An Analysis of Factors Affecting the Performance of Insurance Companies in Zimbabwe

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Abstract

The study sought to examine factors affecting the performance of insurance companies in Zimbabwe. We utilized secondary data from twenty short-term insurance companies. The data was for the period from 2010 to 2014. We used factor analysis and multiple linear regression models to determine the factors affecting performance and identifying their impact. Our findings revealed that expense ratio, claims ratio and the size of a company significantly affect insurance companies' performance negatively. Whilst leverage and liquidity affect performance positively. We recommend that insurance companies should introduce mechanisms that reduces operational costs such as automated systems.

1   Introduction

The insurance industry forms an integral part of a country's financial sector and its benefits cannot be over-emphasized. If this crucial sector was missing, the consequences on the economy would be devastating. Insurance companies are important for both businesses and individuals as they indemnify losses and put them in the same positions as they were before the occurrence of the loss. In addition, insurers provide economic and social benefits in society such as mitigating the impact of losses, reduction in fear and uncertainty as well as employment creation. Outreville, (1998) suggests that the insurance sector plays

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a significant role in a country's economic growth and offers financial protection to individuals or firms against monetary losses suffered from unforeseen circumstances. Lack of insurance coverage can leave individuals and families vulnerable to the uncertainties of everyday life and emergencies. Insurance provides the means for people to transfer the burden of uncertainty to the insurer for an agreed financial consideration called the premium. The insurer, in turn, may pass on some of that risk to other insurers or reinsurers. Insurance makes possible ventures that would otherwise be prohibitively expensive if one party had to absorb all the risks (Rejda and McNamara, 2014). Short-term insurance provides protection for valuable possessions and assets for the day that an unexpected loss or damage to belongings is experienced. It encompasses all types of insurance policies other than life insurance policies (Rejda and McNamara, 2014).

In Zimbabwe short-term insurance companies provide cover for the following classes of business; aviation, bonds, engineering, farming, fire, hail, health, hire purchase, marine, miscellaneous accident, motor, personal accident and personal liability insurance (IPEC, 2014). The reason why these policies are classified as short-term insurance is because the insurance needs, in this regard, will change over time. The motivation of the study is that the Zimbabwean economy is recovering after registering extremely high inflation and external debt in 2008, which was responsible for a significant and generalized economic slowdown. As a consequence of this crisis, losses were recorded and the insurance sector was no exception, negatively affecting its results, innovation, efficiency and growth rates. Following the introduction of the multicurrency regime, the annual reports of insurance companies have subsequently provided evidence that some companies were struggling while others thrived (IPEC, 2014). The collapse of an insurance sector is disastrous to any economy, particularly in developing countries such as Zimbabwe. It is therefore essential to identify factors affecting the performance of insurance companies. In addition, it is imperative to investigate the impact of these factors on performance. This aids insurance companies and consequently improves their profitability.

2   Literature review

Performance is the ability of an organization to gain and manage its resources in several different ways to develop competitive advantage (Iswatia and Anshoria, 2007). High performance reflects management effectiveness and efficiency in making the use of a company's resources and this contributes to the economy at large (Batra, 1999). Generally, the performance of insurance companies can be estimated by measuring their profitability, which is a relative measure of success for a business and it acts as a proxy of financial performance. One of the objectives when managing insurance companies is to attain profit (Chen and Wong, 2004). In fact, it is an essential prerequisite for increasing the

competitiveness of a company. In addition, profit attracts investors and improves the level of solvency, and thus, strengthens consumers' confidence. Without profits insurers cannot attract outside capital to meet their set objectives in this ever changing and competitive globalized environment. However, profits alone cannot be used to compare performance between different companies hence profitability is suitably measured by financial ratios (Abate, 2012). Al-Shami (2008) and Malik (2011) argued that return on assets (ROA) and return on equity (ROE) are the best measures of company performance.

ROA measures the ability of an insurance company's management to generate income by utilising company assets (Wen, 2010). It is a ratio that indicates profitability of an insurance company. An increasing trend of ROA indicates that the profitability of the company is improving. ROE is a financial ratio that measures the amount of profit a company earned relative to the total amount of shareholder equity invested. Thus, a higher ROE indicates that management is very effective in utilising shareholders' capital (Krawish, 2011). In this study ROA was used as a measure for the performance of an insurance company. This ratio can be directly computed by dividing net income by average total assets (Kieso and Warfield, 2001).

Previous studies dwelling on determinants that affect insurance company performance have been documented in the academic literature. Adams and Buckle (2003) examined the factors affecting financial performance of insurance and reinsurance companies operating in Bermuda. They used panel data for the years 1993 to 1997. According to their results, financial performance is positively and significantly influenced by the leverage, type of company, and underwriting risk. In contrast, liquidity has a negative and significant impact on financial performance whilst company size and scope of operations have no effect on financial performance. Kozak (2011) analysed the determinants of the profitability of 25 general insurance companies in Poland from 2002 to 2009. By applying a regression model the author identified the factors; reduction of motor insurance, increase of other classes of insurance, growth of gross written premiums, operating costs reduction, gross domestic product (GDP) growth, and growth of the market share of the companies with foreign ownership, as having a positive impact on insurance companies' performance. In contrast, providing a wide range of insurance classes affects profitability negatively.

Almajali, Alamro and Al-Soub (2012) carried out a study to examine and identify the factors affecting the financial performance of Jordanian insurance companies during the period 2002 to 2007. ROA was used as the dependent variable while leverage, liquidity, age, size and management competence index were independent variables. The results of regression analysis revealed that liquidity, leverage, size of the company and management competence index have a significant and positive effect on the financial performance of Jordanian insurance companies. Results also suggest that there is no significant relationship between the age of the company and performance.

Burca and Batrinca (2014) investigated the factors that affect the financial performance of 21 insurance companies operating in the Romanian insurance market during the period 2008-2012. For this purpose, the explanatory variables used were financial leverage in insurance, company size, number of years of operating in the Romanian market, growth of gross written premiums, equity, total market share, diversification, underwriting risk, investment ratio, reinsurance dependence, retained risk ratio, solvency margin, and growth of GDP per capita. ROA was utilized as an indicator of company performance. By applying panel data techniques, the authors showed that the major determinants of financial performance in the Romanian insurance market are financial leverage in insurance, company size, growth of gross written premiums, underwriting risk, risk retention ratio, and solvency margin.

There are several studies relying on a multiple linear regression approach that have investigated the factors affecting the insurance industry in different countries obtaining a myriad of results, examples include Ahmed and Usman (2011), Charumathi (2012), Muya (2013), Mehari and Aemiro (2013), and Pervan, Curak and Poposki (2014). In this article we utilise a combination of multiple linear regression and factor analysis using panel data of insurance companies in Zimbabwe. We unravel the impact of various independent variables on insurance company performance measured using the ROA.

3   Methodology

In order to analyze the collected data; descriptive analysis, correlation analysis, multiple linear regression and factor analysis were employed. We used panel data study design which combined the attributes of cross sectional (inter-firm) and time series data (inter-period).

3.1   Data
The data used in this study was secondary data obtained from the financial statements (Balance sheets and Profit/Loss accounts) of insurance companies in Zimbabwe, produced by the regulator, IPEC(2010), IPEC(2011), IPEC(2012), IPEC(2013), IPEC(2014) for the five year period, 2010-2014. The Consumer Price Index (CPI) for the period 2010-2014 is also used to calculate the year on year inflation during this period.

3.2   Sampling design
The number of short-term insurance companies as at 31 December 2014 was twenty seven. From the total number of companies, sampling was employed based on the availability of data. Companies which did not have sufficient financial statements for the study period were not included which resulted in twenty companies being used.

3.3 Model
We utilized a multiple linear regression model defined as follows:

$$y = \beta_0 + \sum_{i=1}^{9} \beta_i x_i + \varepsilon$$

Where y is ROA, β_0 is a constant , β_i's are slope coefficients, x_1 is leverage, x_2 is growth of business, x_3 is expense ratio, x_4 is claims ratio, x_5 is inflation rate, x_6 is retention ratio, x_7 is size of company, x_8 is liquidity, and x_9 is equity capital.

3.4 Justification of variables
The model in section 3.3 is a regression model which utilised a dependent variable and several independent variables. We explain and justify these variables in sub-sections 3.4.1 up to 3.4.10.

3.4.1 Return on assets
Most researchers in the field of insurance stated that the key indicator of a company's profitability is ROA defined as profit before tax divided by total assets. Abate (2012) and Malik (2011) are among others, who have suggested that although there are different ways to measure profitability it is better to use ROA. This study employed ROA as the measure of company performance. ROA was also used as a dependent variable in our regression model.

3.4.2 Growth of business
Growth in insurance companies is measured by the percentage change in total assets or percentage change in premiums. It was expected to be positively related with profitability. Premium growth measures the rate of market penetration. However, being too obsessed with growth can lead to self-destruction as other important objectives may be neglected hence it's crucial to determine its exact impact on the financial performance of insurance companies. Empirical evidence by Ahmed and Usman (2011) in Pakistan, Li (2007) in United Kingdom and Al-Shami (2008) in United Arab Emirates found a positive and statistically significant relationship between growth and profitability of insurance companies.

3.4.3 Size of company
The size of an insurance company affects its financial performance in many ways. Large insurance companies normally have greater capacity for dealing with adverse market fluctuations than small insurance companies. They can easily recruit able employees with professional knowledge unlike small insurance companies. Also, large insurance companies have economies of scale in terms of the labour cost which is the most significant production factor for delivering

insurance services thus being more efficient compared to small firms. In addition, small firms may have less power than large firms hence they may find it difficult to compete with the large firms particularly in highly competitive markets. Malik (2011) in his Pakistan study found that there is significantly positive association between the size of a company and profitability. The study indicated that profitability is more likely to improve by emulating industry best practice in terms of technology and management structure than by increasing the size. In this aspect, the empirical literature has not produced conclusive results.

3.4.4 Claims ratio
A claim is the defining moment in the relationship between an insurer and the customer because it creates a chance to show that the years spent paying premiums were worth the expense. The cost of claim payouts and expenses is the largest spending category for an insurer, accounting for up to 80 percent of premium income (Harrington, Mann and Niehaus, 1995). The lower the claim ratio the better the profitability because higher claim ratios may indicate poor risk selection and imply that the insurance company will have to pay more. The variable risk is found to have a negative and statistically significant (at the 1 percent level of significance) relationship with ROA according to a study by Mehari and Aemiro (2013) on the Ethiopian insurance industry.

3.4.5 Expense ratio
Operating expenses should be considered as a determinant and prerequisite for improving performance, since expenditures are controllable expenses. If efficiently managed, they can contribute positively to the performance of insurance companies. When an insurer is growing, there should be a progressive decline in the expense ratio. There has been limited literature on the effect of expenses on company performance in the insurance industry.
The majority of studies has focused on commercial banks. The level of staff expenses appears to have a negative impact on banks' performance. Bourke (1989) and Molyneux (1993) found a positive relationship between total profits and staff expenses. Hoffmann (2011), analyzed the determinants of bank profitability in US banking industry, applying linear regression and matrix of correlation coefficients. The results showed that there was a strong negative relationship between expenses and profitability.

3.4.6 Inflation rate
The rate of inflation typically refers to changes in the overall level of prices within an economy. Few authors have documented the impact of the inflation rate on the non-life insurance industry. D'arcy (1979) found that underwriting profits are correlated with the inflation rate. Deflation and high inflation each present significant risks to insurers. Payment of premiums by clients does not reflect inflation. However, payment of claims by a company might reflect inflation for

example, the value of an asset insured might change price as a result of inflation resulting in the insurance company paying more. Doumpos and Gaganis (2012) analysed the performance of non-life insurers and found that macroeconomic indicators such as inflation and income inequality influence the performance of companies.

3.4.7 Liquidity

Liquidity from the context of insurance companies is a measure of the ability of an insurance company to pay liabilities such as payments for losses/benefits under insurance policies which fall in a period less than a year. Having assets to cover liabilities is crucial as people can make claims at any time or there might be a national disaster causing large numbers of claims resulting in the company paying out large sums of money.   Companies with more liquid assets are less likely to fail because they can realise cash even in very difficult situations. It is therefore expected that insurance companies with more liquid assets will outperform those with less liquid assets.   Browne, Carson and Hoyt (2001) provide evidence that performance is positively related to the proportion of liquid assets in the asset mix of an insurance company.   A firm can use liquid assets to finance its activities and investments when external finance is not available or it is too costly.

However, maintaining high liquidity can reduce management's discipline in both underwriting and investment operations.   Moreover, according to the theory of agency costs, high liquidity of assets could increase agency costs for owners because managers might take advantage of the benefits of liquid assets, (Adams and Buckle, 2003). Empirical evidence with regard to liquidity revealed almost inconsistent results.   For instance, Ahmed and Usman (2011) analysed the performance of insurance companies in Pakistan and found that ROA has a statistically insignificant relationship with liquidity. In contrast, Chen and Wong (2004) found that liquidity is an important determinant of financial health of insurance companies with a negative relationship.

3.4.8 Leverage

Leverage is measured by the ratio of total debt to equity.   It shows the degree to which a business is utilizing borrowed money.   Companies that are highly leveraged may be at risk of bankruptcy if they are unable to make payments on their debt, they may also be unable to find new lenders in the future. Insurance companies could prosper by taking reasonable leverage risk or could become insolvent if the risk is out of control. If a firm is profitable, then it is more likely that financing would be from internal sources rather than external sources. In other words, firms tend to use internally generated funds first and then resort to external financing. Adams and Buckle (2003) provide evidence that insurance companies with high leverage have better operational performance than insurance companies with low leverage.

3.4.9 Retention ratio

Retention ratio is the percentage of the underwritten business which is not transferred to reinsurers. A more efficient insurance company in underwriting decisions accompanied by higher retention should have higher profitability (Charumathi, 2012). Insurance companies reinsure a certain amount of the risk underwritten in order to reduce bankruptcy risk in the case of high losses. Although reinsurance improves the stability of the insurance company through risk dispersion, achievement of solvency requirements, risk profile equilibration and growth of the underwriting capacity, it involves a certain cost. As a result, determining an appropriate retention level is important for insurance companies, and they have to try to strike a balance between decreasing insolvency risk and reducing potential profitability. Although it increases operational stability, increasing reinsurance dependence lowers the retention level, and reduces the potential profitability. Therefore, it can be conjectured that the relationship between performance and the retention ratio would be negative.

3.4.10 Equity capital

Some studies have investigated the influence of ownership structure on profitability. Equity capital is the capital raised from the owners of a company. More capital influx will enable firms to expand and open new branches, which in turn may lead to growth and possibly would be accompanied by economies of scale and hence improved financial performance (Hansen, 1999). According to Browne *et al.* (1999), as equity returns increase, returns on an insurer's investment portfolio may also increase and this may improve the performance of the insurance company. Booth, Chadburn, Cooper, Haberman and James (1999) are of the view that equities have the benefit of providing inflation hedge over the long term.

Moreover, a higher proportion of investment in equities could lead to a higher risk of insolvency if the values of the assets dropped. Although general insurance companies tend to hold a relatively low proportion of their investment portfolios in equities because a high concentration of portfolios in equities could result in an increase of insolvency risk (Booth *et al.*, 1999).

4   Data analysis and results

We present our model findings in sub-sections 4.1 upto 4.5. The results are provided in various sub-section headings namely descriptive statistics, correlation analysis, diagnostic checks, multiple linear regression and factor analysis.

4.1 Descriptive statistics

This section presents descriptive statistics results for the dependent variable; return on assets and independent variables; leverage, growth of business, expense ratio, claims ratio, inflation rate, retention ratio, size of a company, liquidity and

equity capital.   The minimum, maximum, mean and standard deviation values are included in Table 1.   These figures give a description about the data used in the study in order to understand the study variables. The descriptive statistics of each variable, computed based on the 100 observations recorded for the period 2010 to 2014. Table 1 indicates that the ROA for Zimbabwe insurance companies ranges from a minimum of -0.32 to a maximum of 0.38 with a mean of 0.06.   It also indicates that leverage ranges from 0 to 1.549, growth of business has a mean of 0.32 and average inflation that occurred over the period 2010-2014 is 2% with the standard deviation of 0.14 amongst other things.

Table 1: Descriptive statistics of variables

	N	Minimum	Maximum	Mean	Std. Deviation
Return on Assets	100	-0.3200	0.3848	0.0614	0.1197
Leverage	100	0.0000	1.5491	0.1492	0.2949
Growth of Business	100	-0.7908	2.9708	0.3178	0.6026
Expense ratio	100	0.0516	0.9630	0.3326	0.1823
Claims ratio	100	0.0153	0.6828	0.2284	0.1081
Inflation Rate	100	-0.0020	0.0370	0.0234	0.0147
Retention ratio	100	0.1622	1.0000	0.6228	0.2182
Size of Company	100	2.5400	4.3803	3.6141	0.4716
Liquidity	100	0.0770	9.0001	1.2165	1.0132
Equity Capital	100	2.0934	4.1594	3.2139	0.4203

4.2 Correlation analysis

The correlation coefficient represents the linear relationship between two variables. From Table 2 it can be seen that ROA has a positive relationship with leverage, growth of the business, inflation, equity and liquidity and it has a negative relationship with expense ratio, claims ratio, retention ratio and size of the company.   The highest correlation among the variables occurs between ROA and the expense ratio because high expenses reduce profitability of a company. There is a negative correlation between these variables.

Table 2: Correlation coefficients

	ROA	Leverage	Growth	Expense ratio	Claims ratio	Inflation rate	Retention ratio	Size of company	Liquidity	Equity
ROA	1									
Leverage	0.423	1								
Growth	0.276	0.266	1							
Expense ratio	-0.578	-0.182	-0.199	1						
Claims ratio	-0.527	-0.194	-0.337	0.473	1					
Inflation rate	0.026	0.003	0.349	-0.120	-0.063	1				
Retention ratio	-0.207	-0.097	-0.050	0.436	0.400	0.066	1			
Size of company	-0.377	-0.313	-0.166	0.097	0.159	-0.053	-0.094	1		
Liquidity	0.455	0.276	0.170	-0.312	-0.296	0.082	-0.175	-0.046	1	
Equity	0.089	-0.089	-0.208	-0.281	-0.022	-0.211	-0.251	0.518	0.166	1

4.3 Diagnostic checks

Statistical tests were carried out to determine the validity of model assumptions. The diagnostic checks included normality, autocorrelation, heteroscedasticity, and multicollinearity tests.

4.3.1 The Jaque-Bera normality test

The Jaque-Bera normality test was meant to establish whether the mean of the residuals is zero. Figure 1 shows that the histogram is bell-shaped and the p-value is greater than 0.05 hence we fail to reject the null hypothesis and conclude that the data follows a normal distribution.
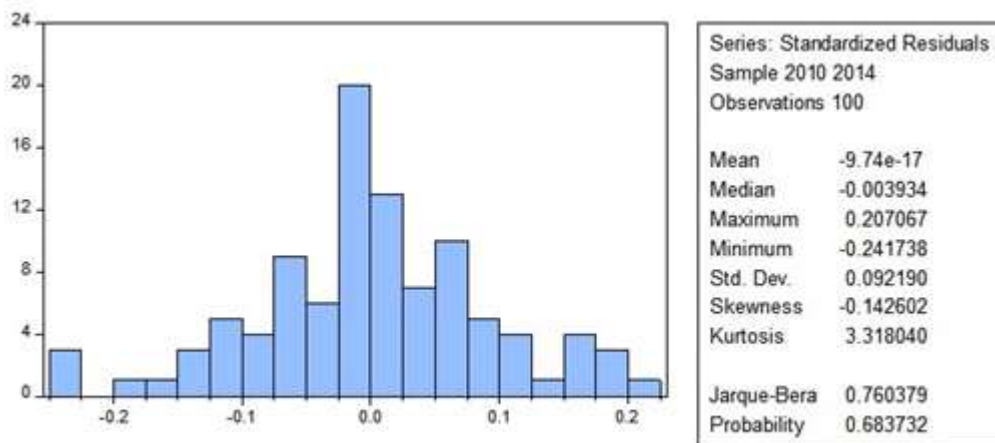

Figure 1: Jaque-Bera normality test

4.3.2 Durbin-Watson test

It was assumed that the errors are uncorrelated with one another. The Durbin-Watson test has a value of 1.61 hence no evidence for the presence of autocorrelation.

4.3.3 Breusch-Pagan-Godfrey test

The assumption of heteroscedasticity states that the variance of the errors is constant. The Breusch Pagan-Gofrey test was used to check for heteroscedasticty. According to Figure 2 the *p*-value is greater than 0.05 meaning heteroscedasticity is not present at 5% level of significance.

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	1.516317	Prob. F(9,90)	0.2152
Obs*R-squared	4.524116	Prob. Chi-Square(9)	0.2101
Scaled explained SS	5.220648	Prob. Chi-Square(9)	0.1563

Figure 2: Breusch-Pagan-Godfrey test

4.3.4   Multicollinearity test

Variance inflation factors (VIF) were used to test for multicollinearity between explanatory variables. VIF values greater than 10 may indicate that multicollinearity is unduly influencing regression results. The general analysis indicated that there was moderate correlation among the variables. However, this correlation was less than 5 which is within the limits.

4.4   Multiple linear regression

From Figure 3, R-squared for the regression model is 0.611. This means that the model explains 61.1% of the total variability in the performance of insurance companies. The remaining 38.9% of the variation in the performance is explained by other variables which are not included in the model in this research, these could be variables such as customer satisfaction or employee satisfaction which could not be measured for all the companies. Despite the moderate R-squared value, an F-statistic of 15.71 implies that the null hypothesis that the model is not adequate and can be clearly rejected since the *p*-value of the F-statistic is 0 which is sufficiently low. Hence the model is well fitted at 1% level of significance.

```
Dependent Variable: ROA
Method: Panel Least Squares
Date: 03/02/16   Time: 20:34
Sample: 2010 2014
Periods included: 5
Cross-sections included: 20
Total panel (balanced) observations: 100
```

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.267166	0.089296	2.991926	0.0036
LEVERAGE	0.069899	0.030108	2.321588	0.0225
GROWTH	0.010106	0.015475	0.653090	0.5154
EXPENSE	-0.220000	0.056893	-3.866928	0.0002
CLAIMS	-0.279357	0.091609	-3.049457	0.0030
INFLATION	-0.451269	0.594657	-0.758872	0.4499
RETENTION	0.059710	0.042707	1.398141	0.1655
SIZE	-0.077772	0.021582	-3.603591	0.0005
LIQUIDITY	0.023995	0.008654	2.772626	0.0068
EQUITY	0.044458	0.025526	1.741663	0.0850

R-squared	0.611037	Mean dependent var	0.061425
Adjusted R-squared	0.572140	S.D. dependent var	0.119773
S.E. of regression	0.078345	Akaike info criterion	-2.160750
Sum squared resid	0.552414	Schwarz criterion	-1.900233
Log likelihood	118.0375	Hannan-Quinn criter.	-2.055314
F-statistic	15.70937	Durbin-Watson stat	1.609247
Prob(F-statistic)	0.000000		

Figure 3: Multiple linear regression

4.5   Factor analysis

Factor analysis is based on the idea that observed measures are affected by underlying factors. Variables that significantly correlate with each other do so because they are measuring the same thing. Each new factor extracted consists of variables which are strongly related. The relationship between the new factors and ROA is investigated.

4.5.1 Data appropriateness

To test if the data is appropriate Bartlett's test of sphericity and Kaiser-Meyer-Olkin (KMO) index are used. Figure 4 shows that the KMO statistical value of 0.616 is higher than the minimum value of 0.5 required for the data to be appropriate. The Bartlett's test of sphericity gives a value of 0.000 which is less than 0.01 indicating that the data is appropriate at 1% level of significance. According to the KMO and Bartlett's test, the data set is suitable for factor analysis.

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.616
Bartlett's Test of Sphericity	Approx. Chi-Square	179.696
	df	36
	Sig.	.000

Figure 4: KMO and Bartlett's test

4.5.2 Data extraction

The Kaiser criterion and the scree plot are used for determining the number of factors to be extracted. Based on the screen test and Kaiser's criterion, three factors were accepted as the most interpretable ones. These factors had eigenvalues >1 as indicated in Figure 5. After determining the number of factors to be extracted the method of maximum likelihood was used to extract the factors. The factors identified in the maximum likelihood test rely on common variances that the items contributed towards the overarching concept (Dilorio, 2005).
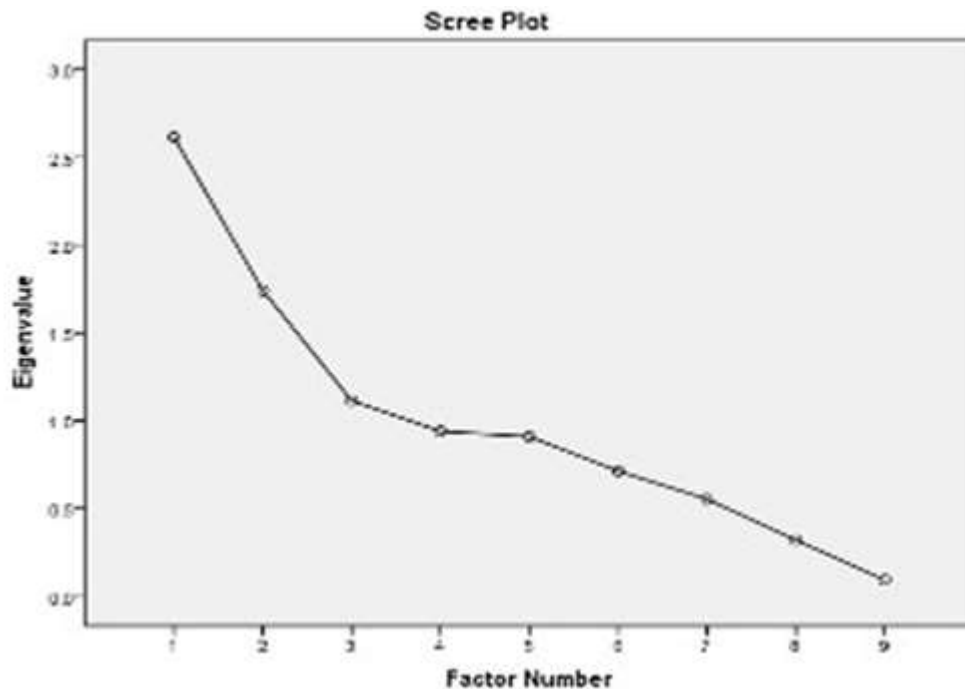

Figure 5: Scree Plot

4.5.3   Factor rotation

Figure 6 shows the factor matrix after rotation which contains the loadings of each variable onto each factor.   A factor loading is the correlation between a variable and a factor that has been extracted from the data. Small coefficients of less than 0.40 have been suppressed. As a result, factor 1 has the variables expense ratio, claims ratio, retention ratio and liquidity with significant loadings.   Factor 2 has size of company and equity capital whilst factor 3 has growth of business and inflation rate.   These factors have been grouped according to variables which are likely to cause the same effect. The 3 factors are renamed Factor 1, Factor 2 and Factor 3.

Rotated Factor Matrix[a]

	Factor		
	1	2	3
Expense ratio	.766		
Claims ratio	.607		
Retention ratio	.578		
Liquidity	-.426		
Size of Company		.998	
Equity Capital		.536	
Leverage			
Growth of Business			.729
Inflation Rate			.463

Extraction Method: Maximum Likelihood.
 Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

Figure 6: Rotated Factor Matrix

4.5.4   Regression and interpretation

Regression analysis is carried out on the three factors determined by factor analysis with return on assets as the dependent variable. Figure 7 indicates the results of regression of the results of factor analysis. The results show that two of the three factors had significant relationships with ROA. Factor 1 has a negative relationship with ROA as witnessed by a t-statistic of -9.097 and a p-value of 0. Factor 2 also has a negative relationship with ROA with a t-statistic of -4.79 and a p-value of 0. Factor 3, however has no significant relationship with Return on Assets. R-squared for the regression is 0.534 implying that results of factor analysis explain 53.4% of the variability in performance of Zimbabwean insurance companies. The results of factor analysis after regression are summarised in Table 3. Results of factor analysis show that the variables expense ratio, claims ratio, retention ratio, size of company and equity capital affect the performance of insurance companies negatively whilst liquidity affects performance positively.

Dependent Variable: ROA
Method: Panel Least Squares
Date: 04/10/16   Time: 15:41
Sample: 2010 2014
Periods included: 5
Cross-sections included: 20
Total panel (balanced) observations: 100

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.061425	0.008302	7.398486	0.0000
FACTOR__1	-0.086895	0.009552	-9.097189	0.0000
FACTOR_2	-0.040008	0.008353	-4.789799	0.0000
FACTOR_3	0.012352	0.010323	1.196555	0.2344

R-squared	0.534068	Mean dependent var	0.061425
Adjusted R-squared	0.519507	S.D. dependent var	0.119773
S.E. of regression	0.083024	Akaike info criterion	-2.100194
Sum squared resid	0.661728	Schwarz criterion	-1.995987
Log likelihood	109.0097	Hannan-Quinn criter.	-2.058020
F-statistic	36.67951	Durbin-Watson stat	1.473003
Prob(F-statistic)	0.000000		

Figure 7: The relationship between ROA and factors

Table 3: Factors affecting performance

Factor	Effect
Expense Ratio	(-)
Claims Ratio	(-)
Retention Ratio	(-)
Liquidity	(+)
Size of Company	(-)
Equity Capital	(-)

5   Conclusion and recommendations

In this study we identified the factors affecting the performance of insurance companies in Zimbabwe using multiple linear regression analysis and factor analysis.   We also identified the effect these factors have on the performance and ranked them in order of importance. This section makes conclusions and recommendations based on the results found.

5.1 Conclusion

The aim of this study was to determine the factors affecting the performance of insurance companies in Zimbabwe during the period 2010-2014. The findings of this research contribute to a better understanding of the financial performance in non-life insurance companies in Zimbabwe. The financial performance of the short-term insurance companies was measured with the use of ROA. Regression analysis and factor analysis were used to determine the relationship that leverage, growth of business, expense ratio, claims ratio, inflation rate, retention ratio, size of company, liquidity and equity have on ROA. Results of the study show that expense ratio, size of company, claims ratio, leverage and liquidity are the factors that significantly affect the performance of insurance companies in Zimbabwe. Results of multiple linear regression have been preferred over the results of factor analysis because regression analysis results explain 61.1% of the variation in performance whilst factor analysis results account for 53.4% of the variation as measured by R-squared. Factor analysis groups variables which are likely to cause the same effect. Leverage is found to affect performance using multiple regression. However, factor analysis does not consider leverage since its not related to any other variable and is believed not to cause the same effect with any other variable. Another difference between the results is equity capital which is found not to affect performance using regression analysis but affects performance using factor analysis. This is because grouped variables may not all affect the performance of insurance companies hence equity capital is found to affect performance only because it is related to size of company which affects performance.

5.2 Recommendations

Expense ratio is the most important factor affecting performance of insurance companies in Zimbabwe hence insurance companies need to prioritize reducing their expenses as much as possible. However, expenses should be reduced to a level which allows a company to operate efficiently such that customers and clients are not disgruntled. Companies should use and train interns to carry out simple duties which would be charged a lot more if they were done by a more experienced employee. Companies also need to reduce administration costs by automating more functions online.

In Zimbabwe, smaller insurance companies have been performing better than larger insurance companies it is therefore important for companies to adopt

characteristics from these companies which make them perform better. Larger insurance companies may suffer from inefficiencies resulting from their size. Larger insurance companies need to build better relationships with clients by offering highly personalized services and being more flexible. They also need to increase operational efficiency, improve service and build on existing customer loyalty. Claims are unavoidable in an insurance company. However, measures should be taken to minimize the effect of claims. Companies need to assess risky policies in order protect themselves from such policies by reinsurance and pricing them accordingly.

Highly leveraged insurance companies perform better in Zimbabwe. Companies should therefore raise the majority of their capital by borrowing rather than by equity capital. Borrowed money can be used to increase production volume, and thus sales and earnings. It also enables a company to modernise, add to its product line, or expand internationally. The additional diversification will likely result in the company performing better. Although high leverage seems to improve performance, companies need to take caution with regards to over-leveraging as this might result in them failing to service their debt obligations.

Short term insurance companies have liabilities which are short term hence they need to match their assets to these liabilities.   The greatest threat to liquidity may occur during a catastrophe when a large number of claims are received at once or there may be prospects of a significantly large claim and they need to be prepared. Short-term insurance companies should therefore invest a large proportion of their assets in short term investments and should desist from investing in illiquid investments such as pension funds and properties. In Zimbabwe, however, there are currently no government treasury bills therefore alternative short-term investments should be made. Insurance companies should also take out long-term loans instead of short-term debt. Since long-term debt often has smaller monthly payments and lower interest rates, the company may save money in the long-term while also improving their liquidity. In addition, insurance companies should monitor the amount of money that is being withdrawn business accounts for non-business purposes.

5.3 Suggestions for further study

This study used secondary data, other researches can be done through primary data. Primary data is first hand and accurate reducing biases that can be experienced when using secondary data. This study also suggests a comparative study that can be conducted to compare the factors affecting the financial performance of companies from different sectors.

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