©KY PUBLICATIONS
RESEARCH ARTICLE
Vol.2.Issue.4.2015
Oct-Dec

IJBMAS
E ISSN 2349-4638

http://www.ijbmas.in

INTERNATIONAL JOURNAL OF BUSINESS, MANAGEMENT AND ALLIED SCIENCES (IJBMAS)

A Peer Reviewed International Research Journal

DETERMINANTS OF INDIAN INSURANCE SECTOR

Dr.B.RAGHUNATHA REDDY

Lecturer-in-Charge (HOD), Department of Commerce

SRR & CVR Degree College, Machavaram, Vijayawada -2

ABSTRACT

Analyzing a life insurance schemes is a multidimensional and complicated processes since life insurance schemes are combination of legal, actuarial, economic and social factors that should be consistently put together to produce a life insurance scheme that answer the need of the customers profitable and help in the development of the society. The current analytical study is to develop the conceptual framework, to examine the nature features and the relation among the components of the life insurance schemes introduced by LIC of India and other Insurance companies working for Indian Citizens. In 2003, the Indian insurance market ranked 19th globally and was the fifth largest in Asia. Although it accounts for only 2.5% of premiums in Asia, it has the potential to become one of the biggest insurance markets in the region. A combination of factors underpins further strong growth in the market, including sound economic fundamentals, rising household wealth and a further improvement in the regulatory framework. The insurance industry of India consists of 63 insurance companies of which 24 are in life insurance business and 39 are non-life insurers. Among the life insurers, Life Insurance Corporation (LIC) is the sole public sector company. Apart from that, among the non-life insurers, there are seven public sector insurers. In addition to these, there are two national re-insurer. Other stakeholders in Indian Insurance market include agents (individual and corporate), brokers, surveyors and third party administrators servicing health insurance claims. Study identified that India, a country with relatively developed economy and a considerable middle class population, offers most suitable environment for the development of private health insurance. The result of study suggests that premium and claim is significantly influenced the investment of insurance sector. In the aftermath of expanding liberalization in the insurance industry together with the worldwide financial crisis has posed a great deal of challenges for insurance regulatory authorities in monitoring investment of insurance companies. Researcher believes the current paper provides some helpful bits of knowledge in this vein.

Introduction

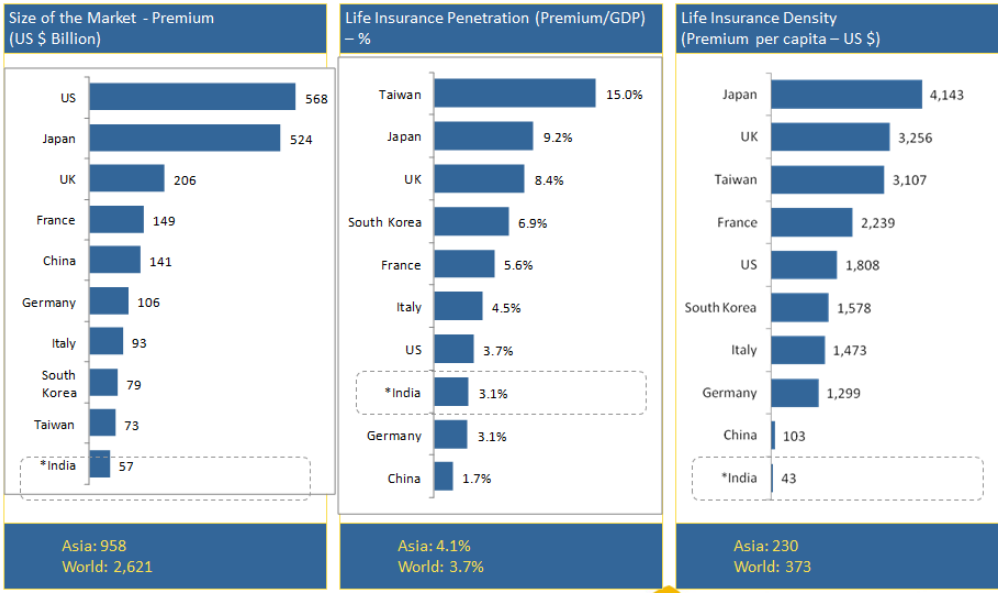
The insurance sector in India is in the thrones of systematic change during the current environment of economic liberalisation, privitisation, deregulation and reforms of financial sector in general and insurance sector in particular. There is a virtual deluge of insurance companies, finance companies, leasing institutions, private banks and mutual funds. However, during yester-years the market for insurance services was monopolized while market place was regulated and insurance companies were expected to receive assured spread and systematic demand for their products. This phase of Indian insurance sector was the result of sheltered markets and administered prices for insurance products Development of insurance sector measures through insurance penetration. Insurance Penetration fluctuates over time. Hence, it is expected that its nature of volatility spread on the variation of some determinants. Insurance penetration may be defined as the ratio of total amount of insurance consumption and Gross Domestic Product of a country and depends on the demand for insurance. Different researchers argued that demand of insurance influence by different determinants. A well-developed and evolved insurance sector is a boon for economic development as it provides long- term funds for infrastructure development at the same time strengthening the risk taking ability of the country. Life insurers are custodians and managers of substantial investments of individuals; and policyholders need to be confident that their insurer will be able to meet its promised liabilities in the event that claims are made under a policy. Regulatory authorities therefore seek to ensure that the financial performance of life insurance companies is in sound condition. Insurance is a big opportunity in a country like India with a large population and untapped potential. In this current scenario of growing customer base, one of the principal concerns underlying the regulation of the insurance companies is the need to protect the interest of and secure fair treatment to policyholders. The major issue to start with would be to re-examine the significant variables that can best fit as determinants of life insurance demand.

Until the early 20th century, the Indian life insurance industry was completely in the hands of LIC. In the 1950s, the industry had been nationalized in order to increase the penetration of insurance in the country and to make it available to less privileged segments of society. But even after 40 years of nationalization, only 25% of the insurable population was covered under insurance. This was one of major reasons for opening up the sector -- to allow private players to work towards extending the reach and coverage of insurance all over the country. India's rapid rate of economic growth over the past decade has been one of the more significant developments in the global economy. This growth has its roots in the introduction of economic liberalization in the early 1990s, which has allowed India to exploit its economic potential and raise the population's standard of living. At the end of March 2012, all the twenty-four life insurers complied with the stipulated requirement of solvency ratio of 1.5. Life Insurance Corporation of India reported a solvency ratio of 1.54, which was the same as at the end of March 2011. Twenty two life insurance companies have maintained the solvency ratio at above 1.70; out of which seventeen had the solvency ratio at above 2.50. The lone public sector insurer, Life Insurance Corporation of India was compliant with its obligations in the rural sector, having underwritten a higher percentage of policies in rural sector than the prescribed 25 per cent for 2011-12.

Insurance penetration & density in India

The measure of insurance penetration and density reflects the level of development of insurance sector in a country. While insurance penetration is measured as the percentage of insurance premium to GDP, insurance density is calculated as the ratio of premium to population (per capita premium). Since opening up of Indian insurance sector for private participation, India has reported increase in insurance density. The potential and performance of the insurance sector is universally assessed with reference to two parameters, viz., insurance penetration and insurance density. These two are often used to determine the level of development of the insurance sector in a country. Insurance penetration is defi ned as the ratio of premium underwritten in a given year to the Gross Domestic Product (GDP). The insurance penetration in India, which surged consistently till 2009-10, has slipped since 2010-11 on account of slowdown in life insurance premium as compared to the growth rate of the Indian economy. Life insurance penetration had consistently gone up from 2.15 per cent in 2001 to 4.60 in 2009, before slipping to 4.40 percent in 2010 and further slipping to 3.40 per cent in 2011. However, penetration of the non-life insurance sector in the country has remained near constant in the range of 0.55-0.75 per cent over the last 10 years (0.71 per cent in 2010 and 0.70 in 2011).

Indian Life Insurance market has huge growth potential when compared with other countries



Review of literature

The main purpose of this study is to re-assess the validity of arguments emerging from the existing theoretical and empirical research works that there are a few variables which can significantly explain the current and future demand pattern for life insurance products. To strengthen the researchable issues for the study, we will briefly discuss few selected studies which had identified indicators motivating life insurance demand and consumption. Literature from past studies reveals that the findings from most researchers have not reached a common conclusion. Specifically, their findings did not specify the relationship between the various factors which they found to determine financial performance of general insurance companies of India. Fortune (1973) analysed the empirical implications of expected utility hypothesis of choice under uncertainty for demand for life insurance and concluded that demand depends on income, non-human wealth and the rate of discount. Starting with a brief review of Lewis's theoretical study and an assumption that inhabitants of a country are homogeneous relative to those of other countries, the study by Browne et al. (1993) expanded the discussion on life insurance demand by adding some variables namely, average life expectancy and enrolment ratio at third level of education. The study considering 45 countries for two separate time periods (1980 and 1987) concluded that income and social security expenditures are significant determinants of insurance demand. But, inflation was found to have a negative correlation. Dependency ratio, education and life expectancy were not significant but incorporation of religion[1], a dummy variable showed that Muslim countries have significant negative affinity towards life insurance. Al-Shami, 2008 conducted a study on determinants of profitability on a panel data of twenty five insurance companies over the period of 2006-2007 listed on UAE stock market. The determinants of profitability used in the study are age, leverage, volume of capital, loss ratio, and firm size. The findings of this study conclude that there is no relationship between profitability and age of company and there is significantly positive association between firm size and profitability. The results also show that the volume of capital is positively and significantly related to profitability. The study suggests an inverse and significant relationship between leverage ratio and loss ratio as independent variables and profitability.

Determinants for assessing the Life Insurance Corporation of India

To study the performance of the entity, the three basic diagnostic tools referred by the Management Guru, Peter Drucker in his book "Essential wisdom of Peter Drucker from the pages of Harvard Business Review " namely Competence, Productivity and Allocation was taken as the base in terms of Performance, Productivity

[1] "Religion can provide weights into individuals … and life insurance consumption is less in predominantly Islamic countries" studies by Douglas et al. (1982), Henderson et al. (1987), Zelizer (1979) and Warsaw (1986): cited in Browne et al (1993) page 621

and Investment. The following are the list of key determinants sourced from the balance sheets and the annual reports of Insurance Regulatory and Development Authority of India, the sole governing body of Insurance. The determinants identified are listed on the basis of three categories as performance, productivity and investment portfolio.

The Life Insurance Corporation might even have to change its strategies of marketing, has to improve customer service and increase the level of training to its agents to hold its position in the market. It becomes imperative at this instance to appraise the performance of Life Insurance Corporation of India, succeeding sectoral reforms.

i) Determinants for assessing the Performance of LIC :

The performance of LIC can be evaluated on the basis of the following indices:

1) New Business in India.
2) New Business out of India
3) Business in force in India
4) Business in force out of India
5) New Rural Business
6) Share of Rural business to Total business.
7) New Business progress under group superannuation schemes
8) Business inforce under group insurance and superannuation schemes
9) Growth in active agents
10) Composition of income
11) Average sum assured per policy
12) Ratio of First insurance to Total business in terms of number of policies and Sum assured
13) Life Insurance Fund
14) Claims settlement operations
15) Analysis of utilisation of income
16) Total life insurance premium
17) Market share of total life insurance premium
18) First year premium
19) Market share of first year premium
20) Market share of Single premium, Renewal premium and Total premium
21) New policies issued and growth rate
22) Number of life insurance offices
23) Lapsation ratio (Number of policies & Sum Assured)
24) Solvency margin of insurers
25) Status of grievances of life insurers & Ratio of resolved complaints and pending complaints to total complaints.

ii) Determinants for assessing the Productivity of LIC

This can be measured in terms of the following indices:

1) New business per branch
2) New business per agent
3) Number of policies per branch
4) Number of policies per agent
5) Premium income per agent
6) Premium income per branch
7) Ratio of expenses to premium income
8) Complaints per thousand mean number of policies in force
9) Percentage of outstanding claims to total claims payable
10) Members of various agents.
11) Operating Expenses Ratio & Growth rate
12) Dividend paid & Growth rate

iii) Determinants for assessing the Investment portfolio of LIC

In order to study the investment portfolio of LIC the following variables were identified:

1) Loans advanced for various development activities
2) Composition of Investments of LIC as per IRDA guidelines.
3) Equity share capital of insurance companies
4) Investments of insurers and Percentage growth
5) Proportion of Life fund to total investment fund.
6) Pattern of investments of life insurers

OBJECTIVES:

The general objective of the study is to identify the factors determining the profitability of Indian insurance companies. Based on the general objective, the researcher elucidates the following specific objectives:

1. To identify the main determinants of insurance companies profitability.
2. To measure the extent to which these determinants exert impact on insurance companies' profitability.
3. To determine the relationship between these factors and profitability in insurance companies.

METHODOLOGY: The nature of data collected and used for this study is secondary in nature. The relevant and required data has been collected from the annual reports of individual insurance companies and IRDA data base.

Analytical Tools: Data analysis section is based on descriptive analysis and regression.

Descriptive analysis: The descriptive statistics explores and presents an overview of all variables used in the analysis. In this section the mean, minimum, maximum, and standard deviation are produced for the variables.

RESEARCH METHODOLOGY

This is an empirical study. It has taken all the 23 India life insurers (1 public and 22 private) as sample. The study period includes 3 financial years, viz., 2009-10 2010-11 and 2011-12 The data required were drawn from IRDA data base and the public disclosures and annual reports of the respective companies. This study uses linear multiple regression model. For this purpose, the firm specific characteristics such as leverage, size, premium growth, liquidity, underwriting risk and equity capital are regressed against Return on Assets. Table I shows the variables used and the formulae.

Table – 1 Variables chosen for the study

Variables	**Formulae**
Return on Assets (ROA)	Net Income before Taxes / Total Assets
Insurance Leverage (LEV)	Mathematical Reserves/(Capital+Surplus)
Size (LnNP)	Log of Net Premium (Total Premium earned - Reinsurance ceded)
Premium Growth (PG)	Change in New Premium (First year Prem.+ Single Prem.)
Liquidity (LIQ)	Current Assets/Current Liabilities
Underwriting Risk (UWR)	Benefits paid/Net Premium
Equity Capital (LnEC)	Log of Equity Capital
Note: Compiled by the researcher based on earlier studies.	

The linear multiple regression model developed for this study is as follows:

The linear multiple regression model developed for this study is as follows:

$ROA = \beta_0 + \beta_1 LEV + \beta_2 LnNP + \beta_3 PG + \beta_4 LIQ + \beta_5 UWR + \beta_6 LnEC + \varepsilon i$

In this study, the dependent variable is Return on Assets (ROA), which is proxy for profitability. ROA is a ratio of Net income before tax to Total Assets. Six Independent variables considered, for this study, include LEV, LnNP,

PG, LIQ, UWR and LnEC. This study also tested the assumptions of the linear multiple regression model, viz., multicollinearity and homoscedasticity.

To achieve the objectives, the study tested the following null hypotheses:

H_1: There is no significant relationship between leverage and return on assets.

H_2: There is no significant relationship between size (Log of Net Premium) and return on assets.

H_3: There is no significant relationship between premium growth and return on assets.

H_4: There is no significant relationship between liquidity and return on assets.

H_5: There is no significant relationship between underwriting risk and return on assets.

H_6: There is no significant relationship between equity capital and return on assets.

ANALYSIS AND DISCUSSION

Results of Descriptive Statistics are presented in Table no.- 2.

Table – 2 Descriptive Statistics – Variables of Analysis

Variables	N	Min	Max	Mean	SD
ROA	*55*	*-0.86*	*0.04*	*-0.08*	*0.18*
LEV	*55*	*0.00*	*974.49*	*48.19*	*188.74*
UWR	*55*	*-0.01*	*0.59*	*0.14*	*0.16*
PG	*55*	*-0.33*	*59.24*	*1.78*	*7.89*
LIQ	*55*	*0.22*	*3.72*	*0.93*	*0.53*
LnEC	*55*	*6.21*	*12.21*	*10.93*	*1.36*
LnNP	*55*	*5.82*	*16.83*	*12.03*	*1.97*
Valid N	*55*				

Note: Results obtained using SPSS 17.0.

Table 2 portrays the descriptive statistics for the variables used in this study. The Return on Assets averaged – 8.4 and ranged from -85.9% (BHARTI - Private Life Insurer) to 4.25% (SAHARA – Private Life Insurer). The ratio of leverage had an average of 48.18 and ranged from 0 (IDBI - Private Life Insurer) to 974.49 (LICI - Life Insurance Corporation of India - Public Life Insurer). The ratio of underwriting risk averaged 0.14 and ranged between -0.006 (DLF - Private Life Insurers) and 0.59 (ICICI - Private Life Insurer). The premium growth averaged 177% and ranged from -33.49% (METLIFE - Private Life Insurer) to 5923% (FUTURE - Private Life Insurer). The ratio of liquidity had an average of 0.93 and ranges from 0.217 (INDFIR - Private Life Insurer) to 3.72 (LICI – Public Life Insurer). The natural log of equity capital averaged to 10.92 with a minimum of 6.21 (LICI) and a maximum of 12.21 (AVIVA – Private Life Insurer). The size of the insurer (as explained by log of net premium) averaged 12.03 with a minium of 5.82 (DLF) and a maximum of 16.83 (LICI).

Table 3 shows the result of ANOVA. By using the analysis of variance, it is found that F test of the model is equal to 6.875 and is significant.

Table 3 – Analysis of Variance

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	0.828	6	0.138	6.875	.000a
Residual	1.225	61	0.02		
Total	2.053	67			

a. Predictors:(Constant), LnEC, PG, UWR, LIQ, LnNP, LEV

b. Dependent Variable: ROA

Results obtained by using SPSS 17.0.

Table 4 Regression Summary					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std.Error	Beta		
(Constant)	-0.315	0.255		-1.239	0.22
LEV	0	0	-0.857	-2.903	0.005
UWR	0.183	0.151	0.163	1.216	0.229
PG	-0.007	0.002	-0.294	-2.855	**0.006**
LIQ	0.107	0.058	0.324	1.845	**0.07**
LnNP	0.058	0.017	0.653	3.433	**0.001**
LnEC	-0.05	0.025	-0.384	-1.956	**0.055**

Table 5 – Residual Statistics					
	Min	Max	Mean	SD	N
Predicted Value	-0.592	0.1563	-0.0844	0.1111	68
Std. Pred Value	-0.681	0.2585	0	0.1352	68
Residual	-4.57	2.165	0	1	68
Std. Residual	-4.8	1.825	0	0.954	68

Dependent Variable: ROA;
Note: Results computed by using SPSS 17.0

Insurance Leverage: This study used the ratio of Mathematical Reserves to Capital and Surplus as a measure of insurance leverage. The regression result in Table 4 clearly shows that there is a negative relationship between the return on assets and the insurance leverage (Mathematical Reserves/Capital and Surplus). The Beta coefficient for this variable is negative and significant at 1% with a P-Value of0.005. Its t-test value is – 2.903, which is greater than the critical value and the null hypothesis H_1 is rejected. Hence, there is a significant negative relationship between return on assets and insurance leverage. The standardised coefficient Beta value is -0.857. Using the standardised coefficient and keeping all the other variables constant, if the insurance leverage increases by 100, return on assets will decrease by 85.7. Thus, it can be concluded that insurers with high leverage (using leverage beyond a level) will have adverse impact on the profitability.

Net Premium: The regression result in Table 4 clearly shows that there is a positive relationship between the return on assets and the net premium. The Beta coefficient for this variable is positive and significant at 1% with a P-Value of 0.001. Its t-test value is 3.433, which is greater than the critical value and the null hypothesis H_2 is rejected. Hence, there is a significant positive relationship between return on assets and the net premium.

Premium Growth: The Premium growth of life insurers is measured as a year to year change in the new premium of life insurance companies. From the Table 4, it is clear that there is a negative relationship between the return on assets and premium growth. The Beta coefficient for premium growth is negative and significant at 1% level with a P-Value of 0.006. Its t-test value is -2.855 which is greater than the table value. Hence, the null hypothesis H_3 is rejected. Thus, there is a significant negative relationship between the premium growth and return on assets.

Liquidity: Liquidity is the ability of the insurers to fulfil their immediate commitments to policyholders without having to increase profits on underwriting and investment activities and/or liquidate financial assets. The cash and bank balances are to be kept sufficient to meet the immediate liabilities towards "claims due for payment but not paid". This comfortably covers the incurred but not reported portion of claims liability. This study used the ratio of current assets to current liabilities. (Adams and Buckle 2003). The regression result in Table V(a) clearly shows that there is a positive relationship between the return on assets and liquidity. The Beta

coefficient for this variable is positive and significant at 10% level with a P-Value of 0.070. Its t-test value is 1.845, which is greater than the critical value and the null hypothesis H_4 is rejected. Hence, there is a significant positive relationship between return on assets and liquidity. The unstandardised coefficient of liquidity equals to 0.107 and its standardised coefficient Beta value is 0.324. Using the standardised coefficient and keeping all the other variables constant, if the liquidity increases by 100, the return on assets will increase by 32.4. Thus, it can be concluded that the more liquid firms will have more return on assets compared to less liquid firms.

Underwriting Risk: Underwriting Risk reflects the adequacy, or otherwise, of insurers' underwriting performance (Adams and Buckle 2003). Sound underwriting guidelines are pivotal to an insurer's financial performance. The underwriting risk depends on the risk appetite of the life insurers. This study has taken the ratio of Benefits Paid to Net Premium as a measure of underwriting risk. The regression result in Table V(a) clearly shows that there is positive relationship between the return on assets and the underwriting risk. The Beta coefficient for this variable is positive but not significant. Its t-test value is 1.216 which is less than the critical value and the null hypothesis H_5 is accepted. Hence, there is no significant relationship between return on assets and underwriting risk.

Equity Capital: After the opening up of the Indian insurance industry, following the Malhotra Committee recommendations in the year 1999, many private players have entered the Indian insurance arena either as fully owned domestic insurers or in collaboration with foreign partners. This has made the Indian insurance industry to be rich in terms of the quantum of equity capital infusion made by these firms. From the Table 4, it is clear that there is a negative relationship between the return on assets and equity capital. The coefficient for the natural logarithm of equity capital is negative and significant at 10% level. Its t-test value is -1.956 which is greater than the table value. Hence, the null hypothesis H06 is rejected. Thus, there is a significant negative relationship between the equity capital and return on assets. The unstandardised coefficient of equity capital equals to - 0.050 and its standardised coefficient Beta value is -0.384. Using the standardised coefficient and keeping all the other variables constant, if the value of equity increases by 100, return on assets will decrease by 38.4. The regulatory requirement demands a minimum level of capital to be maintained by every insurer and during 2010-11, 50% of the total capital invested was used for funding accumulated losses by many insurers. Further, more capital influx will enable the players to expand and open new branches, which in turn will incur more operating expenses. Thus, it can be concluded that the insurers with more capital adequacy will not have any comparative advantage to improve their return on assets. From Table 5, it is clear that the residuals are identically distributed with mean zero and equal variances and hence, the model does not face a problem of heteroscedasticty

Conclusions

Overall, our cross-country analysis confirms that if we exogenously consider income to be a crucial factor in explaining insurance consumption, economic variables of importance would be gross domestic savings, level of financial sector development and inflation. As specialized financial institutions turn to financial conglomerates, one important policy implication can be the strength and weaknesses of banking and other non-banking institutions which might have a positive or negative spillover effect on the insurance industry. As more banks line up for insurance service provision, the entry of these institutions will also push up demand. Our analysis suggests that as the savings increase they raise insurance consumption. But insurance as such is not purely savings, and hence, its purchase may smoothen the income or wealth, over time. If savings plus life risk insurance products are sold, it might boost insurance consumption. Although real interest rate was not significant in our cross country analysis, it turned out to be significant in our time series analysis. Some variant of it may also play an important role in explaining individuals' choice between insurance and other saving instruments. In a period of half a century and less, the insurance sector in the country has come a full circle, from being an open competitive market to full nationalization and then back again to a liberalized market, in which private players and public sector companies are on a level of playing field. It becomes imperative at this instance to appraise the performance of Life Insurance Corporation of India succeeding sectoral reforms. And for evaluating whether the performance of LIC is in progression, key determinants are identified and listed. This study led to the conclusion that profitability of life insurers is positively and significantly influenced by the

size (as explained by logarithm of net premium) and liquidity. The leverage, premium growth and logarithm of equity capital negatively and significantly influence the profitability of Indian life insurers. This study does not find any evidence for the relationship between underwriting risk and profitability. In view of the untapped huge insurance market; unique regulatory environment comprising a hybrid model of regulation with competition; proposed approval to allow the players to tap the capital market for public issues; proposal to tie up with banks; and the proposal to increase the foreign direct investment, life insurers would shift their focus towards designing products providing long term savings and protection for the economy, through sustainable business models.

Reference:

[1]. Fortune, P. (1973), "A Theory of Optimal Life Insurance: Development and Tests," Journal of Finance, 28, 587-600

[2]. Browne, M.J. and K. Kim (1993), "An International Analysis of Life Insurance Demand," Journal of Risk and Insurance, 60, 616-634

[3]. Al-Shami, H. A. (2008). Determinants of Insurance Companies Profitability in UAE. Unpublished Ms Finance thesis., *E-Prints Repository Software*

[4]. Adams, M., and Buckle, M., (2003), The determinants of corporate financial performance in the Bermuda insurance market, Applied Financial Economics, Routledge, 13, 133-143.

[5]. LIC of India. Annual Reports.

[6]. LIC, Agents Training Guide Book

[7]. .Insurance Regulatory Development Authority. http://www.irdaindia.org

[8]. Singh Inderjit, Katyal Rakesh and Arora Sanjay, 2006, Insurance Principles and Practice. 3rd ed. Kalyani Publishers, Ludhiana.

[9]. Public Disclosures of Indian Life Insurers, Available: http://www.irda.gov.in/ADMINCMS/cms/frmGeneral_NoYearList.a spx?DF=AR&mid=11.1.

[10]. Richard Spiller, (1972), Ownership and Performance: Stock and Mutual Life Insurance Companies, The Journal of Risk and Insurance, 39 (1), 17-25.

[11]. Thomas Connelly, J., and Piman Limpaphayom, (2004), Board Characteristics and Firm Performance: Evidence from the Life Insurance Industry in Thailand, Chulalongkorn Journal of Economics, 16(2), 101-124.