

Economic Determinant of Family Takaful: Evidence from Pakistan

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Abstract

Family Takaful (Islamic life insurance) companies gain momentum in Pakistan with faster growth. The progression of Takaful as a business is flourishing day by day. Despite the fact that Takaful market is still undergoing its embryonic stages but the expected growth may reach 15% to 20% in the upcoming 10 years, with US\$ 7.4 billion as value contribution by 2015.

The present research aims to find out relationship between macro-economic factors and Family Takaful demand in Pakistan. To achieve the desired objective, the time series data has been collected from period of 2006 to 2013 on quarter basis. The study concludes that per capita income significantly affect family Takaful demand in Pakistan. The KSE 100 index annual turnover and interest rate are having positive relation with demand for Takaful while saving and inflation have negative relation with family Takaful demand. All independent variables are highly significant. It is suggested that Takaful insurance companies must open more branches in urban as well as in rural areas and counters for public facilitation along with educating the public about Takaful products.

Key Words: Takaful, macro-economic, companies

Humans are vulnerable to risks and protection against risks has remained the primary goal of human beings throughout history. The Code of Hammurabi recorded in Babylonian times is considered the first basic insurance policy in written form for the transport industry of that time. It was a kind of insurance through which traders paid loans in order to insure the safe arrival of their goods through caravans, which then faced a number of risks including robbery, inclement weather, and frequent breakdowns (The History of net, 2015). The Romans were aware of the multiple risks in their society and the benefits of insurances to protect citizens against such risks. Some historians have traced the origin of insurance to the burial clubs

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in the ancient Rome.

The members paid weekly payments to the clubs to ensure the funeral expenses of their burials. Similarly, the Roman government was required to protect military supplies against a number of risks such as enemy attacks and natural and manmade disasters (Fischer, 2009; Life quote, 2014). However, the beginning of modern insurance dates back to the 1688 when British merchants and ship owners made an agreement at Lloyd's coffeehouse in London to mutually share the losses and profit of sea voyages (Fischer, 2009). The 17th century saw the launching of many insurance companies across Europe, as the expansion of the British sea trade had played a major role in the development of the European insurance industry and its expansion to the British colonies (Fischer, 2009). Insurance companies arrived in America, where social and security conditions were different than Britain, a bit later and faced prejudices from the church as well. The first insurance company was founded in the British colony of Charleston, SC. The first fire insurance companies were formed in New York City and Philadelphia in 1787 and 1794 respectively (The History of net, 2015).

Certain practices in ancient India are believed to have been similar to insurance as well. The ancient Indian text of Rigveda refers to the concept of "Yogakshema", which means prosperity, wellbeing, and security of the local people. Similar practices are also mentioned in the writings of Manu (Manusmriti), Yagnavalkya (Dharmashastra), and Kautilya (Arthashastra). All of these ancient Indian writings discuss the pooling of resources that were re-distributed in times of natural calamities and unforeseen events such as epidemics, earthquakes, fire, floods, and famine (Medindia, 2015).

The British Raj in India introduced the modern insurance business to the urban centers of the Indian subcontinent. The Oriental Life Insurance Company, which was established in Kolkata in 1818, is believed to be the first

modern insurance company of the Indian subcontinent. The Madras Equitable began transacting life insurance business in the Madras Presidency in 1829. The British Insurance Act was enacted in India in 1870. Soon afterwards, the Bombay Mutual (1871), Oriental (1874) and Empire of India (1897) also commenced their operations in the Bombay Presidency (Medindia, 2015).

A. Overview of Islamic Insurance (Takaful)

Although Muslims believe in Qadha-o-Qadar (the will of God) in the context of natural and manmade disasters and unforeseen events and incidents, Islam does require that people must find ways to ensure themselves against such events and vulnerabilities (Hussain and Pasha, 2012). However, it was only recently when the first Islamic insurance company was launched in Sudan (in 1979). After Sudan, the development of Islamic takaful was undertaken in Malaysia in 1984 (Ali, 2006). The takaful companies have now started operations in other Islamic countries as well as in Europe (Alsalihi and Napier, 2012).

Islamic insurance (takaful) is based on the concept of mutual cooperation and mutual protection of the members in a group according to the teachings of Islam and Islamic law (shariah). The word takaful is derived from Arabic word kafala, which means to take the responsibility of someone's in time of needs (Bakar, 2009). Takaful system is basically a risk mitigation tool. A group of people develop a mutual fund to help each other in rainy days or against the loss or damage to property and life of any member of takaful funds (Wahab, Lewis, & Hassan, 2007). Although the concept of takaful is similar to the conventional insurance when it comes to providing protection to members, it is different than the conventional insurance when it comes to the ways and means of providing protection. Islamic insurance does not involve haram elements such as Maysir (gambling), Riba (usury) and Gharar (uncertainty), which are a usual business in the conventional

insurance industry.

Moreover, it is aimed at bringing equity to the members involved and helping them during hard times (Hussain and Pasha 2011). The takaful contract should be clear on avoiding Gharar. The takaful companies and their clients should be clear about the terms and conditions of various insurance contracts laid down in the light of the Islamic law and guided by the shariah boards of the companies. There should be no unknown elements in atakaful contract. The term Maysir is the extreme form of Gharar (uncertainty) and is forbidden in Islam. Riba (usury) is also haram under the Islamic law. Therefore, the takaful funds are invested only in shariah compliant projects approved by the shariah boards of the takaful companies. Thus shariah compliant investment is the cornerstone of the Islamic insurance funds.

The concept of the Islamic insurance is based on the Arab tribal customs and practices and was in use even before the time of the Holy Prophet Muhammad (S.A.W). In the Arab tribal system, whenever a member of a tribe killed another person accidentally, the whole tribe was responsible for paying the blood money to the victim's family or tribe. The whole tribe thus created a fund through mutual cooperation to pay the blood money of accidental death. This kind of compensation for murder was known as Diat, while such funds were known as Aqilah (Klingmuller, 1969). According to Hussain and Pasha (2011), such practices were even made mandatory during the time of the second Caliph, Saydina Umar (R. A. A). Other scholars who follow similar interpretations (e.g., Billah, 1996, Esman, 2008, Shahzad, 2009), also argue that insurance is not forbidden in Islam as the new religion kept it during its early days and did not question it later as well.

a. Overview of Insurance Industry in Pakistan

Like other developing countries, the insurance sector in Pakistan is also evolving in an environment of opportunities and challenges. The government of Pakistan has taken a number of

steps to reform the country's insurance industry. Under its nationalization policy, the Zulfikar Ali Bhutto (ZAB)'s government had established the State Life Insurance Corporation in 1972 and merged all of the existing 32 insurance companies working in the country into this corporation. Only the state corporation was allowed to provide financial protection and insurance facilities to citizens. After the failure of ZAB's policy, the government started issuing licence to local and foreign private investors in the insurance sector in 1992. It was a late move with little focus on the part of the democratic governments (of PML-N and the PPP) that followed after the end of the Zia regime. Presently, many private and foreign insurance companies are working in Pakistan. These companies include the Jubilee Life Insurance Ltd., EFU Insurance Ltd., Adamjee Insurance Ltd., American Life Insurance Ltd., etc. But, these are limited companies. The Securities and Exchange Commission of Pakistan (SECP) regulates the insurance companies. The government also takes steps to standardize insurance policies and their premium rates so that a large segment of population could be covered under insurance policies. In 2001, there was US \$168 million worth life insurance market in Pakistan. Pakistan's insurance sector, however, needs regulatory framework to compete with international markets. The SECP (2014) has also recently stressed that compliance issues related regulatory framework is vital for the development of insurance sector in the country.

The modern conventional insurance system involves direct Riba (the collection of premium means insurance cost) and indirect Riba (return on invested money). For example, companies invest clients' money in fixed interest earning activities like fixed deposit with banks and purchasing of term finance certificate t-bills, etc. All such practices of insurance companies promote interest, which is haram in Islam. Moreover, Gharar (uncertainty), which is also haram in Islam, is also visible in the conventional insurance contracts. For

instance, the insured person does not get any benefit if an accident does not happen to him or her while the companies have to pay 10 to 20 times more to an insured person against the paid premium. Similarly, Maysir (complete profit to one party at cost of complete loss to other party) is also forbidden in Islam (Mustawali, 2012). The conventional insurance thus contradicts Islamic law and any association of it with takaful would affect the perception of citizen in Muslim countries about Islamic insurance.

However, as takafulis different from the conventional insurance keeping in view the three factors mentioned above, majority of Islamic scholars believe that takafulis acceptable in Shariah if premiums are collected on the basis of mutually co-operated donations known as Tabarru (Obaidullah, 2005). In Pakistan, takaful companies started operation as limited companies registered with the SECP's insurance division. The companies are permitted to start takaful operations and provide financial protection according to the shariah as advised by their shariah boards. The Pak Kuwait Takaful Company was the first takaful company that started operations in Pakistan in 2005.

Currently, there are two types of Takaful companies working worldwide:

1. General Takaful Company
2. Family or Life Takaful Company

So, the contribution of a member is allocated in two different accounts and used for two different purposes and that is the risk coverage and investment according to shariah.

In 2014, the takaful industry remained strong in the key markets of Saudi Arabia, United Arab Emirates (UAE) and Malaysia. Overall, the takaful industry grew by double digits (14%) in 2014 worldwide (EY, 2014). However, unlike the more developed Islamic banking sector, the Islamic insurance sector still has a smaller asset base. The global Islamic finance market was around US \$ 2 trillion in 2014, while the takaful market is expected to reach only US \$ 20 billion in 2017

(EY, 2014). According to a report of Deloitte (2014), the global takaful insurance market showed a double-digit growth showing 18% Compound Annual Growth Rate (CAGR) between 2007 and 2012 with worldwide gross takaful contributions of US\$18.3 billion in the first half of 2013. Despite the small share of Islamic insurance in comparison to Islamic banking, analyses of markets indicate towards the growing prospects of the takaful industry in the Islamic countries, particular in the Middle East, South Asia and Africa (Deloitte, 2014).

B. Takaful Industry in Pakistan

Pakistan is the seventh populous country in the world with a Muslim majority and Islamic ideology as the theoretical framework of the country's constitution. The estimated population of Pakistan is around 182.87 million as of 2014 (the government has conducted no census since 1998) of which 97% are Muslims (Deloitte, 2014). This makes it a very fertile market for takaful industry. However, the takaful business is still in formative stage in the country and is expected to grow by 15-20% in the next ten years.

The prospects of growth are associated with a number of tough challenges that are hindering the growth of the takaful industry in Pakistan such as the low income of majority of the citizen, inflationary trends, and unstable macroeconomic determinants. Moreover, the chronic electricity and gas shortages in Pakistan and terrorism are deterring the economic growth and social stability of Pakistan (Khan, 2014). After joining the U.S.-led "War on Terrorism", Pakistan has suffered US \$ 80 billion losses between 2003 and 2014 apart from the roughly 50,000 people killed in terrorist attacks (The News, 5 December 2014).

Only five takaful companies are currently working in Pakistan. Among these are two family takaful companies and three general takaful companies. But, according to the market players, a strong Islamic insurance system could still be developed in the country that could play a major role in the

economic development and job creation (Dawood Family Takaful, 2014). The prospects of the Islamic insurance could be gauged from the fact that the conventional insurance is currently only covering 0.8% of Pakistan's market. The low base of the conventional insurance in Pakistan is due to the general perception of the people that insurance is haram in the light of shariah. Despite the fact that almost a similar number of Muslims live in India (as minority though) as in Pakistan, the total collected premium of takaful was US \$ 38 billion in India compared to only US \$ 9 billion in Pakistan (Dawood Takaful, 2014).

But, elsewhere in the better off Islamic countries, the growth momentums of takaful industries are faster. For instance, the Islamic insurance system in Malaysia, which started in October 1982, has come a long way that includes new regulatory framework implemented by the Central Bank of Malaysia in 2012 and revised in 2013 and the Islamic Finances Services Act of 2013 (Deloitte, 2014). Similarly, the GCC region, including KSA, has recorded a stable insurance and takaful industry growth (10% to 20%) between 2008-2012 mainly due to the implementation of new regulations with compulsory health and motor insurance schemes (Dunya Globe, 2014).

C. Statement of the Problem

The Takaful progress is remarkable in many Islamic states like Malaysia with 23% growth, UAE 15.20%, Saudi Arabia 60.70%, Bahrain 6.20%, and Qatar 45% compared to Pakistan's 5%. The three decades prior to 2005 was a period of stagnancy for Islamic insurance in Pakistan, as no progress was witnessed in the takaful due to unsuitable regulatory and legal frameworks and a lack of support on the part of the central governments. Since 2006, the takaful market in Pakistan is expanding gradually but still not as per its true potentials and speed.

There is a need for a basic question to be asked: Whether the late start and low demand for family takaful in

Pakistan is due to the low per capita income, fluctuation in interest rate, inflationary pressure, low savings rate, and the unpredictable stock market?

D. Objectives of the Study

The research objectives were:

1. To analyze the nature of relationship between the demand for family *takaful* and five macroeconomic determinants: the per capita income, the inflation rate, savings rate, interest rate, and the KSE 100 in Pakistan.
2. To put forward suggestions to *takaful* companies based on research findings for better growth.

E. Significance of the Study

Most of the contemporary research on *takaful* has been done in Malaysia and some Gulf countries. There is a lack of academic research on the *takaful* industry in Pakistan. This could be mainly due to the reason that the Islamic insurance industry is still in its infancy in Pakistan. The three decades of stagnancy ahead of 2005 and the lack of fast growth since 2006 could be the two major reasons behind the lack of research on the Pakistani *takaful* industry, which includes some major players from the Gulf countries as well.

While reviewing the relevant literature, it was noticed that most of the available research on Pakistan's market focused on the comparison between the Islamic and conventional insurance systems and why the people generally considered insurance as haram. The existing research has ignored the relationship among the family *takaful* and other major macroeconomic determinants such as the per capita income, level of prevailing interest rate, price level, saving rate, and the KSE 100 index in Pakistan. This study fills in this gap in the existing research.

The study is also an effort to determine how significantly the above stated variables affect the demand for family *takaful* in Pakistan that is less than 5% of Pakistan's

market since the launch of the industry in 2006, much lower than other Islamic countries such as Malaysia and some Gulf States.

Review of Literature

This chapter reviews the research work conducted recently in Pakistan as well some other countries on Islamic insurance.

It was Yaari (1965) who explored that the demand for life insurance was dependent upon the income and wealth conditions of a country's population. The higher the income and wealth the higher will be the demand for life insurance policies. Other factors, such as market interest rate, price level including premium of insurance industry, wealth utilization ratio, growth of commercial banks, and growth of insurance industry could also affect the demand for life insurance. Outreville (1990) highlighted that insurance premiums were dependent upon the level of income of the people, the level of economic development, the level of financial development, and the structures of the insurance companies in a country. If these indicators grew at higher rate, the insurance premiums deposited by the consumers would also grow at a higher rate. He added that the demand for life insurance was found to be positively related to the real disposable personal income and negatively related to real interest rate in market, projected inflation, and the insurance premium.

Yusof (1996) explained that takaful business would be effective only if takaful companies used all ethical rules and regulations as per the Islamic Shariah as Muslim countries needed developed and efficient financial markets. For the development of financial market, it is necessary for a country to have an Islamic insurance industry developed on modern lines and that is Shariah compatible. According to Yamori (1999), the corporate sector's demand was dependent upon the regulatory structure of insurance companies in a country. If the available rules and regulation were flexible, the demand for corporate

insurance would increase. On the contrary, if the rules and regulation were inflexible according to organization's behavior, it would negatively impact upon a country's corporate insurance demand. For his study, Yamori (1999) collected data from 504 corporate sectors. He used the OLS method and found out that every corporate sector was interested to protect its property and workers in the industry. However, inflexible behaviors of insurance industry negatively affected their demands.

Browne and Khan (2000) found that life insurance consumption depended upon the economic reforms, law and order situation, political stability, and social developments in a country. According to these scholars, income had a significant impact on the demand for life insurance consumption in a society. A number of other factors, which could also affect life insurance demand and life insurance consumption, were political conditions; unequal distribution of wealth, legal frameworks for the insurance sector, the level of education, religious affiliation, and life expectancy in a society. As far as the Islamic life insurance is concerned, Chua (2000) pointed out that in takaful Shariah compliant insurance it was necessary that both the company and the client must make a mutual contract with a positive attitude and mutual cooperation. According to Chua (2000), the Islamic insurance system could be used as a tool of poverty reduction in Islamic countries and wellbeing of the members. Takaful system could solve the issue of economic disparity through mutual cooperation with the insurance policyholders.

Levine et al (2000) observed that a country with a stable law and order situation coupled with a good credit reputation would always positively affect its insurance sector. Moreover, Black and Skipper (2000) found that people in countries with high per capita income had the tendency to invest money in various institutions, especially in the insurance sector. They said that if the level of per capita income increased in a country, the purchasing of life insurance also increasing, and vice versa. As

mentioned earlier, previous research found that political stability was a key factor in the development of the insurance industry in a country. Findings of Ward and Zurbruegg (2002) reinforced this notion. They stated that political stability in a country had a positive correlation with life insurance consumption. Zou et al., 2003 observed that a number of factors such as ownership system, geographical location, private or government ownerships significantly affected the life insurance demand in a country. They concluded that leverage were positively related to property insurance and negatively related to the state ownership and tax system in a country. On the contrary, the demand for property insurance was positively related to ownership and managerial system while negatively related to the size of the property.

Daniel and Paul (2003) argued that the expected rate of default, the rate of high cost, and the size of a business were the important determinant of property insurance. A number of other scholars (i.e., Redzuan, 2007) found that per capita income was the main factor related to the family takaful consumption in Malaysia at a large scale. According to Redzuan (2007), in the long run there were some other factors, which affected family takaful consumption, such as the performance of the stock exchange, the rate of interest in the markets, rate of inflation, and savings rate. Macroeconomic variables are also linked to the development of insurance industry in a country. In the case of Malaysia, Rehman et al. (2008) found that family takaful business was dependent upon the macroeconomic variable like per capita income, employment, inflation, and national income. The study argued that takaful was one of the factors in the economic development of Malaysia. With the establishment of Takaful Malaysia and Takaful National in 1984 and 1994 respectively, the socio economic conditions in Malaysia improved alongside the macroeconomic variables, including the GDP, CPI, and T-bills.

Citing their findings based on the data collected from

different banks and insurance companies in Malaysia, Rahim and Amin (2011) argued that purchasing of Islamic life insurance policies depended upon the attitude and behavior of the sales force of an Islamic insurance company. They stressed the need for more professional and skilled sales representatives of the takaful companies who should be well versed in the interpretation of Shariah and interpersonal communication. Masud (2011) concluded that takaful Islamic insurance system was better in financial terms than conventional insurance and it was also a sound alternative to the conventional insurance in Malaysia. Aysha et al, (2012) comparatively examined consumer preferences towards takaful Islamic insurance and conventional insurance systems in the UK and Saudi Arabia. The study concluded that customers were attracted towards the takaful Islamic insurance system as compared to conventional insurance. Ayinde and Echchabi (2012) argued that Malaysian customers' were willing to utilize and invest their capital in the Islamic insurance system.

In the context of public preferences and understanding of Islamic insurance system by consumers in Brunei, Mastawali et al, (2012) found that the success of the takaful companies in Brunei was due to the fact that they clearly demonstrated what made the conventional insurance system Haram and takaful Halal in the light of Shariah. Better interpretations of takaful products in the light of Islam and in comparison to the conventional insurance products were the key elements in the success of Islamic insurance industry in Brunei. In the case of India, a country that has a Muslim population of the level of Pakistan's total Muslim population, Nuet al., (2013) found that the Islamic insurance industry was yet to take off in India.

A. Summary of Literature Review

By reviewing the relevant literature regarding Takaful Islamic insurance system it was observed that Malaysia, Burani, UAE, Saudi Arabia, and some other Gulf States have remained

the focus of the existing research works in the field of *takaful* Islamic insurance. From the existing literature, it is also concluded that most of these Islamic countries are more developed than Pakistan in terms of national income, per capital income, political stability, performances of the stock markets, price stability, and financial and banking sectors. The lack of development in the Islamic insurance in Pakistan is mainly due to the infancy of the system. This fact is also mirrored in the lack of research work on the Pakistan's *takaful* industry, particularly in relation to other important factors such as the macroeconomic indicators, political stability, and the financial sector.

Previous research also indicated that while Pakistan's market is ignored by *takaful* researchers most of the studies have also focused on the comparison between Islamic and conventional insurance system and ignored other related areas and factors that affected the demand for the Islamic insurance in a country. This research is aimed at filling in this research gap. Not only is this research focused on the under-researched Pakistan's Islamic insurance market, it has also linked the demand for Islamic insurance in Pakistan to five macroeconomic aggregates in Pakistan, i.e., the per capita income of the country, interest rate in banking sectors, inflation rate in the country measured by CPI, saving rate, and KSE 100 index. Pakistan's Islamic insurance market is an emerging one with more prospects of further expansion than the already-saturated Malaysian market for instance. This research is also aimed at offering some guidelines and suggestions to the Islamic insurance companies in Pakistan regarding the expected growth in the market in relation to other macroeconomic indicators and how could these companies predict such growth and prepare for maximum utilization of the opportunities to reach out to more potential consumers of the Islamic insurance plans.

Research Design

This chapter explains the methodology and empirical framework this study adopted for the quantitative content analysis of the existing literature in order to explain the relationships between the demand for the Islamic life insurance in Pakistan and the country's five microeconomic indicators—the per capita income, inflation rate, savings rate, interest rate, and the Karachi Stock Exchange (KSE) 100 index.

i. Theoretical Framework

The literature review gave an overview of various economic and social factors affecting the insurance consumption policies. It was observed that disposable income, wealth status, and saving propensity played a major role in the insurance consumption. Previous research also demonstrated that the demand for life insurance consumption was also significantly linked to the inflation rate in a country. During an inflationary phase, people usually converted their earnings into long-term investment opportunities, such as insurance policies. Whenever the inflation level was high the value of money decreased gradually and people often preferred liquid investment and avoided long-term investment options. In inflationary situations, people were prone to investing their money in fixed return scheme. On the contrary, they did not prefer to invest in unexpected investment like insurance. Thus, the previous studies showed that inflation had a negative relationship with insurance demand and long term planning and investment. The demand for life insurance usually decreased during volatile economic times (Black and Skipper, 2000).

A review of some of the existing literature showed that the takaful consumption depends upon different factors. Furthermore, the demand for family takaful plans could be explained by the level of per capita income, rate of return on capital (interest rate) in the country, the level of price (inflation rate) of the economy, savings rate of the country and turnover of stock market index (Truett and Truett; 1990, Outreville;

1996, Hussels, Ward, Zurbruegg; 2002, Hwang and Gao; 2003, Hwang and Greeford, 2005).

In this study, the general form of theoretical frame work could be described in the following functional relationship between takaful demand and the theorized determinants as follows:

$$\text{Demand} = f(\text{per capita Income, Rate of Interest, Inflation, savings, stock}) + \varepsilon$$

The measurements of all the variables, which are discussed in the model, are briefly examined below.

Dependent Variable:

In our model, the demand for family takafulis represented by the number of total membership obtained with takaful companies in a given time period.

Independent Variables:

A. Per capita Income (national income/population)

Per capita income is the most important element that can affect the level of insurance consumption in a country. A number of previous empirical studies showed that the demand for life insurance was positively related to per capita income. (i.e., Fischer, 1973; Fortune, 1973; Campbell, 1980; Beenstock, Dickinson, and Khajuria, 1986; Lewis, 1989). A number of other cross-national studies also supported the existence of a relation between per capita income and life insurance consumption (see Truett and Truett, 1990; Browne and Kim, 1993; Outreville, 1996; Hwang and Greenport 2005).

Moreover, Ward and Zurbruegg (2002) and Beck and Webb (2003) found similar findings when they used income per capita as a proxy. These scholars have measured income mostly as a variant of the Current GDP per capita, which could be assumed to provide a proxy for permanent income. Accordingly, this study has used the ratio of GDP to the population to represent income per capita.

B. Interest Rate (Return on Capital)

A number of studies have also established the

relationship between the rate of interest and the demand for life insurance consumption (e.g., Beenstock, Dickinson & Khajuria, 1986; Browne & Kim, 1993; Outreville, 1996; Beck & Webb, 2003). Black and Skipper (2000) highlighted the possible effects of short-term interest rate on the demand for life insurance consumption. This study has adopted the approach of Beenstock, Dickinson, and Khajuria (1986) by using the lending rate to proxy the long-term interest rate of the country.

C. Inflation

Previous research also demonstrated that the existence of relationship between inflation and demand for life insurance consumption (see Fortune, 1973; Babbel, 1981; Browne & Kim, 1993; Beck & Webb, 2003; Hwang & Greenford, 2005). The demands for life insurance usually decreased during unstable economic times (Black & Skipper, 2000). Choate and Archer (1995) hypothesized that customers' expectations about the rate of inflation were established by the inflation rates in prior years. Based on these findings, this study used the consumer price index (CPI) to approximate for inflation.

D. Savings

Previous studies also empirically observed the relationship between saving rate and demand for life insurance consumption (e.g., Headen & Lee, 1974; Rose & Mehr, 1980; Mayer & Smith, 1983; Black & Skipper, 2000; Beck & Webb, 2003). They highlighted that when saving rate increased the prospective saver became much more inclined towards buying insurance policies. Like some of these previous studies, this study also used savings as a variable.

E. Stock market turns over

A number of previous studies attempted to correlate life insurance demand to the stock market performance (see Fortune, 1986; Headen & Lee, 1974). Previous research highlighted that some level of competitive relationship existed between the flow of money to the stock markets and the demands for life insurance. It was expected that increasing

prices of stocks would accelerate the flow of fund towards stock, and this stimulation would be the cause of decline in the life insurance demand. In this study, the variable stock is measured by the KSE 100 (Karachi Stock Exchange) index.

Empirical Model

In this study, the general multiple regression model is expressed as a log linear equation to test and examine the relationships between the demand for family takaful consumption (the number of policies purchased over a period of time) as the dependent variable and the level of per capita income, interest rate, inflation rate, savings rate and KSE100 index as the explanatory or dependent variables.

As not all the chosen variables are in the same units - the demand for life insurance is in thousands while savings, inflation, and interest rate are in the forms of percentages – this study used the log linear model that transforms the data into similar units using natural log. The log linear regression model is given below:

$$\Delta \ln DEMAND = \beta_0 + \beta_1 \Delta \ln PCI + \beta_2 \Delta \ln INT + \beta_3 \Delta \ln SAV + \beta_4 \Delta \ln INF + \beta_5 \Delta \ln STX + \varepsilon_t$$

$\Delta DEMAND$ = Number of policies purchased per quarter in Pakistan.

ΔPCI = Per capita income of the population per quarter in Pakistan measured in thousands.

ΔINT = Prevailing market interest rate per quarter in Pakistan measured in percentage.

ΔSAV = Rate of return for savings per quarter in Pakistan measured in percentage.

ΔINF = Inflation rate per quarter in Pakistan measured in percentage.

ΔSTX = KSE 100 index turnover per quarters return in Pakistan measured in billions.

ε_t = Stochastic error term

β_0 is an intercept and the partial regression coefficients $\beta_1, \beta_2, \beta_3, \beta_4$ and β_5 , are unknown parameters.

Data Source of Existing Literature on Takaful

The family takaful industry in Pakistan was launched quite recently (in 2006). Therefore, it was not possible to take observations over a longer period of time to analyze the macroeconomic determinants of takaful consumption. The data for the number of takaful policies sold was taken from the Takaful Reports compiled by the two takaful companies, namely Dawood Family Takaful and Pak Qatar Family Takaful and represent the whole Pakistani market. The economic data regarding other explanatory variables like per capita income, saving rate, inflation rate, and rate of interest were obtained from the economic surveys of Pakistan issued by the Pakistan's Ministry of Finance between 2006 and 2013. The data were taken on quarterly basis.

To ascertain the relationships between the demand for family Takaful and per capita income, rate of return on capital (interest rate), price level (inflation rate measured by CPI), rate of saving, and the KSE 100 index in Pakistan for the period 2006-2013, the study conducted a quantitative content analysis of existing literature on the Pakistan's takaful industry, which included the takaful reports published by the Dawood Family Takaful and Pak Qatar Family Takaful companies between 2006 and 2013. The economic data regarding per capita income, saving rate, inflation rate, rate of interest, and the KSE 100 index were obtained from the economic surveys of Pakistan published by the Ministry of Finance, Pakistan, between 2006 and 2013 on quarterly basis. The economic survey of Pakistan is published each year ahead of the federal budget, which is presented to and discussed in the parliament in June, the end of the financial year in Pakistan.

A. Testing Stationarity

To apply different tests, this study used the E-views and SPSS software. Moreover, this study also used the unit root tests (Dickey Fuller and Augmented Dickey Fuller) to observe the Stationarity (non-Stationarity) of time series data.

B. Testing Basic Econometric Problems

The tests for auto correlation and heteroscedasticity were used to observe whether the basic econometric problems existed or not. The serial autocorrelation was tested through the Durbin Watson test and heteroscedasticity through the White test. Similarly, we checked the multicollinearity by using the Variance Inflation Factor (VIF) measure to observe whether it was within the acceptable limits or otherwise.

Results and Discussions

This part of the study describes the results of the time series data collected from the existing literature on takaful and the five macroeconomic indicators to meet the objectives of this study. The study used the SPSS version 16 E-views software for the analysis of data. By analyzing the data on quarterly basis, it was calculated that the GDP per capita increased more than two-folds from about Rs. 59,500 to Rs. 131,500 while the number of family takaful plans purchased by consumers increased 120 times from nearly 200 takaful plans per annum to 24,500 per annum (Family Takaful company annual reports 2006 to 2013).

1. Results of Stationarity Tests

To know whether the data was stationary or non-stationary, we used the Augmented Dickey Fuller test. The results of ADF of all the variables including inflation, saving, per capita income, and stock exchange were non-stationary at level. In the second step, we checked the data at first difference. The results of the first difference showed that all the variables were stationary. The results are mentioned in table 4.1 below that shows all variables in the first difference form.

Table 4.1: Stationary results at level and at First Difference

Variables	AtLevel		At1 st difference	
	With trend and Intercept	Result	With trend and Intercept	Result
Inflation	-0.445 (0.803)	Non Stationary	-5.00* (0.000)	Stationary
Interest Rate	-1.63 (0.74)	Non Stationary	-4.67* (0.005)	Stationary
Per Capita Income	-3.4 (0.075)	Non Stationary	-5.075* (0.003)	Stationary
Policy Sold	-1.93 (0.60)	Non Stationary	-4.15* (0.0048)	Stationary
Saving	-2.01 (0.28)	Non Stationary	-5.00* (0.000)	Stationary
Stock Exchange	-1.61 (0.098)	Non Stationary	-7.67* (0.000)	Stationary

Probability values are reported in parentheses. The ADF statistics are computed with trend and intercept.

*Indicates significance at 1%

***Indicates significance at 10% level

2. *Estimated Results of Model at first difference.*

The table 4.2 shows the estimated parameters of the first difference log linear regression model using family takaful demand expressed by the number of policies sold per quarter by family takaful companies in Pakistan as the dependent variable. The parameters explaining variability show the per capita income, interest rate, and inflation measured by CPI on quarterly basis. Similarly, the parameters also show the saving rate expressed by per quarter return on saving accounts of private commercial banks and stock variable with the Karachi Stock Exchange per quarter turn over.

Table 4.2: Dependent Variable Takaful Demand Expressed as the Number of Policies Purchased by Consumers

Variable	Co-efficient	Std Error	t-statistic	Prob.
Δ In PCI	9.11	.188	48.54	.000
Δ In INT	1.17	.037	31.63	.000
Δ In INF	-5.09	.195	-26.11	.000
Δ In SAV	-7.93	.315	-25.20	.000
Δ In STX	2.82	.102	27.69	.000
Constant	-3.21	.009	-351	0.019
R-Squared= 0.837 Adj. R-Square= .840 F-value=385.41 (p-value=0.000)				
Note: All variables are used in the first difference form.				

The estimated coefficients at first difference showed the expected positive relationship between the three variables- per capita income, rate of interest situation, and stock market return - with the number of Islamic insurance policies purchased per year in Pakistan (the family takaful demand). However, the data showed a negative relationship between the two other variables- inflation and savings - and the demand for family takaful. Nonetheless, all of the five variables (macroeconomic indicators) of this study showed significant effects on the demand for family takaful in Pakistan.

The R square, which is 0.83, shows that 83% of the variation is recorded by the explanatory variables. The F value shows that the overall model is significant. All of the five variables in the estimated models are in the form of first difference as shown in table 4.1 (the data is non-stationary at level and became stationary at first difference). Furthermore, the results showed that income is highly significant and robustly predictive of the demand for family takaful in Pakistan. The reason of positive stock sign may be the unpredictable behavior of stock market or because of the indicator variable for the stock.

Generally, the higher R square is considered an indicator of severe multi-co linearity. However, in the case of this study, the test of variance inflation factor (VIF) was conducted indicating that all values were less than the standard benchmark of 10 showing that there was no problem of severe multi-co linearity. The results are summarized in table 4.3 below:

Table 4.3: Variance Inflation Factor for testing Multi-co linearity.

<i>Explanatory Variables</i>	<i>VIF</i>	<i>Tolerance</i>
<i>Per Capita Income</i>	6.834	.146
<i>Interest Rate</i>	2.164	.462
<i>Inflation</i>	3.333	.300
<i>Saving</i>	1.376	.727
<i>Stock</i>	7.175	.139

The company reports of both the Dawood Family Takaful and Pak Qatar Family Takaful (2006 to 2013) were also examined to present some of the key information such as the annual sale of memberships, segment-wise contributions of the takaful companies, growth of different funds, and participants of takaful funds (see table 4.4.).

Table 4.4: Takaful Policies Sold on Yearly Basis by the Two Family Takaful Companies in Pakistan

<i>Year</i>	<i>Dawood Family Takaful</i>	<i>Pak Qatar Family Takaful</i>	<i>Total Demand</i>
2006-07	0	800	800
2007-08	0	1733	1733
2008-09	1424	4915	6339
2009-10	5818	6900	12718
2010-11	9322	8165	17487
2011-12	14954	7388	22342
2012-13	19029	5676	24705
<i>Total</i>	50547	34777	86124

Source: PQFT Annual Report 2013

The Pak Qatar Company sold only 800 family takaful policies in 2006-07 in Pakistan, the first year of its operations. In the following financial year (2007-08), the number of

customers more than doubled to 1,733. In the financial year 2009-10, when the Dawood Family Takaful Limited also started its operations in Pakistan, the number of Islamic insurance plans sold to consumers doubled. The upward trend continued (as table 4.4 shows) and the total number of takaful insurance plans sold by both the companies reached 86,124 in the financial year 2012-13.

Table 4.5: Segment-wise overall contribution of Pak Qatar Family Takaful in Pakistan

Years	Individual Family	Group Family	Group Health	Total
2012	3.87	0.18	0.41	4.46
2013	2.93	0.15	0.25	3.32

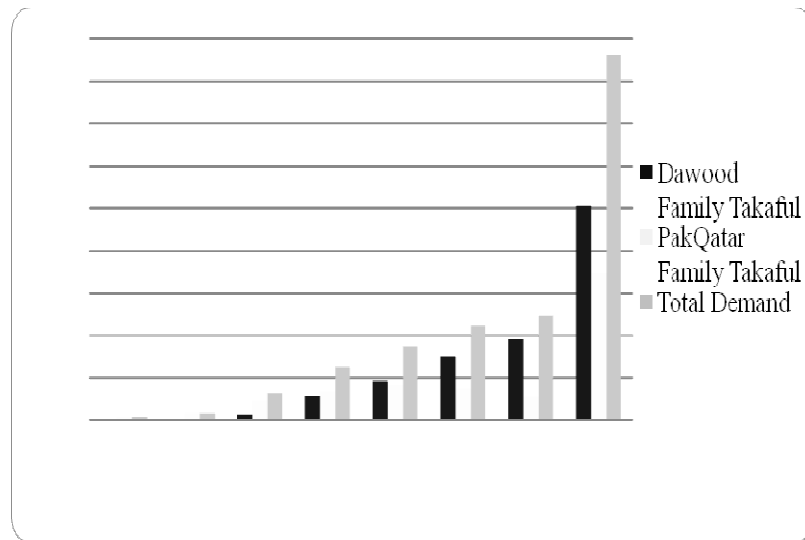
Source: PQFT Annual Report 2013

Table 4.6. Participants Takaful Funds of PakQatar Family Takaful (Annual performance in million Rs.)

Particulars	2009	2010	2011	2012	2013
Individual Family	4045257	6333103	22248500	65425009	66604673
Group Family	1274804	7882762	6159972	10104157	13483756
Group Health	454077	11149279	11593729	30327328	21709614
Total	2316376	3066586	16814743	45201838	101798043

Source: PQFT Annual Report 2013

Figure. 4.1 Segment-wise overall contribution of Dawood Family Takaful and Pak Qatar Family Takaful in Pakistan

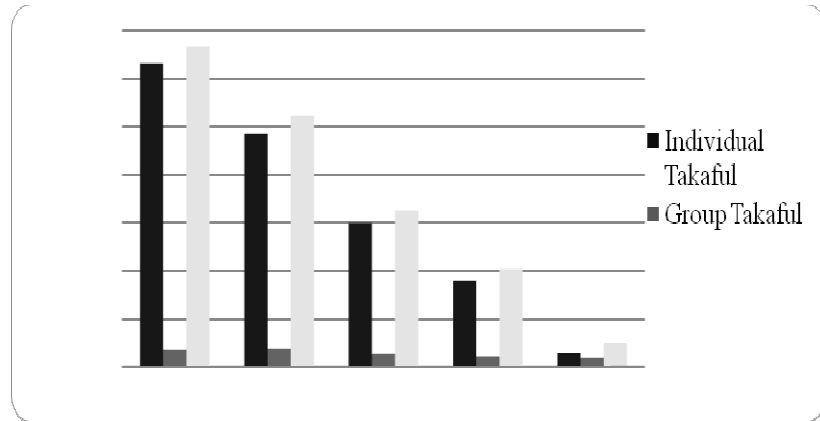


Source: PQFT and DFT Annual Report 2013

The figure 4.1 above shows the collective performance of both the Dawood Family Takaful Limited and Pak Qatar Family Takaful Limited in terms of Pak Rupees in millions. The collection of contributions and the number of customers saw growth on a yearly basis for both the companies. The trend indicates that Pakistan's Islamic insurance market is still not only in its infancy but there are also more prospects of further growth as the market is yet mostly unexplored. The growth in the number of customers every year provides an opportunity to all those foreign and international investors who are interested in starting family takaful business in Pakistan.

Until last year, both these family takaful companies have collected Rs. 84000 million. It was observed that macro-economic variables have a significant effect on family takaful businesses. When the level of per capita income increases in the country, the demand for insurance policies also increases. The saving and interest rates also have a positive effect on the growth of the family takaful business.

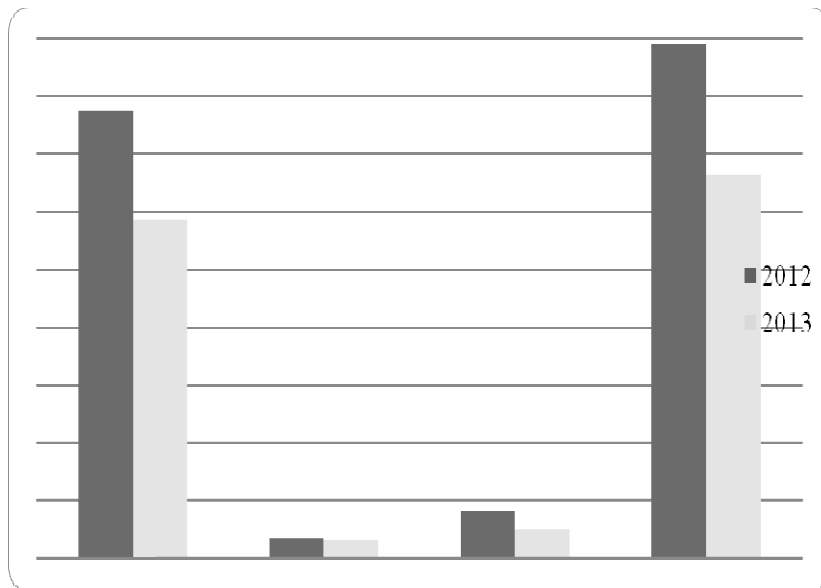
Figure 4.2: Segment-wise overall contribution of Dawood Family Takaful in Pakistan



Source: PQFT Annual Report, 2013

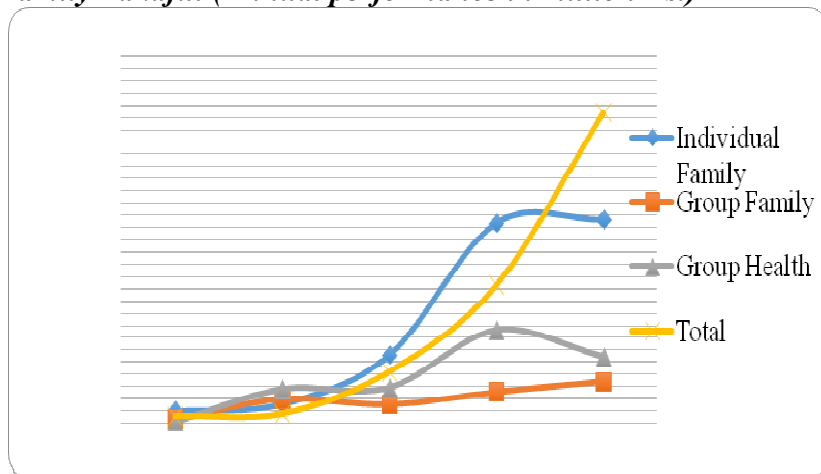
The figure 4.2 shows that family takaful companies are in contact with different types of clients in Pakistan. Some of the clients are individuals involved in the personal income purchasing family takaful plans. The figure 4.2 shows that the total contributions collected from the individual clients. Group Takaful are those clients where different organizations are providing family takaful plans to their employees. These organizations are paying their social security's funds to the Takaful companies and in return the Takaful companies are providing different types of hospitalization, death and disability coverage's to the insured employees of organization.

Figure 4.3: Segment-wise overall contribution of both the companies in Pakistan



Source: PQFT Annual Report, 2013

Figure 4.4: Participants Takaful Funds of PakQatar Family Takaful (Annual performance in million Rs.)



Source: PQFT Annual Report, 2013

The Pak Qatar Family Takaful is a leading pioneer company in family Takaful business in Pakistan. The table and the figure above show contributions paid by both individual customers and group customers to the family Takaful companies for taking health and group life coverage's between 2009 and 2013. The data show that the graph of contribution

collection increased every year.

The Dawood Family Takaful Company only works in the field of individual customers while The Pak Qatar Family Takaful provides family takaful services to individuals as well as groups. All these contribution are empirically examined and the results showed that the volume of contribution are directly dependent upon the macro economic variables - per capita income of the country, saving rate, interest rate, the rate of inflation, and the growth of stock markets.

Conclusions and Recommendations

a. Conclusions

Despite its late launching in Pakistan, family takaful companies have already gained momentum with prospects for faster growth and expansion in the near future. As Pakistan's takaful market is still in the developing stage with a large uncovered population, market research indicates the potential for massive growth in the sector, far better than the already saturated developed markets of the Islamic countries, such as Malaysia. The growth in Pakistan's takaful market is expected to reach 15% and 20% of the total insurance market in the next ten years, with a size of US\$ 7.4 billion in the form of consumers' contributions in 2015. With a Muslim majority and large population (of estimated 187 million) most of which currently harbor negative opinion about the conventional banking and insurance systems that are based on interest, Pakistan's takaful potentials could be exploited by well-planned advertising campaigns launched through the help of the community leaders and religious scholars representing different sects of Islam. As most of Pakistan's population is still concentrated in villages despite the burgeoning urban population while 80% of the country's population don't have even bank accounts, Islamic insurance companies working in Pakistan have to take a grassroots level approach to reach out to the rural population having low savings and less interest in taking the services of the banking and insurance industries.

Moreover, an Islamic insurance system that is Halal and offers risk mitigation tools to Muslims as per Shariah stands the chances of its acceptance by a large segment of the population. Thus, the prospects for a robust growth are more pronounced in the context of Pakistan. This study has empirically concluded on the basis of secondary data of the Pakistan's market (between 2006 and 2013) analyzed on quarterly basis that the five macroeconomic determinants- per capita income, saving, stock market growth, interest rate, and inflation - have a significant relationship with family takaful demand in Pakistan. These factors also offer hope and the outlook for a better takaful environment keeping in view the current somewhat positive political, economic, and security changes taking place in Pakistan.

For instance, the relative economic stability being witnessed, particularly after the April 2015 US\$ 46 billion investment promise by the Chinese government and the approval of the strategic China-Pakistan Economic Corridor that is also focused on the energy crisis, Gwadar Port and the trade route, and that is now being advertised as the "game changer". There are chances of further growth in the country's takaful industry because the five macroeconomic indicators would also witness growth in such an instance, three of which have positive relationship with the consumer demand for takaful.

Moreover, the SBP's Strategic Plan (2014-18) envisages working closely with industry to develop and offer Musharaka/Modaraba based products. These growth figures and the current SBP-led Islamization drive of the banking system in Pakistan is thus creating a better legal framework for the takaful industry as well apart from helping the Islamic banks. As both the industries are interrelated in terms of Shariah compliance and target groups, growth in the one would be also mirrored in the other.

b. Recommendations

1. The *takaful* companies should take steps to design policies for those segments of the Pakistani population, which have low savings and are prone to many financial shocks including the vulnerabilities of the dependents in the wake of death and disability of the main earner in a household.
2. The *takaful* companies should educate and attract the general masses through multiple advertisement campaigns integrating the print and electronic media approaches and using seminars, workshops, and policy briefs aimed at distinguishing the interest based conventional insurance from the mutual co-operation based Islamic *takaful*.
3. The *takaful* companies should continue their reliance on the services of Islamic scholars to convince people regarding the admissibility and validity of *takaful* as per the teachings of Islam. The clarifications by religious scholars would allow them build a positive opinion about the Islamic insurance that could serve for potential decisions to buy certain insurance plans. Moreover, insurance companies should also take into account the sectarian divisions in Pakistan, i.e., the Sunni, Shia, Ahle Hadith, etc.
4. The *takaful* companies should also launch various campaigns to create awareness among the Pakistani people regarding the importance of savings and how savings could be used for dual purposes - investment as well as cover against economic and financial shocks at the family and group levels.
5. The *takaful* companies should also make efforts to deliver checks to their members on maturity of insurance plans or to the dependents of the members in case of accidents during various publicized events organized at community level (both in urban

and rural areas) in order to develop an element of trust on the delivery potential of the Islamic insurance companies.

6. The *takaful* companies should also need to design a range of products, which are comparatively better in terms of quality, price, and cost of the policy than the conventional insurance plans.
7. The *takaful* companies should open more branches and counters for public facilitation and education about *takaful* products in urban areas and gradually extend their services to the so-far ignored rural and semi-urban areas.
8. The websites of the *takaful* companies should also provide maximum information and answers to various questions regarding various products and operations of the companies. The *takaful* companies should utilize the Internet and social media forums to reach out to the online population in Pakistan.
9. The *takaful* companies should present their products in simple ways to the customers so that they could clearly understand the religious inspiration behind the *takaful* system and its aims, objectives, and benefits both for the company and the potential members.
10. Moreover, the higher education institutes in Pakistan should also start offering professional and academic courses in the field of Islamic insurance. Educational institutions in Germany and Malaysia are already doing so and both the countries are reaping its benefits as well.

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