RESEARCH ARTICLE

Relationship of Macroeconomic Variables and Growth of Insurance in India: A Diagnostic Study

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Abstract

Insurance sector in India has played a vital role in development of Indian economy. IN the post liberalisation period, the insurance sector in India has grown at a fast rate. In the last decade, total premium grew at a CAGR of 25% and reached from----to a total of $67 billion in 2012. Indian Life insurance industry (which contributes 88% of total Life and General insurance premium in India) has emerged as the 9th largest life insurance market in the world. This growth in insurance sector is not the result of a single factor. A variety of macroeconomic factors such as Population, GDP, Per Capita Income, Inflation and Unemployment have put positive and negative impact on the growth in demand of life insurance. All these Macro economic variables have taken into account as explanatory variables to assess the growth of insurance sector during 1991-2012(study period). A significant relationship has been observed between various modern terms of insurance i.e. insurance penetration, insurance density and indicators of macroeconomics in this paper. It is observed from the results of above analysis that Population, GDP, Per Capita GDP, Inflation, and Unemployment are the main factors affecting growth of insurance penetration, insurance density growth and growth in total insurance premium in India. The results of correlation analysisreveal that population growth GDP growth and per capita gdp growth exhibit a positive relationship (pull factors) with insurance growth indicators while inflation and unemployment rate exhibit a negative relationship (restrictive forces) with insurance growth indicators.

Keywords: *GDP, Insurance, Macroeconomic.*

Introduction

The insurance sector is very significant to every developing country like India. It develops the saving habits which leads to generate long-term funds for investment and ultimately improves infrastructural facilities. The life insurance business is ominously influenced by the economicconditions of the economy of a country and major factors that influence it are the rate of growth of GDP, the levels of per capita GDP, household savings, disposable income, literacy and employment rate. It has been observed that economies in which GDP, per capita income, financial knowledge have been steadily improving experience a higher insurance penetration and density. Market competition exerts a very positive influence on market expansion, life insurance penetration as well as insurance density. The recent upsurge in the Indian economy and market reforms leading to the competition has created tremendous opportunities for the growth of the life insurance industry. Hence there is a close relationship and interdependence between macroeconomic variables and life insurance.The growth of insurance sector in an economy can be assessed not only by assessing the growth in aggregate amount of insurance premium but also by examining the trend analysis of insurance penetration and insurance density in the economy for a long period. The nature of insurance business ensures constant inflow of funds. In this paper an attempt has been made to focus on some key factors of the growth of the Indian life insurance industry in the context of macroeconomic changes. The study has also been assessed the influence of macroeconomic factors on investments in life insurance sector in the post life insurance reforms period.

To achieve the objective of the study, this paper is divided into six sections. Section 1 i.e. is the present section gives the nature of macroeconomic variables and indicators of insurance sector growth in India.

Literature Review

Disposable income has Positive impact on demand for life insurance in all studies. Fortune [1], Outreville [2, 3] Beck and Webb [4] have found

positive impact of permanent income on life insurance demand. Price of insurance have Negative impact on demand for life insurance as per Mantis and Farmer [5]; Fortune [6]; Babbel [7]; Outreville [3].Browne and Kim [8]; Outreville [9]; Beck and Webb [4]; Li et al. [10] have shown negative relationship between lfe insurance and anticipated inflation. Unemployment rate have Negative impact on insurance demand as per Mantis and Farmer [5] Outreville [2]; Beenstock et al. [11] Lentenand Rulli [12]. Demographic factors such as Population size/density is positively related as per Mantis and Farmer [5]; Feyen et al. [13]. Outreville [9]; Szablicki [14]; Beck and Webb [4]; Hwang and Gao [15]; Hwang and Greenford [16]; Sen [17]; Chen et al. (Forthcoming) [18] have found positive impact of urbanization on life insurance. The size of the population has of course a positive effect on the demand for insurance, but most studies are considering per capita variables to discount this effect. Population density should also have a positive effect on life insurance. Economies with a higher share of urban to total population are expected to have higher levels of life insurance consumption because urbanization simplifies the distribution of these products.

Legal environment is positively related to insurance demand as per Webb et al. [19]; Beck and Webb [4] Feyen et al. [13]. Enforcement of property rights/law also positively impact demand for life insurance as found out by; Feyen et al. [13].Webb et al. [19]; Beck and Webb [4] shows out political risk negatively to the demand of life insurance. A positive sign and elastic effect of stock prices could simply be that higher stock prices generally tend to be coincident with a growing economy, higher personal incomes, and higher net savings levels. Most of the empirical papers have verified a strong positive and significant relationship for both life and property–liability insurance demand. Papers by Outreville [9] Ward and Zurbruegg [20], and Li et al. [10] document a positive relationship between insurance and the size of the financial sector. Another variable that will affect household portfolio decisions is the price level of stocks. Higher expected prices for stocks would tend to stimulate the investments into primary securities and tend to depress life insurance sales. These decisions relate to the composition of the portfolio of financial assets held by households and expectations concerning future economic conditions, and the flow of funds into alternative financial assets.However, as noted for real interest rates, the sign of this variable is ambiguous. A positive sign and elastic effect of stock prices could simply be that higher stock prices generally tend to be coincident with a growing economy, higher personal incomes, and higher net savings levels [21].

Objectives of the Study

The objective of the present study is to evaluate the impact of Macroeconomic Variables on the Growth of Insurance Sector. To achieve the objective of the paper, the study has been taken up for the period 1991-2012 (post liberalization period).

Research Methodology

We have conducted Correlation and Regression analysis on a list of macroeconomic variable and modern insurance indicators

Data Collection

To achieve the objectives of the study secondary data is used which is collected from various sources i.e. annual reports of IRDA, SIGMA, World Investment Reports, publications from various research papers etc. Time series data and the relevant data have been collected for the period 1991 to 2012.

Analysis and Interpretations of Results

Selection of Variables: Population, Unemployment rate, inflation rate, GDP, real GDP rate and insurance penetration, insurance density & growth in real premium.

Insurance penetration refers to premium as a percentage of GDP. It explains the role of insurance in GDP of a Country. Insurance density refers to insurance premium per capita

Descriptive Statistics

In this Section, we presented the graphical description of modern life insurance indicator such as total premium amount, density, penetration and real growth in premium.

Total Life Insurance Premium (in billion $)

From 1990 to 2007, it increased at a increasing rate. There after some fluctuations do come. In 2010 onwards it started decline which could be attributed to the slowdown in the overall economy.

Insurance Density

Trend of Insurance density are similar to that of total life insurance premium. From 1990 to 2007, it also increased at a increasing rate. past 2010 it started turn down which may perhaps be endorsed to the slowdown in the overall economy
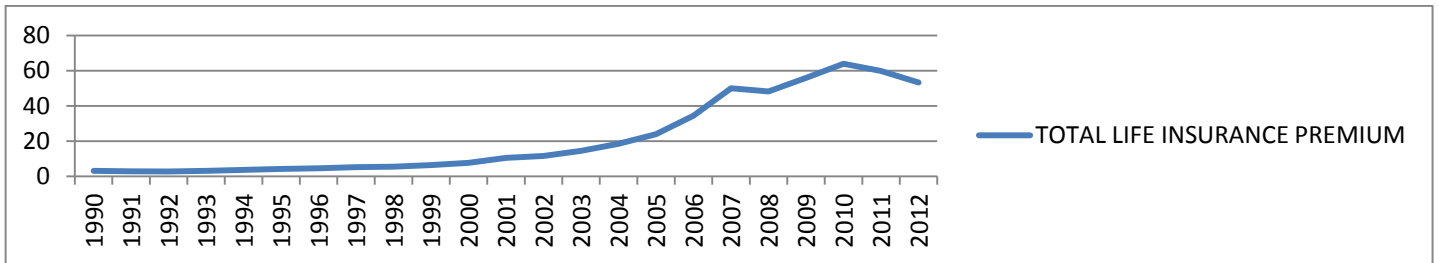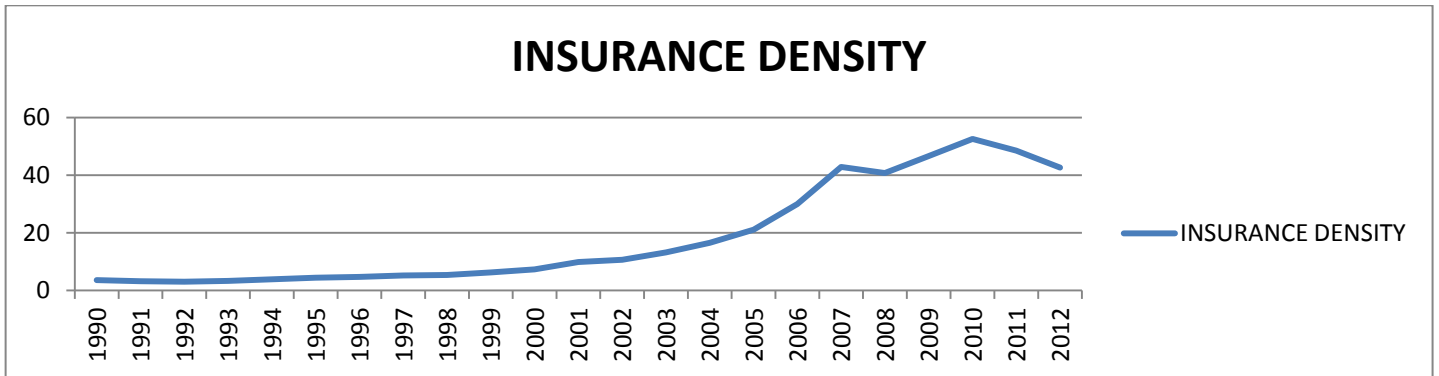
Fig. 1: Total life insurance premium

Fig.2: Insurance density

Insurance Penetration

Insurance penetration, one of the most important indicators of role of insurance in GDP also initially increases at a slow rate. Then 2000 onwards it increased at an extreme rate. Subsequently from 2010 onwards it started falling.
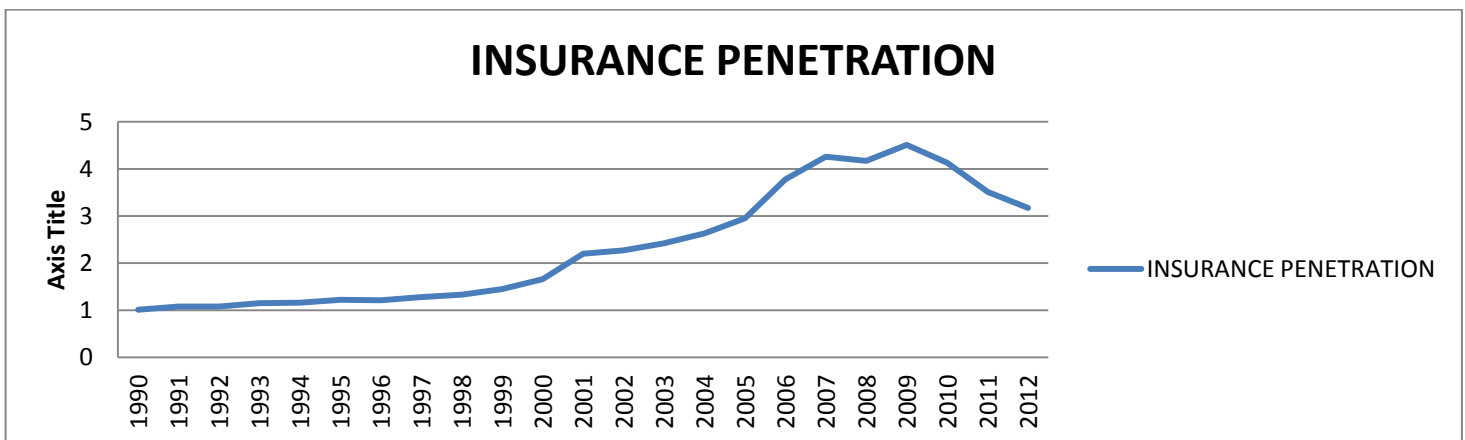

Fig.3: Insurance penetration

Comparison of Real Growth in GDP and Real Growth in Premium: Real Growth in Premium is quite fluctuating as compare to real growth in GDP. It is interesting to see that real premium growth has remained above real GDP growth in almost all years except 2009 onwards. The graph is also indicative of relationship between both growth rates.
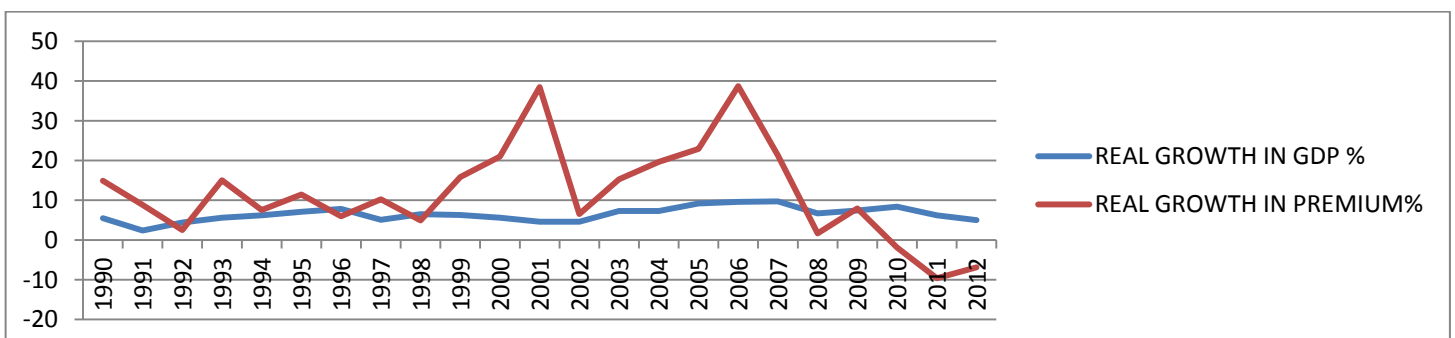

Fig.4: Comparison of real growth in GDP and real growth in premium

Correlation Analysis

Table 1: Correlation analysis

	Population In million	GDP in billion $	Per capita GDP $/1000	Real GDP growth	Inflation	Unemployment
Pentrayion	0.913541	0.871625	0.869353	0.574007	-0.11101	-0.07369
Density $	0.899008	0.971439	0.974419	0.468182	0.09074	0.163729
Prem $ billion	0.896615	0.976779	0.979269	0.449886	0.10513	0.188867
Growth in real perm	-0.13336	-0.3675	-0.38606	0.269596	-0.61204	-0.41591

Modern Insurance Indicator and Population

The outcome of pearson correlation showed a very strong correlation (0.914) between population and total life insurance penetration. Consequently the above correlation can be established and believed that greater the population growth, greater is the prospective for life insurance. Moreover correlation found to be highly positive in case of both density and absolute amount of premium that is 0.90. However growth in real premium and population found to be negatively related.

Modern Insurance Indicator and GDP

Life insurance penetration is calculated as life insurance premium as a percentage of GDP of a country. Level of GDP has significant influence on the level of life insurance premium. The correlation coefficient of 0.87 between insurance penetration and gdp indicates strong relationship. It is evident from other studies Insurance density varies directly with GDP. As expected, insurance density coefficient is found is found to highly correlated with GDP at0.97.Moreover total premium amount vary positively with GDP with coefficient of 0.98. However real growth in premium is negatively correlated with GDP due to offsetting effect of inflation.

Modern Insurance Indicator and per capita GDP

Demand for life insurance is likely to increase when income of an individual increases, per capita GDP is the proxy for income of individual income. It is highly correlated with penetration, density and absolute amount of premium at 0.87, 097 and 0.98 respectively. However negative correlation of 0.39 between real growth in insurance and per capita GDP indicates offsetting effect of inflation.

Modern Insurance Indicator and Real GDP growth

Positive correlation with all indicators of insurance i.e 0.57, 0.46 and 0.45 between real gdp growth and penetration, density and premium

respectively. Surprisingly real GDP Growthand real growth in premium is positively correlated at 0.27. This entirecoefficients indicates that as real GDP increases, demand for insurance in real term will increase.

Modern Insurance Indicator and Inflation

It is important to see the relationship between real growth in insurance premium and inflation as compare to other variable. The Pearson coefficient - 0.61 indicates that inflation offset the demand of life insurance as expected and indicated earlier

Modern Insurance Indicator and Unemployment

Unemployment must reduce the real demand for life insurance. It is well evident from negative correlation of -0.42 between Unemployment and growth in real premium. However data is obtained only for 10 observation

Summary and Conclusion

It is well evident from our correlation analysis which establishes relationship between various macroeconomic variable and insurance variable. It shows out that Level of GDP has significant influence on the level of life insurance premium. Moreover per capita GDP is highly correlated with penetration, density and absolute amount of premium. As real GDP increases, demand for insurance in real term will increase. The Pearson coefficient - 0.61 indicates that inflation offset the demand of life insurance as expected and indicated earlier. Unemployment must have reduced the real demand for life insurance as indicated by the correlation. Although, we have not considered other variable such as Literacy rate, Interest rate in our study. It is further concluded that the role of life insurance has gone up and it is related to various macroeconomic variable. With opening up of insurance sector and more FDI comes underway, it is further expected to accelerate.

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