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A study on the financial performance of general insurance companies in India

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Abstract
The insurance sector has undergone several changes post liberalization leading to the development of the economy. Many private players took up the opportunity and entered the market giving severe competition to the existing insurance companies. As this industry is risky, it is important to appraise the performance of general insurance companies to determine their financial standing of public and private sector general insurance companies. It considers the major source of income and expenses to see its impact on its operating efficiency. The data is taken from secondary sources for ten years from 2006-07 to 2015-16. Tools used for the study include ratio analysis, correlation, multiple regression analysis and descriptive statistics. The results show that public insurance companies have better management soundness and profitability as compared to private insurance companies. Also, variables such as commission expenses, operating expenses, investment income and net premium do not have an impact on the net profit.

Keywords: non-insurance companies, net premium, commission expenses, operating expenses, management soundness, profitability

1. Introduction
Insurance is a risk transfer form of risk management which permits the insured to transfer the cost of his potential risk to another in exchange for compensation which is known as premium. In other words, it is a method whereby the insurer agrees to reimburse the losses of the insured from specified loss causing events. Insurance serves as a risk management and wealth preservation tool. Insurance gives protection to individuals, businesses and other entities against significant losses which may arise due to unforeseen events. Anyone who wants to protect themselves against financial hardships will take insurance. An individual or a business entity might consider insurance to protect one's family after ones' death from loss of income, to ensure repayment of debt, to cover contingent liabilities, to protect the business against business interruption and loss thereof, protection against lawsuits, etc. Insurance may cover losses arising from fire, marine, vehicle risk, etc. Most individuals own insurance in some form or another whether it's auto, medical, liability, disability or life insurance.

The insurance sector is one the emerging sectors in India. Post liberalization, the insurance sector has undergone a lot of changes which has led to the restructuring of the Indian economy. Prior to the liberalization, the government had a monopoly over insurance companies, whereas after this reform was passed, many private players entered the market. Private entities provided tough competition to the existing insurance companies by providing diversified services to its customers.

The nature of the insurance industry is risky and there is scepticism regarding working with insurance companies in India, hence, it becomes critical to appraise the performance of insurance companies particularly those from general insurance segment. Therefore, this study will be undertaken to evaluate the comparative financial performance of the public and private non-life insurers to determine their financial standing post the liberalization period.

To determine the financial performance of banks, a model called CAMELS framework is used. However, for insurance companies, a similar model is used, i.e. CARAMELS framework. It stands for capital adequacy, asset quality, reinsurance, adequacy of claims and actuarial, management soundness, earnings and profitability, liquidity and sensitivity to market risk. Here, reinsurance and the actuarial part is added to the existing CAMELS framework. The main aim of this model is to determine the operational efficiency of the insurance companies. It allows for the measure of the financial soundness of the company.

2. Literature Review
Ketan Popat (2014) [11] has undertaken the study to assess the financial soundness and liquidity of non-life insurers for selected sector companies in India. Top four companies have been taken from public sector and private sector each. The data used for the purpose of the study is mainly from secondary sources such as magazines, journals, websites, etc. Seven years data ranging from 2005-06 till 2011-12 has been considered. Ratio analysis, F-test and one - way ANOVA has been used for analysing the data. The return on net worth for the public sector non-life insurers was around 10% and that of private sector companies was 20%. The standard liquidity ratio should be 200%, but in this study, it was less than 100%

for companies in both sectors. This indicates that there is poor liquidity. The performance of these companies is average as compared to standard norms of general industries.

Nikolina Smajla (2014) [14] has thrown light upon one of the recent models used to analyze the financial soundness of insurance companies, that is the CARAMELS model. The scope of the study limits to Croatian insurance companies. The author states that the actual method used by companies in Croatia to control and regulate the insurance sector is different from this model, and gives a different view in relation the soundness of the insurance sector.

Chandel, Naveen Kumar (2016) [4] analyze the growth of the Indian Insurance industry with reference to the top ten economies of the world. To understand the growth and opportunities available in the insurance sector, premium, insurance density and penetration have been considered as it gives a reflection upon the level of development in the insurance sector. The study has shown that the Indian insurance sector has shown consistent growth, however in comparison to the top economies in the world, the Indian insurance sector is at the lowest level in all parameters.

Showket Ahmad Dar, Ishfaq Ahmad Thaku (2015) [5] has used the CARAMEL model to evaluate the financial soundness of top general insurance companies in the public and private sector in India. Three indicators have been used which are earnings and profitability, management soundness and liquidity. Ratio analysis has been employed in this study, and tools such as mean, standard deviation and F-test has been used to test the parameters under the CARAMEL model. From the paper, it is seen that the public-sector companies show significant differences in the ratios that have been calculated for liquidity. The higher F-value for the private sector companies shows insignificant differences for private insurers. But, both the private and public-sector companies lack high degree of liquidity. In terms of variability, public companies seem to have insignificant differences as shown by higher F-Value whereas high degree of variation is seen among the public insurers. The greater F-Value for public insurers reveals that companies do not differ significantly in terms of this ratio for earnings and profitability. In contrast, the F-Value of private sector discloses that companies have significant differences in pattern of this ratio.

B. Nagaraja (2015) [9] explains the relationship between the performance of the insurance industry and the economic development of the country. The author has stated that the growth rate in policies issues and the premium have shown a negative trend over the last three years. The paper focuses on a comparative analysis on the life and non-life insurance companies in the public and private sector. The performance of the companies has been analysed taking four parameters, i.e., Premium incomes, Market Share, New Policies Issued and Claims Settlement Ratio. Results have shown that the insurance penetration and density in India is low compared to the global scenario. Disparities are seen among the north and south states in terms of penetration and density. If the insurance industry needs to be successful then it should be cost competitive, improve the distribution techniques and provide products that cater to the customers behaviour.

Parkash Chandel, Naveen Kumar (2016) [4] analyze the growth of the Indian Insurance industry with reference to the top ten economies of the world. To understand the growth and opportunities available in the insurance sector, premium, insurance density and penetration have been considered as it gives a reflection upon the level of development in the insurance sector. The study has shown that the Indian insurance sector has shown consistent growth, however in comparison to the top economies in the world, the Indian insurance sector is at the lowest level in all parameters**.**

3. Data collection

The data is collected for the public and private insurance companies for a period of ten years data from 2006-07 to 2015-16. The data considered for the study are incurred claims, net premium, operating expenses, commission expenses, and net profit. The data is collected from Annual report and Public Disclosure report which has been published by the General Insurance Companies, books relating to insurance management and websites. Majority of the data is gathered from IRDA annual reports and Indian Insurance Statistics.

4. Research methodology

The statistical tools used for the purpose of the study are:

- Ratio Analysis - CARAMEL framework
- Mean and Standard Deviation
- Correlation Coefficient
- Multiple Regression Analysis
- Descriptive Statistics

5. Analysis- discussion & results

5.1 Descriptive statistics

Descriptive statistics have been found for key ratios in the public and private insurance companies for the purpose of comparison for a period of 10 years. The ratios are based on profitability and management soundness. In this case, loss ratio, expense ratio, combined ratio, investment income ratio and management soundness has been considered.

Table 1: Descriptive Statistics of Public and Private Non-Insurance Companies

Public companies descriptive statistic									
Loss ratio		***Expense ratio***		***Combined ratio***		***Investment income ratio***		***Management soundness***	
Mean	0.840325867	Mean	0.28764236	Mean	1.127968227	Mean	0.346459182	Mean	0.23984
Standard Error	0.046767532	Standard Error	0.006787617	Standard Error	0.050576877	Standard Error	0.023327243	Standard Error	0.006405
Median	0.886530886	Median	0.289923378	Median	1.166114637	Median	0.316887411	Median	0.235292
Mode	#N/A	Mode	#N/A	Mode	#N/A	Mode	#N/A	Mode	#N/A
Standard Deviation	0.147891923	Standard Deviation	0.021464331	Standard Deviation	0.15993813	Standard Deviation	0.073767219	Standard Deviation	0.020254
Sample Variance	0.021872021	Sample Variance	0.000460718	Sample Variance	0.025580205	Sample Variance	0.005441603	Sample Variance	0.00041
Kurtosis	8.066664974	Kurtosis	0.476249609	Kurtosis	7.335190349	Kurtosis	-0.756079049	Kurtosis	-1.90603
Skewness	-2.715795486	Skewness	0.803247215	Skewness	-2.482956563	Skewness	0.868261703	Skewness	0.150829
Range	0.534748832	Range	0.068208254	Range	0.602957086	Range	0.188827518	Range	0.051176
Minimum	0.43551523	Minimum	0.262913837	Minimum	0.698429067	Minimum	0.278899093	Minimum	0.214753
Maximum	0.970264062	Maximum	0.33112209	Maximum	1.301386152	Maximum	0.467726611	Maximum	0.265929
Sum	8.403258669	Sum	2.876423602	Sum	11.27968227	Sum	3.464591815	Sum	2.398404
Count	10	Count	10	Count	10	Count	10	Count	10
Confidence Level (95.0%)	0.105795509	Confidence Level (95.0%)	0.015354657	Confidence Level (95.0%)	0.114412846	Confidence Level (95.0%)	0.052769889	Confidence Level (95.0%)	0.014489
Private companies descriptive statistic									
Loss ratio		***Expense ratio***		***Combined ratio***		***Investment income ratio***		***Management soundness***	
Mean	0.787050828	Mean	0.34987093	Mean	1.136921757	Mean	0.154925338	Mean	0.203197
Standard Error	0.019487683	Standard Error	0.017936414	Standard Error	0.015923347	Standard Error	0.009826657	Standard Error	0.015707
Median	0.796356813	Median	0.338045741	Median	1.14348155	Median	0.145815054	Median	0.219208
Mode	#N/A	Mode	#N/A	Mode	#N/A	Mode	#N/A	Mode	#N/A
Standard Deviation	0.061625464	Standard Deviation	0.056719923	Standard Deviation	0.050354044	Standard Deviation	0.031074617	Standard Deviation	0.049671
Sample Variance	0.003797698	Sample Variance	0.00321715	Sample Variance	0.00253553	Sample Variance	0.000965632	Sample Variance	0.002467
Kurtosis	-0.13095449	Kurtosis	0.266545253	Kurtosis	-0.06685849	Kurtosis	-0.584682557	Kurtosis	7.694998
Skewness	-0.081113324	Skewness	0.978932302	Skewness	-0.245374923	Skewness	0.599169152	Skewness	-2.64762
Range	0.202027998	Range	0.18030779	Range	0.164654305	Range	0.096804288	Range	0.176834
Minimum	0.680164573	Minimum	0.281710836	Minimum	1.048225004	Minimum	0.112787819	Minimum	0.068264
Maximum	0.882192571	Maximum	0.462018626	Maximum	1.212879309	Maximum	0.209592107	Maximum	0.245098
Sum	7.870508278	Sum	3.498709296	Sum	11.36921757	Sum	1.549253383	Sum	2.031966
Count	10	Count	10	Count	10	Count	10	Count	10
Confidence Level (95.0%)	0.044084201	Confidence Level (95.0%)	0.040574988	Confidence Level (95.0%)	0.036021113	Confidence Level (95.0%)	0.022229442	Confidence Level (95.0%)	0.035532

a) **Loss Ratio:** The mean of loss ratios for public non-insurance companies over a tenure of 10 years is 0.84, whereas for private companies it is 0.78. This suggests that the loss ratio is greater for public non-insurers as compared to private non-insurance companies. The standard deviation for loss ratio of public non-insurance companies is 0.14, whereas of private it is 0.06. There is less variance for private insurance companies as compared to public insurance companies. The median is 0.88 for public insurers and 0.79 for private insurers. The skewness is negative for both public and private companies. Also, the kurtosis in both cases is leptokurtic.
b) **Expenses Ratio:** The mean of expenses ratios for public non-insurance companies over a tenure of 10 years is 0.28 and for private non-insurers is 0.34. The mean expenses ratio is greater for private companies. The standard deviation is 0.021 for public non-life insurers and 0.05 for private companies, which shows that there is higher variance in private companies. The median ratio is 0.28 and 0.33 for public and private non-insurers respectively. Both are positively skewed and they are platykurtic.
c) **Combined Ratio:** The mean of combined ratios for public non-insurance companies over a tenure of 10 years is 1.12 and for private insurance companies it is 1.13, which shows that the mean value of combined ratios is almost similar for both private and public non-insurance companies. The standard deviation is 0.15 which is higher for public companies as private companies, where standard deviation is just 0.05. The median again is very similar, 1.16 and 1.14 for public and private non-insurers respectively. Both are negatively skewed.
d) **Investment Income Ratio:** The mean of investment income ratios for public non-insurance companies over a tenure of 10 years is 0.34 and for private is 0.15. This implies that the investment income ratio is greater for public insurance companies as compared to private. The standard deviation is 0.07 and 0.03 for public and private non-insurance companies, where the variation is lesser in case of private non-insurers. The median is 0.31 for public companies and 0.14 for private companies. The median is greater for public companies as their mean ratio also is greater. They are positively skewered and platykurtic.
e) **Management Soundness:** The mean of management soundness ratios for public non-insurance companies over a tenure of 10 years is 0.23, whereas for private companies it is 0.2. This shows that the management soundness is better in case of public companies as compared to private companies. The median is 0.23 and 0.21 for public and private insurers respectively. The standard deviation is 0.02 for public insurers and 0.04 for private insurers, which again shows that public companies have lesser variance in compared to private companies.

5.2 Correlation

The correlation of key variables is done to determine the correlation between key variables of the insurance companies. The variables taken are commission expenses, operating expenses, investment income, net premium and net profit. The correlation coefficient is a value that lies between -1 to +1. To interpret correlation, it is said that the closer the value is to 1, the stronger the relationship between the variables, and closer the value to 0, it means that there is no correlation between the variables.

Table 2: Correlation among Key Variables in Public Non-Insurance Companies

Correlation in public companies					
	Commission expenses	**Operating expenses**	**Investment income**	**Net premium**	**Net profit**
Commission expenses	1				
Operating expenses	0.9705	1			
Investment income	0.9411	0.9751	1		
Net premium	0.9916	0.9870	0.964	1	
Net profit	-0.1122	-0.184	-0.277	-0.145	1

Interpretation

The above table shows the correlation among the variables in public non- insurance companies. Results show that the correlation co-efficient between operating expenses and commission expenses is 0.9705, The correlation coefficient between investment income and commission expenses is 0.9411, between net premium and commission expenses is 0.9916, between commission expenses and net profit is -0.1122. The correlation coefficient between operating expenses and investment income is 0.97, net premium and operating expenses is 0.98 but the correlation between operating expenses and net profit is -0.18. The correlation between investment income and net premium is 0.96 and investment income and net profit is -0.277, the correlation between net profit and net premium is -0.145.

From this we can see that the correlation among the following variables, i.e., commission expenses, operating expenses, investment income and net premium, there is a positive correlation. Not only is it positive, but there is a very strong relationship among these variables, because it is known that the closer the value to 1, the stronger the relationship between variables.

However, the correlation among all the variables against net profits show a negative correlation. Which means the relationship between net profit and commission expenses, operating expenses, investment income, net premium is negative, which infers there is no relationship between these variables.

Table 3: Correlation among Key Variables in Private Non-Insurance Companies

Correlation in private companies					
	Commission expenses	**Operating expenses**	**Investment income**	**Net premium**	**Net profit**
Commission expenses	1				
Operating expenses	0.9655	1			
Investment income	0.9772	0.9933	1		
Net premium	0.9829	0.9888	0.9879	1	
Net profit	0.0804	-0.02123	0.04382	-0.03585	1

Interpretation

The above table shows the correlation among the variables in private companies. Results show that the correlation co-efficient between operating expenses and commission expenses is 0.965, The correlation coefficient between investment income and commission expenses is 0.977, between net premium and commission expenses is 0.982, between commission expenses and net profit is 0.080. The correlation coefficient between operating expenses and investment income is 0.993, net premium and operating expenses is 0.98 but the correlation between operating expenses and net profit is -0.02. The correlation between investment income and net premium is 0.987 and investment income and net profit is 0.04, the correlation between net profit and net premium is -0.035.

From this we can see that the correlation among the following variables, i.e., commission expenses, operating expenses, investment income and net premium, there is a positive correlation. Not only is it positive, but there is a very strong relationship among these variables, because it is known that the closer the value to 1, the stronger the relationship between variables.

However, the correlation among certain variables against net profits show a negative correlation. There is a negative relationship between net profit with commission expenses and operating expenses. But unlike the case in public non-insurers, for private insurance companies, there is a positive relationship between net profit with investment income and net premium. But since the value is very close to 0, it signifies there is no much relationship among these variables.

5.3 Multiple regression

A multiple regression analysis was conducted to see the effect of commission expenses, investment income, net premium and operating expenses against net profit.

The regression equation: LS net_profit c commission_ expenses investment_income net_premium operating_ expenses

Table 4: Private Sector Non- Life Insurers - Regression Analysis

Dependent Variable: NET_PROFIT				
Method: Least Squares				
Date: 01/25/18 Time: 23:03				
Sample: 1 10				
Included observations: 10				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	2211.933	4615.957	0.479193	0.652
COMMISSION_EXPENSES	8.103721	6.36898	1.272374	0.2592
INVESTMENT_INCOME	3.308583	3.173087	1.042701	0.3449
NET_PREMIUM	-1.009132	0.624906	-1.614853	0.1673
OPERATING_EXPENSES	-0.885774	2.554132	-0.3468	0.7429
R-squared	0.554856	Mean dependent var		879.662
Adjusted R-squared	0.19874	S.D. dependent var		1734.701
S.E. of regression	1552.785	Akaike info criterion		17.84034
Sum squared resid	12055707	Schwarz criterion		17.99163
Log likelihood	-84.2017	Hannan-Quinn criter.		17.67437
F-statistic	1.558078	Durbin-Watson stat		3.053956
Prob(F-statistic)	0.315595			

Hypothesis

Null Hypothesis: The commission expenses, investment income, net premium and operating expenses has no impact on the net profit of the private non-life insurers.

Alternate Hypothesis: The commission expenses, investment income, net premium and operating expenses has to impact on the net profit of the private non-life insurers.

Interpretation

The above table shows the results of the multiple regression analysis that was conducted on the private non-life insurers to see if there was any impact of commission expenses, investment income, net premium and operating expenses on the net profit of the private non-life insurer companies.

Here, we can see that the f-statistic 1.55, the probability values are as follows; for commission expenses 0.2592, investment income 0.3449, net premium 0.1673, and operating expenses 0.7429. Since the f-statistic and the p-value is greater than 0.05, we accept the null hypothesis.

The commission expenses, investment income, net premium and operating expenses have no impact on the net profit of the private non-life insurers.

Table 5: Public Sector Non- Life Insurers - Regression Analysis

Dependent Variable: NET_PROFIT				
Method: Least Squares				
Date: 01/25/18 Time: 23:07				
Sample: 1 10				
Included observations: 10				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	6104.78	8251.259	0.73986	0.4926
COMMISSION_EXPENSES	0.312143	7.975915	0.039136	0.9703
INVESTMENT_INCOME	-1.345439	1.177175	-1.142938	0.3048
NET_PREMIUM	0.199064	0.695219	0.286333	0.7861
OPERATING_EXPENSES	0.137242	1.398301	0.098149	0.9256
R-squared	0.295277	Mean dependent var		2018.593
Adjusted R-squared	-0.268501	S.D. dependent var		1518.613
S.E. of regression	1710.38	Akaike info criterion		18.03367
Sum squared resid	14626993	Schwarz criterion		18.18496
Log likelihood	-85.16836	Hannan-Quinn criter.		17.8677
F-statistic	0.523747	Durbin-Watson stat		0.902515
Prob(F-statistic)	0.724676			

Hypothesis

Null Hypothesis: The commission expenses, investment income, net premium and operating expenses has no impact on the net profit of the public non-life insurers.

Alternate Hypothesis: The commission expenses, investment income, net premium and operating expenses has to impact on the net profit of the public non-life insurers.

Interpretation

The above table shows the results of the multiple regression analysis that was conducted on the public non-life insurers to see if there was any impact of commission expenses, investment income, net premium and operating expenses on the net profit of the private non-life insurer companies.

Here, we can see that the f-statistic 0.52, the probability values are as follows; for commission expenses 0.9703, investment income 0.3048, net premium 0.7861, and operating expenses 0.9256.

Since the f-statistic and the p-value is greater than 0.05, we accept the null hypothesis.

The commission expenses, investment income, net premium and operating expenses have no impact on the net profit of the public non-life insurers.

6. Conclusion

Penetrating into the market should be the main goal for insurance companies. As it is seen that, the insurance companies have created a market, and it is gradually increasing year by year. There is still a major part of the population who are not aware of insurance itself. By creating proper awareness in target areas, the insurance companies can be successful in increasing the market size to a great extent. Insurance sector already contributes to the economic development of the country. It promotes stability in the country by insuring risks of individuals and organizations.

The findings have shown that public general insurance companies have been performing better post liberalization period as compared to private sector in terms of their profitability and management soundness. Though several private players have entered the market, it is important that they are able to perform their services with due care and diligence, at the same time they should provide products and services by considering the needs of the consumers.

7. References

1. Annual Report. ND. Retrieved From IRDAI: Https://Www.Irdai.Gov.In/ADMINCMS/Cms/Frmgeneral_Noyearlist.Aspx?DF=AR&Mid=11.1
2. Bawa SK, Verma N. Analysing the Performance Of. Bawa & Verma, Apeejay-Journal of Management Sciences and Technology, 2017.
3. Chakraborty J. Financial Efficiency of the Public-Sector General Insurance Firms in India. Pacific Business Review International, 2016; 1(1).
4. Chandel P, Kumar N. An Analysis of the Growth of Indian Insurance Industry With Reference To Top Ten Economies of the World. Studies in Asian Social Science, 2016; 3(2).
5. Dar SA, Thaku IA. A Comparative Analysis of Financial Performance of Public and Private Non Life Insurers in India. International Journal of Management, 2015; 6(1):507-526.
6. Hasan A. Impact Analysis of Fdi on Insurance Sector in India. International Journal of Economics & Management Sciences, 2015.
7. Hooda R, Rajkumar Kumar K. A Comaparative Study on Measuring the Operating Efficiency. Journal of International Academic Research for Multidisciplinary, 2016; 4(6).
8. Indian Insurance Industry Overview & Market Development Analysis. Retrieved From India Brand Equity Foundation: Https://Www.Ibef.Org/Industry/Insurance-Sector-India.Aspx, 2018.
9. Nagaraja B. Performance of Insurance Industry in India: A Critical Analysis. International Journal of Multidisciplinary and Scientific Emerging Research, 2015; 4(1).

10. Ngwili KP. The Relationship Between Liquidity And Profitability Of Insurance Companies In Kenya. School Of Business, University Of Nairobi, 2014.
11. Popat KH. A Comparative Study of Financial Soundness & Liquidity Analysis of Selected Pubic Sector and Selected Private Sector Non-Life Insurance Companies of India. International Journal of Research and Analytical Reviews, 2014; 1(4).
12. Ravi CS, Basavaraj K. Fdi in Indian Insurance Sector - An Overview. Acme Intellects International Journal of Research In Management, Social Sciences & Technology, 2014; 2(1).
13. Shreedevi D, Manimegala D. A Comparative Study of Public and Private Non- Life Insurance. International Journal of Financial. 2013; 2(1):13-20.
14. Smajla N. Measuring Financial Soundness of Insurance Companies by Using Caramels Model - Case of Croatia. Interdisciplinary Management Research, 2014, 10.
15. Srivastava SK, Ray A. Benchmarking Indian General Insurance Firms. Benchmarking: An International Journal, 2013; 20(1).