

Firm Specific Factors and Profitability of Indian Life Insurers

Kingshuk Adhikari^{1*} and Ankita Ghosh²

¹Assistant Professor, Department of Commerce, Assam University, Silchar – 788011, Assam, India

²Assistant Professor, Department of Commerce, Cachar College, Silchar – 788001, Assam, India

Abstract

In the present competitive scenario, profit plays a major role in the survival and growth of every business enterprise in all sectors. Companies operating in the life insurance sector also face profitability contention with their rivals, especially among the private players who have entered the Indian market in a large number after the liberalization of the economy. The profitability of companies is affected by multiple factors which include firm-specific factors as well as external factors. In a competitive scenario, insurers having proper management of the controllable factors, i.e., the firm-specific factors may show better performance than others. Thus, the present paper tries to analyse the association of firm specific variables with the performance of life insurance companies operating in India. The impact of underwriting risk, company size, liquidity, volume of equity capital and tangibility on the performance of Indian life insurers have been analysed. A total of six life insurers operating in the Indian market have been taken as samples and annual statements for ten financial years, i.e., from 2010-11 to 2019-20 have been used. Apart from basic descriptives, Correlation and Multiple Regression analysis have been used as statistical tools in the study. The findings reveal a positive relationship between Underwriting risk, Liquidity and Size of the company with profitability while Tangibility and Equity Capital have a negative relationship with profitability. Except for tangibility, the significant influence of all the firm-specific factors on the profitability of insurers has been observed in the study.

Keywords: Equity Capital, Liquidity, Tangibility, Underwriting Risk

JEL Code: G22, G32, G52, G20, L25

1. Introduction

The insurance industry provides ready help to the deficit fund units by providing long-term funds and promoting investment as well as distributing loss by sharing and protecting the risk (Bawa & Chattha, 2013). Thus, every insurance company needs to continuously aim at earning profit and also it need to sustain itself in the market competing with the rival companies. The insurance industry plays a dominant role in the development of the economy through the efficient allocation of resources by providing a medium for the facilitation of unused funds from the surplus sector to those productive sectors where these

unused funds can be optimally utilized to generate more funds (Charumathi, 2012). Over the years, many structural changes have been noticed in the Indian life insurance sector. Regulatory reforms have also taken place keeping in view the overall economic policy of the government (Kumari, 2015; Shahnawaz, 2018). The entry of private and foreign players has changed the scenario of the Indian insurance industry and has made the sector highly competitive which directly and indirectly affects the individual company's financial performance (Parida & Acharya, 2016; Raghavendra & Gangadhar, 2016). Measuring performance is important for an organization to assess its potential in holding and expanding market share. High performance

*Email: adhikari.au@gmail.com

would imply the overall effectiveness and efficiency of the business organization in using its resources, thus affecting its survival and growth (Adhikari & Ghosh, 2018).

The performance of companies is affected by a multiplicity of factors. A large number of firm-level determinants as well as macro-economic determinants generally influence the financial performance of companies. Macroeconomic factors are beyond the control of the management but firm-specific factors can to a certain extent be managed and hence their impact on the performance of the individual company especially on financial front can also be somewhat controlled (Ismail *et al.*, 2018). Some researchers advocate that a company focusing on improving the measure of the micro variables or the firm-specific factors yields a fruitful result in the form of improved performance (Olawaju *et al.*, 2018). Micro-level determinants of performance identified in the past research cover Insurance Leverage, Size, Premium Growth, Liquidity, Underwriting risk, Equity Capital, Reinsurance, Operating Expenses and many more (Derbali & Jamel, 2014; Mulchandani *et al.*, 2018). Thus, the present study focuses on analysing the relationship between the firm specific determinants and the performance of insurance companies in India. For this purpose, five firm-specific determinants have been considered which are underwriting risk, company size, liquidity, volume of equity capital and tangibility. Apart from studying the existence of linear relationships, the impact of these factors on the profitability of insurers is also a matter of investigation in the present study. It will help us to analyse what are the factors that are significant and have an impact on the profitability of insurance companies. The focus of policymakers may be shifted to accentuate the factors which have a notable influence on profitability, hence improving the overall performance of companies.

2. Review of Literature

Several literatures have highlighted the significance of various factors in determining the performance of insurance companies. The performance of insurance companies was well measured and represented by

financial ratios in several studies (Abdulkareem & Nagvadiya, 2021; Chellasamy & Jananimanjeeshwari, 2018). Suvvari *et al.*, (2019) also used financial ratios for measuring the financial performance of life insurers and found that performance was determined mainly by their profitability. It was also suggested to lay more emphasis on profitability for improving the financial soundness of insurers. Several researchers measured profitability using ratios like Return on Equity (ROE) and Return on Assets (ROA) (Olawaju *et al.*, 2018; Suherman *et al.*, 2019; Mazviona *et al.*, 2017).

The factors determining the profitability of companies can be both firm specific-factors which are also called internal factors and macroeconomic factors which are external factors. Most of the studies were based on these influential factors and the studies were mainly concentrated in developing countries like Ethiopia, Ghana, Nigeria, India, Nepal, Pakistan, Bangladesh, Kenya, etc., as the insurance sector is still in its nascent stage in these countries (Outreville, 1996). Several researchers studied the influence of firm-specific as well as macro factors on the profitability of life insurance companies and derived significant results (Banerjee & Majumdar, 2018; Rashid & Kemal, 2018; Taha, 2015).

The firm-specific factors can be controlled and studying how they can be managed pose a much viable research question. Thus, many studies focused on the relationship of firm-specific determinants of the companies with financial performance. Meher and Zewudu (2020) outlined various firm-specific determinants of financial performance and found a positive correlation with performance which was represented by Return on Assets (ROA). Malik (2011) found a significant correlation between ROA and size, capital, leverage and loss and an insignificant correlation with the age of the company. Yuvaraj and Gashaw (2013) found growth, size, leverage and capital volume were significant but age, tangibility and liquidity had insignificant relationships. Kripa and Ajasllari (2016) revealed significant relationship between return on the asset with liabilities, liquidity and growth, while the insignificant relationship between size, the volume of capital and fixed assets. Mulchandani *et al.*, (2018) found the significant relationship between profitability

with age, capital and foreign holding while the insignificant relationship with growth, reinsurance and yield on investment. The studies revealed a correlation between the firm-specific variables and the profitability of the concern, but the significance of the correlation varied across factors. So, our first hypothesis can be formulated as:

H₀₁: Firm-specific factors and profitability of life insurers are correlated.

Further, the impact of those factors on profitability of the insurance companies has been investigated by several researchers. Alomari and Azzam (2017) conducted a study to investigate the impact of firm and macro factors on the performance of Jordanian insurers. Performance was measured with ROA which was used as a representative of profitability ratio. The results showed that liquidity, underwriting risk and leverage had significant but negative effects on profitability while the size of the company and market share had statistically significant and positive effects. Opeyami *et al.*, (2020) found the impact of internal factors on the financial health of insurers in Nigeria. The results showed a negative but significant impact on underwriting risk and operating expenses while premium growth had a positive and significant effect on insurers' financial performance. Further, it was suggested that the management should focus more on underwriting business and reduce the operational cost for better performance of the companies.

Olarewaju *et al.*, (2018) also investigated the firm related factors that affect the profitability of insurers in Nigeria. Panel data regression model and Hausman Test were used to find the influence of internal factors on the financial health of insurers. Results portrayed that there was the negative linear relationship of ROA with tangibility and growth but a positive linear relationship between ROA and leverage, risk and size of the insurers. Hamal (2020) enquired into the impact of firm-related factors on the financial health of life insurers in Nepal. Secondary data from seven companies were taken for a period of ten years from 2009-2019. Findings revealed that firm age, long-term investment had negative and insignificant relation with

the financial health of the insurers. Getahun (2016) investigated the impact of the capital structure of a firm on the financial health of insurers in Ethiopia. Secondary data for nine years from 2004-2013 were considered and regression analysis was employed. The performance of insurers was significantly influenced by the firm's leverage, tangibility, size and business risk. Jaishi and Poudel (2021) found the impact of the firm-specific factors on the financial performance of the insurance industry taking 14 life and non-life insurers. Performance was considered as the dependent variable and measured by ROA and Earning Per Share (EPS). It revealed that larger firm size and liquidity reduced profitability but higher tangibility showed a higher level of performance of life insurers. The liquidity ratio did not commensurate with ROA. Bhattarai (2020) analyzed the influence of internal factors like size, expense ratio and financial leverage on the profitability of ten life insurance companies in Nepal taking five years financial data. Using Ordinary Least Square it was found that financial leverage and size of the company were the major determinants of profitability of life insurance companies which was measured by Return on Equity (ROE). Abebe and Abera (2019) found the impact of micro and macro factors on the financial health of Ethiopian insurers. OLS Regression method was used and found that capital adequacy, liquidity and size had a positive and significant influences on ROA and ROE. Whereas loss, age and leverage had a negative but significant influence on the financial health of insurers. Tsvetkova *et al.*, (2021) found the factors affecting the financial health of forty-five Insurers in the Russian federation. It was found that ROA had a positive relation with ROE, size, liquidity ratio and claims ratio but inflation and premium growth had a negative relation with ROA. Premium growth had no significant influence while others had significant influence on ROA. Pradhan *et al.*, (2020) outlined the impact of firm-specific and macro factors on the financial health of insurers operating in Nepal. Secondary data from sixteen insurance companies from 2007-2015 were taken and analyzed using multiple regression. Findings revealed that age, size, tangibility, leverage and liquidity were positively related and significantly influenced the financial health of insurers i.e., ROA and ROE. Ugwu *et al.*, (2021)

found the implication of specific factors attributable to firms on the performance of listed insurers of Nigeria. Profitability was measured using Return on Assets (ROA). The results revealed that size and leverage were negative and insignificant, while age and liquidity had a positive and insignificant influence on profitability. Satuluri and Radhika (2019) studied the factors that influence the profitability of insurers. It was found using Correlation, ANOVA and Multiple Regression that total premium, operating expenses, paid-up capital and claims to total benefits paid ratio were crucial factors for influencing insurers' profitability.

The previous studies revealed that there might be some significant influence of some factors on profitability, while some factors may not influence profitability to a significant extent. And the degree of influence may also vary across factors. Thus, our second hypothesis can be formulated as:

H₀₂: Firm-specific factors influence profitability of life insurers.

With the help of past research, we were able to find out several factors that might have an impact on the performance of insurers. However, the studies were mostly concentrated around developing countries as the insurance sector is in its growing stage and research related to its operation and management has been of pressing priority. So, studies on management decision-making of insurers and the impact of firm-specific determinants of the performance of insurers in India need to be conducted and thus in this study, some of the firm-specific factors, i.e., Liquidity, Size, Underwriting

Risk, Tangibility and Volume of Equity Capital were identified from past literature to find their influence on the profitability of insurers operating in Indian life insurance sector.

3. Data Source and Methodology

In India, altogether 24 life insurers are operational, out of which only six nos. of companies have been randomly selected as a sample of the study (Table 1), which covers almost 25% of the population. Financial data collected from secondary sources like annual reports of the life insurance companies and the annual Insurance Statistics Handbook published by the Insurance Regulatory and Development Authority (IRDA) for a period of ten consecutive financial years from 2010-11 to 2019-20 have been used in the study.

Descriptive statistics have been used to narrate the characteristics of variables selected for the study. To study the relationship between firm factors and profitability, correlation analysis has been used, and to analyze the impact, Multiple Regression analysis has been used.

Several micro variables or firm attributable variables have been identified in the study which can have influence on performance of firms. Some of these variables have been used in the study as independent variables influencing the dependent variable Return on Assets (ROA), which has been taken as proxy of profitability. ROA ratio is computed using formula Profit Before Tax (PBT) to Total Assets (TA). All the

Table 1. Sample Insurers

Sl. No.	Life Insurance Companies	Year of Commencement of Operation
1	Aegon Life	2008-09
2	ICICI Prudential Life	2000-01
3	Kotak Mahindra Life	2001-02
4	Reliance Nippon Life	2001-02
5	Sahara India Life	2004-05
6	SBI Life	2001-02

Source: www.irdai.gov.in and Annual Reports of respective insurance companies

Table 2. Explanatory Variables chosen for the Study

Variables	Formulae	Previous Research Works
Underwriting Risk	Benefits Paid/ Net Premium	Dey <i>et al.</i> , (2015); Boyjoo <i>et al.</i> , (2017); Charumathi (2012)
Tangibility	Fixed Assets/ Total Assets	Çekrezi (2015); Dey <i>et al.</i> , (2015); Gatsi and Gadzo (2013)
Liquidity	Current Assets/ Current Liabilities	Boadi <i>et al.</i> , (2013); Charumathi (2012); Hailegebreal (2016); Meher and Zewudu (2020)
Size	Natural Log of Total Assets	Ayuba <i>et al</i> (2019); Banerjee and Majumdar (2018); Lee (2014); Lire and Tegegn (2016); Ondigi and Willy (2016)
Volume of Equity Capital	Natural Log of Equity Capital	Charumathi (2012); Dey <i>et al.</i> , (2015); Malik (2011)

Source: Compiled by Authors

independent or explanatory variables used in the study have been shown in Table 2.

ROA as the dependent variable and five independent variables with no control variables, can be represented in a linear regression equation as:

$$ROA = \beta_0 + \beta_1 UWR + \beta_2 TAN + \beta_3 LIQ + \beta_4 LnTA + \beta_5 LnEC + \varepsilon_i$$

where, ROA= Return on Assets

UWR= Underwriting Risk

TAN= Tangibility

LIQ= Liquidity

LnTA= Natural log of Total Assets

LnEC= Natural log of volume of Equity Capital.

4. Results and Discussion

Descriptive statistics have been shown in Table 3. The ROA ratio ranges between -0.0554 (Aegon Life Insurance Company) to 0.0267 (Sahara India Life Insurance Company) with an average value of 0.0047. The underwriting risk, with an average value of 0.6383 ranges between 0.0052 (Aegon) to 1.3788 (Reliance Nippon Life Insurance Company). Similarly, tangibility has an average value of 0.0049 which ranges between 0.0004 (Reliance Nippon) to 0.0273 (Aegon). liquidity also averaged at 1.4488 with a lowest value of 0.3511 (Reliance Nippon) and highest 4.7921 (Sahara India). Similarly, size averaged at 14.1267, which had a lowest value of 11.2788 (Aegon) and highest value of 16.6212 (SBI Life Insurance Company). Volume of

Table 3. Descriptive Statistics

Variables	Minimum	Maximum	Mean	SD
ROA (PBT/TA)	-0.0554	0.0267	0.0047	0.0191
Underwriting Risk (BP/NP)	0.0052	1.3788	0.6383	0.2966
Tangibility (FA/TA)	0.0004	0.0273	0.0049	0.0048
Liquidity (CA/CL)	0.3511	4.7921	1.4488	1.0162
Size (LnTA)	11.2788	16.6212	14.1267	1.7367
Vol of Equity Capital (LnEC)	10.0519	11.8952	11.2894	0.6550

Note: Results obtained by applying SPSS

Table 4. Correlation between Return on Assets (ROA) and Explanatory Variables

Variables	Correlation Coefficient	p-value
Underwriting Risk	0.226	0.082
Tangibility	-0.538	0.000
Liquidity	0.028	0.831
Equity Capital	-0.372	0.001
Size	0.432	0.003

Note: Results obtained by applying SPSS

equity capital showed a very close average value of 11.2894 with minimum range 10.0519 (Sahara India) and maximum range 11.8952 (Aegon).

Table 3 also portrays the standard deviation in the ratios of the explanatory variables used in the study. The result shows a high deviation in the values of size of the company with SD of 1.7367 followed by liquidity with 1.0162 SD value. While tangibility shows very low deviation with SD of 0.0048, which depicts consistency in the data relating to tangibility for the select companies over the study period.

Table 4 depicts the relationship between the independent variables and dependent variable. Return on Assets is the dependent variable in the present study, and other variables are explanatory variables. The computed values of correlation coefficient disclose a positive relation between explanatory variables

(viz., Underwriting risk, Liquidity and Size of the company) and ROA of life insurers, while negative relationship is observed between the explanatory variables (viz., Tangibility and Equity Capital) and ROA. The p-values clearly reveal that the correlation between three explanatory variables (viz., Tangibility, Size and Equity Capital) and ROA are significant at five percent level of significance while the correlation between the remaining two explanatory variables (viz., Underwriting risk and Liquidity) and return on assets are insignificant.

The value of R^2 (0.751) shown in Table 5 suggests that around 75% of the variation in ROA has been explained by the explanatory variables. The adjusted R^2 value (0.728) also indicates that around 72% of the variation in ROA is explained by the explanatory variables. Thus, the model explains a large variation in ROA of life insurers operating in India.

Table 5. Model Summary

Model	R	R^2	Adj. R^2	S.E. of the estimate
1	0.867	0.751	0.728	0.0099529

Note: Results obtained by applying SPSS

Table 6. Result of ANOVA

Model	Sum of Sq.	Df	Mean Sq.	F	Sig.	
1	Regression	0.016	5	0.003	32.650	0.000
	Residual	0.005	54	0.000		
	Total	0.022	59			

Note: Results obtained by applying SPSS

Table 7. Collinearity Statistics

Explanatory variables	Tolerance	VIF
Underwriting Risk	0.830	1.204
Tangibility	0.543	1.840
Liquidity	0.545	1.834
Size	0.425	2.352
Equity Capital	0.466	2.145

Note: Results obtained by applying SPSS

The F statistics (32.650) in Table 6 with a p value of 0.000 shows that the model is highly significant and it is also a good fit as it explains the influence of the factors on ROA very well.

The study also examines the problem of Multicollinearity to observe influence of explanatory variables on profitability of life insurers in singularity by using variance inflation factor and the tolerance value, and is shown in Table 7.

Table 7 shows that the Variance Inflation Factor (VIF) ranges between 1.204 and 2.352, and thus there is absence of multicollinearity problem because the literature generally suggests the problem of multicollinearity in case the VIF is more than ten (10). The computed tolerance value ranges between 0.425 and 0.830, which also implies that the regression model

does not have problem of multicollinearity of the explanatory variables because the literature generally suggests the problem of multicollinearity in case the tolerance value is less than 0.10.

Table 8 shows result of regression analysis, which reveals that there is a positive influence of underwriting risk on ROA. The t value is 2.370, and its corresponding p value is 0.021, thus there exists significant positive impact of underwriting risk on ROA as shown in beta coefficient. Multiple regression also depicts that tangibility has negative impact on ROA, and beta coefficient is negative but insignificant. The t value is -0.452, and p value is 0.653. Thus there exists no significant influence of tangibility on ROA. Table 8 further reveals a negative influence of liquidity on ROA. The beta coefficient for this factor is negative and significant. The t value is -2.796, and p value is

Table 8. Regression Results

Model	Unstd_Coeff.		Std_Coeff.	t	Sig.
	B	S.E	Beta		
(Constant)	.189	.030		6.253	0.000
Underwriting Risk	.011	.005	.176	2.370	0.021
Tangibility	-.165	.365	-.042	-0.452	0.653
Liquidity	-.005	.002	-.257	-2.796	0.007
Equity Capital	-.027	.003	-.939	-9.024	0.000
Size	.009	.001	.804	8.087	0.000

Note: Results obtained by applying SPSS

0.007. Thus there exists significant negative influence of liquidity on ROA. Likewise, Table 8 also discloses negative influence of equity capital on ROA. The beta coefficient for the vol. of equity capital is negative and significant. The t value is -9.024, and its corresponding p value is 0.000. Thus, there exists significant negative influence of equity capital on ROA. But the regression result shows a positive influence of total assets on return on assets. The beta coefficient for the natural logarithm of total assets is positive as well as significant. The t value is 8.087, and its corresponding p value is significant, and thus there exists significant positive influence of total assets on ROA.

Underwriting risk has positive and significant influence on the profitability of insurers. It is the loss that the insurer may suffer due to occurrences of incidents contrary to the forecasted incidents when the policy was offered to the policyholders (Charumathi, 2012). Underwriting risk can be termed as the most important measure of performance for an insurer as insurers' ability to mitigate risk will increase their profitability in the long run.

Size of a firm also influences its performance positively and significantly. The reason being as stated in the earlier researches, large size firms having better economies of scale can provide diversified products and position their product in the market in such a way that the profitability of the firm may increase (Ajao & Ogieriakhi, 2018).

Liquidity has significant but negative impact on the performance of the insurers. Liquidity is the ability of the firm to meet the obligations towards policyholders with the limited amount of current assets. Higher liquidity might look appealing in the annual reports, but it may hamper the working capital flow thus may jeopardize the profitability of the firm (Kripa & Ajasllari, 2016).

Volume of Capital also has negative and significant influence on the performance of firm. Insurers with higher capital can make efforts in risk mitigation. But at the same time, higher expenses follow in the form of periodical dividend payouts, thus effecting their

profitability (Nasimi, 2016). Thus, negative influence on profitability could be explicated.

Tangibility is the only independent factor in the model which has negative as well as insignificant influence in the performance of the insurers. It is the ability of an insurer to raise funds from the market with the fixed assets it holds. These funds can further be used for growing or expanding the business in the long run (Dey *et al.*, 2015).

5. Conclusion

Financial Performance of life insurance companies hold a strategic importance in terms of its survival and growth in this competitive market scenario where numerous private companies with its foreign counterparts are entering the insurance market. Profitability is one such aspect of financial performance which plays a major role in determining the course of action of any business organization. In this regard, if the factors that influence its profitability could be known and necessary alterations could be made, any company could enjoy an advantageous position in the market.

Thus, the study focused upon not only identifying the factors responsible for influencing the profitability of insurers but also analysing the relationship between the firm specific factors and profitability using Correlation Analysis. The explanatory variables used in the study are size, liquidity, tangibility, underwriting risk and equity capital. The findings reveal that there exists positive relationship between Underwriting risk, Liquidity and Size of the company and Return on Assets, while Tangibility and Equity Capital have negative relationship with Return on Assets. The study also analyses the influence of the factors on profitability of life insurers of India using multiple linear regression analysis. The results reveal that underwriting risk and size positively influence the ROA of life insurers while the remaining three factors (tangibility, liquidity and volume of capital) negatively influence the ROA. The influence of tangibility is the highest, but it has insignificant impact on the performance, though negatively. The insignificance

of tangibility corresponds with the earlier researches of Ajao and Ogieriakhi (2018), Berteji and Hammami (2016), Derbali and Jamel (2014), Sambasivam *et al.*, (2013).

Similarly, it is also observed that the influence of liquidity on ROA is the lowest out of five factors selected for the study. The influence of liquidity, underwriting commission, size and volume of equity capital has been found significant, which is also supported by past researches (Adams & Buckle, 2003; Ajao & Ogieriakhi, 2018; Berteji & Hammami, 2016; Bilal *et al.*, 2013; Datu, 2015; Derbali & Jamel, 2014; Deyganto & Alemu, 2019; Hussanie & Joo, 2019; Majumdar, 1997; Mazviona *et al.*, 2017; Mehari & Aemiro, 2013; Sambasivam *et al.*, 2013). The result depicts that except tangibility all the explanatory variables make significant contributions in the model.

The study thus highlights the influential antecedents affecting the performance of a firm. The firms may utilize the said findings in improving such parameters that may affect their performance. Identifying the factors responsible for performance, will give strong basis and support to the decision makers. Managers could focus on important aspects where changes in decision making can show favourable results. Thus, this study will give competitive advantage to the insurers to enjoy increased profitability through improvement in managerial decisions.

The present study has opened doors to the future researchers to conduct further research in this field. Since the study only considered the firm specific or micro variables, studies with macro variables may be undertaken in future. Further, studies may also be conducted taking meso-level variables affecting the performance of the firms. Since only five number of firm specific factors were considered to build a regression model with the data for only ten years, i.e., 2011-2020, studies may be conducted with some other firm specific variables and with different time period giving due consideration to significant year-specific events, if any. Also, the present study may be replicated on other life insurance companies of other countries.

6. References

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