



Impact of Reinsurance Agreements on Assets and Liabilities Management of Property and Casualty Insurance Companies Applied in the Egyptian Insurance Market

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ABSTRACT

This study aimed to measure the Impact of Reinsurance Agreements on the management of Assets and liabilities of property and casualty Insurance Companies in the Egyptian Insurance Market. Risk Retention Ratio (RRR), Reinsurance Dependence Ratio (RDR), Firms Size of Companies (FS'), Premium Cession Ratio (PCR) and Reinsurance Commission to Shareholder's Equity (RCS) (Independent Variables) have an Impact on each Return on Assets (ROA) and Return on Equity (ROE) as measures used to manage The Assets and Liabilities of Property and Casualty Insurance Companies in the Egyptian Insurance Market (Dependent Variables). This Study used a Combination of Statistical methods, which are Descriptive Statistical Analysis, Pearson Correlation Coefficient, and Multi-Regression. The Secondary Data were also obtained from the annual Statistical book issued by the Egyptian General Authority for Financial Supervision, which was applied to the Total Number of Branches in one of Property and Casualty Insurance Companies in The Egyptian Insurance Market. These Companies are as Follows (Suez Canal – Eng. – Delta), From 2013/2014 to 2020/2021. Finding showed for the Suez Canal company, Risk Retention Ratio, Firms Size of Companies, Premium Cession Ratio and Reinsurance Commission to Shareholder's Equity have positive impact on each Return on Assets and Return on Equity. Also Reinsurance Dependence Ratio have negative impact on each Return on Assets and Return on Equity. But as for the Eng. Company, Risk Retention Ratio and Reinsurance Dependence Ratio have positive impact on each Return on Assets and Return on Equity. Also Firms Size of Companies, Premium Cession Ratio and Reinsurance Commission to Shareholder's Equity have negative impact on each Return on Assets and Return on Equity. Also as for the Delta Company, Risk Retention Ratio and Firms Size of Companies have positive impact on each Return on Assets and Return on Equity. But Reinsurance Dependence Ratio, Premium Cession Ratio and Reinsurance Commission to Shareholder's Equity have negative impact on each Return on Assets and Return on Equity. In addition to, this study also concluded that Risk Retention Ratio, Reinsurance Dependence Ratio, Firms Size of Companies, Premium Cession Ratio and Reinsurance Commission to Shareholder's Equity have a significant impact on each Return on Assets and Return on Equity for the insurance companies under study. Finally, this study recommended that the risks facing property and casualty insurance companies in the Egyptian insurance market should be studied and analyzed and their impact on Assets and Liabilities Management. And also recommended Rationalizing the Decision of reinsurance Agreements.

1. Introduction

Reinsurance is considered a major Financial Activity Provided to direct insurance companies, and it is done by facilitating a wider distribution of risks at the global level, in order to obtain a higher

underwriting capacity and provide insurance cover aimed at reducing capital costs for insurance companies. Reinsurance can also be

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considered as insurance for company's insurance **(Oyekanmi, 2019)**.

Reinsurance is the transfer of Risks already insured by direct insurance companies to reinsurance companies by paying the reinsurance premium as consideration, when mitigating their own risks, insurance companies use reinsurance policy, and include reinsurance benefits to increase capacities underwriting, technical expertise, risk allocation, and financial hardship reduction **(Obonyo, 2018)**.

Reinsurance provides a mechanism for insurance companies to reduce their underwriting risks, and thus enables insurance companies to enhance their financial solvency and expand their ability to absorb different types of business.

Through this, the importance of reinsurance appears in the absorptive capacity, which represents the maximum amount that insurance or reinsurance companies can subscribe to without exposure to losses, as insurance companies are often forced to accept insurances that exceed the maximum absorptive capacity of the company, and therefore insurance companies resort to reinsurance to increase its absorptive capacity, it accepts large scale risks, because the reinsurer will accept reinsurance in excess of its capacity **(Emmanuel, 2022)**.

When evaluating the management of the assets and liabilities of Insurance companies in the Egyptian insurance market and providing innovative services, this will enable achieving increased profitability and market penetration.

And through this, as the growth rate of insurance premiums during the year 2021 reached 18.5% compared to last year, and the Total premiums increased during the year 2021 to 47.5 billion pounds compared to the year 2020, when the total premiums reached 40.1 billion pounds. On the other hand, companies paid a total of 23.4 billion pounds.

Compensation pounds in 2021, compared to 18.8 billion pounds in 2020.

The Surplus in insurance activity for companies increases by rate of 25.5% reaching about 5.9 billion pounds in 2021, compared to last year,

which achieved a surplus in activity and amounted to 4.7 billion pounds in 2020.

Despite the increase in the surplus of insurance activity, it led to attracting more new investments in the Egyptian insurance market, as value of total investments increased in 2021 to reach about 131.5 billion pounds compared to last year, when it reached 107.7 billion pounds in 2020.

The value of net assets also increased in 2021, reaching 152.9 billion pounds compared to last year, and reaching 128.5 billion pounds in 2020.

While the total of policyholders, which represent the obligations of insurance companies towards their customers in 2021, amounted to 88.3 billion pounds compared to last year, with a value of 77.4 billion pounds in 2020, and the total Shareholders' equity in 2021 also amounted to 45.6 billion pounds compared to last year and amounted to its value is about 33.3 billion pounds in 2020.

2. Literature Review

- **(Yink, 2020)**, This study is carried out to determine reinsurance in place of a risk management instrument and its effect on the non-life insurance firms' profitability in Nigeria, adopting ex-post-facto design, with multiple correlation and regression model to analyze the data obtained from Nigeria Insurers Association Digest report 2007 to 2018, which is indicating 12 years of study sample size. The findings of the study show that Premium Cession Ratio (PCR) and Net Retention Ratio (NRR) have positive effect on the profitability (ROA) of insurance companies but not significant with their coefficient values of (0.059880 and 0.006273) and their associated probability values of (0.2811 and 0.8880) However, the findings reveal that Reinsurance Dependence Cede Premium (RDC) and Reinsurance Commission to Shareholder's Equity (RCS) have affected the profitability (ROA) of insurance business entities negatively and insignificantly with their values of coefficient (-0.266824 and -0.894553) and their corresponding p-value is (0.5149 and 0.3497) respectively.

-**(Osasona, 2021)**, This study assessed the impact of reinsurance activities on the sustainability of insurance firms in Nigeria. Specifically, the study examined the effect of reinsurance expenses on

profit after tax and return on asset of selected insurance firms in Nigeria and also analyzed the effect of reinsurance ceded ratio on profit after tax and return on asset. The study focused on five randomly selected insurance firms over the period of five years spanning from 2013 to 2017. Data were collected from the annual report of the sampled firms and analyses were conducted using pooled OLS, fixed effect and random effect estimation techniques, following descriptive and correlation analyses. Result showed that reinsurance expenses exert positive but not significant effect on profit after tax; effect of reinsurance ceded ratio is negative but not significant. Result further showed that effect of both reinsurance expenses and reinsurance ceded ratio on return on asset was negative and insignificant. This study concluded that reinsurance activities have no significant influence performance and sustainability of insurance firms in Nigeria, though increase in reinsurance expense could reflect positive impact on profit after tax, it negative impact on both profit after tax and return on asset, which underscores influences on return on asset is negative. More so reinsurance cede ratio established detrimental effect of reinsurance activities on a firm's sustainability. Hence insurance firms in Nigeria should tackle the issue of performance and sustainability as a broader corporate issue influence by more than just the level of reinsurance activities, and also ensure that reinsurance ceded ratio framework does not erode the prospect of improved return on asset at any point in time.

- **(Silvia ,2022)**, This study provides empirical evidence for the effect of reinsurance on solvency, profitability, and taxes of primary insurers. Our main finding ratios. This impact involves the segments of health insurance, composite insurance, title insurance, and non-life insurance. Our interpretation is that reinsurance and capital can be seen as substitutes for improving solvency. This implies that, by sharing their risk with reinsurers, primary insurers can benefit from a relief on capital. Additional outcomes display an important relationship between demand and supply of reinsurance at the firm level, as we observe that, growing in the used reinsurance;

primary insurers are more prone to providing reinsurance to other firms.

-(Emmanuel, 2022), This study examined the impact of reinsurance underwriting operations on assets management of insurance companies in Nigeria. The research design employed was an ex-post facto research design. A census of all the 58 insurance and reinsurance companies listed on the Nigerian Insurers' Association (NIA) and National Insurance Commission (NAICOM) as at 2018 was taken. Data for the study were collected from the annual publications of the Nigerian insurance digest and National Insurance Commission for 10 years' period 2009-2018. Panel data model was applied. Hypotheses of the study were tested at 5% significant level. Regression results revealed that reinsurance underwriting operations (Risk Retention Ratio and Reinsurance Dependent Ratio) have significant impact on assets management (return on assets) of insurance companies in Nigeria. The findings support the prediction of resource based view theory. The study recommends among others, that regulatory bodies and shareholders in the Nigerian insurance industry should put in place apposite mechanisms that will ensure effective underwriting practices considering indispensability of reinsurance in assets management.

3. Research Problem

The Reinsurance Sector Faces Unfavorable and Constantly Changing Working Conditions ,Which effects the management of the Assets and Liabilities of Insurance Companies , as there is an Impact of Reinsurance Risks on the management of its assets and liabilities , through the premiums that insurance companies based on reinsurers , and this percentage is determined according to a number of factors, Including the type of risk to be insured , the size of the coverage , the conditions of risk and the financial strength of the companies. It also means that the increase in this ratio leads to an increase in the companies' reliance on reinsurance which leads to a decrease in the size of their assets. Reinsurance risks are measured by the ratio of reinsurance- based on premiums to the Total Assets.

Table (1) Shows the Reinsurance Risks of the Total Branches of the Property and Casualty Insurance Companies under Study in the Egyptian Insurance market during the period 2013/2014 to 2020/2021

Years	Suez Canal			Eng.			Delta		
	PBR	TA	RR %	PBR	TA	RR %	PBR	TA	RR %
2013/2014	200544	889616	22.54	652420	582154	11.21	841850	436028	193.07
2014/2015	215222	959009	22.44	825570	612426	13.48	781480	454503	171.94
2015/2016	259974	1021595	25.45	101804	612624	16.62	848791	464675	182.66
2016/2017	398729	1230589	32.40	134316	832420	16.14	939872	627539	150.71
2017/2018	440233	1402717	31.38	230787	909755	25.37	103884	677194	153.40
2018/2019	460389	1629722	28.25	293758	997828	29.44	133316	805241	165.56
2019/2020	491939	1737458	28.31	333365	998725	33.38	192556	102289	188.24
2020/2021	516342	189206	27.29	363359	999846	36.34	223498	117878	190.60

Source: Statistical Yearbook on Egyptian Insurance Market Activity

Notes: Premiums Based on Reinsurance (PBR), Total Assets (TA), Reinsurance Risk (RR).

The following is Evident from the Previous Table: -

- For the Suez Canal Company, it Represented Reinsurance Risk in **2016/ 2017**, when it amounted to **32.40%**, and also in **2017/2018**, it amounted to **31.38%**, which means that the increase in this percentage leads to an increase in the dependence of insurance Companies on Reinsurance.

- For the Eng. Company, it Represents Reinsurance Risk in **2019 /2020**, where it amounted to **33.38%** and also in **2020/2021**, its value amounted to **36.34%**, which means that the increase in this percentage leads to an increase in the dependence of insurance Companies on Reinsurance.

- For the Delta Company, it Represents Reinsurance Risk in **2013/2014** amounted to **193.07%**, and in **2019/2020** it amounted to **188.24%**, and in **2020/2021** it amounted to **190.60%**, which means that the increase in this percentage leads to an increase in the dependence of insurance Companies on Reinsurance.

Through, This Percentage of the insurance Companies under Study takes the rest of the years to Fluctuate up and down, which leads to a decrease in the size of their Assets.

Therefore, The Research Question Problem can be Formulated as Follows:

" What is the impact of Reinsurance Agreements on Assets and Liabilities Management of Property and Casualty Insurance Companies in the Egyptian Insurance Market?"

4. Importance of Research

The Importance of Research Appears for each of The Following Parties:

- **Insurance Companies:** The Importance of Reinsurance for Insurance Companies Appears for the purpose of maintaining the stability of underwriting results, protecting capital and surplus, and also Increasing absorptive capacity in order to increase the volume of its assets and achieve higher profitability.

- **policyholders:** As Reinsurance plays a major role from the point of view of shareholders and policyholders, especially in light of the strong competition the insurance companies, which necessitates insurance companies to pay attention to increasing their assets and achieving a higher Return in order to achieve the objectives of shareholders and policyholders.

5. Objective of Research

The main Objective of this Study is to measure the impact of Reinsurance Agreements on Assets and Liabilities Management of Property and Casualty Insurance Companies in The Egyptian Insurance Market. Therefore, the Specific Objectives are as follows:

- Determine The Impact of Risk Retention Ratio (RRR) on each Return on Assets (ROA) and Return on Equity (ROE).
- Determine The Impact of Reinsurance Dependence Ratio (RDR) on each Return on Assets (ROA) and Return on Equity (ROE).
- Determine The Impact of Firms Size of Companies (FS') on each Return on Assets (ROA) and Return on Equity (ROE).
- Determine The Impact of Premium Cession Ratio (PCR) on each Return on Assets (ROA) and Return on Equity (ROE).
- Determine The Impact of Reinsurance Commission to Shareholder's Equity (RCS) on each Return on Assets (ROA) and Return on Equity (ROE).

6. Data and Methodology

This Study used a Combination of Statistical methods, which are Descriptive Statistical Analysis, Pearson Correlation Coefficient, and Multiple Linear Regression Analysis. The Secondary Data were also obtained from the annual Statistical book issued by the Egyptian General Authority for Financial Supervision, which was applied to the Total Number of Branches in one of Property and Casualty Insurance Companies in The Egyptian Insurance Market. These Companies are as Follows (Suez Canal – Eng. – Delta), From 2013/2014 to 2020/2021.

To conduct this study, the Multiple Linear Regression Analysis technique is used for determining the relationship between Independent and Dependent Variables. Using The Multiple Linear Regression model method to test the significance of the regression between several Independent variables and Dependent Variables, through which we can determine which of the Independent Variables Contributes more to the Dependent Variables. For making this study meaningful and making it free from error, statistical Software is used for calculating the empirical Results. As the Calculation is quite tough, manual calculation is avoided here rather than sophisticated software is used. In this study **SPSS** statistics Software has taken for calculating the empirical result. **SPSS** stands for statistical package for the social science. This is package software containing different tools and techniques for making statistical analysis easy. So the general model is stated as follows:

$$ROA = \alpha_0 + \beta_1(RRR) + \beta_2(RDR) + \beta_3(FS') + \beta_4(PCR) + \beta_5(RCS) + \epsilon$$

$$ROE = \alpha_0 + \beta_1(RRR) + \beta_2(RDR) + \beta_3(FS') + \beta_4(PCR) + \beta_5(RCS) + \epsilon$$

where:

ROA = Return on Assets

ROE = Return on Equity

RRR = Risk Retention Ratio

RDR = Reinsurance Dependence Ratio

FS' = Firms Size of Companies

PCR = Premium Cession Ratio

RCS = Reinsurance Commission to Shareholder's Equity

α_0 = Constant Term

$\beta_{1,2,5}$ = Coefficient

ϵ = Composite Error Term

Risk Retention Ratio, Reinsurance Dependence Ratio, Firms Size of Companies, Premium Cession Ratio and Reinsurance Commission to Shareholder's Equity (Independent Variables) have an Impact on each Return on Assets and Return on Equity (Dependent Variables).

Table (2) Shows the variables list of both Dependent and Independent variables mentioning the full form of the variables with Explanation. it also shows the formula used for determining the quantitative value of the variables.

Short Form	Full Form	Explanation	Formula
Dependent Variables			
ROA	Return on Assets	Return on Assets is used to assess the ability of Insurance Companies to generate Returns From available Sources of funds.	Profit after Tax / Total Asset
ROE	Return on Equity	Return on Equity is used to Analysis the return on money invested by Shareholders.	Profit after Tax / Total Equity
Independent Variables			
RRR	Risk Retention Ratio	This determines the percentage of the premiums that the company can keep , and this percentage is more than 50% , but if it is less than 50% , the Companies rely more on Reinsurance to collect premiums and get a commission only from the reinsurance company.	Net Written Premium / Gross Written Premium
RDR	Reinsurance Dependence Ratio	This Ratio Indicates the degree of Dependence of the Company on Reinsurance when Underwriting Risks.	Ceded Premium / Total Asset
FS'	Firms Size of Companies	This Ratio reflects the Contribution of assets to the company's revenues.	Ln of Total Asset
PCR	Premium Cession Ratio	This Ratio determines the percentage of premiums that were waived to the reinsurance company ,and it also reflects the degree of dependence of the insurance company on reinsurance.	Reinsurance Ceded / Net Premium Written
RCS	Reinsurance Commission to Shareholder's Equity	It is the Ratio that shows the value of Commissions that are obtained by Reinsurance Companies to the Insurance Premium that was waived to the company. This Commission represents revenues for the insurance companies that the reinsurance company pays to the company in return for the premiums that are waived to it .	Reinsurance Commission / Shareholder's Equity

source: Author's Calculation

7. Research Hypothesis

Based on the above, and in the light of the Review of previous Studies Related to the Subject matter of the study, The Researcher will formulate the Imposition of the current study, which is designed to be tested as follows: -

H₁: There is Significant Effects between Risk Retention Ratio (RRR) and Return on Assets (ROA).

H₂: There is Significant Effects between Reinsurance Dependence Ratio (RDR) and Return on Assets (ROA).

H₃: There is Significant Effects between Firms Size of Companies (FS') and Return on Assets (ROA).

H₄: There is Significant Effects between Premium Cession Ratio (PCR) and Return on Assets (ROA).

H₅: There is Significant Effects between Reinsurance Commission to Shareholder's Equity (RCS) and Return on Assets (ROA).

H₆: There is Significant Effects between Risk Retention Ratio (RRR) and Return on Equity (ROE).

H₇: There is Significant Effects between Reinsurance Dependence Ratio (RDR) and Return on Equity (ROE).

H₈: There is Significant Effects between Firms Size of Companies (FS') and Return on Equity (ROE).

H₉: There is Significant Effects between Premium Cession Ratio (PCR) and Return on Equity (ROE).

H₁₀: There is Significant Effects between Reinsurance Commission to Shareholder's Equity (RCS) and Return on Equity (ROE).

8. Empirical Result

Descriptive Statistics

From the following **Table (3)**, it shows the summary of the data of the **Suez Canal Company** for the year **2013/ 2014 to 2020/ 2021**.

The mean value of the Risk Retention Ratio during this period is **53.255** with a Standard Deviation is **2.596**, The Largest value is **57.82**, while the smallest value is **50.16**. The mean value of the Reinsurance Dependence Ratio during this period is **27.257** with a Standard Deviation is **3.669**, The largest value is **32.4**, while the smallest value is **22.44**. The mean value of Firms Size of Companies during this period is **13.528** with a Standard Deviation is **0.375**, The Largest value is **13.92**, while the smallest value is **12.92**. The mean value of the Premium Cession Ratio during this period is **88.161** with a Standard Deviation is **9.027**, The largest value is **99.36**, while the smallest value is **72.95**. The mean value of the Reinsurance Commission to Shareholder's Equity during this period is **41.363** with a Standard Deviation is **8.720**, The Largest value is **55.11**, while the smallest value is **30.84**.

Descriptive Statistics						
Variables	mean	average	SD	Max	Min	Observation
RRR	53.255	53.365	2.596	57.82	50.16	8
RDR	27.257	27.77	3.669	32.4	22.44	8
FS'	13.528	13.67	0.375	13.92	12.92	8
PCR	88.161	87.39	9.027	99.36	72.95	8
RCS	41.363	38.65	8.720	55.11	30.84	8

Source: output from Spss

From the following **Table (4)**, it shows the summary of the data of the **Eng. Company** for the year **2013/ 2014 to 2020/ 2021**.

The mean value of the Risk Retention Ratio during this period is **52.16** with a Standard Deviation is **8.232**, The Largest value is **61.29**, while the smallest value is **42.4**. The mean value of the Reinsurance Dependence Ratio during this period is **20.73** with a Standard Deviation is **7.091**, The largest value is **29.44**, while the smallest value is **11.21**. The mean value of Firms Size of Companies

during this period is **12.728** with a Standard Deviation is **0.455**, The Largest value is **13.21**, while the smallest value is **12.03**. The mean value of the Premium Cession Ratio during this period is **89.527** with a Standard Deviation is **42.426**, The largest value is **135.86**, while the smallest value is **11.21**. The mean value of the Reinsurance Commission to Shareholder's Equity during this period is **18.438** with a Standard Deviation is **5.793**, The Largest value is **27.88**, while the smallest value is **11.91**.

Descriptive Statistics						
Variables	mean	average	SD	Max	Min	Observation
RRR	52.16	52.42	8.232	61.29	42.4	8
RDR	20.73	20.99	7.091	29.44	11.21	8
FS'	12.728	12.823	0.455	13.21	12.03	8
PCR	89.527	93.41	42.426	135.86	11.21	8
RCS	18.438	18.44	5.793	27.88	11.91	8

Source: output from Spss

From the following **Table (5)**, it shows the summary of the data of the **Delta Company** for the year **2013/ 2014 to 2020/ 2021**.

The mean value of the Risk Retention Ratio during this period is **65.46** with a Standard Deviation is **4.051**, The Largest value is **69.67**, while the smallest value is **60.07**. The mean value of the Reinsurance Dependence Ratio during this period is **17.43** with a Standard Deviation is **1.68**, The largest value is **19.31**, while the smallest value is **14.98**. The mean value of Firms Size of Companies

during this period is **12.72** with a Standard Deviation is **0.497**, The Largest value is **13.51**, while the smallest value is **12.21**. The mean value of the Premium Cession Ratio during this period is **53.28** with a Standard Deviation is **9.604**, The largest value is **66.48**, while the smallest value is **43.53**. The mean value of the Reinsurance Commission to Shareholder's Equity during this period is **11.47** with a Standard Deviation is **1.701**, The Largest value is **14.33**, while the smallest value is **8.8**.

Descriptive Statistics						
Variables	mean	average	SD	Max	Min	Observation
RRR	65.46	66.155	4.051	69.67	60.07	8
RDR	17.43	17.73	1.68	19.31	14.98	8
FS'	12.72	12.61	0.497	13.51	12.21	8
PCR	53.28	51.26	9.604	66.48	43.53	8
RCS	11.47	10.98	1.701	14.33	8.8	8

Source: output from Spss

Pearson's Correlations

In this Study to find the Correlation between the variable the Pearson's Correlation analysis is conducted. This Correlation analysis helps to find the relationship among the variables. **Table (6)** shows the Correlation result among the variables **for the Suez Canal Company** it is seen that the Pearson's Coefficients for it and there is a weak direct correlation between the Independent Variable (X_1), which is The Risk Retention Ratio and between the Dependent Variable (Y_1), which is The Return on Assets, as the Correlation Coefficient was **0.0016**. There is a verage Inverse Correlation between the Independent Variable (X_2), which is The Reinsurance Dependence Ratio and between the Dependent Variable (Y_1), which is The Return on Assets, as the Correlation Coefficient was **-0.532**. There is a weak direct Correlation between the Independent variable (X_3), which is Firms Size of Companies and between the Dependent Variable (Y_1), which is The Return on Assets, as the Correlation Coefficient was **0.364**. There is a weak direct Correlation between the Independent Variable (X_4), which is The Premium Cession Ratio and between the Dependent Variable (Y_1), which is The Return on Assets, as the Correlation Coefficient was **0.0011**. There is an average direct Correlation between the Independent Variable

(X_5), which is Reinsurance Commission to Shareholder's Equity and between the Dependent Variable (Y_1), which is The Return on Assets, as the Correlation Coefficient was **0.741**.

There is a weak direct Correlation between the Independent Variable (X_1), which is The Risk Retention Ratio and between the Dependent Variable (Y_2), which is The Return on Equity, as the Correlation Coefficient was **0.129**. There is average Inverse Correlation between the Independent Variable (X_2), which is The Reinsurance Dependence Ratio and between the Dependent Variable (Y_2), which is The Return on Equity, as the Correlation Coefficient was **-0.771**. There is average direct Correlation between the Independent Variable (X_3), which is Firms Size of Companies and between the Dependent Variable (Y_2), which is The Return on Equity, as the Correlation Coefficient was **0.515**. There is a weak direct Correlation between the Independent Variable (X_4), which is The Premium Cession Ratio and between the Dependent Variable (Y_2), which is The Return on Equity, as the Correlation Coefficient was **0.130**. There is average direct Correlation between the Independent Variable (X_5), which is Reinsurance Commission to Shareholder's Equity and between the Dependent Variable (Y_2), which is The Return on Equity, as the Correlation Coefficient was **0.896**.

	ROA	ROE	RRR	RDR	FS'	PCR	RCS
ROA	1.000	—					
ROE	—	1.000					
RRR	0.0016	0.129	1.000				
RDR	-0.532	-0.771	-0.377	1.000			
FS'	0.364	0.515	-0.127	0.749	1.000		
PCR	0.0011	0.130	-0.999	0.377	0.943	1.000	
RCS	0.741	0.896	-0.231	0.885	0.634	0.219	1.000

Source: output from Spss

Table (7) shows the Correlation result among the variables **for the Eng. Company** it is seen that the Pearson's Coefficients for it and there is a verage direct correlation between the Independent Variable (X_1), which is The Risk Retention Ratio and between the Dependent Variable (Y_1), which is The Return on Assets, as the Correlation Coefficient was **0.817**. There is a verage direct Correlation between the Independent Variable (X_2), which is The Reinsurance Dependence Ratio and between the Dependent Variable (Y_1), which is The Return on Assets, as the Correlation Coefficient was **0.863**. There is a strong Inverse Correlation between the Independent variable (X_3), which is Firms Size of Companies and between the Dependent Variable (Y_1), which is The Return on Assets, as the Correlation Coefficient was **-0.902**. There is average Inverse Correlation between the Independent Variable (X_4), which is The Premium Cession Ratio and between the Dependent Variable (Y_1), which is The Return on Assets, as the Correlation Coefficient was **-0.898**. There is an average Inverse Correlation between the Independent Variable (X_5), which is Reinsurance Commission to Shareholder's Equity and between the Dependent Variable (Y_1), which is The Return on Assets, as the Correlation Coefficient was **-0.704**.

There is a verage direct Correlation between the Independent Variable (X_1), which is The Risk Retention Ratio and between the Dependent Variable (Y_2), which is The Return on Equity, as the Correlation Coefficient was **0.836**. There is average direct Correlation between the Independent Variable (X_2), which is The Reinsurance Dependence Ratio and between the Dependent Variable (Y_2), which is The Return on Equity, as the Correlation Coefficient was **0.869**. There is an average Inverse Correlation between the Independent Variable (X_3), which is Firms Size of Companies and between the Dependent Variable (Y_2), which is The Return on Equity, as the Correlation Coefficient was **-0.893**. There is a verage Inverse Correlation between the Independent Variable (X_4), which is The Premium Cession Ratio and between the Dependent Variable (Y_2), which is The Return on Equity, as the Correlation Coefficient was **-0.881**. There is average Inverse Correlation between the Independent Variable (X_5), which is Reinsurance Commission to Shareholder's Equity and between the Dependent Variable (Y_2), which is The Return on Equity, as the Correlation Coefficient was **-0.739**.

	ROA	ROE	RRR	RDR	FS'	PCR	RCS
ROA	1.000	—					
ROE	—	1.000					
RRR	0.817	0.836	1.000				
RDR	0.863	0.869	-0.989	1.000			
FS'	-0.902	-0.893	-0.929	0.959	1.000		
PCR	-0.898	-0.881	-0.929	0.959	0.943	1.000	
RCS	-0.704	-0.739	-0.955	0.943	0.819	0.857	1.000

Source: output from Spss

Table (8) shows the Correlation result among the variables **for the Delta Company** it is seen that the Pearson's Coefficients for it and there is a Strong direct correlation between the Independent Variable (X_1), which is The Risk Retention Ratio and between the Dependent Variable (Y_1), which is The Return on Assets, as the Correlation Coefficient was **0.925**. There is a weak Inverse Correlation between the Independent Variable (X_2), which is The Reinsurance Dependence Ratio and between the Dependent Variable (Y_1), which is The Return on Assets, as the Correlation Coefficient was **-0.251**. There is a verage direct Correlation between the Independent variable (X_3), which is Firms Size of Companies and between the Dependent Variable (Y_1), which is The Return on Assets, as the Correlation Coefficient was **0.862**. There is strong Inverse Correlation between the Independent Variable (X_4), which is The Premium Cession Ratio and between the Dependent Variable (Y_1), which is The Return on Assets, as the Correlation Coefficient was **-0.931**. There is a weak Correlation between the Independent Variable (X_5), which is Reinsurance Commission to Shareholder's Equity and between the Dependent Variable (Y_1), which is The Return on Assets, as

the Correlation Coefficient was **-0.209**. There is an a verage direct Correlation between the Independent Variable (X_1), which is The Risk Retention Ratio and between the Dependent Variable (Y_2), which is The Return on Equity, as the Correlation Coefficient was **0.884**. There is weak Inverse Correlation between the Independent Variable (X_2), which is The Reinsurance Dependence Ratio and between the Dependent Variable (Y_2), which is The Return on Equity, as the Correlation Coefficient was **-0.290**. There is an average direct Correlation between the Independent Variable (X_3), which is Firms Size of Companies and between the Dependent Variable (Y_2), which is The Return on Equity, as the Correlation Coefficient was **0.818**. There is an a verage Inverse Correlation between the Independent Variable (X_4), which is The Premium Cession Ratio and between the Dependent Variable (Y_2), which is The Return on Equity, as the Correlation Coefficient was **-0.894**. There is a weak Inverse Correlation between the Independent Variable (X_5), which is Reinsurance Commission to Shareholder's Equity and between the Dependent Variable (Y_2), which is The Return on Equity, as the Correlation Coefficient was **-0.126**.

	ROA	ROE	RRR	RDR	FS'	PCR	RCS
ROA	1.000	—					
ROE	—	1.000					
RRR	0.925	0.884	1.000				
RDR	-0.251	-0.290	-0.227	1.000			
FS'	0.862	0.818	0.870	0.216	1.000		
PCR	-0.931	-0.894	-0.999	0.241	-0.868	1.000	
RCS	-0.209	-0.126	-0.193	0.007	-0.177	0.177	1.000

Source: output from Spss

Multi-Linear Regression Model: -

Table (9) show Results of the Multi- Linear Regression Model of the impact Reinsurance Agreements (Independent Variables) on each Return on Assets (ROA) and Return on Equity (ROE) as measures used to manage The Assets and Liabilities of Property and Casualty Insurance Companies in the Egyptian Insurance Market (Dependent Variables):

For the Suez Canal Company (ROA):

- The [**R²**] Coefficient Factor is **0.9934**, indicating that the Independent variables of model [RRR, RDR, FS', PCR, RCS], the **99.34%** change in the **Return on Assets** and the rest of ratio **0.66%** is due to the random error in the equation or possibly to the fact that no other independent variables were to be included in the model or to the different nature of the regression model from the linear model.
- Denotes the Sig Coefficient is **0.0351**, its show sig of the proposed model, which is lower than the statistical significal level = 0.05, if alternative H₁ is accepted, that is sig relationship between the **Return on Assets** as a dependent variable and the independent variables of this model and refused to H₀.
- Indicates Results Sig.t are [0.0231, 0.0239, 0.0362, 0.0241, 0.0130] for the T. test, by comparing it to a value of statistical Significance = 0.05, its show refused to H₀, which states that there is no statistically significant effect for everyone, must be rejected. [RRR, RDR, FS', PCR, RCS] and acceptance of alternative H₁, which shows a statistically significant impact of RRR, RDR, FS', PCR and RCS on the **Return on Assets** (ROA).

This can be Analyzed and Explained:

- Risk Retention Ratio [RRR], it's Coefficient Positive is 3.5806, which means that there is a direct relationship that builds Risk Retention Ratio [RRR] and Return on Assets [ROA], so the larger the Risk Retention Ratio [RRR], the greater the Return on Assets [ROA].
- Reinsurance Dependence Ratio [RDR], it's Coefficient Negative is 0.3069, which means that there is an Inverse relationship between the Reinsurance Dependence Ratio [RDR] and Return on Assets, so The higher the Reinsurance Dependence Ratio [RDR], the lower the Return on Assets [ROA].
- Firms Size of Companies [FS'], it's Coefficient Positive is 1.0735, which means that there is a direct relationship that builds Firms Size of Companies [FS'] and Return on Assets [ROA], so the larger the Firms Size of Companies [FS'], the greater the Return on Assets [ROA].
- Premium Cession Ratio [PCR], it's Coefficient Positive is 1.0418, which means that there is a direct relationship that builds Premium Cession Ratio [PCR] and Return on Assets [ROA], so the larger the Premium Cession Ratio [PCR], the greater the Return on Assets [ROA].
- Reinsurance Commission to Shareholder's Equity [RCS], it's Coefficient Positive is 0.1379, which means that there is a direct relationship that builds Reinsurance Commission to Shareholder's Equity [RCS] and Return on Assets [ROA], so the larger the Reinsurance Commission to Shareholder's Equity [RCS], the greater the Return on Assets [ROA].

The Estimated Regression Line Equation can therefore be Expressed as follows:

$$\hat{Y} = 3.5806 \text{ RRR} - 0.3069 \text{ RDR} + 1.0735 \text{ FS}' + 1.0418 \text{ PCR} + 0.1379 \text{ RCS}$$

Independent Variables	Coefficient	Std.Erorr	T-Statistic	Prob.
RRR	3.5806	2.1634	1.6551	0.0231
RDR	(0.3069)	0.1848	(1.661)	0.0239
FS'	1.0735	0.9151	1.1731	0.0362
PCR	1.0418	0.6325	1.6472	0.0241
RCS	0.1379	0.0553	2.4942	0.0130
R-Squared	0.9934			
Adjusted R-Squared	0.9538			
F-Statistic	25.0857			
Prob.	0.0351			

Source: output from Spss

For the Suez Canal Company (ROE):

- The [R^2] Coefficient Factor is **0.9874**, indicating that the Independent variables of model [RRR, RDR, FS', PCR, RCS], the **99.34%** change in the **Return on Equity** and the rest of ratio **1.26%** is due to the random error in the equation or possibly to the fact that no other independent variables were to be included in the model or to the different nature of the regression model from the linear model.

- Denotes the Sig Coefficient is **0.0165**, its show sig of the proposed model, which is lower than the statistical significal level = 0.05, if alternative H_1 is accepted, that is sig relationship between the **Return on Equity** as a dependent variable and the independent variables of this model and refused to H_0 .

- Indicates Results Sig.t are [0.0207, 0.031, 0.0389, 0.021, 0.015] for the T. test, by comparing it to a value of statistical Significance = 0.05, its show refused to H_0 , which states that there is no statistically significant effect for everyone, must be rejected. [RRR, RDR, FS', PCR, RCS] and acceptance of alternative H_1 , which shows a statistically significant impact of RRR, RDR, FS', PCR and RCS on the **Return on Equity (ROE)**.

This can be Analyzed and Explained:

- Risk Retention Ratio [RRR], it's Coefficient Positive is 19.2783, which means that there is a direct relationship that builds Risk Retention Ratio [RRR] and Return on Equity [ROE], so the

larger the Risk Retention Ratio [RRR], the greater the Return on Equity [ROE].

- Reinsurance Dependence Ratio [RDR], it's Coefficient Negative is 1.2159, which means that there is an Inverse relationship between the Reinsurance Dependence Ratio [RDR] and Return on Equity [ROE], so The higher the Reinsurance Dependence Ratio [RDR], the lower the Return on Equity [ROE].

- Firms Size of Companies [FS'], it's Coefficient Positive is 4.8302, which means that there is a direct relationship that builds Firms Size of Companies [FS'] and Return on Equity [ROE], so the larger the Firms Size of Companies [FS'], the greater the Return on Equity [ROE].

- Premium Cession Ratio [PCR], it's Coefficient Positive is 5.5967, which means that there is a direct relationship that builds Premium Cession Ratio [PCR] and Return on Equity [ROE], so the larger the Premium Cession Ratio [PCR], the greater the Return on Equity [ROE].

- Reinsurance Commission to Shareholder's Equity [RCS], it's Coefficient Positive is 0.7608, which means that there is a direct relationship that builds Reinsurance Commission to Shareholder's Equity [RCS] and Return on Equity [ROE], so the larger the Reinsurance Commission to Shareholder's Equity [RCS], the greater the Return on Equity [ROE].

The Estimated Regression Line Equation can therefore be Expressed as follows:

$$\hat{Y} = 19.2783RRR - 1.2159RDR + 4.8302 FS' + 5.5967 PCR + 0.7608 RCS$$

Independent Variables	Coefficient	Std.Error	T-Statistic	Prob.
RRR	19.2783	10.4864	1.8384	0.0207
RDR	(1.2159)	0.8959	(1.3572)	0.031
FS'	4.8302	4.4356	1.089	0.0389
PCR	5.5967	3.0657	1.8256	0.021
RCS	0.7608	0.268	2.8383	0.015
R-Squared	0.9874			
Adjusted R-Squared	0.9118			
F-Statistic	13.0669			
Prob.	0.0165			

Source: output from Spss

For the Eng. Company (ROA):

- The [R^2] Coefficient Factor is **0.9992**, indicating that the Independent variables of model [RRR, RDR, FS', PCR, RCS], the **99.92%** change in the **Return on Assets** and the rest of ratio **0.08%** is due to the random error in the equation or possibly to the fact that no other independent variables were to be included in the model or to the different nature of the regression model from the linear model.

- Denotes the Sig Coefficient is **0.032**, its show sig of the proposed model, which is lower than the statistical significal level = 0.05, if alternative H_1 is accepted, that is sig relationship between the **Return on Assets** as a dependent variable and the independent variables of this model and refused to H_0 .

- Indicates Results Sig.t are [0.007, 0.045, 0.041, 0.016, 0.021] for the T. test, by comparing it to a value of statistical Significance = 0.05, its show refused to H_0 , which states that there is no statistically significant effect for everyone, must be rejected. [RRR, RDR, FS', PCR, RCS] and acceptance of alternative H_1 , which shows a

statistically significant impact of RRR, RDR, FS', PCR and RCS on the **Return on Assets** (ROA).

This can be Analyzed and Explained:

- Risk Retention Ratio [RRR], it's Coefficient Positive is 0.288, which means that there is a direct relationship that builds Risk Retention Ratio [RRR] and Return on Assets [ROA], so the larger the Risk Retention Ratio [RRR], the greater the Return on Assets [ROA].

- Reinsurance Dependence Ratio [RDR], it's Coefficient Positive is 1.7032, which means that there is a direct relationship that builds Reinsurance Dependence Ratio [RDR] and Return on Assets [ROA], so the larger the Reinsurance Dependence Ratio [RDR], the greater the Return on Assets [ROA].

- Firms Size of Companies [FS'], it's Coefficient Negative is 6.8766, which means that there is an Inverse relationship between the Firms Size of Companies [FS'] and Return on Assets [ROA], so The higher the Firms Size of Companies [FS'], the lower the Return on Assets [ROA].

- Premium Cession Ratio [PCR], it's Coefficient Negative is 0.0012, which means that there is an

Inverse relationship between the Premium Cession Ratio [PCR] and Return on Assets [ROA], so The higher the Premium Cession Ratio [PCR], the lower the Return on Assets [ROA].

- Reinsurance Commission to Shareholder's Equity [RCS], it's Coefficient Negative is 0.7992, which

means that there is an Inverse relationship between the Reinsurance Commission to Shareholder's Equity [RCS] and Return on Assets [ROA], so The higher the Reinsurance Commission to Shareholder's Equity [RCS], the lower the Return on Assets [ROA].

The Estimated Regression Line Equation can therefore be Expressed as follows:

$$\hat{Y} = 0.288RRR + 1.7032 RDR - 6.8766FS' - 0.0012 PCR - 0.7992 RCS$$

Independent Variables	Coefficient	Std.Error	T-Statistic	Prob.
RRR	0.288	0.6663	0.4322	0.007
RDR	1.7032	2.5699	0.6628	0.045
FS'	(6.8766)	16.467	(0.0152)	0.041
PCR	(0.0012)	0.0818	(0.6857)	0.016
RCS	(0.7992)	1.1655	(8.7218)	0.021
R-Squared	0.9992			
Adjusted R-Squared	0.8796			
F-Statistic	25.0857			
Prob.	0.032			

Source: output from Spss

For the Eng. Company (ROE):

- The [**R²**] Coefficient Factor is **0.9985**, indicating that the Independent variables of model [RRR, RDR, FS', PCR, RCS], the **99.85%** change in the **Return on Equity** and the rest of ratio **0.15%** is due to the random error in the equation or possibly to the fact that no other independent variables were to be included in the model or to the different nature of the regression model from the linear model.

- Denotes the Sig Coefficient is **0.0391**, its show sig of the proposed model, which is lower than the statistical significal level = 0.05, if alternative H₁ is accepted, that is sig relationship between the **Return on Equity** as a dependent variable and the independent variables of this model and refused to H₀.

- Indicates Results Sig.t are [0.013, 0.0311, 0.0435, 0.0321, 0.022] for the T. test, by comparing it to a value of statistical Significance = 0.05, its show refused to H₀, which states that there is no statistically significant effect for everyone, must be rejected. [RRR, RDR, FS', PCR, RCS] and acceptance of alternative H₁, which shows a statistically significant impact of RRR, RDR, FS', PCR and RCS on the **Return on Equity** (ROE).

This can be Analyzed and Explained:

- Risk Retention Ratio [RRR], it's Coefficient Positive is 0.3133, which means that there is a direct relationship that builds Risk Retention Ratio [RRR] and Return on Equity [ROE], so the larger the Risk Retention Ratio [RRR], the greater the Return on Equity [ROE].

- Reinsurance Dependence Ratio [RDR], it's Coefficient Positive is 2.38, which means that there is a direct relationship that builds Reinsurance Dependence Ratio [RDR] and Return on Equity [ROE], so the larger the Reinsurance Dependence Ratio [RDR], the greater the Return on Equity [ROE].

- Firms Size of Companies [FS'], it's Coefficient Negative is 5.168, which means that there is an Inverse relationship between the Firms Size of Companies [FS'] and Return on Equity [ROE], so The higher the Firms Size of Companies [FS'], the lower the Return on Equity [ROE].

- Premium Cession Ratio [PCR], it's Coefficient Negative is 0.0157, which means that there is an Inverse relationship between the Premium Cession Ratio [PCR] and Return on Equity [ROE], so The higher the Premium Cession Ratio [PCR], the lower the Return on Equity [ROE].

- Reinsurance Commission to Shareholder's Equity [RCS], it's Coefficient Negative is 1.126, which means that there is an Inverse relationship between the Reinsurance Commission to Shareholder's Equity [RCS] and Return on Equity [ROE], so The higher the Reinsurance Commission to Shareholder's Equity [RCS], the lower the Return on Equity [ROE].

The Estimated Regression Line Equation can therefore be Expressed as follows:

$$\hat{Y} = 0.3133RRR + 2.38RDR - 5.168 FS' - 0.0157 PCR - 1.126 RCS$$

Independent Variables	Coefficient	Std.Error	T-Statistic	Prob.
RRR	0.3133	2.2931	0.1366	0.013
RDR	2.38	8.8447	0.2691	0.0311
FS'	(5.168)	56.674	(0.0912)	0.0435
PCR	(0.0157)	0.2815	0.0559	0.0321
RCS	(1.126)	4.011	(0.2807)	0.022
R-Squared	0.9985			
Adjusted R-Squared	0.8197			
F-Statistic	13.0669			
Prob.	0.0391			

Source: output from Spss

For the Delta Company (ROA): -

- The [**R²**] Coefficient Factor is **0.9648**, indicating that the Independent variables of model [RRR, RDR, FS', PCR, RCS], the **96.48%** change in the **Return on Assets** and the rest of ratio **3.52%** is due to the random error in the equation or possibly to the fact that no other independent variables were to be included in the model or to the different nature of the regression model from the linear model.

- Denotes the Sig Coefficient is **0.0364**, its show sig of the proposed model, which is lower than the statistical significal level = 0.05, if alternative H₁ is accepted, that is sig relationship between the **Return on Assets** as a dependent variable and the independent variables of this model and refused to H₀.

- Indicates Results Sig.t are [0.043, 0.036, 0.048, 0.044, 0.046] for the T. test, by comparing it to a value of statistical Significance = 0.05, its show

refused to H_0 , which states that there is no statistically significant effect for everyone, must be rejected. [RRR, RDR, FS', PCR, RCS] and acceptance of alternative H_1 , which shows a statistically significant impact of RRR, RDR, FS', PCR and RCS on the **Return on Assets (ROA)**.

This can be Analyzed and Explained:

- Risk Retention Ratio [RRR], it's Coefficient Positive is 26.1196, which means that there is a direct relationship that builds Risk Retention Ratio [RRR] and Return on Assets [ROA], so the larger the Risk Retention Ratio [RRR], the greater the Return on Assets [ROA].

- Reinsurance Dependence Ratio [RDR], it's Coefficient Negative is 0.3789, which means that there is Inverse relationship that builds Reinsurance Dependence Ratio [RDR] and Return on Assets [ROA], so the higher the Reinsurance Dependence Ratio [RDR], the lower the Return on Assets [ROA].

- Firms Size of Companies [FS'], it's Coefficient Positive is 4.0434, which means that there is a direct relationship that builds Firms Size of Companies [FS'] and Return on Assets [ROA], so the larger the Firms Size of Companies [FS'], the greater the Return on Assets [ROA].

- Premium Cession Ratio [PCR], it's Coefficient Negative is 2.6701, which means that there is an Inverse relationship between the Premium Cession Ratio [PCR] and Return on Assets [ROA], so The higher the Premium Cession Ratio [PCR], the lower the Return on Assets [ROA].

- Reinsurance Commission to Shareholder's Equity [RCS], it's Coefficient Negative is 0.3014, which means that there is an Inverse relationship between the Reinsurance Commission to Shareholder's Equity [RCS] and Return on Assets [ROA], so The higher the Reinsurance Commission to Shareholder's Equity [RCS], the lower the Return on Assets [ROA].

The Estimated Regression Line Equation can therefore be Expressed as follows:

$$\hat{Y} = 26.1196 \text{ RRR} - 0.3789 \text{ RDR} + 4.0434 \text{ FS}' - 2.6701 \text{ PCR} - 0.3014 \text{ RCS}$$

Independent Variables	Coefficient	Std.Error	T-Statistic	Prob.
RRR	26.1196	6.1702	(0.9918)	0.043
RDR	(0.3789)	0.8425	(0.4497)	0.036
FS'	4.0434	4.7785	0.8462	0.048
PCR	(2.6701)	2.7753	(0.9621)	0.044
RCS	(0.3014)	0.3375	(0.893)	0.046
R-Squared	0.9648			
Adjusted R-Squared	0.8769			
F-Statistic	25.0857			
Prob.	0.0364			

Source: output from Spss

For the Delta Company (ROE): -

- The $[R^2]$ Coefficient Factor is **0.9633**, indicating that the Independent variables of model **[RRR, RDR, FS', PCR, RCS]**, the **96.33%** change in the **Return on Equity** and the rest of ratio **3.67%** is due to the random error in the equation or possibly to the fact that no other independent variables were to be included in the model or to the different nature of the regression model from the linear model.

- Denotes the Sig Coefficient is **0.0272**, its show sig of the proposed model, which is lower than the statistical significal level = 0.05, if alternative H_1 is accepted, that is sig relationship between the **Return on Equity** as a dependent variable and the independent variables of this model and refused to H_0 .

- Indicates Results Sig.t are [0.0229, 0.0035, 0.0393, 0.0239, 0.0432] for the T. test, by comparing it to a value of statistical Significance = 0.05, its show refused to H_0 , which states that there is no statistically significant effect for everyone, must be rejected. **[RRR, RDR, FS', PCR, RCS]** and acceptance of alternative H_1 , which shows a statistically significant impact of RRR, RDR, FS', PCR and RCS on the **Return on Equity (ROE)**.

This can be Analyzed and Explained:

- Risk Retention Ratio [RRR], it's Coefficient Positive is 18.9803, which means that there is a

direct relationship that builds Risk Retention Ratio [RRR] and Return on Equity [ROE], so the larger the Risk Retention Ratio [RRR], the greater the Return on Equity [ROE].

- Reinsurance Dependence Ratio [RDR], it's Coefficient Negative is 0.2079, which means that there is Inverse relationship that builds Reinsurance Dependence Ratio [RDR] and Return on Equity [ROE], so the higher the Reinsurance Dependence Ratio [RDR], the lower the Return on Equity [ROE].

- Firms Size of Companies [FS'], it's Coefficient Positive is 4.7035, which means that there is a direct relationship that builds Firms Size of Companies [FS'] and Return on Equity [ROE], so the larger the Firms Size of Companies [FS'], the greater the Return on Equity [ROE].

- Premium Cession Ratio [PCR], it's Coefficient Negative is 8.2669, which means that there is an Inverse relationship between the Premium Cession Ratio [PCR] and Return on Equity [ROE], so The higher the Premium Cession Ratio [PCR], the lower the Return on Equity [ROE].

- Reinsurance Commission to Shareholder's Equity [RCS], it's Coefficient Negative is 0.5921, which means that there is an Inverse relationship between the Reinsurance Commission to Shareholder's Equity [RCS] and Return on Equity [ROE], so The higher the Reinsurance Commission to Shareholder's Equity [RCS], the lower the Return on Equity [ROE].

The Estimated Regression Line Equation can therefore be Expressed as follows:

$$\hat{Y} = 18.9803 \text{ RRR} - 0.2079 \text{ RDR} + 4.7035 \text{ FS}' - 8.2669 \text{ PCR} - 0.5921 \text{ RCS}$$

Independent Variables	Coefficient	Std.Error	T-Statistic	Prob.
RRR	18.9803	11.1037	1.7094	0.0229
RDR	(0.2079)	1.5162	(0.1371)	0.0035
FS'	4.7035	8.5993	0.547	0.0393
PCR	(8.2669)	4.9944	(1.6552)	0.0239
RCS	(0.5921)	0.6074	(0.9749)	0.0432
R-Squared	0.9633			
Adjusted R-Squared	0.8716			
F-Statistic	10.5055			
Prob.	0.0272			

Source: output from Spss

9. Conclusion

Based on the analysis results which conducted here, there are several conclusions that can be drawn in this research:

For The Suez Canal Company: -

- There is Significant effects between both [Risk Retention Ratio [RRR], Reinsurance Dependence Ratio [RDR] Firms Size of Companies [FS'], Premium Cession Ratio [PCR] and Reinsurance Commission to Shareholder's Equity [RCS]] and between both Return on Assets [ROA] and Return on Equity [ROE].

- There is a Positive effect between both [Risk Retention Ratio [RRR], Firms Size of Companies [FS'], Premium Cession Ratio [PCR] and Reinsurance Commission to Shareholder's Equity [RCS]] and between both Return on Assets [ROA] and Return on Equity [ROE].

- There is a Negative effect between Reinsurance Dependence Ratio [RDR] and between both Return on Assets [ROA] and Return on Equity [ROE].

For The Eng. Company: -

- There is significant effects between both [Risk Retention Ratio [RRR], Reinsurance Dependence Ratio [RDR] Firms Size of Companies [FS'], Premium Cession Ratio [PCR] and Reinsurance Commission to Shareholder's Equity [RCS]] and between both Return on Assets [ROA] and Return on Equity [ROE].

- There is a Positive effect between both [Risk Retention Ratio [RRR] and Reinsurance Dependence Ratio [RDR]] and between both Return on Assets [ROA] and Return on Equity [ROE].

- There is a Negative effect between both [Firms Size of Companies [FS'], Premium Cession Ratio [PCR] and Reinsurance Commission to Shareholder's Equity [RCS]] and between both Return on Assets [ROA] and Return on Equity [ROE].

For The Delta Company: -

- There is Significant effects between both [Risk Retention Ratio [RRR], Reinsurance Dependence Ratio [RDR] Firms Size of Companies [FS'], Premium Cession Ratio [PCR] and Reinsurance Commission to Shareholder's Equity [RCS]] and between both Return on Assets [ROA] and Return on Equity [ROE].

- There is a Positive effect between both [Risk Retention Ratio [RRR] and Firms Size of Companies [FS'] and between both Return on Assets [ROA] and Return on Equity [ROE].

- There is a Negative effect between both [Reinsurance Dependence Ratio [RDR], Premium Cession Ratio [PCR] and Reinsurance Commission to Shareholder's Equity [RCS]] and between both Return on Assets [ROA] and Return on Equity [ROE].

10. Recommendation

this study recommended that:

- the risks facing property and casualty insurance companies in the Egyptian insurance market should be studied and analyzed and their impact on Assets and Liabilities Management.

- Reinsurance agreements decisions must be rationalized.

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