium

The efficient operation of life companies require considerable economies of scale generated by business volume. Without growth, the insurer may not garner the business volume necessary to ensure collective pooling of insurance risks (Greene & Segal, 2004). Under the law of large numbers upon which the insurance operation relies the profitability of a life insurance company is critically dependent on its operating and financial activities. Operating activities consists of insurance operations such as selling new policies and servicing existing policies while financial activity consists of investing the policies' premiums (Greene & Segal, 2004).

Most studies on the life insurance industry use premium income as output measure. Hirschhorn and Geehan (1977) view the production of contracts as the main activity of a life insurance company since premiums collected directly concern the technical activity of an insurance company. The ability of an insurance company to market products, to select clients and to accept risks are reflected by premiums (Bikker & Leuvensteijn, 2008).

2.3.2 Company size

Hardwick (1997) suggested that large insurers are likely to perform better than small insurers because they can achieve operating cost efficiencies through increasing output and economizing on the unit cost of innovations in products and process development. Large corporate size also enables insurers to effectively diversify their assumed risks and respond more quickly to changes in market conditions (Adams & Buckle, 2003).

The concept of cost inefficiency can refer either to unexploited economies of scale or diseconomies of scale in an industry, or to the existence of technical or allocative inefficiency. A firm with unexploited economies of scale could reduce average cost by increasing the scale of its operations, but doing so may be difficult as scale inefficiency puts the firm at a competitive disadvantage that may hinder growth (Hardwick & Adams, 2002).

2.3.3 Income Level

Income is a central variable in insurance demand models. Income (measured by per capita income) has a positive and significant effect on life insurance premiums. Beck and Webb (2003) argue that, life insurance should generally prove more attractive to the middle classes, but in lower income countries life products may still be unaffordable to the middle classes. Campbell (1980), Lewis (1989), Beenstock et al. (1986), Truett and Truett (1990), Browne and Kim (1993), and Outreville (1996) have all shown that the demand for life insurance is positively related to income, using both aggregate national account data and individual household data.

2.3.4 Inflation

Life insurance is categorized under the financial services industry. The growth of the financial services industry is contingent on its demand.

One of the premier studies on the effect that inflation has on the purchase of life insurance is by Greene (1954) and he concludes that purchasing life insurance provides many advantages but does not provide protection against inflation. However, studies by Fortune (1972), Babbel (1981) and Williams (1986) find a link between the purchase of life insurance and annuities and inflation.

Fortune (1972) finds a positive relationship between demand for life insurance and expected price levels implying that life insurance sales rise with prices. Babbel (1981) examined data from Brazil and concluded that inflation is inversely related to life insurance demand. Williams (1986) also found that high interest rates, along with other factors cause a decline in the demand for life annuities

2.3.5 Interest Rate

The effect of higher real interest rates on life premiums is ambiguous. Beck and Webb (2003) argue that higher real interest rates would increase the investment return of providers which would be able to offer more attractive returns to consumers. Rocha and Thorburn (2007) and Rocha et al (2008) in a detailed study of the Chilean annuities market show that an increase in real interest rates has a positive effect on real annuity rates, but an ambiguous effect on the number of new annuity policies and the annuity premium (a large component of the overall life insurance premium in Chile). Browne and Kim (2003) neglect this variable, Beck and Webb (2003) find a positive and significant effect while Outreville (1996) does not find a significant effect.

Santomero and Babbel (1997) observed that in the US, the managers of many life insurers have not accurately predicted economic shocks (e.g., adverse interest rate movements) and that this has adversely affected both corporate profitability and the pace of product-market development. This observation suggests that if future economic shocks are largely unpredictable, corporate growth rates in the life insurance industry are also likely to be unpredictable.

Also, high market interest rates likely result in greater disintermediation for life-health insurers in the form of policy loans (Carson & Hoyt, 1992) and guaranteed investment contract withdrawals (Carson & Scott, 1996).

2.3.6 Size of the Population

The size of the population should have a positive effect on the demand for life insurance. For given levels of per capita income and other relevant variables, a larger population not only implies a larger clientele for insurance companies, but also larger risk pools, which reduce risks for insurers and allow them to reduce fees per dollar of coverage. Population density should also have a positive effect on life insurance, by reducing marketing and distribution costs and the price of insurance (Feyen et al, 2011).

Outreville (1996) tests the effect of the share of the urban population, which should be correlated with population density, and finds that the effect is not significant.

2.3.7 Dependency ratio

A high dependency ratio indicates the extent to which the population is too young to consider saving for retirement, and therefore reduced demand for savings through life insurance products (Beck and Webb, 2002). Beenstock et al (1986), and Browne and Kim (1993) find that the dependency ratio is positively correlated with life insurance penetration. A higher ratio of old dependents to working population is assumed to increase the demand for both the mortality and the savings component of life insurance policies (Beck & Webb, 2002).

2.3.8 Life expectancies

Life expectancy indicates the number of years a newborn infant would live if prevailing patterns of mortality at the time of its birth were to stay the same throughout its life. Beenstock, Dickinson and Khajuria (1986), and Outreville (1996) have found life expectancy positively related to Life Insurance Penetration.

2.3.9 Education

The level of a person's education may determine his/her ability to understand the benefits of risk management and savings (Beck & Webb, 2002). Education should increase the demand for life insurance, not only because it increases the level of awareness of the relevant risks and the degree of risk aversion, but also because it increases the period of dependency (Feyen et al, 2011). Li et al (2007) find a positive and significant effect.

Truett and Truett (1990) and Browne and Kim (1993) find a positive relationship between life insurance consumption and the level of education.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

The main purpose of this study is to establish how some selected factors affect the growth of life insurance firms in Ghana using a panel data from 2007-2012. This chapter therefore presents the methodology used in conducting the study. It focuses mainly on the model specification, justification of the variables, data sources and estimation and testing procedure.

3.2 Data Sources

The data for this study was gathered from industry reports, published financial statements of life insurance companies in Ghana, NIC Annual reports and government statistical reports. The population of the study comprises all life insurance companies in existence and operating in Ghana. The sample considered in this study is all life insurance companies existing and operating in Ghana during the period from 2007 to 2012 and who have published annual financial reports pertaining to the period.

3.3 Panel Data Methodology

Panel data methodology is an important method of longitudinal data analysis. A panel data set contains repeated observations over the same units (such as individuals, households, firms), collected over a number of periods. The availability of repeated observations on the same units allows the specification and estimation of more complicated and more realistic models than a single cross-section or a single time series would do (Verbeek, 2004).

Panel data is the most suitable tool when the sample comprises cross-sectional and time-series data. An important advantage of panel data compared to time series or cross-sectional datasets is that it allows identification of certain parameters or questions, without the need to make restrictive assumptions.

A second advantage of the availability of panel data is that it reduces identification problems. In many cases it involves identification in the presence of endogenous regressors or measurement error, robustness to omitted variables and the identification of individual dynamics. The use of panel data also brings up another set of advantages in the estimation, namely the better identification and measure of those effects which are not observable either with cross-sectional or time-series analysis (Hsiao, 1986). Omitted variable bias arises if a variable that is correlated with the included variables is excluded from the model. Panel data can reduce the effects of omitted variable bias, or – in other words – estimators from a panel data set may be more robust to an incomplete model specification.

According to Nijman and Verbeek (1990), when exogenous variables are included in the model and one is interested in the parameters which measure the effects of these variables, a panel data set will typically yield more efficient estimators than a series of cross-sections with the same number of observations.

Baltagi (2005) also explains that panel data involves the pooling of observations on a cross-section of units over several time periods and provides results that are simply not detectable in pure cross-sections or pure time-series studies. He argues that panel data is more useful than either cross-section or time-series data alone due to the following reasons; Panel data provides more informative data, more variability, less collinearity among variables, more degrees of

freedom and more efficiency, it controls for individual heterogeneity due to hidden factors, better ability to study dynamics of adjustments and enable researchers to construct and test more complicated behavioral models than cross-section or time-series data.

This study is purely quantitative in nature and employs the panel data methodology because of the potential it has in effectively addressing the objectives of the study.

3.4 Model Specification

The theoretical and empirical literature has identified a vector of variables that influence the growth of life insurance business in Ghana such as premium, firm size, firm age, profit, inflation, interest rate, population size, dependency ratio, etc

The estimation model used in this study is inspired by Akotey et al. (2013). Their empirical model is shown below;

$$Y_{it} = \beta_0 + \sum_{m=1}^m \beta_m L_{it} + \sum_{r=1}^r \alpha_r LI_t + \sum_{c=1}^c \phi_c MF_t + \mu_{it}$$

where Y_{it} is a dependent variable and it measures the profitability ratios of technical activity and investment activity for an insurer i at time t . The first set of the explanatory variables L_{it} is the m -th root of life insurers' specific characteristics of insurer i at time t , while the second set of explanatory variables LI_t is an industry characteristic of the life business at time t . MF_t is an independent variable and a measure of the impact of macroeconomic factors on insurers' profitability.

In their model, three measures of profitability were used to investigate the determinants of life insurers' profitability. The three measures used were;

1. sales profitability (SAP) which they explained to measure the overall profitability of an insurer in relation to gross premiums written by a company,
2. profitability of investment activities (INP), which evaluates the effectiveness of the investment portfolio of insurers.
3. underwriting profit (UWP), that is the profit from the technical operations of an insurer.

The specification of the model given the three different measures is shown below;

$$SAP_{it} = \beta_0 + \beta_1 GWP_{it} + \beta_2 MGE_{it} + \beta_3 CLM_{it} + \beta_4 REI_{it} + \beta_5 LEV_{it} + \beta_6 SIZ_{it} + \beta_7 INR_t + \beta_8 GDP_t + \mu_t$$

$$INP_{it} = \beta_0 + \beta_1 GWP_{it} + \beta_2 MGE_{it} + \beta_3 CLM_{it} + \beta_4 LEV_{it} + \beta_5 SIZ_{it} + \beta_6 INR_t + \beta_7 GDP_t + \mu_t$$

$$UWP_{it} = \beta_0 + \beta_1 GWP_{it} + \beta_2 MGE_{it} + \beta_3 CLM_{it} + \beta_4 LEV_{it} + \beta_5 SIZ_{it} + \beta_6 INR_t + \beta_7 GDP_t + \mu_t$$

The variables used are defined as follows;

- SAP_{it} - Profit before tax of firm i divided by total assets at time t
- INP_{it} - Investment income of company i at time t
- UWP_{it}- Underwriting profit of company i at time t
- GWP_{it}- Gross written premiums, which was taken as the Natural logarithm of gross premiums written by insurer i at time t
- CLM_{it} - Claims, which was taken as Natural logarithm of total claims of company i at time t
- MGE_{it}- Expenses on management which was taken as the Natural logarithm of expenditure on managers of company i at time t
- REI_{it} - Reinsurance which is the total of gross premiums transferred by company i at time t to are insurance company

- LEV_{it} - Total debts of company i at time t
- SIZ_{it} - Size of company i Total assets of company i at time t
- INR_t - Interest rate that is the rate of the one-year treasury security of Bank of Ghana
- GDP_t - Gross domestic product (GDP) growth rate at time t

In this study however, the dependent variable used to measure growth of an insurer is proxied by Gross premiums while the independent variables used are the size of the insurance company, age of the insurance company, incentives to marketers, operational and management expenses, net profit, investment income, interest rate, inflation and gross domestic product. Though it makes use of some of the variables from Akotey et al. (2013), it has incorporated some additional variables to help ascertain their impact on the growth of life insurance companies.

The study therefore estimated the panel regression model below:

$$PREM_{it} = \beta_0 + \beta_1 Size_{it} + \beta_2 Age_{it} + \beta_3 Comm_{it} + \beta_4 Exp_{it} + \beta_5 Pr_{it} + \beta_6 Inv_{it} + \beta_7 Intr_t + \beta_8 Inf_t + GDP_t + \mu_{it}$$

where $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \beta_8, \beta_9$, are the coefficients of the respective independent variables.

The variables included in the study were measured according to the definitions given below;

- Company growth(*PREM*) - Gross premiums of company i at time t
- Company size(*Size*) - Total assets of company i at time t
- Company age (*Age*) - Age of company i at time t
- Incentives to marketers (*Comm*) - Total commissions paid by company i at time t
- Expense (*Exp*) - Operational and management expenses of company i at time t
- Profitability(*Pr*) - Net profit after tax of company i at time t

Investments (<i>Inv</i>)	-	Investment income of company <i>i</i> at time <i>t</i>
Interest rate (<i>Intr</i>)	-	One year treasury rate at time <i>t</i>
Inflation rate (<i>Inf</i>)	-	Inflation rate at time <i>t</i>
Gross Domestic Product (<i>GDP</i>)	-	Gross domestic product (GDP) growth rate at time <i>t</i>
Error term (μ_{it})	-	The idiosyncratic error term

3.5 Definition and Justification of the variables

3.5.1 Gross premiums

The dependent variable in this study is gross written premium, and is used as a proxy for the growth of an insurance company.

The amount of money charged by an insurance company (insurer) for coverage is known as premium. When an insurance policy is sold, premium is paid by the insured party to the insurer. A major feature of life insurance is its long-term character, often continuing for decades. Therefore, policyholders need to trust their life insurance company, making insurers very sensitive to their reputation.

Life insurers need large reserves to cover their calculated insurance liabilities. These reserves are financed by – annual or single –insurance premiums. Premium income has been used as a proxy for the risk-bearing and real insurance services output in many insurance efficiency studies such as those by Houston and Simon (1970), Fecher et al(1993), Gardner and Grace (1993), Grace and Timme (1992), Rai (1996), Donni and Fecher (1997), Hardwick (1997), Kim (2002) and Boonyasia, Grace, and Skipper (2004).

3.5.2 Size

Size is an explanatory variable and is defined by the total assets of a company. A company with more assets is expected to experience increased sales thus translating into increased premiums. An increase in total assets such as establishing more branches and buying more vehicles for marketing activities will help to generate more premiums.

Larger institutions are believed to have more profitable investment opportunities, higher efficiency, more diversification and a lower risk level than smaller ones. Boyd and Runkle (1993), with reference to the theory of modern intermediation which states that larger firms are more cost efficient and less likely to fail, suggested that being bigger proffers an advantage in reducing pooled risks through a large number of contracting parties, thereby reducing the possibility of failure. Hardwick (1997) and Adams and Buckle (2003) also suggested that large insurers are more likely to outperform smaller insurers since they are able to achieve operating cost efficiencies and also diversify their assumed risks and thus respond more quickly to market conditions. Their findings suggest an inverse relationship between firm size and asset return volatility. Consistently Wyn (1998) and Tuan, Lee and Hishamuddin (2013) reports firms larger in size can enjoy economies of scale and scope, and also pass an important criterion to enable them to compete globally thereby reducing the possibility of failure. Lu (2011) extended the study on size and risk taking beyond commercial banks to include investment banks and insurance firms. This study, conducted from 1998 to 2008, concluded that size and risk taking are positively related. However, company size is not found to be an important determinant of operational performance in the Bermuda insurance market during the period 1993-1997 (Adams & Buckle, 2000).

3.5.3 Age

Age is also used in the model as an explanatory variable. It is a binary variable which takes the value of 1 if the insurance company has been in operations for more than 10 years and 0 if the insurance company has been in operation for less than 10 years.

Most studies suggest a negative correlation between firm age and firm growth. Evans (1987) found that firm growth decreases with firm age in line with Jovanovic's (1982) theory of firm growth in which firms uncover their true efficiencies over time with a Bayesian learning process. Jovanovic's theory implies that firm growth is independent of firm size for mature firms or for firms that entered the industry at the same time under certain assumptions concerning technology and the distribution of ability. Ericson and Pakes (1995), Das, (1995), Farinas and Moreno (2000), Harhoff et al.(1998) and Steil and Wolf(1999) also confirm this negative association.

3.5.4 Commissions

In recent years, life insurers have diversified their business into selling investment-linked products that compete directly with other financial intermediaries such as banks and mutual funds (Klumpes, 2004). A distinguishing characteristic of such products is that they involve a “spread” between the rate or return earned by the intermediary and that declared to the individual investor, reflecting the costs of their professional reputation and marketing efforts. By contrast, informationally competitive financial markets sell primary securities at a discount to their underlying net asset value (Klumpes, 2004). The implication of this statement is that if interest earned on premiums invested is not high enough to compensate for expenses incurred on intermediaries (sales agents) then, life insurance products will not be competitive enough with other financial institutions and demand for services will be low.

Also, life insurance companies which are expanding rapidly are especially likely to show high costs because of accounting practices and commission payment arrangements (Houston & Simon, 1970). In an assertion by Novy-Marx (2013), he states that, “If the firm is quickly increasing its sales through aggressive advertising, or commissions to its sales force, these actions can, even if optimal, reduce its bottom line income below that of its less profitable competitors.

Insurance sales agents in their attempts to sell more in order to get higher commissions sometimes do not undertake proper due diligence of prospective policyholders (Giesbert & Steiner, 2011).

We expect life insurers to focus their attention on direct sales to increase their premiums rather than focusing on sales agents. Also since most of the policies on the market have a savings component it is not prudent to burden policy holders with extra cost of commissions which will reduce the value of future claims paid to them.

3.5.5 Management and operational expenses

Penrose (1959) advanced the famous “managerial limits to growth” hypothesis in her classic study on firm growth. This argument starts from the premise that management is a team effort in which individuals deploy specialized, functional skills as well as highly team-specific skills that enable them to coordinate their many activities in a coherent manner. As a firm expands, it needs to recruit new managers and must divert at least some existing managers from their current operational responsibilities to help manage the expansion of the management team. This places a constraint on the firm’s growth process.

An inverse relationship between gross premium and management and operational expenses is a sign of management efficiency in managing its costs.

3.5.6 Profit

Baumol (1959) postulated that firms maximize sales subject to the constraint that profits satisfy their shareholders and the company's plowback policy.

According to Buyinza et al. (2010), profit is the essential pre-requisite for the survival, growth and competitiveness of insurance firms and the cheapest source of funds. Without this, no insurer can attract outside capital. Not only does profit improve upon insurer's solvency state, but it also plays an essential role in persuading policyholders and shareholders to supply funds to insurance firms.

Whittington (1980) made a statement in his article that, higher profits provide both the means (greater availability of finance from retained profits or from the capital market) and the incentive (a high rate of return) for new investment. Geroski et al. (1997) in their UK study did not find evidence of a trade off between profit maximization and firm growth and conclude that a positive association between average-period profitability and firm growth over the long-term exists.

3.5.7 Investment Income

Premiums are invested mainly on the capital market. Life insurers depend on income from investments to make profits. The major risk of life insurers concerns mismatches between liabilities and assets. The profits gained from the capital market are sometimes used to offset the interest paid on the investment policies due to the fact that most of the life insurance companies make underwriting losses from their operations. We expect a positive relationship between gross premium and investment income. An inverse relationship may be an indication of the poor quality and inadequacy of the investments made. It can also be as a result of low volume of investments as a result of allocating just a smaller proportion of premiums collected for

investment. Some of the reasons for this might be a deviation from prices established by actuaries of the individual companies in order to beat competition in the industry. This term is described as price undercutting.

According to BarNiv and Hershberger (1990) life insurers need absolute and relative gain (including investment yield) in order to remain solvent.

3.5.8 Interest Rate

Most of the life products on the Ghanaian insurance market have savings and investment components. As such one major item that affects the performance and growth of a life insurance company is interest rate fluctuations. Life insurers invest much of the collected premiums, so the income generated through investing activities is highly dependent on interest rates. Declining interest rates usually equate to slower investment income growth. Prospective policyholders will be encouraged to subscribe to life policies they are offered attractive interest rates. Cummins (1973) and Outreville (1990) suggested that higher interest rates are likely to be related to policy surrenders. This is most likely because more policyholders will prefer to save their money with banks and other investment firms rather than insurance.

3.5.9 Inflation rate

Inflation rate is defined as an increase in the general price level of goods and services in an economy over a period of time or the rate at which the general level of prices for goods and services is rising, and, subsequently, purchasing power is falling. As inflation rises, every cedi will buy a smaller percentage of a good. Inflation rate is a macroeconomic instability measured by the Consumer Price Index (CPI). In this study, inflation rate is measured by the consumer price index at time t . Neumann (1969) argues that there is no relationship between the demand

for insurance and expected prices, however, Hofflander and Duvall (1967), Fortune (1972), Babbel (1981) and Williams (1986) find a link between the purchase of life insurance and annuities and inflation.

3.5.10 Gross Domestic Product

The gross domestic product (GDP) is one the primary indicators used to gauge the health of a country's economy. It represents the total cedi value of all goods and services produced over a specific time period. GDP represents economic production and growth which has a large impact on nearly everyone within the economy.

CHAPTER FOUR

DATA PRESENTATION AND DISCUSSION OF FINDINGS

4.1 Introduction

The main purpose of this chapter is to present the results of the analysed data by employing the model outlined in chapter three. Section 4.2 presents the descriptive statistics of the variables used in the study. Section 4.3 presents the various preliminary tests conducted on the data. The regression results is also presented in section 4.4 followed by the discussions on the various findings.

4.2 Descriptive Statistics of the Variables

In this section, the study examined the descriptive statistics for both the explanatory and dependent variables. Descriptive statistics summarizes the information in a data set by revealing the average indicators of the variables used in a study and presents that information in a convenient way (McClave et al., 2000). Each of my variables is examined based on the mean, standard deviation, minimum and maximum values. The summary statistics of the explanatory and dependent variables are presented in Table 4.1 below.

Table 4.1 Descriptive Statistics of the Variables

Variable	Obs	Mean	Std. Dev.	Min	Max
Prem	83	12,600,000	19,000,000	0	100,000,000
Size	83	24,500,000	34,300,000	634,928	185,000,000
Age	83	0.8674699	0.341127	0	1
Comm	75	1,670,833	3,902,796	0	19,100,000
Exp	76	3,105,397	3,417,521	130,677	18,400,000
Pr	79	1,000,649	3,923,189	-4,118,000	22,800,000
Inv	68	2,213,360	3,299,119	13,930	18,000,000
Intr	83	16.65301	4.603375	11.3	22.9
Inf	83	335.8194	83.68268	218.72	489.84
GDP	83	3.279759	1.842587	-0.38	5.35

Source: Results were generated from STATA

The descriptive statistics in Table 4.1 shows that over the period under study, the Gross Premiums (Prem) recorded averaged GH¢12,600,000 with Total assets (Size) employed also averaging GH¢324,500,000. The average Commission (Comm) paid out and Operational and Management expenses (Exp) were GH¢1,670,833 and GH¢3,105,397 respectively while the averages of Net Profit (Pr), Investment Income (Inv), Interest rate (Intr), Inflation (Inf) and Gross

Domestic Product (GDP) were also GH¢1,000,649, GH¢2,213,360, 16.65%, 335.82 and 3.28 respectively.

From the above statistics, we realized that averagely, life insurers needs to employ at least double what it targets to generate as premiums in assets in order to achieve its set targets. It is necessary for life insurers to have in place the necessary assets in terms of property, vehicles and other machinery to facilitate the growth of their business.

Also, despite the fact that average premium generated is GH¢12,600,000 average net profit realized is GH¢1,000,649 which is only about 8% of premium generated. This may be largely attributed to the fact that the portfolio of many life insurers in Ghana largely constitute of investment linked policies. For such policies, policyholders are required to make funds available upon the survival of policyholders to the maturity of their contract or upon the death of policyholders within the period of their cover. As such much of the premium collected must be set aside to meet these obligations.

The sum of the average figures for Operating and management expenses and Commissions is about 40% of Average Gross Premiums generated. Thus, we can infer from this that life insurers' expenses are on the high side. It is advisable that they maintain low expense levels especially due to the nature of the policies they sell most.

The percentage of average net profit to average gross premium is 7.94%. Hence, life insurers need to sell more of their policies to earn a reasonable level of profits. There is also a huge variation in net profit/loss judging from the standard deviation of GH¢3,923,189 which implies that though some life insurers are performing relatively well others are not.

The percentage of average investment income to gross premium is 17.57% which is relatively close to average interest rate of 16.65%. Life insurers invest in risk free assets which are also low in returns.

The minimum and maximum values for Gross premium is 0 and GH¢100,000,000 and for Commissions paid out is 0 and GH¢19,100,000. This is because during the period of the study, new insurance companies entered the industry hence no premium was recorded in their first year of operation. This also explains the huge variation in assets of GH¢34,300,000 since some companies were in the setting up stage of operations.

4.3 The Hausman Specification Test

There are three general methods of estimating panel data namely, first difference, fixed effect and random effect models (Wooldridge, 2002). For the analysis of panel regression, a Hausman test at 5 percent confidence level is usually used to select either fixed or random effects. The random effect is used if the p-value ($\text{prob} > \chi^2$) is greater than 0.05, otherwise the fixed effect becomes the ideal model for the empirical analysis (Torres-Reyna, 2007).

Based on the Hausman test results the random effect was used to estimate the parameters of the model. The assumptions of the random effect model are as follows;

- Random Sample
- No perfect linear correlations
- No endogeneity
- Homoskedasticity
- No correlation between the error terms and the explanatory variables

4.4 Regression Results

Regression analysis is used to investigate the influence of the selected explanatory variables on the Gross Premiums of life insurance companies in Ghana. The random effects regression results are presented in table 4.2 below and discussed thereof.

Table 4.2 Random Effects Regression Results

Dependent Var.	Coef.	Std. Err.	z	P> z 	[95% Conf.	Interval]
Size	0.294169	0.046307	6.35	0*	0.203409	0.3849295
Age	-2178110	1815487	-1.2	0.23	-5736399	1380179
Comm	-0.29348	0.242679	-1.21	0.227	-0.769121	0.182164
Exp	1.537225	0.392168	3.92	0*	0.7685901	2.305861
Pr	0.691339	0.248766	2.78	0.005*	0.2037675	1.178911
Inv	1.192047	0.290904	4.1	0*	0.6218869	1.762208
Intr	-176863	155227.7	-1.14	0.255	-481104	127377.3
Inf	-6611.9	7185.003	-0.92	0.357	-20694.25	7470.443
GDP	-214974	370038.3	-0.58	0.561	-940235.7	510287.7
_cons	5946258	4059618	1.46	0.143	-2010447	1.39E+07

Note: The asterisk *, indicate significance at 5% level.

R- Squared within = 0.9252, Wald chi2(9) = 1817.27

Source: Results were generated from STATA

The R^2 measures the extent to which the explanatory variables explain the variations in the dependent variables. From table 4.2 above, the results indicate that the explanatory variables explained 92.52% of the variations in the Gross premiums of life insurance companies in Ghana

within the period under study. The remaining 7.48% of the variation in Gross premiums was not explained by the independent variables of the study.

4.5 Assumptions Check

Regression assumptions checked included heteroskedasticity, autocorrelation, and normality of the error term.

4.5.1 Heteroskedasticity

Breusch-Pagan / Cook-Weisberg test the null hypothesis that the error variances are all equal versus the alternative that the error variances are a multiplicative function of one or more variables. The test results in Table 4.3 below show that the standard errors suffer from heteroskedasticity.

4.5.2 Autocorrelation

Serial correlation in linear panel-data models biases the standard errors and causes the results to be less efficient, therefore it is very important to identify serial correlation in the idiosyncratic error term in a panel-data model. The study employed the tests for serial correlation in panel-data models proposed by Wooldridge (2002) because it requires relatively few assumptions and is easy to implement. From table 4.3 below, it can be seen that the p-value is significant at 5% significant level therefore, reject the null hypothesis that there is no first-order autocorrelation. However, the random effects model assumes no correlation between the error terms and the explanatory variables.

Table 4.3 Diagnostic Test Results

Test	Test Statistic	p-Value
Breusch-Pagan/Cook – Weisberg test for Heteroskedasticity	Chi2(1) = 43.30	Prob>chi2 = 0.0
Wooldridge test for autocorrelation	F(1, 6) = 114.98	Prob> F =0.000

Source: Results were generated from STATA

4.5.3 Normality Test

The Shapiro–Wilk test utilizes the null hypothesis principle to check whether a sample came from a normally distributed population. The null-hypothesis of this test is that the population is normally distributed. From table 4.4, the Shapiro Wilk W test shows that the variables are normally distributed.

Table 4.4: Shapiro Wilk W test for Normality

Variable	z	Prob>z
Prem	7.031	0
Size	6.794	0
Age	4.711	0
Com	7.855	0
Exp	6.002	0
Pr	7.277	0
Inv	6.672	0
Intr	4.532	0
Inf	2.979	0.00145
GDP	4.505	0

From table 4.3, the Breusch-Pagan test confirms that the standard errors suffer from heteroskedasticity and the presence of first order autocorrelation by Wooldridge test hence robust standard errors were applied throughout the analysis. This is in accordance with White (1980), Verbeek (2009) and Wooldridge (2009).

Table 4.5 below shows the correlation between the various variables in the model. Correlation among the dependent variables leads to multicollinearity which produces unreliable estimates through large variance in the beta estimates (Wooldridge 2009). Brooks (2003) argues that one of the four possible ways of dealing with multicollinearity is to ignore it whiles Woodridge (2009) posits that most analysis should not consider it.

Table 4.5: Pearson's Correlation Coefficient of Variables

	Prem	Size	Age	Comm	Exp	Pr	Inv	Intr	Inf	GDP
Prem	1									
Size	0.9733 (0)	1								
Age	0.251 (0.0221)	0.252 (0.0215)	1							
Comm	0.6727 (0)	0.6659 (0)	0.1439 (0.2181)	1						
Exp	0.9362 (0)	0.9329 (0)	0.2723 (0.0173)	0.5827 (0)	1					
Pr	0.7085 (0)	0.6647 (0)	0.1566 (0.1682)	0.8643 (0)	0.5755 (0)	1				
Inv	0.8691 (0)	0.8344 (0)	0.1934 (0.114)	0.6066 (0)	0.7777 (0)	0.6837 (0)	1			
Intr	0.0552 (0.6201)	0.0843 (0.4486)	-0.0366 (0.7423)	0.057 (0.6273)	0.0253 (0.8284)	0.0989 (0.3856)	0.169 (0.1683)	1		
Inf	0.3261 (0.0026)	0.3413 (0.0016)	-0.1536 (0.1657)	0.2962 (0.0099)	0.3511 (0.0019)	0.2376 (0.035)	0.3718 (0.0018)	0.2918 (0.0074)	1	
GDP	0.0468 (0.6744)	0.0397 (0.7216)	-0.0156 (0.8889)	0.0333 (0.7769)	0.0472 (0.6857)	0.0125 (0.9132)	-0.0478 (0.6985)	-0.6403 (0)	0.0414 (0.7102)	1

The findings of the study show that there is a significant relationship between Total assets, Operational and Management expenses, Net Profit and Investment Income with Gross Premium.

Total Assets and Life Insurers' Growth

There is a strong positive relationship between total assets of a life insurer and its gross premiums generated. Life insurers can increase their production by establishing more branches to increase their distribution channels, buy more vehicles to enhance marketing operations as well as better equipments and technology for prompt and accurate underwriting of businesses acquired. Hence, the greater the assets of a life insurer the more premiums it is able to generate. This finding is consistent with that of Boyd and Runkle (1993) who claimed that larger firms are more cost efficient and less likely to fail. Hardwick (1997), Wyn (1998), Adams and Buckle (2003) and Tuan et al (2013) also confirm this in their own study.

Age of a life Insurer and its Growth

There exists a positive relationship between the age of a life insurance company and the gross premium it generates as well as its size. This is in contradiction to several previous studies. Evans (1987) found that firm growth decreases with firm age in line with Jovanovic's (1982) theory of firm growth. Ericson and Pakes (1995), Das, (1995), Harhoff et al.(1998) and Steil and Wolf (1999) and Farinas and Moreno (2000) also confirm this negative association between firm growth and firm age.

However, the results of my study suggest that during the period of the study most of the older life insurers outperformed the newer companies in terms of premium generation. Also, older companies were much bigger than the younger companies in terms of the ownership of assets.

Commissions and Life Insurers' Growth

The regression results show a positive relationship between Commissions and premium as well as Commissions and Size measured by total assets. As commissions paid to marketers increases, they are motivated to sell more policies and hence premium generated also increase. With this increased premiums management is in a better position to acquire more assets for the companies.

According to Houston and Simon (1970), life insurance companies which are expanding rapidly are especially likely to show high costs because of accounting practices and commission payment arrangements.

Novy-Marx (2013) however has a contrary opinion. He stated that if a firm is quickly increasing its sales through aggressive advertising, or commissions to its sales force, these actions can, even if optimal, reduce its bottom line income below that of its less profitable competitors. Since commission is an expense to life insurers I would advise that it is kept at the barest minimum.

Operational and Management Expenses and Life Insurers' Growth

There exists a strong positive relationship between Operational and Management Expenses and Gross Premiums. This means that an increase in operational and management expenses has a direct influence on the gross premiums that will be generated.

According to Penrose (1959), an inverse relationship between gross premium and management and operational expenses is a sign of management efficiency in managing its costs. Therefore, the positive relationship suggests the inefficiency of managers of life insurance companies in managing its costs.

The regression results also show a positive relationship between operational and management expenses and total assets and commissions.

Net profit and Life Insurers' Growth

For the survival and growth of any firm, it is essential for them to make profits. Therefore as profits increases, the firm also grows. Growth in premiums improves the profitability of the core operations of insurers and their overall profitability. The findings indicate a positive relationship between Net profit and Gross Premium. This findings is similar to that of Baumol (1959), Hrechaniuk et al. (2007), Agiobenebo and Ezirim (2002), and Buyinza et al. (2010).

Geroski et al. (1997) also did not find evidence of a trade off between profit maximization and firm growth and conclude that a positive association between average-period profitability and firm growth over the long-term exists.

Prospective buyers of insurance have more confidence in companies that are making profits from their operations and are most likely to purchase insurance from such companies.

There also exists a positive relationship between Net Profits and Total Assets, Commission and Operational and Management Expenses. As a company realizes more profits, it is able to acquire more assets and also provide better remuneration to marketers in the form of increased commission.

In terms of Operational and Management Expenses, Jensen (1986) theory of free cash flow argues that free cash flow tempts managers to expand the scope of operations and the size of the firm, thus increasing managers' control and personal remuneration, by investing free resources in projects that have zero or negative net present values.

Wells, et al. (1995) also claim that expenditures wasted by management could instead have been distributed to the owners of stock insurers as cash dividends or to the policyholders of mutual or stock firms in the form of lower premiums, higher policy dividends, or higher investment return.

Investment Income and Life Insurers' Growth

According to BarNiv and Hershbarger (1990) life insurers need absolute and relative gain (including investment yield) in order to remain solvent. From our regression results, investment income has a significant positive relationship with gross premium.

An inverse relationship would have been an indication of the poor quality and inadequacy of the investments made. Hence, we infer that part of the premiums collected is allocated to investment. This is likely due to the fact more of the policies sold in our Ghanaian life insurance industry are investment linked and a larger proportion of the premiums are required to be invested.

Investment Income also has a positive relationship with total assets, commissions paid and net profit. As investment income increases life insurers' total assets, paid and net profit also increases.

Inflation and Life Insurers' Growth

Inflation has a positive relationship with gross premium though the relationship is a weak one. This confirms to the findings of Fortune (1972) who also found a positive relationship between demand for life insurance and expected price levels implying that life insurance sales rise with prices. Babbel (1981) on the other hand, however found out that inflation is inversely related to life insurance demand on examining data from Brazil.

The regression results also found a weak positive relationship between inflation and total assets, commissions, operational and management expenses, net profit, investment income and interest.

GDP and Life Insurers' Growth

There exists a positive relationship between GDP and gross premiums though the relationship is insignificant.

From the results of the regression, GDP has a strong positive relationship with interest rates in line with Obamuyi (2009). He established that lending rates have significant effects on GDP and that this implies that there exists a unique long run relationship between GDP growth and interest rates and that the relationship is negative. In effect, this means when interest rate reduces, GDP in the short run will increase, but when interest rate declines GDP will increase.

According to Agalega and Antwi (2013) if inflation is rising the central bank raises the interest rate, meaning that the cost of borrowing increases so the amount of money borrowed by individuals and companies decreases which in turn decreases the amount of money in the economy (money supply) resulting in low economic output and for that matter GDP.

CHAPTER FIVE

SUMMARY, CONCLUSION AND POLICY IMPLICATIONS

5.1 Introduction

In concluding the study on the factors influencing the growth of life insurance companies in Ghana, this chapter presents the summary of the study, its conclusions from the findings and finally the recommendations for the Ghanaian insurance regulatory body, policy makers and the practicing insurance professionals.

5.2 Summary

The growth of life insurance business is very important in every economy since it provides individuals, families and the economy as a whole with a number of important financial services. The main aim of the study was to use panel regression model to investigate whether gross premium can be estimated based on some selected explanatory variables for life insurance firms in Ghana. Chapter 1 provided the introduction to the study and specified the need for the study. The aims and objectives of this study are clearly stated in there. To achieve the study objectives, a review of literature was also conducted in Chapter 2.

Chapter 3 focused on the model specification, justification of the variables, data sources and estimation and testing procedure.

Using information on life insurance companies in Ghana from 2007 through 2012, information on life insurers' gross written premium, total assets, age of the business, total commissions earned by their marketers, operational and management expenses, net profit and investment income were taken from annual reports submitted to the NIC by the insurance companies; and on the other hand information on

macroeconomic variables such as interest rate, inflation and real GDP growth rate were taken from the Bank of Ghana.

Chapter 4 presents the descriptive statistics of the variable used in the study. It also shows the various preliminary tests including test for normality, heteroskedasticity, test for autocorrelation and the Hausman specification test for fixed or random effect. The random effect regression model was fitted with gross premium as the dependent variable and total assets, age of the business, total commissions earned by their marketers, operational and management expenses, net profit, investment income, inflation, interest rate and real GDP growth rate as the independent variables.

The results indicated that total assets, age of the business, total commissions, operational and management expenses, net profit, investment income, interest rate, inflation and real GDP growth rate is positively related to gross written premiums. However, only total assets, operational and management expenses, net profit and investment income showed a significant relationship with gross written premiums. The study did not find the age of the business, total commissions, interest rate, inflation and real GDP growth rate to be significant in explaining gross premiums.

5.3 Conclusion and Recommendations

From the empirical results, a number of revelations came out. The panel regression results revealed that major determinants of the growth of Ghanaian life insurance companies are a well established organization in terms of its assets base, management of operational and management expenses, incurring of net profits and good investment practices in order to earn reasonable investment income. The result showed that total assets has a significant positive effect on gross premium which is an

indication that life insurers should invest in the acquisition of its assets to ensure that its operations runs smoothly and generates the needed volume of business to sustain and ensure its continuous existence and growth. There was also a positive relationship between the age of an insurance company, in terms of its years in operation and gross premiums which is an indication to younger companies which are currently not experiencing the expected magnitude of business to persevere in their operations. The life the business stays in operation, the more the volume of business generated and hence, the insurer is able to ensure economies of scale as a result of the increase in their clientele.

Commissions paid out of life insurers' marketers also showed a positive relationship with gross premium. Though life insurers' remuneration to their marketers' impact positively on gross premiums, they are to be cautioned to keep it at its barest minimum in order not to affect policyholders' benefits adversely since it is an expense to the insurer who in turn passes this on to its clients.

Operational and management expenses showed a significant positive relationship with gross premiums which is a sign that Ghanaian life insurers are largely inefficient in managing their costs. It is recommended that managers of life insurance companies exercise caution in their operations by keeping costs to the minimum whiles increasing their revenue.

The findings also showed a significant positive relationship between Net profit and gross premium. More profits translates to better conditions of service, better equipments and infrastructure, better service to policyholders as well as more satisfied shareholders which translates into more premium generation.

Investment income showed a significant positive relationship with gross premium which is an indication of good quality and adequacy of investments made. The NIC investment guideline for life insurers is thus achieving its aim and is positively influencing life insurers operations.

Inflation and GDP were also positively related to gross premiums though the relationship was a weak. The findings from this study suggest that the main factors influencing life insurers' growth are firm specific ones.

The following policy recommendations are made based on the findings of this study. Regulatory bodies and policy makers have an interest in promoting the life insurance sector by making it stable and efficient in order to boost customer confidence and also because of the important role life insurance companies' play in the economy. Close supervision of life insurers' operations is highly necessary hence the introduction of quarterly reports by the National Insurance Commission as well as the introduction of a risk based supervision approach is a highly laudable idea. Sanctions and penalties should be enforced on defaulting companies to ensure their compliance with this requirement. This will go a long to ensure the profitably and growth of life companies in the country.

Also, the National Insurance Commission in association with the Ghana Insurers Association should organize regularly seminars and workshops to educate life insurance managers on issues concerning the efficient management of their organizations as well as organize public awareness programmes to educate the general public on the need for insurance an its benefits.

Due to the numerous benefits of life insurance to individuals, families and the economy as a whole, it is recommended that the government passes out laws to make some life insurance contracts compulsory as is the case with most advanced countries. In Nigeria, Section 9 (3) of their Pension Reform Act 2004 (The Act) requires every employer, to which the Act applies, to maintain Life Insurance Policy in favour of their employees for a minimum of three times the annual total emolument of the employee. This act has helped boost the life insurance sector in Nigeria. A similar law will not only help life insurance companies to grow and be more profitable, but also help mitigate, cope and manage the financial impact of risks faced by individuals on a daily basis, thus reducing the burden on the state.

5.4 Further Research Direction

Though the results of the current study shows that 92.52% of the variation in gross premium of Ghanaian life insurers was accounted for by the explanatory variables used in this study, further study can be conducted using information not specific to an insurance firm such as social, demographic and macroeconomic variables to determine their influence on life insurance sales.

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