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The Impact of Competition on the Performance of Short-Term Insurance Companies in Zimbabwe

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ABSTRACT
The research analyzed the impact of competition on the performance of short-term insurance companies. To achieve this the authors looked at how different competitiveness factors influence profitability of a firm. Factors like availability of competitive rivals, availability of new market entrants , price where analyzed to establish how they affect profitability of any company which was measured by Return on equity. Data obtained from Ipec reports and financial statements of 24 insurance companies was analyzed using panel data regression. The research found a significant negative linear association between ROA and Threat from New Market Entrants and a significant negative linear association between ROA and Competitive Rivalry it also found a insignificant positive linear association between ROA and existence of Buyer Power and insignificant positive linear association between ROA and existence price competition.

Keywords: short term insurance, competition, performance

1. Introduction and background

Insurance is a financial services industry product that reduces or eliminates the cost of loss or damage caused by various risks. Insurance is an important tool for risk transfer, compensation and mediation (Cummins, J. D., & Tennyson, S. 1992). Insurance is very important as the world is dominated by uncertainty and risk (Din et al., 2017). Zimbabwe's short-term insurance sector is one of the key pillars of the financial services system and offers a big number of products. The significance of the insurance sector to an economy and financial service system is reflected in industry players' total assets, number of players, market penetration and gross premiums written (GWP). Total assets in the insurance sector rised from US$4.2 billion in the year 2018 to US$17.2 billion in 2019 (Marire, 2021).

The role of competition in the short-term insurance industry cannot be underestimated as it helps reduce risk and uncertainty (Antwi & Antwi, 2013). Competition also enables efficient allocation of resources, leading to balanced domestic development, improved products inovation, improved economic growth prospects, and improved service production efficiency. Raising Capital and Mitigating Credit Risk (Outreville, 2015). Competition in the insurance sector has emerged in a transitional period since the hyperinflation of 2007/2008. After a decade of recession from 1998 to 2008, Zimbabwe's economy

registered a real annual growth rate of over 9% between 2010 and 2011 (Zimbabwe State Budget Report, 2014).. In 2009, the Government of Zimbabwe introduced a multi-currency system consisting of the US dollar (USD) and several other Regional currencies such as PULA and Rand; Makoshori, 2016). The introduction of this currency system put back the economy on a positive trajectory and investor confidence has increased, especially in the financial sector. According to his 2010 report by the Insurance and Pensions Commission (IPEC), the governing body of Zimbabwe's pensions and insurance institutions, 28 short-term insurers were registered in the last quarter of the year. In 2010, four companies were still inactive. During the period, there were various developments in short-term insurers' operations and performance. Overall, the duration of short-term insurance inferred from penetration rates was generally low across the study period (Mazviona et al., 2017). Penetration is calculated as the ratio of premiums paid in a given year to a percentage of national income (gross domestic product). In 2016, the market contributed up to 1.75%, while long-term (life) insurance contributed 2.95% in the same year (Makanda, 2016; Makoshori, 2016). This indicates a very small contribution of the market to Gross Domestic Product (GDP) and economic growth. Low penetration reflects the impact of industry inefficiencies.

How competition has evolved over this period is interesting due to differences in the macroecoomic management styles of most short-term insurers (Sanderson, 2021). The short-term insurance industry has seen the entry of many new players during this period, increasing competition and limiting revenue growth (Mujuru, 2020). The period was marked by significant reductions in insurance premiums due to intense competition.

In Zimbabwe, non-life insurance companies offers the following types of business: Aviation, Fixed Income, Engineering, Agriculture, Fire, Hailstorm, Health, Installment, Marine, Miscellaneous, Automobile, Accident and Liability Insurance (IPEC, 2014). The main reasonn for these policies are categorized as short-term insurance is that the need to compensate for problems changes over time. Also, compensation is only granted for a fixed period of time, i.e. one year.

What motivates the researchers to pursue this topic further is that Zimbabwe's economy is still recovering from his 2008 very high inflation and external debt. This led to an economic recession. Serious and widespread (Makanda, 2016; Makoshori, 2016; Mazviona et al., 2017). Losses were recorded as a result of this crisis. The insurance industry was no exception, adversely affecting industry performance, innovation, efficiency and growth.

After the introduction of the multi-currency system, subsequent annual reports from insurers provided evidence that some firms were struggling and others were thriving (IPEC, 2014). A collapse of the insurance industry would be devastating to the economy, especially in developing countries like Zimbabwe. Therefore, it is very important to identify the factors that affect the performance of insurance companies. Additionally, it is crucial to investigate the blow of these factors on performance. This helps insurance companies and improves their profits.

Zimbabwe's short-term insurance sector has also been hit hard by his global COVID-19 pandemic. The pandemic has caused unprecedented turmoil and severe instability in the country (Mujuru, 2020). The pandemic has resulted in a string of lockdowns, first imposed on March 30, 2020, and many restrictions imposed by the Zimbabwean government to prevent this.

2. Literature review

A lot of research has been conducted trying to explore the impact of competition on the performance of firms in the short-term industry. One notable study is that of Agapova & McNulty (2016) who used

regression analysis of European insurers to explore the complex relationship between interest rates, premiums, and profitability in the insurance industry. They used market returns as a measure of performance. Their results postulated a relationship between interest rates, premiums, and profits, but concluded that the impact of competition on performance varies with the degree of market liberalization. school. Anila (2017) investigated the relationship between competition and performance of Albanian insurance companies. We tested the hypotheses of SCP and efficiency structures. The search results did not support any of the tested hypotheses.Emine (2016) conducted a study of the insurance industry and applied structural and performance behavioral hypotheses to insurance companies trading in Borsa Istanbul in 2010 and Borsa Istanbul in 2015. paddy field. Research also shows that competition has a positive effect. Affects insurer relationships and financial performance. This study accepts the hypothesis that competition improves firm performance (profitability).

Alhassan (2016) used panel data to analyze the relationship between market structure and performance in the Ghanaian non-life insurance industry from 2007 to 2011. He used his DEA to measure efficiency. His results support his ES hypothesis that efficient firms charge lower prices, thus attracting more customers and concentrating the market. Overall, this means that there is a negative correlation between competition and performance (efficiency). Altuntas and Rauch (2017) used a panel regression model from 2004 to 2012 to measure the relationship between competition and performance, using financial stability as a measure of insurer performance. Property insurance in developed and developing countries. Their results show that industrial concentration undermines financial stability. This suggests that competition is positively correlated with performance. Njegomir et al. (2009) used panel data to analyze the impact of competition on the insurance activities of companies in the former Yugoslavia from 2004 to 2009. Their results show that there is a positive correlation between competition and insurance performance because competition improves quality and lowers prices, thereby increasing profits.

In addition, an Ethiopian study by Deyganto & Alemu (2019) explored external factors that influence insurer performance. The study analyzed the performance of the Ethiopian insurance market and found no link between competition and performance. Research shows that competitive pricing and profitability are statistically significant to insurer performance. Therefore, the study concludes that competition is one of the most important factors affecting insurers' performance. query etc. (2013) explored the product structure and performance of the Chinese nonlife insurance industry and found that despite the high concentration of the Chinese non-life insurance market, economies of scale have yet to be realized. discovered. insurance industry. Eldenburg, L., Kallapur, S., & Zhou, J. (2004), examined the association amid competition and financial steadiness in his 10 countries in West Africa from 2000 to 2014. In this study, we used a moment-style generalized autorregressive panel vector estimation model. The study found that competition increases stability. Granger's interconnection test establish bidirectional causation. Impulse response functions showed that the effect of standard deviation shocks on Boone index increases as a proxy for stability competition is zero in the first year and becomes negative in the 10th year.

Kramarić and Miletić (2019) assessed the impact of competition on the health of Croatian insurers. We also measured competition using Boone's exponential method. The Boone Index shows the bearing of competition on the performance of competent underwriters in the post-EU period by considering only redistribution effects. This shows that resourceful insurers generate higher profits. Pre-EU accession, overinsurance rates and inflation were significant, whereas post-EU accession, reinsurance and GDP growth were statistically significant. After joining the EU, competition has intensified. Fu, He & Hao (2019) also use the Boone index to study the Chinese life insurance market. In their work, he uses three

different approximations of marginal cost to calculate the Boone exponent mean variable cost; marginal cost is derived from the cross-log cost function. Marginal cost scaling. This result indicates weaker competition in China's life insurance industry compared to other sectors in Asia such as North Korea, Japan, Taiwan and Singapore.

Kasman et al. (2019) assesses the impact of competition and focuses on the stability of the Turkish insurance industry from 2002 to his 2014. The main results show that property and casualty insurers are more stable in a less competitive and concentrated environment. The results confirm our view on competition and vulnerability in the Turkish non-life insurance sector. Life and annuity insurers, by contrast, are more resilient in highly competitive and concentrated markets. Thus, their results confirm the competitiveness and stable valuation of Turkish life and annuity insurers.

Mbakisi Dude et al., 2017 explored the non-competitive factors affecting the performance of the short term insurance industry in Zimbabwe. Their study aimed to examine factors influencing performance using secondary data from 20 short-term insurers. They used factor analysis and multiple linear regression models to identify factors influencing performance and determine their impact. The results show that expense ratios, claims ratios, and firm size have a significant negative impact on insurer performance. Leverage and liquidity have a positive bearing on performance.

Camino-Mogro et al. (2019) Research on competition between life insurance and nonlife insurance in Ecuador. The study period traversed from 2001 to 2006, and he used the Panzzar and Rosse models to assess industry competitiveness. Research shows that the Ecuadorian insurance industry operates under conditions of perfect competition. The study also found that insurers linked to banks in Ecuador's financial system value added their earnings. It is a public insurance company and receives foreign investment without revenue.

Ishammari, Alhabshi, and Saiti (2019) scanned the impact of competition on the profitability of traditional insurance in Gulf Cooperation Council (GCC) countries from 2009 to 2016. In this study, we used the stochastic marginal cost function. Research shows that there is a positive relationship concerning competition and efficacy. This supports the quiet life hypothesis that market leaders can leverage the market power of their competitors in less competitive markets. Reduce business and effort. The study endorses policy makers and supervisory bodies to make the insurance industry more modest and effectual.

Weiss, M. A. (1991), used Board Information Models to examine the relationship between competition and protectionist enforcement in Eastern European countries from 2004 to 2008. Results showed relevance. Negative relationship between competition and interest. Cummins et al. (2017) Piloted an international comparative study on the relationship between the well-being and competition in the life insurance industry in 10 European countries. They used Boone's exponential way for the period 1999-2011. Research shows that competition improves the health of the European life insurance market.

It is important to note that most of the studies were conducted on a generalized opinion as they never focused on the short-term insurance industry, that includes Kramarić and Miletić (2019), Weiss, M. A. (1991), Cummins et al. (2017) and many others . Moreover, even though some authors, like Mbakisi Dude et al., 2017 tried to address the issue of how competition impact the shortterm industry, nothing much has been done with regards to Zimbabwe. This research therefore sought to analyze the impact of competition of on the performance of short-term insurers in Zimbabwe.

3. Research Methodology

This research took quantitative approach to explore the impact of competition on performance of short term insurance companies. To achieve this goal, researchers used a panel regression method (panel or longitudinal estimation) to measure impact of the factors that influence competition the companies' return on equity (ROA) of property and casualty insurers over 10 years. Zimbabwe has a total of 960 registered insurers (brokers, reinsurers and underwriters) (IPEC Report 2022). ROA was selected to be the absolute measure of performance of the companies being assessed . The study selected a sample of 24 from this database, Survey participants can select from this group of insurers for the survey. Data was obtained from IPEC reports on property and casualty insurance companies from 2012 to 2022, which were provided by her IPEC office in Harare, and in part by the researchers .

Econometric Model Specification

The subsequent sections detail the econometric structure of the models which were fitted to the data; the Fixed Effects Model and the Random Effects Model.

Panel data estimation methods

a) The Fixed Effects Model (FEM)

The fixed effects approach is only appropriate if and only if firm's specific effects (α_i) are correlated with at least one of the regressors. That is if,

$$\mathbf{Cov}(\boldsymbol{\alpha_i}, \mathbf{X_{it}}) \neq \mathbf{0}$$

The Fixed Effects model's main target is to remove the effect of time-invariant variables on the dependentable variable, ROA. The model thus removes all firm-specific effects. After that the study then clearly analyse the influence of time variant variables on the dependent variable.

The resultant model that put in consideration both time and firm's specific effects is given by;

$$\mathbf{ROA_{it}} = \boldsymbol{\beta_0} + \sum_{\mathbf{i=1}}^{\mathbf{6}} \boldsymbol{\beta_i} \mathbf{X_{it}} + \boldsymbol{\alpha_i} + \boldsymbol{\mu_{it}} \mathbf{(3.1)}$$

Where:

$$\mathbf{t} = \{\mathbf{1}, \mathbf{2}, \dots \mathbf{8}\} \textbf{ is the time} - \textbf{period} - \textbf{identifier}$$
$$\mathbf{i} = \{\mathbf{1}, \mathbf{2}, \dots, \mathbf{6}\} \textbf{ is the cross} - \textbf{sectional} - \textbf{identifier}$$
$$\boldsymbol{\alpha_i} \textbf{ measures the bank} - \textbf{specific effects}$$

b) The Random Effects Model (REM)

Also called the Error Components Model(ECM), the Random Effects Model(REM) is usually expressed as follows;

$$\mathbf{Y_{it}} = \boldsymbol{\beta_0} + \sum_{\mathbf{i=1}}^{\mathbf{6}} \boldsymbol{\beta_i} \mathbf{X_{it}} + \boldsymbol{\omega_{it}}$$

Where, $\boldsymbol{\omega_{it}} = \boldsymbol{\varepsilon_i} + \boldsymbol{\mu_{it}}$

The error term is composite ω_{it} and it consists of two elements, ε_i– cross-section, or firm specific error component, andμ_{it}, which integrates both the cross sectional and time series error components. The model is also called the error component model and it stems this name mainly because of the merged error term ω_{it}which contains the two error components.

The REM is thus illustrated below;

$$\mathbf{Y_{it}} = \boldsymbol{\beta_0} + \boldsymbol{\beta_1} \mathbf{X_1} + \boldsymbol{\beta_2} \mathbf{X_2} + \boldsymbol{\beta_3} \mathbf{X_3} + \boldsymbol{\beta_4} \mathbf{X_4} + \boldsymbol{\beta_5} \mathbf{X_5} + \boldsymbol{\beta_6} \mathbf{X_6} + \boldsymbol{\omega_{it}}$$

Here t ranges from 2012 to 2022.

The Hausman Test

The primary goal of the test is to come up with the best Panel Data Estimation technique between FEM and REM.

The test is conducted as follows;

i. Formulation of hypothesis

$$H_0: Cov(\alpha_i, X_{it}) = 0$$

$$H_0: Cov(\alpha_i, X_{it}) \neq 0$$

ii. The critical value

$$Chi - square\ with\ one\ degree\ of\ fredom$$

iii. The test statistic

$$\omega = \frac{\left(\hat{\beta}_{FE} - \hat{\beta}_{RE}\right)^2}{Var\left(\hat{\beta}_{FE}\right) - Var\left(\hat{\beta}_{RE}\right)}$$

iv. Rejection criterion

The null hypothesis will be rejected at α level if $\omega > the\ critical\ value.$

Any result which leads to the rejecton of the null-hypothesis entails that the Random Effects model is the appropriate estimation technique. However, failure to reject the null hypothesis implies that the Random Effects approach is plausible.

4. Data analysis

This study sought to explore the impact of competition on performance in the insurance sector. Data collected from financial statements and Ipec reports was analyzed using the panel data regression estimation technique. The researchers had to make a decision as to which tool to use between the random effects model and the fixed effects model and for that the Hausman tests below were conducted .

The findings from the Hausman Test supported fitting the Random Effects. To supplement the results of the Hausman-Test the study also checked the following Penalty-Functiion-Statistics primarily; BIC and AIC to measure the best among the two models (i.e. FEM and REM). The results of inspecting the AIC and BIC show that REM outperformed the FEM with respect to reducing both BIC and AIC scores.

Table 5. Penalty Function Statistics

Model	Akaike's Information Criterion (AIC)	Bayesian Information Criterion (BIC)	Plausible Model
Random Effects Model	-1.23888	-4.84488	Random Effects Model
Fixed Effects Model	-0.05333	-2.51876	

Source: Author's compilation from Eviews 9

Findings form the table 6 supports the Hausman test findings. The model selection methods indicated that the REM is the best model for the data. REM was thus fitted by employing the Eviews v9 analysis package. The results are shown below

Table 6. REM E-Views v9 output

Dependent Variable: ROA
Method: **Panel Least Squares**
Date: 06/12/22 Time: 13:14
Sample: 20122022
Periods included: 8
Cross-sections included: 14
Total panel (balanced) observations: 112

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.008463	0.007044	1.201460	0.2323
NEW_MKT_ENTRANTS	-0.001504	0.000217	-6.939247	0.0000
RIVALRY	-0.009862	0.010709	-0.920923	0.0352
BUYER_POWER	0.109903	0.013733	8.002986	0.4320
QUALITY	0.131755	0.017440	7.554583	0.0000
FIM_SIZE	-0.000471	0.000408	-1.153310	0.2514
PRICE	0.000001	4.68E-05	0.337338	0.7365

R-squared	0.597649	Mean dependent var	0.006217
Adjusted R-squared	0.574658	S.D. dependent var	0.011900
S.E. of regression	0.007761	Akaike info criterion	-6.819034
Sum squared resid	0.006324	Schwarz criterion	-6.649128
Log likelihood	388.8659	Hannan-Quinn criter.	-6.750098
F-statistic	25.99438	Durbin-Watson stat	2.007064
Prob(F-statistic)	0.000000		

Source: Author compilation from Eviews 9.

The DW (Durbin-Watson) Test

The fundamental basic assumption of Classical Linear Regression (CLRM) states that the resulting residuals from a fitted model are not correlated. The study adopted the Durbin Watson Test to autocorrelation of order 2. If the value of the DWstatistic is 2, it implies that the residuals from the fited model are not auto correlated. If there is no significant auto correlation, then the fitted Panel Data Regression model is considered adequate. The value of the Durbin – Watson statistic was 2.007064, indicative of no autocorrelation. Since the residuals are not auto correlated then our F-statistic and R-squared tend to give us the right conclusions on the importance or significance of the coefficients thus we can rely on our model (Jambawo, 2014)

Interpretation of R – squared

The R – Square coefficient was found to be 0.597649 implying that the random effects accounts for 59.76% of variation in ROA. This entails that 59.76% of the variability in ROA was adequately explained or captured by the explanatory variables of the model**.**

The adjusted R-squared measures changes in predictive strength of the model after adding an extra explanatory variable. In our Random effects model, we have an insignificant variable (Buyer Power, Price and Firm Size), and adding those variables has caused R – squared to fall from 59.8% to 57.5%. Adjusted R – square fall after an insignificant variable[s] is added to the model.

Overall significance of the model

The probability value for the F statistics for the model must be lower than the conventional test level of 0.05 for the model to be a good fit. The findings from the tests show that the p-value for the F statistic was 0 (<0.05) implying that the model is a proper and plausible fit for estimation.

Testing for Heteroscedasticity

The study employed the 'Breusch-Pagan-Godfrey' test to check whether the residuals from the fitted REM model are heteroskedastic. The findings for the test are presented in the table below;

Table 1. The Breusch-Pagan-Godfrey test

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	30.02706	Prob. F(2,104)	0.000000
Obs*R-squared	39.16873	Prob. Chi-Square(2)	0.000000
Scaled explained SS	124.4023	Prob. Chi-Square(2)	0.000000

Source: Authors compilation from Eviews version 9

The computed F-statistic was found to be 30.02707, higher than the critical F-value implying rejection of heteroskedastic null-hypothesis. The p-value for the 'Breusch-Pagan-Godfrey' test's F-statistic was 0 implying the rejection of the nullhypothesis. We therefore say that there is enough evidence from the sample to suggest that the residuals generated from the fitted REM model are not heteroscedastic at 0.05 significance level. This result thus reveals that the fitted model is an adequate proper fit.

5. Presentation and discussion of results

The study used POLS estimator (Panel Ordinary Least Squares) as a tool for estimation with a random effect as resolved by Hausman Test.

Research model is as follows:

FinancialPerformance (ROA) = β_0+β_1 (**NME**) + β_2 (**CR**) + β_3 (**BP**) + β_4 (**Q**) + β_5 (**SIZE**) + β_6 (**PRICE**)

Where;

NME denotes NEW_MKT_ENTRANTS – New Market Entrants

CR denotes RIVALRY – Competitive Rivalry

BP denotes BUYER_POWER – Buyer Power

Q denotes QUALITY – Quality

SIZE denotes FIRM_SIZE – Firm Size

PRICE denotes PRICE - Price

After running the above regression in eviews9 the following coefficients where obtained **ROA** = 0.008463 - 0.001504(**NME**) -0.009862(**CR**) + 0.109903(**BP**) + 0.131755(**Q**) -0.000471(**SIZE**) + 0.000001(**PRICE**)

Interpretation of results

a. Threats to new market entrants

Holding other variables (CR, BP, Q, SIZE, and PRICE) constant, a test on the influence of new market entrants(NME) on ROA was done. The findings show a significant negative linear association between ROA and Threat from New Market Entrants. A unit increase in the Threat from New Market Entrants will result in ROA decreasing by 0.15% on average.

b. Existance of competitive rivalry

Holding other variables (NME, BP, Q, SIZE, and PRICE) constant, assuming that ROA was only affected by the existence of Competitive Rivalry (CR). The findings show a significant negative linear association between ROA and Competitive Rivalry (CR). A percentage increase in the Competitive Rivalry will result in ROA decreasing by 0.99% on average.

c. Buyer power

Holding other variables (NME, CR, Q, SIZE, and PRICE) constant, results show that there is a insignificant positive linear association between ROA and existence of Buyer Power. A unit escalation in the Buyer Power will end in ROA going up by 11% on average. However, this effect was established to be insignificant at the basic 5% significance level.

d. Price competition

Holding other variables (NME, CR, Q, SIZE, and BP) constant the researchers tested the relationship between service price competition and ROA and the findings shown an insignificant positive linear association between ROA and existence price competition . A unit increase in the price competition will result in ROA increasing by 0.0001% on average. However, this effect was found to be insignificant at the basic 5% level of significance.

6. Conclusion

A 1-unit increase in new entrant threat reduces ROA by 0.15% on average.) ROA decreases by 0.99% on average as the percentage of competitors increases. Increasing purchasing power per unit increases average ROA by 11%. However, this effect was found to be non-significant at the traditional significance level of 5%. A 1-unit improvement in service quality increases average ROA by 13.2%. ROA decreases by an average of 0.05% as company size per unit increases. However, it turns out that company size has little effect on his ROA. A 1 unit increase in price increases the average ROA by 0.0001%. However, this effect was found to be non-significant at the traditional significance level of 5%.

As a result, the study concluded that the level and intensity of competition in Zimbabwe's short-term insurance industry affects the performance of companies in this industry, which formed the basis of the study. The study found that competition has a significant impact on the financial performance of companies in the property and casualty insurance industry.

7. Recommendations

Based on our findings and conclusions, this study provides the following recommendations:

a. Enhancing buyers to protect customers from monopolies

We have come to the conclusion that there are no buyers for the property and casualty insurance company's customers. This is very disadvantageous as it leads to lower quality of service and higher service charges. In this study, the Consumer Council of Zimbabwe (CCZ) recognized this finding and recommended that consumers launch a campaign to increase their purchasing power by being price-conscious and well-informed about their products. increase. The study also recommends that buyers reverse integrate sellers' products or allow them to initiate production of sellers' products themselves. This enhances the bargaining power of customers (Kaunyangi, 2014). The study also recommends that customers buy standardized products from sellers in bulk. This will strengthen the buyer as well.

b. Removing barriers to entry into the short-term insurance industry

To ensure that companies are sufficiently competitive, the study recommends breaking down barriers to entry into the property and casualty insurance industry. Competitiveness is very important as it leads to better service quality, buyer power and lower service prices.

c. Recommendations for further research

The time period assumed in this study was too short. So from 2014 he is 2022. This generally affected the variability of the data. This is actually characteristic of data collected over several years. This may have affected the relationship between competition and firms' financial performance and skewed the research results.

Here are a few references related to the impact of competition on performance in the short-term insurance industry:

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