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FACTORS AFFECTING FINANCIAL PERFORMANCE OF LIFE INSURANCE SECTOR IN PAKISTAN

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ABSTRACT

The purpose of this research is to investigate the factors that affect the financial performance of the life insurance sector in Pakistan. Possible internal and external factors that include liquidity, net premium, and premium growth, underwriting risk, debt to equity, insurance leverage, tangibility, equity capital, capital surplus, Gross Domestic Product (GDP), inflation and market share have been used to assess their effect, whereas sector Return on Assets (ROA) has been used to assess the performance. The data has been gathered from 2008 to 2017 from 09 life insurance companies including 01 public and 08 private life insurance companies. In these observations, there are 02 companies that solely conduct their business on takaful life insurance while others are conventional based or both. Results have been analyzed using panel regression to panel the ordinary least square regression model and the generalized method of the moment is used to estimate the results. The outcome of this study shows that tangibility, market share, net premium, insurance leverage and GDP is insignificantly or negatively related to the financial performance of Pakistani Life Insurance Company, whereas, the other independent variables such as liquidity, underwriting risk, debt to equity, equity capital, capital surplus and inflation are positively and significantly related. This research should support the insurance industry in increasing their premium collecting activities and active participation in the market through increased awareness of life insurance to its beneficiary. The newcomers can also use this research as a beneficial survey for capturing the market. This research may also prove handy for the shareholders/investors and/or also for the insured to find out soundness and solvency of their insurer.

Contribution/ Originality: This study aims to contribute in the existing literature in giving an insight into Pakistan's Life Insurance Business with the objective of finding out the effect of certain selected variables on the financial performance of the insurance sector; thereby helping the insured/insurers and the investors in particular in taking informed investment/business decisions.

1. INTRODUCTION

1.1. Background of the Study

There are still some sectors in Pakistan on which not much research has been conducted. Insurance sector is one of them. Pakistan is having an emerging economy. In past few years, Pakistan's economy has become more attractive towards the foreign investors (except for the last 2 to 3 years in which the country has faced political instability). All sectors are taking and contributing their parts in the economy of Pakistan. In these sectors, Insurance companies are also playing their part in the Gross Domestic Product (GDP) of Pakistan, albeit a smaller one and not as broad based as in other countries of the South Asian region. Pakistan's insurance premium has only raised 7% local and internationally as compared to last year.

The growth in the local insurance sector is relatively slow but up ticking. As in early ages after the era of nationalization of the private sector, there was only one public insurance company "State Life Insurance Corporation (SLIC)" which continued monopolizing the insurance sector in the country till early 90's since the private companies were not allowed to venture in this sector. In 1992, EFU Life Assurance was the first private sector company that started its business to compete against SLIC. Later, many other life insurance companies came in and respectively shared the overall market share of the insurance business.

In recent years, the insurance industry has seen growth and expansion, may be due to increased outreach amongst the masses the owing to social media and other marketing/advertising platforms. It is a fact that the life insurance business is more rapidly growing then non-life insurance sector. The ratio of premium collected by insurance companies also increase as economic activities start to enhance but till now, the participation/contribution of the insurance industry in the economic outlook of Pakistan doesn't seem very encouraging. The reasons for it could be many viz. lack of awareness amongst the masses, the technical nature of the insurance products and the religious considerations/beliefs. In most part of the world, particularly in the developed countries, insurance is mandatory for their resident but in Pakistan insurance is still a taboo or a service not known to many. The general public is still far away from enjoying the potential benefits of insurance schemes; the religious considerations/beliefs overwhelm the long list of reasons behind it.

In order to counter or rather accommodate/align according to the common religious beliefs and the principles of Islam, an Islamic Insurance product was introduced with the name of 'Takaful', however, this also remains obscure to the public in general than as compared to in the middle eastern countries. Since 2008, takaful insurance has been available in the local market but still, the potential recipients of the product don't have sufficient information. The current challenges are again awareness, technological barriers and economic crises for the life insurance sector.

1.2. Problem Statement

Profitability is the most important objective of life insurance companies. The profitability of the company plays an important role in contributing to the company's core market value which can be identified through its profit ratio annually. Different studies have been conducted on the life insurance sector in different countries including Pakistan their main focus was to determine factors affecting profitability. Since 2008 to 2017, the Insurance Association of Pakistan (IAP) yearbook and annual statements of the companies showed fluctuation in the value of profitability. Before 2008 there were only 05 life insurance companies and their business was only conventional life insurance but after 2008 and mid of 2007 takaful insurance was introduced in Pakistan and two takaful companies were entered in business. This research study will provide support to recognize the factors affecting the profitability of life insurance companies and help an insurance company to focus on affecting variable to minimize or lowering down losses.

1.3. Gap Analysis

In the past, researches were conducted on the life insurance sector in different developed and developing countries including Pakistan. In India, various searches were conducted to find out insurance company financial performance, customer loyalty towards insurance companies and consumer preference towards insurance product. Sonwaney and Oswal (2015) conducted research on consumers of the life insurance industry in India. The researcher took external factors affecting the consumption of life insurance product. The gap of this study is no external factor is used to find its effect on the consumption of life insurance products the factors analyzed by consumer is not covered in this research life profitability, claim to pay capacity and others. Fola and Ansari (2014) analyze of capital adequacy, efficiency, earning, liquidity ratio, profitability ratios and asset worthiness of life insurance companies in India of private and public life insurance. The limitation of this study is time period and external variables were not taken in this research. Solanki (2016) conducted research to find the profitability of 05 private life insurance companies only. The variables taken were net premium, operating income and investment income. The limitation was time period, number of companies and variables. Rai and Medha (2013) a study conducted a study to find out experiences of customer loyalty in the private and public Indian life insurance. The variables were for this study was external to measure the customer's loyalty towards the companies. In this study no internal variables were used like premium growth and underwriting risk which are useful for customers.

In Malaysia the researches in insurance sector mainly based on takaful insurance. The variables which were commonly used to find financial performance were usually internal variables, this research hasn't included any external variable to find the external variable effect on Malaysian Takaful insurance companies researches. Ng *et al.* (2013) main focus was to determine how the size of a company determine the risk factor of the life insurance company. The variables are limited in this study. The variables used in this study were only related to firm size to analyze the risk factor not the profitability of Malaysia. Ismail *et al.* (2011) conducted research only on general takaful insurance company's profitability. The gap in this study is no external variable and factor is included in this research. Dikko (2014) discusses the phenomena of takaful insurance and conventional insurance different aspect. This research is wholly based on the theoretical difference between conventional and takaful insurance companies of Malaysia. No internal and external variables are used in this study

In Turkey there were also few types of research were conducted to identify the factors affecting performance of life insurance industry. Kaya (2015) discussed in research about the size, age, growth premium, loss and liquidity of non life insurance companies. The research was limited only to non-life insurance company's life insurance companies and external factor is not included in this study. Another research was conducted by Emine (2016) on Bosra Istanbul on life insurance. In this only external variable such as board composition and a number of board members. This study only covers Bosra Istanbul life insurance companies and no internal factor is not used in it.

Few researches were also conducted in Iran, China, Ethiopia and Ghana on insurance sector where few of the researches based on external factors and some of it are based on internal variables. Gatsi *et al.* (2013) and Akotey and Abor (2011) conducted study in Ghana life and non life insurance sector. Their study based on identifying performance of non life and life insurance sector with internal factors, external factors are not included in this study. In Ethiopia study was conducted by Sambasivam and Ayele (2013) to find insurance companies performance , for this purpose data was gathered from market analysis. This research only emphasis on external factor no internal factor is part of this study. Birhan (2017) also conducted a study to measure the factors affecting profitability of the insurance company in Ethiopia. It was discussed on the basis of primary data that the reputation of company and services quality of a company had been impacting the choice for selecting an insurance company in Ethiopia.

Malik (2011) conducted a search on life insurance sector but has taken both life and non life insurance companies and the variables which were taken are only internal and few to find the affecting factors on profitability. The gap of this study is no external variable is taken and as no takaful company was included in this study.

The study which was previously conducted haven't covered whole life insurance sector but in Pakistan. In this study all life insurance companies till date are included in this study of Pakistan.

1.4. Research Objectives

The objective of this study is to find factors (both external and internal) that affect the financial performance of life insurance sector of Pakistan. For this intend, few variables were used to find the relationship such as profitability an indicator of financial performance is taken as Independent variable and donated by Return on asset

(ROA) and liquidity, net premium, premium growth, underwriting risk, debt to equity, insurance leverage, tangibility, equity capital, capital surplus, GDP, inflation and Market share are taken as independent variable.

1.5. Significance

In past there were only a few researchers to conduct research on any new product or services or to find the factors affecting loss or gain in a company. As Pakistani sectors and market criteria regarding research and development are increasing the new of research becoming mandatory in each sector. Specially those sectors which are providing services and products.

The insurance company is also the biggest services providing sector whose providing g financial protection to it's insure. But unfortunately there is not much research has been conducted in this sector the research which was conducted in past usually focused only few variable or only internal variables were taken. This research compromises of all life insurance companies including public and private both. The data was gathered from this research is from 2008 to 2017. The sample size is 10 years. This research will help the insurance industry to identify external and internal factors affecting the financial performance of life insurance companies in Pakistan and this may strength the performance of life insurance sector.

1.6. Definition of Terms

1.6.1. Assurance vs. Insurance

The word assurance is only used to indicate life insurance and the word insurance is used for the coverage of life and general insurance. The word insurance is used for protecting a financial loss over a limited time period, which is said in the contract. Whereas assurance means to protect the financial loss for the undefined time limit. It may be for an extended time period till the time of death in case of life assurance and in case of other then life assurance, the assurance is valid till financial loss occurred.

1.6.2. Takaful vs. Conventional Insurance

In conventional insurance interest (Riba) is involved in the policy. Risk transferred or removed from the policyholder to the insurance company in conventional insurance, on other hands in takaful no risk is shared between insure and insurer. Ghara (Uncertainty) how the loss of future will be paid is in conventional which is prohibited in Islam and Gharar is not in takaful business. There is also Maisir (gambling) aspect in conventional insurance, here the amount which is paid by issuer expected to be compensated with benefits if the said loss in contract happens otherwise they will their paid amount. This is not presenting in takaful, in takaful, the tabarru (contribution) paid in fortitude brotherhood and Ne'ea (purity). The conventional insurance companies invest the majority of funds in interest linked instrument and securities. In takaful, all funds invested in Riba (interest) free instruments. The profit is divided equally on the ratio of the contribution made by participants and shareholder in Takaful business but in conventional, the profit straight goes to the shareholder, not to the participants. The participant may have their share at the maturity date of the said policy cover.

1.6.3. Life Insurance vs. Group Life Insurance

Life insurance is personal insurance of the individual on the need of its own. Here, policies are for individuals where a person's gender and individuality is identified. Whereas, group life insurance is for corporate workforce. In life insurance the cost of insurance is calculated on the basis of health soundness and lower age factor. In case of group there is no health assessment. In group life insurance coverage ends as the employee leaves the organization but in life insurance, it ends when the defined time is over or insured person died. The tenor in life insurance is valid until the policies or person expired. On other hand the period is only a year.

2. LITERATURE REVIEW

Beck and Webb (2003) conducted a research to analyze consumption of life insurance sector economic indicator and institutional determinants across the countries. This study enlightens the increased demand of life insurance across the world. Hwang and Gao (2003) measures the determinates of Chinese insurance industry in emerging market of China. This study was conducted to measure the rapid growth of Chinese insurance companies since 1978. So, they had taken time series data and applied empirical test on it to find the rapid growth of insurance sector. Ng *et al.* (2013) conducted a study on Malaysian insurance sector. The factors which were analyzed in the said study were size of insurance firm and risk ratio in the insurance companies of the Malaysia. It was discussed in the study that Malaysian government was fully providing support to the renowned and big insurance companies which may ring financial crisis bell for the economy. Ikonic *et al.* (2011) measures the growth potential and profitability of Serbian insurance companies. The aim of this paper to cover the factors of risk related to insurance sector and ratio of profitability. The insurance companies are working as financial intermediaries and contributing equally as financial sectors are contributing. Boadi *et al.* (2013) researched to investigate profitability variables of insurance companies in Ghana. OLS, Panel method, Longitude time test were conducted to find profitability of insurance sector. The outcome of this study indicated that tangibility is insignificantly related to profitability but ratios of leverage, profitability and liquidity were significantly related to the profitability of insurance sector. Allipour (2011) conducted a research to find out the intellectual capital on Iranian Insurance companies performance. To find out the desired result ordinary least square test was conducted on the gathered data. The result of this study indicated that value-added intellectual capital and its determinants had a significant relationship with the profitability of insurance companies. Anshori and Iswati (2007) conducted a study to analyze the intellectual and the financial performance of the Indonesian insurance companies listed in Jakarta stock exchange. The result of this study indicated that intellectual capital approach new in global business which was only applied by developed countries insurance sector. Gatsi *et al.* (2013) conducted a study to find different factors related to insurance companies of Ghana. The factor which was highlighted in the study was operating ratio, financial ratio and leverage ratio. However other ratios were negatively related to the profitability of the insurance companies in Ghana.

Mazviona *et al.* (2017) conducted research to measure the determinants of profitability of insurance companies in Zimbabwe. It was suggested in this study that the insurance sector of Zimbabwe should take an imitative to remove excess cost on the operations. Sambasivam and Ayele (2013) researched insurance companies performance of Ethiopia. The insurance companies were effectively contributing to the market of the Ethiopia. Time series data was arranged for the research purpose. Birhan (2017) conducted study to measure the factors affecting profitability of the insurance company in Ethiopia. It was discussed on the basis of primary data that the reputation of company and services quality of a company had been impacting the choice for selecting an insurance company in Ethiopia.

Karim and Jhantasana (2005) conducted a study to cost efficiency and profitability in Thailand life insurance sector. The data used in this study was from 1997 to 2002. The stochastic cost frontier approach was used in this study. The return on asset and return on equity were taken as dependent variables which are inversely correlated to the inefficiency of the life insurance sector. Ismail *et al.* (2011) conducted a research to analyze the coexistence of Malaysian Life insurance and Family takaful company's efficiency and organizational form. Non parametric approach (Data envelopment Analysis) to measure the technical competence of life insurance and family takaful sector. Constant return scale and variable return scale was used to separate technical efficiency from extent efficiency. Greene and Segal (2004) measures the efficiency and profitability of united state life insurance industry. Insurance companies are greater contributor in the economy of United States. United States is having one of the strongest economies around the globe. It was indicated that the return of equity is not driven by cost efficiency and insignificantly related to profitability.

Akotey and Abor (2011) conduct a research examine the non life insurance and life insurance industry risk management in Ghana. It was suggested in the study that to gain a sustainable place in market insurance companies must apply effective risk management. Mehari and Aemoiro (2013) conducted a study to measure performance of life and non insurance companies in Ethiopia The performance measured by return on asset and the factors which effecting directly or indirectly performance were taken as size, leverage, liquidity, risk, premium growth and age of the insurance company. Derbali and Jamel (2018) conducted a research on the life and non life insurance sector to find out the variable affecting its performance in After conducting empirical study on the determinants affecting profitability of insurance companies it was revealed that company size, age and premium growth were the variables which were positively related to the profitability of the Tunisia. Baranoff *et al.* (1999) conducted a research on insurance companies including life and non life insurance both. The cascaded logistic regression model test was applied on the gather data. Grace *et al.* (1998) conducted a study to measure solvency and risk based capital (RBC) of the property liability insurance companies. The study was basically conducted to find strong companies and weak companies in the market of property liability insurance.

Adams and Buckle (2003) conducted a study to investigate investment earning and the characteristics of life insurance firms. It was indicated in this study that life insurance main investment earning is depending upon the non financial assets in comparison to financial asset. Connelly and Piman (2004) conducted a study to inspect the broad characteristics and firm performance of life insurance companies in Thailand. In this study it had been suggested that corporate governance, monitoring and evaluation of companies can increase the productivity and performance of the life insurance firms in an emerging market. Berhe and Kaur (2015) examine the factors of life insurance company in Ethiopia. The economic and socio economic both factors are important for the economy and these factors are directly related to financial sectors and as well as insurance sectors. Cummins (2004) analyzed the asset and liabilities of the life insurance sector. The study was leading towards the securitization deals by life insurance sector. The securitization was on the important factor in finance which was analyzed in this study. The study outcomes were indicated that life insurance and annuities not significantly backed asset or mortgaged back security. Mark *et al.* (2003) examine the life insurer financial model dynamics of United States. The study main purpose is to estimate the negative effect of economic expansion on performance of life insurance companies in United States. After closely examining the performance of life insurance companies the factor shows that the ratio of profitability is slowing down as the economy is growing faster. Lu *et al.* (2013) conducted a study to measure Chinese life insurance industry performance and intellectual capital. For this study data was taken from the period of 2006 to 2010 from 34 Chinese life insurance companies. The study suggested that life insurance companies should invest more in order to gain more return from capital intellectual. Diacon and O'Sullivan (2003) conducted a study to find the board performance and governance of the life insurance sector in UK. The study resulted that partnership or individual out performed but it was indicated in the study that both individual and partnership both were having different mechanism as the problem raised. Sonwaney and Oswal (2015) conducted a study to investigate consumer value in the life insurance industry of India. The concept of this paper drives the idea of consumer importance to the industry of insurance in India. It was suggested in the study that the life insurance companies needs to work on claim settlement portion to reduce the consumer's problem and provide them ease to invest in life insurance to secure their future. Fola and Ansari (2014) researched Indian life insurance performance and financial soundness of the life insurance companies. CARAMEL model test was conducted. The result of the test indicated that there was a positive difference between public and private insurance companies' on the basis of capital adequacy, efficiency, earning, liquidity ratio, profitability ratios and asset worthiness. Rai and Medha (2013) a study conducted a study to find out experiences of customer loyalty in the Indian life insurance. To find the desired result multiple regressions was tested on the gather data which resulted that the individuals of India trusted public sector more in comparison to private insurance sector. This factor created public sector a major winner in the race of customer loyalty which also gave financial stability to the public insurance companies in India.

Kozak (2011) examines the Poland non life insurance company's profitability during their incorporation with the European financial system. As per the analysis polish economy was growing in the era of integration with the European financial system. The outcomes of the test stated that there motor insurance was prominently decline in comparison to other insurance products. Moro and Anderloni (2014) conducted a research to analyze economic performance of the non life insurance company. The financial activities directly and positively related to the insurance companies of the non life insurance companies. It was also suggested for future other than these variables can also be used for vast vision and more comprehend view of the non life insurance sector of the Europe. Emine (2016) conducted a study to Bosra Istanbul non life insurance sector's financial performance. To find the financial performance grey relational analysis test was applied, which resulted that capital adequacy ratios, operating ratios and liquidly ratios are not fully significantly related to non life insurance companies but profitability ratios were positively related to non life insurance sector of Bosra Istanbul. Pjanić *et al.* (2018) research was conducted to identify the determinants of profitability in the Serbia non life insurance sector. Serbia had a developing economy, the performance of non life insurance companies were better and contributing their part in the economy of the Serbia. To analyze the profitability of non insurance companies of Serbia, operating ratios, profitability ratios, liquidity and leverage ratios were used. Kaya (2015) conducted a research to measure firm specific determinants of Turkish non life insurance sector profitability. The two determinants were taken to measure the profitability sales and technical ratios were taken for this study. After conducting panel unit root test result showed that the size, age, growth premium, loss and current ratio of the non life insurance of Turkey was significantly related to the profitability of the companies. Petkovski and Jordan (2014) a study was conducted to measure performance of non life insurance companies. The data was gathered from sixteen selected countries of Europe. To find the result ordinary last square test was applied on the gathered data. It revealed that non life insurance companies were also positively related to long run consumption. Hwang and Tong-Liang (2006) conducted a study on non life insurance sector managerial efficiency of Taiwan. To measure the efficient two stage envelopment analysis was conducted on the sample. It was suggested that mangers of non life insurance companies should tool measures effective strategies to evolve marketing and increase profitability of a company.

Similar studies were also conducted on takaful. Redzuan *et al.* (2009) measures the economic determinates of Malaysian family takaful. As per the study, the Malaysian families takaful industry expands heftily. Dikko (2014) enlighten the issue of takfaul. Through this study the researchers try to assess the difference and similarities between the takaful and conventional insurance. The study covered fatwanama and scholars views on it. The outcome of this study proves that conventional is different from takaful theoretically and practically. Abdullah *et al.* (2012) research conducted to find the takaful and conventional insurance performances in market of Brunei. The study suggested that the takaful companies should conduct a program to educate their consumers of growing their business. Kader *et al.* (2010) measures Takaful company's cost efficiency. For test non parametric data was developed to analyze the cost efficiency of the takaful industry. The outcome of the test showed that there is no significant relationship between CEO & Chairman function with the cost efficiency of the takaful companies. But there was a significant relationship between board size, product exceptional and firm size with takaful cost efficiency. Ismail (2013) conducted a study to evaluate takaful companies and general insurance companies financial performance in Malaysia. The empirically panel data was analyzed. The result of this test showed that all the variables were significant to the financial performance both industries. But equity on return is not significantly related to general insurance. Juliana (2012) conducted a study to find Determinants of Family Takaful (Islamic Life Insurance) Demand in Malaysia. For finding the family takaful demand in Malaysia some social and economic factors have been taken such as for analyzing the economic factor income, inflation, interest rate, financial development, saving, unemployment, pensions, stock price of insurance has been taken as variables

Hardwick and Adams (1998) research conducted to find financial derivatives determinates of Life insurance industry of United Kingdom. Regression model and Heckman two stage sample selection model is used. UK. Life insurance in UK used derivatives to offset risk instead of explanatory generation of income. Lee (2014) conducted a study to measure macroeconomic and firm specific effect on the Taiwan property liability insurance industry. There is also positive relation between profitability if property liability insurance industry and growth of economy. It was suggested in this study that property liability industry must contribute in regulators interest and policyholder's interest. Burca and Batrinca (2014) study were conducted to measure the Romanian insurance industry financial performance. It was discussed in this study that Romanian insurance companies' performances are not as per margin. Lee and Lee (2012) analyze property liability insurance sector in Taiwan. The factors which were being investigated in this study were reinsurance and performance of property liability insurance sector. The result showed that all these variables were positively related to the reinsurance and performance of the property liability insurance companies in Taiwan.

There were studies (although few) conducted on Pakistan. Ahmed *et al.* (2010) conducted a study to measure the Pakistani life insurance industry capital structure. The Ordinary least square test was run on the gathered data and it resulted as there's an underwriting risk, profitability ratios, age and liquidity ratios were significantly related to the leverage of the company which is donated by capital structure. Iqbal and Rehman (2014) conducted a reinsurance analysis of the non life insurance companies in Pakistan. The study compromises on the relationship of the non life insurance and reinsurance companies of the Pakistan. This study also highlighted the importance of the reinsurance services in Pakistan. Jan *et al.* (2013) conducted a study to find the variables affecting profitability of Pakistani takaful and conventional insurance companies. The result of the study showed that excluding size ratio other remaining ratios were not positively related to the profitability of both the takaful and a conventional insurance company in Pakistan. Malik (2011) examines the profitability factors of Pakistani insurance companies (General & Life insurance). The study conducted to find the role of insurance sector in the economy of Pakistan. The study suggested that insurance companies should take some aggressive measures to minimize the loss and risk to gain more profit and contribute more in the economy of the Pakistan. Bilal *et al.* (2013) conducted a study to profitability of insurance sector in Pakistan. To find out desired result panel data was shaped and Husman specification test was conducted. The result of the said test indicated that age, volatility ratio, size, leverage ratio were positively related to the profitability of the insurance sector whereas growth factor and liquidity ratios are negatively related to insurance sector in Pakistan. Solanki (2016) conducted a research to analyze profitability of private life insurance sector. For the research 5 insurance companies had taken as a sample. ANOVA test was conducted, shows the results shows that private insurance companies are struggling hard to penetrate the market. It also suggested that companies should increase its customers to keep it place in the market.

3. INSURANCE INDUSTRY OF PAKISTAN

In Pakistan, the life insurance industry gets prominent position since 2003. To get life coverage and secure the future of their families, people started to invest in life insurance policies to secure the future and feed their family if they lost their life in any activity. In Pakistan, the insurance sector is divided into three parts life insurance sector, non-life insurance sector and reinsurance sector. Also since 2008 two types of insurance are available in Pakistan, Conventional insurance and Islamic insurance that is known as takaful.

In emerging market non life insurance sector the premium raised only 6% in 2017 and in life insurance sector it raised by 17% in 2017. In Pakistan insurance is considered one of the largest sectors as per the SBP financial statement. Insurance sector contributed 5.3% of total financial asset. It is also observed that the gross premium has increased up to 12.18% during year 2017.

Pakistani insurance sector's biggest part is compromised over life insurance sector. In 2017 the total gross premium 270 Million out of which 185.298 Million is of life insurance gross premium and remaining share is of general insurance, takaful insurance and family takaful. In Pakistan total nine life insurance companies are working out of which one is stated owned company (State life insurance Corporation of Pakistan) and other eight companies are conducting their business as private companies. In these nine life insurance companies two companies are totally working on family takaful whereas other few of the remaining companies are also having their family takaful windows which are operate able from 2015.

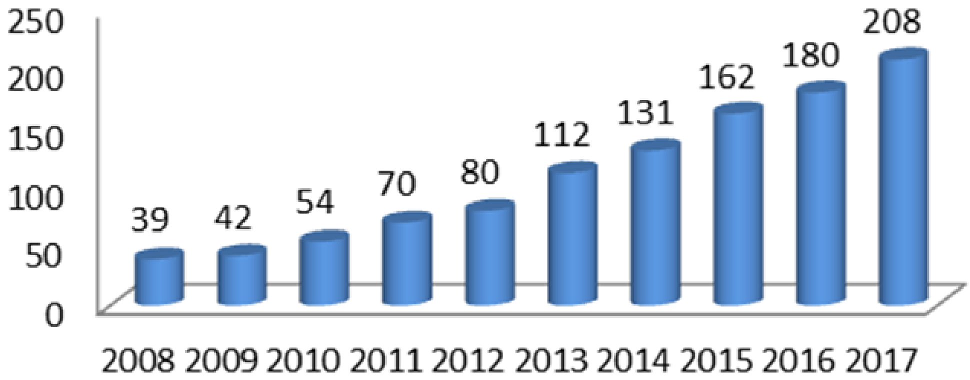

Figure-1. Showing growth of life insurance sector.
Source: Research report - PACRA (Pakistan Credit Rating Agency Limited).

In the above figure-1, it is clearly showing that life insurance sector of Pakistan is showing vigorous and significant growth over the year since 2008. The progress was rapid between 2010 to 2011 but slower in between 2011 to 2012. After 2012 the life insurance sector rapid grows its premium until 2017. The insurance business is totally depending on the premium that's why premium selected to measure the growth of the insurance sector.

A country like Pakistan insurance business has an immense opportunity. As in Pakistan due to high level of uncertainty and economic crises life insurance and saving for the future has a great scope. As in Figure 1 the proportion of premium has been growing. The insurance companies are also actively participating in this business as the number of life insurance companies are growing whereas there was only one company in the market but now there is competition where all companies are competing on their pace.

The life insurance sector works on the premium which was collected from its policy holder by underwriting its risk. The profit and loss of the life insurance business are solely depending on collected premium reinvested and reinsured by the insurance companies. The claim of life insurance can be file in case of the death of policy holder and the insured amount plus interest (bonus) will be paid to the nominated beneficiary by the policy holder.

Family takaful is also trying hard to get in the market. It was introduced by Pak Qatar family takaful in Pakistan in the last of 2007 and started their operations in Pakistan. After it, another company Dawood family takaful came in the market with the same product in 2008. Since 2014 04 conventional insurance companies opened their takaful windows. But in Pakistan due to lesser knowledge about family takaful they business is not rapidly growing. The improvement has been observed in 2017 since 2008. The takaful ratio of gross premium also increased from 37.5% in 2016 and 41.5% in 2017 which shows a positive indication for the family takaful business. Perhaps the family takaful will improve further and contribute more to the GDP of Pakistan.

3.1. Stated owned vs. Private Insurance Company

Life insurance is also one of the key businesses in Pakistan which is contributing to our economy. Since 1952 State life insurance Corporation of Pakistan is in the life insurance business and was solely doing business but in 1972 it nationalized primarily 32 insurance companies merged and become state life insurance corporation of Pakistan. It is state owned and additionally of the most trusted and old institution. Life insurance business is risky not all the insurance-related companies are as stable as this stated own institute. From 1992 two other insurance came into the market under the private institutes. And it started to grow but till now there are one stated own, 8 private insurance companies out of which 2 as doing takaful insurance and other are doing conventional life insurance. All these insurance companies are doing their best to sell their policies but the main matter is when it comes to claiming life insurance. PCRA rated state life insurance corporation AAA insurance coverage. In Pakistan, state life is the only company with AAA insurance. Insure perception is to invest in a secure institute to protect their future uncertainty. Insurance business was closed for the private sector which was reopened in 1990. The biggest numbers of insure are insured by Pakistan owned insurance company named state life insurance. But as the competition started rigid Jubilee insurance company and EFU life assurance succeeding in getting into business by offering variation in life insurance plans. They also started their takaful windows. In Table 1 it is shown that when private, public and takaful sector established their life insurance business in Pakistan

Table-1. Life insurance companies with their year of establishment.

S.No.	Name of Company	Established
1.	State Life Insurance Corporation of Pakistan	1972
2.	EFU Life Assurance Limited	1992
3.	Askari Life Assurance (Formerly East West Life Assurance)	1992
4.	IGI life insurance LTD (Formerly American Life Insurance LTD acquired on April 10,2014)	1995
5.	Jubilee Life Insurance Company LTD	1995
6.	Adamjee Life Assurance Company	2008
7.	TPL Life insurance (Formerly Asia care health & Life ins co. LTD acquired July 16, 2016)	2008
8.	Dawood family takaful LTD	2008
9.	Pak Qatar Family Takaful LTD	2007

Source: Data compiled from IAP (Insurance Association of Pakistan) and authorized websites of life insurance companies.

3.2. Takaful Life Insurance Companies vs. Conventional life insurance Companies

The life insurance business has been working in Pakistan since 1952 but the insurance which was offered was only conventional life insurance. There was no such insurance company either private or state-owned who was offering takaful insurance. In 2007 Pak Qatar offered takaful shariah based insurance to its client. After Pak Qatar family insurance Dawood takaful family insurance also came into the business. A large number of the group have a massive number of quires regarding life insurance business that either it is halal or not. Takaful business solved that problem for those and offered shariah based life insurance. After these, to insurance companies, many other conventional insurance companies started their takaful window to provide takaful insurance to their clients. Takaful word is derived from Arabic word "KAFALA" which means to "Kaflat" or "Kafil" in Urdu to take of each other and stand with them in time of need and suffering. Takaful is also called "solidarity" and "mutual guarantee". In exchange for takaful services takaful companies charge Wakalah, it is the fee incurred by a takaful operator for takaful activity of its insured. The agent who charges "Wakalah" is known as "Wakeel" in Takaful business instead of an agent. Takaful business still gains a nominal share in the market because of less knowledge and awareness between insurers. But as frequently takaful windows are opening and operation started the takaful awareness will soon reach to its customer. Still, takaful life insurance is far away in comparison of size and net worth with conventional insurance companies.

3.3. Takaful Companies vs. Companies with Takaful Window

Insurance business is becoming common since 2000.In Pakistan only conventional insurance was introduced first under a name of State life insurance & EFU. But due to political instability EFU didn't continue its business. But in1992 it came back in market to give its services in Pakistan. In 2008 the insurance business got a new dimension under the name of takaful which is derived by shariah laws. Takaful business got its deep root in Middle East and Saudi Arab in 1970s. In 2008 under the name of Pak Qatar family takaful started its business properly in Pakistan after it Dawood Family Takaful also introduced. Slowly in 2015 conventional insurance company also introduced their takaful window. Such as EFU Hemyak Takaful, Jubilee, Family Takaful, Family takaful (IGI Life), Adamjee Takaful, Askari Window Takaful and state life insurance Takaful. These companies started their windows as per the 2012 rules of SECP. The below Table 2 shows the date of waqaf deed/license date when issued to takaful insurance companies.

Table-2. family takaful insurance companies with their year of waqaf/license date.

Company Name	Waqaf Deed/License Date
Takaful Company	
Dawood Takaful	May 16,2008
Pak Qatar Family Takaful	March 17, 2007
Takaful Windows	
EFU hemayahtakaful	February 02, 2015
Jubliee Family Takaful	July 07, 2015
Family Takaful| IGI Life	July 02, 2015
Adamjee Family Takaful	May 04,2016
Askari Window Takaful	August 10, 2015
State Life Insurance Takaful Window	September 22,2016

Source: Data compiled from IAP (Insurance Association of Pakistan) and authorized websites of life insurance companies.

Among these companies still SLIC takaful haven't started its operation till the end of 2017.it will be the only state owned company planning to start its takaful window. But on other hand other companies started their takaful window operations from 2015. But still wholly acquired takaful companies are doing better business in Pakistan. As bank Islamic also joins its hand with Pak Qatar Family takaful for its Life takaful business in Pakistan.

4. CONCEPTUAL FRAMEWORK

4.1. Liquidity

Ratios that shows the relationship of firm's cash and other current assets to current liabilities. It indicates the extent to which current liabilities are covered by those assets expected to be converted to cash in the near future (Brigham and Houston, 2004). There are many ratios to find out liquidity but the main and important ratio to find liquidity is current ratio. This ratio measured the strength of a company to pay off its short term obligation. Liquidity ratio shows the ability of the insurers to fulfill their liquid commitments with their policyholders. Insures must keep their cash or liquid asset availability to meet immediate liabilities.

4.2. Capital Surplus

Capital surplus ratio is used to find the liquidity of the life insurance companies under the calculated capital surplus to total liabilities of the insurance companies. It is also called share premium it is known and shows as the balance of corporation account. The capital & surplus ratio describes the relationship between company's capital and surplus to its liabilities. For insurers, the capital and surplus ratio provides a measure of an insurer's long term solvency (Mulligan, 2010).

4.3. Tangibility

Tangibility ratio identifies fixed asset based on tangible asset out of total asset. This is used to identify the tangible worthiness of a company. It can also indicate that the company will be able to sell those tangible assets in case of crisis or loss. Tangibility ratio is the net worth calculation of the company.it is used to measure the tangible worth of the company. Which consist of a fixed and current asset of the company.

4.4. Equity Ratio

The required rate of return on investment of the common shareholders of the company (James and John, 2015). It is associated with the company's ordinary shares. In 1992 for the first time, private insurance companies got permission to participate in the insurance market of Pakistan. Where only one public insurance company had captured the insurance market. This step taken by the government made Pakistani insurance market substantial and rich for investors.

4.5. Debt to Equity Ratio

Debt to equity ratio is used to measure the debt which is against the equity of the company. It also indicates the debt placement of the company. To assess the extent to which the firm is using borrowed money, we may use several different debt ratios. The debt-to-equity ratio is computed by simply dividing the total debt of the firm (including current liabilities) by its shareholders' equity (James and John, 2015).

4.6. Insurance Leverage

Insurance leverage indicates the ability of insurance companies to manage the efficient exposure against the loss of unforeseen losses. The formula to get the desired ratio is mathematical reserve to capital and surplus. The mathematical reserve is calculated by the actuaries of the insurance companies. The insurance leverage ratio, which compares the company's contractual reserve to its capital & surplus. Insurers typically use the insurance leverage ratio to evaluate their liability to cover contractual obligation resource (Mulligan, 2010).

4.7. Size

A life insurance company wholly lies on the premium collected from their policyholder. To identify the size of an insurance company the log of the net premium will be taken. Premium is the collection from the insurance holder of the insurance company against the insurance contract. The net premium is the amount earned by Life Insurance Company after deducting the reinsurance amount from it.

4.8. Premium Growth

To measure the growth of life insurance Company, the base will be premium. The variable of growth indicates the premium growth of life insurance companies which vary year to year. The premium growth is the comparison of new premium collected in the previous year and new premium collected in a particular year. The differentiate change in the amount of base year and the current year will identify the change in growth in the respective year.

4.9. Underwriting Risk

Underwriting risk is the risk desire of the insurance company. The underwriting risk of a company should be sound under crucial guidelines. Underwriting Risk reflects the adequacy, or otherwise, of insurers' underwriting performance (Adams and Buckle, 2003). Underwriting risk is associated with the risk which actuaries of the insurance companies calculated. This risk is based on the risk which can be claimed within a year by policyholders in case of maturity or death.

4.10. Market Share

Market share defines the share of insurance companies in the market. It is based on the premium collected by the life insurance companies. As per this analysis since 2008 SLIC is a winner and biggest shareholders of the insurance market but as per the figures, it started to decline by an increasing number of life insurance companies and variation in the product of life insurance companies. Market share is a calculation based on the premium of the company to total premium collects by all life insurance companies. The premium is a measure to identify business operated by a company within a year. It shows how efficient a company performs its activity to collect premium from its policyholders.

4.11. Variables Used in Study

There are different variables to test the financial performance of Life Insurance companies in Pakistan. The variables used in this study based on external and internal independent variables effect on dependent variables. As illustrated in figure no 3 that there are 8 internal independent variables and 3 external independent variables. The profitability (Return on asset) is donated as dependent variables. The literature review revealed that profitability of the life insurance companies are related to capital adequacy Fola and Ansari (2014) liquidity Kaya (2015) size Ng *et al.* (2013) tangibility Birhan (2017) debt to equity Ikonic *et al.* (2011) insurance leverage Burca and Batrinca (2014) premium growth Rai and Medha (2013) underwriting B.Charmathi, GDP Berhe and Kaur (2015) inflation Hwang and Gao (2003) and Market share Kozak (2011). The variables used for this study are exhibit in below Table 3.

Table-3. Independent and dependent variables used in this study.

Variables used in Study		
Variables	**Represent by**	**Formula**
Dependent Variable		
Return on Assets	ROA	Net Income before Taxes / Total Assets
Independent Variables		
Internal Variables		
Liquidity	LIQ	Current Assets/Current Liabilities
Tangibility	TG	Fixed assets divided by total assets
Equity ratio (investment leverage)	LNEC	Log on Equity capital
Debt to Equity Ratio	DTE	Long term liability/Owner's equity
Insurance Leverage	INSLEV	Contractual reserves/capital & Surplus
Size	LNNP	Log of net premium
Premium Growth	GWP	% change in Premium
Underwriting Risk	UWR	Standard Deviation of ratio of total claims to total premiums
Capital adequacy ratio	CS	Log of Equity Capital
External Variable		
Gross Domestic Product	GDP	GDP = Pvt consumption + gross investment(GI) + government investment(GoI) + government spending(GS) + exports – imports
Inflation	INF	-
Market Share	MS	Gross premium/Total premium of all life insurance companies

5. RESEARCH METHODOLOGY

In this research, nine life insurance companies in Pakistan is taken which consist of 01 public and 08 private life insurance company of Pakistan. The sample period of this study is 10 years of data from 2008 t0 2017. The data which is used in his study is gathered from Insurance Association of Pakistan (IAP) annual book and annual financial statement of the observant life insurance companies of Pakistan.

5.1. Data Analysis

For this research 10 years data gathered from 09 life insurance companies. The data is gathered from IAP and annual books of selected companies. The companies include one public and 08 private company. The sample year is from 2008 to 2017. The data is cross-sectional and having 12 independent variables and 01 dependent variables.

5.2. Descriptive Statistics

Table-4. Descriptive statistics analysis of variable used in this study.

Variables	N	Mean	Median	Maximum	Minimum	Std. Dev.
ROA	90	0.005463	0.008800	0.129800	-0.639100	0.093151
LIQ	90	3.308889	2.005000	64.47000	0.370000	6.906220
LNEC	90	5.955889	5.880000	7.230000	4.010000	0.773777
TG	90	0.061400	0.030000	0.421000	0.000000	0.088858
GWP	90	11677474	1603872.	1.01E+08	114.0000	21094036
UWR	90	0.443778	0.290000	2.470000	0.000000	0.446053
LNNP	90	6.215111	6.350000	8.000000	3.660000	1.102235
DTE	90	3.791889	1.250000	19.98000	-0.210000	5.460270
INSLEV	90	14.86767	6.860000	104.7300	0.010000	23.07040
CS	90	1.809333	0.265000	72.15000	0.000000	7.972173
GDP	90	0.101198	0.101000	0.170300	0.028600	0.047910
INF	90	0.038647	0.040400	0.053700	0.003600	0.013382
MS	90	0.107556	0.040000	0.640000	0.000000	0.175335

Table 4 of descriptive statistic measures the variables of the life insurance sector. In this study, profitability is taken as the dependent variable. while liquidity, equity capital, tangibility, growth underwriting profit, net profit, debt to equity, insurance leverage, capital surplus, GDP, Inflation and market share are taken as an independent variable. In this table-4 means shows the average of the life insurance companies along with their minimum and maximum values of the mean. Whereas Standard deviation is also given which shows how many of the values deviate from its mean within its respective sample year.

The ROA means is 0.005463 which is ranged between 0.1298 to -0.639100 (Pak Qatar 12.98% & East west Life assurance -63.91% and SD is 0.093151. in liquidity ratio the range is from 64.47 to 0.37 (Asia care 64.47 and Dawood family takfaul 0.37) and SD is 6.906220. the log of equity capital ratio ranged between 7.23 to 4.01 (EFU 7.23 and IGI 4.01) and SD is 0.773777. the tangibility ratio ranged between 0.421 to 0.00 (Asia care 0.421 and adamjee life 0.00) and SD is 0.088858. the ratio of growth between 100,760,716 to 114 (SLIC 100,760,716 and 114 Asia care) and SD is 21093036. The ratio of underwriting profit ranged between 2.47 to 0.00 (east west 4.47 and adamjee 0) and SD is 0.446053. The ratio of net profit is ranged from 8.00 to 3.66 (SLIC 8 and Dawood family takaful 3.66) and SD is 1.102235. The debt to equity ratio is ranged from 19.98 to -21.00 (Pak Qatar 19.98 and Dawood family takaful -21.00) and SD is 5.460270. The ratio of insurance leverage is ranged from 104.73 to 0.0100 (SLIC 104.73 and Asia Care 0.0100) and SD is 23.07040. The ratio of capital insurance ranged from 72.15 to 0.000 (Asia care 72.15 and SLIC 0.00) and SD is 7.972173.

5.3. Correlation Analysis

The correlation analysis conducted to find the relationship between the selected variables. The Table 5 show negative relationship between tangibility and ROA (r = -0.109294), GDP and ROA (r = -0.146008), and capital surplus and ROA (r = -0.058279). Other independent variables are positively correlated with ROA. The correlation table also indicates that size, inflation, equity and debt to equity is more effectively and strongly correlated with financial performance of the life insurance companies in Pakistan.

Table-5. Correlation Analysis between variables.

Correlation	ROA	SER01	SER02	TG	UWR	LNNP	LNEC	LIQ	INF	GWP	GDP	DTE	CS
ROA	1												
InsLev	0.069296	1											
MS	0.026418	0.877663	1										
TG	-0.10929	-0.3668	-0.36529	1									
UWR	0.006101	-0.0758	-0.08728	0.179912	1								
LNNP	0.218212	0.57182	0.665982	-0.4551	-0.3277	1							
LNEC	0.223278	0.293324	0.352852	-0.21253	-0.20197	0.56813	1						
LIQ	0.238472	-0.02452	-0.13962	-0.00448	0.041748	-0.11901	0.040272	1					
INF	0.309836	0.031328	-0.03245	0.120698	0.214341	0.131076	0.136645	0.159147	1				
GWP	0.060445	0.782658	0.848939	-0.32415	-0.0883	0.671833	0.42251	-0.1331	0.114439	1			
GDP	-0.14601	-0.19699	-0.11424	0.517205	-0.10891	-0.20048	-0.31361	-0.17502	-0.07493	-0.31558	1		
DTE	0.262541	-0.09422	-0.04352	-0.08823	-0.10692	0.113353	0.133702	0.466626	0.126456	-0.02846	-0.1631	1	
CS	-0.05828	-0.27708	-0.23217	0.385429	0.036561	-0.37532	-0.04933	-0.00134	-0.27154	-0.20144	0.266834	-0.18599	1

5.4. Quantitative Techniques

Quantitative techniques are used to analyze the data through statistically modeling. This technique helps to analyze past, present and predict the future occurrence of study. In this study two techniques are used to estimate the results. The methods which is used in this study is panel ordinary least square regression and panel generalized method of moment regression method on the collected data.

Table-6. Panel OLS and GMM analysis.

Models	**1 (ALL Variables)**		**2 (Internal Variable)**		**3 (Insurance variable)**		**4 (External variable)**	
Variables	**GMM**	**OLS**	**GMM**	**OLS**	**GMM**	**OLS**	**GMM**	**OLS**
C		-0.311441 -1.968839 0.0536		-0.122189 -1.25639 0.2130		-0.014038 -1.103219 0.2738		-0.003063 -0.055513 0.9559
ROA(-1)	-0.378646 -5.092962 0.0000		-0.319746 -2.299934 0.0248		-0.025804 -0.100465 0.9203		-0.288942 -13.04194 0.0000	
TG	-0.589662 -1.304127 0.1973	-0.820969 -2.037413 0.0460	-0.497918 -1.442416 0.1542	-0.702366 -1.369581 0.1751				
LIQ	0.007090 5.048094 0.0000	-0.001068 -0.509736 0.6121	0.008689 2.122172 0.0378	-0.000521 -0.299989 0.7650				
LNEC	-0.034883 -2.160602 0.0365	0.023899 1.285162 0.2037	-0.081824 -1.562406 0.1233	0.027500 1.677238 0.0978				
LNNP	-0.028767 -1.216110 0.2288	0.001202 0.046606 0.9630	-0.000438 -0.013340 0.9894	-0.004293 -0.263420 0.7930				
GWP	0.087044 3.094024 0.0035	-1.54E-09 -2.855376 0.0059	0.081476 2.427608 0.0181	-1.14E-09 -1.760136 0.0827				
DTE	0.010566 2.106982 0.0394	0.005889 2.145108 0.0360	0.001128 0.279304 0.7809	0.008547 1.974025 0.0522				
UWR	-0.009353 -4.772317 0.0000	0.046082 2.921606 0.0045	0.048007 3.275341 0.0017	0.014915 1.695130 0.0944	0.052635 3.220492 0.0020	0.030379 2.016696 0.0476		
InsLev	-0.002146 -1.373265 0.1749	-0.000990 -1.366305 0.1769	-0.001913 -1.154712 0.2526	-0.000496 -0.851486 0.3973	0.000366 0.901838 0.901838	0.000288 0.474564 0.6366		
CS	-0.038448 -1.013269 0.3151	0.004699 2.592371 0.0120	-0.052510 -1.757876 0.0837	0.000760 1.708701 0.0919	-0.037434 -0.810021 0.4208	0.000960 0.924315 0.3585		
INF	8.943446 3.104163 0.0034	7.202255 2.782616 0.0072					7.377097 2.585079 0.0119	3.945703 11.14438 0.0000
GDP	-0.213171 -0.306646 0.7602	0.028174 0.062126 0.9507					-0.974481 -0.822107 0.4139	-0.620826 -3.298626 0.0015
MS	0.489939 0.503594 0.6164	0.151315 0.539344 0.5911					0.615100 0.448716 0.6551	-0.164273 -0.808157 0.4218
N	72	90	72	90	72	90	72	90
R^2		0.410552		0.366114		0.252324		0.290873
Adjusted R-squared		0.239697		0.216446		0.035607		0.085329
J/F-statistic	20.60381	2.402931	70.15607	2.446179	94.52381	1.164300	10.30621	1.415140
Prob(J/F-statistic)	0.921969	0.003829	0.000260	0.004523	0.000003	0.311107	0.999903	0.145437

Results consisted on coefficient, t-test and p values of t tests respectively.

Panel ordinary least square is an estimator used for estimating indefinite constraint. It is used to estimate relationship between independent variables and dependent variable. This method measures the relationship between both the variables by minimizing sum of square between estimated and calculated values.

GMM is used as an estimator the estimate endogeneity of explanatory variables. GMM is used to get efficient estimation of relationship between the selected variables. The results of both the estimators are shown in Table 6.

The Panel ordinary least square regression model (OLS) and Generalized method of moment (GMM) is used in this study to identify the financial performance of Pakistani life insurance companies.

As per Table 6 equation of regression model is used in which independent variables are inserted to measure the financial performance of Pakistani life insurance companies. The ROA return on asset (net income before tax to total asset) is dependent variable. There is constant, the other variables in different models in this equation are independent variable and the symbol ε represents error term in this equation.

To find the financial performance four different models are used in equations are given below:

Model 1 (All Independent Variables):

In OLS growth, underwriting risk, debt to equity, inflation, tangibility and capital surplus are significantly related to dependent variable. But tangibility and growth are significantly related to dependent variable but negatively associated with ROA.

In GMM model, all 12 independent variables have been taken to find the financial performance of the life insurance companies. The GMM estimates that liquidity, investment leverage, growth, debt to equity, underwriting risk and inflation is significantly related to insurance financial performance. On the other hand liquidity, growth, debt to equity and inflation are also positively related to the financial performance. Market share is also positively related to financial performance but not significantly related to financial performance.

Model 2 (All Internal Independent Variables):

Ordinary Least Square

In the OLS method, the result shows equity capital, growth, debt to equity, underwriting risk and the capital surplus is significantly related to ROA. The capital surplus is significant but negatively associated with the financial performance of the insurance companies.

Whereas, the GMM estimator estimated that only liquidity, growth, debt to equity and underwriting is positively and significantly related to ROA. The capital surplus is also significant but negatively correlated with the financial performance of the life insurance companies in Pakistan.

Model 3 (Insurance Independent Variables):

In OLS model only insurance-related variables are taken to find the relationship. All the independent variables are positively related to the dependent variable but only underwriting risk is positively and significantly related to financial performance of Life Insurance Company.

In GMM underwriting and insurance leverage is positively and the capital surplus is negatively related to life insurance companies' financial performance. In these three variables, only underwriting is significantly related to ROA.

Model 4 (External Independent Variables):

In this only external variables are taken to find the relationship. In OLS, Inflation is significantly and positively related but GDP is negatively related to ROA. Whereas in GMM Inflation and GDP are significantly related but GDP and market share are negatively related to ROA.

6. DISCUSSIONS

In Model 1 which comprises on the all independent variables and dependent variables. Model 2 compromises of only internal variable. Model 3 compromises of only insurance leverage, capital surplus and underwriting risk. Model 4 only shows relationship between external variable and financial performance of life insurance companies. Model 1 shows that growth of premium has a positive and significant effect of financial performance. GMM estimates more strong and efficient result than OLS regression model. The GMM estimates that liquidity, growth, debt to equity and inflation are significantly and positively associated with the financial performance of life insurance companies. Underwriting is also strongly significant but negatively related to financial performance. But in OLS model of regression it shows a positive and significant relationship between underwriting and financial performance.

In model 2 only internal independent variables are taken to find a relationship with ROA. The OLS and GMM applied to estimate the relationship between them. The internal independent variable taken for study is liquidity, net premium, underwriting risk, growth, insurance leverage, equity capital, capital surplus, tangibility and premium growth. The GMM estimator estimates that liquidity, growth, underwriting risk and capital surplus are positively and significantly related to financial performance of the life insurance sector of Pakistan. In OLS debt to equity is also debt to equity and equity is also positively and significantly related to financial performance.

In Model 3 insurance variables (insurance leverage, underwriting risk and capital surplus) are taken to measure the relationship with financial performance of life insurance companies of Pakistan. The GMM estimator and OLS both indicate that underwriting risk is significantly and positively related to Pakistani life insurance companies performance. In model 4 external independent variables are taken to find an association with financial performance of life insurance companies. The GMM estimator and OLs regression model show that Inflation has a positive and significant relationship with life insurance companies.

The result of the research shows leverage, liquidity and growth are significantly and positively related to life insurance companies in Pakistan. As it is discussed in the previous researchers that liquidity is partially related to Ethiopian life insurance companies as discussed by Liquidity is partially insignificant to profitability of insurance company (Birhan, 2017). In this research two different leverage ratios are used debt to equity and insurance leverage in these two ratios as per result estimated debt to equity is positively and significantly related to financial performance but insurance leverage is positively related but insignificantly related to life insurance companies in Pakistan. The leverage ratio was also studied in Pakistan but not solely on life insurance sector. Malik (2011) have found leverage negatively related to profitability of life and non life insurance sector in Pakistan.

In Pakistani Life insurance companies growth variable also affect financial performance. There was also previously studied in Poland by Kozak (2011) who also found that growth factor is positively related to profitability and financial performance of the company. In this study, three insurance variables are also taken which shows in model 3 where it shows underwriting has a positive and significant relationship with the financial performance of the Pakistani life insurance companies. Insurance ratios were also used by Mark *et al.* (2003) which emphasis on the importance of actuarial valuation of the life insurance and non life insurance companies of North America. Ng *et al.* (2013) conducted a study to measure risk associated with the firm size of life insurance companies by using GMM estimator and fixed effects.in this study GMM estimator and OLs regression model are also used to estimate the financial performance.

7. CONCLUSION

This study has been conducted with the objective of finding the solvency and profitability of the life insurance companies in Pakistan. For this purpose, Return on Asset (ROA) is taken as dependent variable and liquidity, net premium, premium growth, underwriting risk, debt to equity, insurance leverage, tangibility, equity capital, capital surplus, GDP, inflation and market share are taken as independent variable. The sample size of this research is 10 years and data is gathered from 2008 to 2017 from 09 life insurance companies of Pakistan. The panel ordinary least regression model and the generalized method of moment model are applied to the collected panel data. To estimate, the efficient output for different model has been formed to find the financial performance affecting variables.

This study suggests that takaful life insurance companies should launch awareness programs in order to inculcate knowledge amongst the masses about the proximity and alignment of their product with the Islamic principles resulting in a significant and strong place in this sector. In this study, one public insurance company is also included, State Life Insurance Company of Pakistan which is leading in a run of premium weightage which is the most affecting part of any insurance company but due to the limited variety of life insurance products being offered, it has started losing its market share.

This study has covered some of the important ratios used in insurance sector to find leverage and liquidity of the insurance company's insurance leverage and capital surplus ratio. The inflation factor which is significant and positively related to profitability is also used in this study to find the profitability. The inflation has different implications on the profitability of the firm. The benefit of inflation on firm; the nominal revenue becomes negative which helps a company in its debt. The debt real value decreases reducing the value to debt to pay off and will affect profitability. But it may also cause negative impact and may raise demand but as life insurance companies are service providing company it would also be in their benefit. The study previously conducted hadn't covered whole life insurance sector but in this study all life insurance companies to date have been included.

This research highlights the importance and the need to strengthening the life insurance sector and the need of awareness to be inculcated on the conventional based and takaful based life insurance. Like most part of the world, Pakistan should also focus on providing the awareness of the need and the amazing benefits of the life insurance service for the locals. This research should help insurance sector to concentrate and work on the factors which increase the profitability and financial performance of the Pakistani life insurance companies.

7.1. Limitation of this Study

The limitations of this study are given below:

The internal Variables such as loss ratio, the volume of capital, age, corporate governance, number of board of director, variety of products offered by each life insurance and regulatory framework are not included in this study.
The external variable such as interest rate, number of life insurance policyholders and takaful vs. conventional business comparison on the basis of their businesses are not included in this research.

7.2. Future Scope of the Research

This study is comprised of total 13 variables one is dependent and reaming are independent variable such as liquidity, net premium, premium growth, underwriting risk, debt to equity, insurance leverage, tangibility, equity capital, capital surplus, GDP, inflation and Market share of the Pakistani life insurance companies. Future research studies may consider more external variable like interest rate, number of the insurance policyholder, regulatory and compliance structure of the companies. The internal factors which can be included in this study can be loss ratio, volume of capital and age of the life insurance companies. The future research may also compromise on the difference between Takaful and conventional insurance business. In the future study, more than one dependent variable can also be taken to measure Pakistani life insurance Company's financial performance.

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