The Impact of Reinsurance on the Insurance Margin of Algerian Ceding Companies, An Econometric Study Between 2009-2018.

Hassiba ALMI

Laboratory of economic and human development in Algeria
Ali Lounici University -Blida2
Algeria

h.almi@univ-blida2.dz

Fayçal BEHLOULI

Laboratory of the Local Community Management and its role in development
Ali Lounici University -Blida2
Algeria

behlouli@univ-blida2.dz

Received: 01/12/2021

Accepted: 29/03/2021

Abstract :
The aim of this study is to measure the impact of reinsurance ceded premiums on the underwriting (technical) results or insurance margin of Algerian insurance companies between 2009 and 2018 through the use of panel data, based on analytical descriptive approach, by using the annual reports of the Algerian Finance Ministry on the insurance activity.
We concluded that there is a positive impact between the reinsurance ceded premiums and the insurance margin (technical results) of the Algerian ceding companies. The more reinsurance ceded premiums, the more the insurance margin increases in Algerian insurance companies, and this result fit with economic theory.
***Key Words*:** Reinsurance; Ceded premiums; Cedant; Insurance margin; panel data.

JEL Classification: G22.

* Corresponding author: Almi Hassiba (*Email:* h.almi@univ-blida2.dz)

Introduction:

The insurance companies are one of the most at risk of insolvency; due to the complexity of their technical activities, which are based on covering various risks, underwriting, pricing, and claims processing.
Algerian insurance companies strive to maintain their insurance margin by looking at the difference between turnover and underwriting expenses (claims in particular), through various measures; more particularly by cedes risks under reinsurance, according to a program that is relevant to its purpose in view of the legal limits.
The problem of this research was formulated through the following question:
What is the impact of reinsurance ceded premium on the technical results or insurance margin of Algerian ceding companies?
To answer these questions, the following hypothesis have been proposed:
There is a positive impact between the reinsurance ceded premiums and the insurance margin of the Algerian ceding companies.
Research objectives: This study aims to measure the impact of reinsurance ceded premium on the insurance margin of Algerian ceding companies.

Research methodology: The study is based on an analytical descriptive approach. The data was obtained from the annual reports of the Ministry of Finance on insurance activities in Algeria between the years 2009 and 2018. Statistical data was analyzed using EVIEWS.

I. Insurance and reinsurance:

1. Concepts and definitions:

- **An insurance contract** is an agreement between two parties (the insurer, as protection provider, and the cedant (also known as insured, beneficiary), as protection purchaser) that exchanges an ex-ante premium for an ex-post claim, with no ability to readjust the claim amount once it has been agreed. An insurer as a cedant may pursue protection through a reinsurance contract; likewise a reinsurer may gain protection through a retrocession contract from another reinsurer. (Banks, 2004, pp. 29-30)
- **Premium** represents a price of insurance. Insurance serves in the insurance company for coverage of insurance risk, acquisition costs, costs of management, saving items and insurance company margin. (Bokšová, 2015, p. 425) The equation for pure premium is: Pure Premium = Loss × frequency (Chasseray, Eldin, & Lefebvre, 2017, p. 40)
- **Claim:** Demand by an insured for indemnity under an insurance contract or demand by the reinsured for indemnity from the reinsurance company. (Okotha, 2017, p. 6)
- **Reinsurance** is a contract in which an insurance company (the primary insurer or reinsured) cedes to another insurance company (the reinsurer) all or half of the risk of loss. In return for agreeing to indemnify the reinsured for losses that may occur, the reinsurer receives premiums from the reinsured. (Kyriaki, 2013, p. 19) A reinsurance process is a contractual arrangement between a reinsurer and a professional insurer (called cedant), who alone is completely responsible to the policyholder, under which, in return for remuneration, the former bears all or part of the risks assumed by the latter and agrees to reimburse according to specified conditions all or part of the sums due or paid by the latter to the insured in case of claims. . (Deelstra & Guillaume, 2014, p. 45)
- **Underwriting (technical) result or insurance margin:** Premiums earned, less the sum of losses paid, change in the provision for unpaid claims and claim adjustment expenses and other expenses (acquisition costs and other operating costs and expenses). (Okotha, 2017, p. 10)
- **Cedant** or **Ceding Company:** The original or primary insurer: **:** The reinsurer's client who passes on (cedes) risk to the reinsurer against payment of a premium, the insurance company which purchases reinsurance, Also referred to as the reinsured, underwriter, underwriting organization, the insurer, direct writing company (Okotha, 2017, p. 6)

2. The Purpose of reinsurance:

An insurance company (or ceding company because they cede the risks) purchases a reinsurance treaty from a reinsurance company. A reinsurer company's roles are to: protect the insurer's own funds against the outcome deficit, contribute to increasing the insurer's solvency margin, increase the underwriting possibilities, decrease the insurance company's need for funds and assist in better risk management. Reinsurance provides coverage for all kinds of risks. The reinsurance companies diversify the risks by having a portfolio spread over risk and geography. The reason insurance companies buy reinsurance is to eliminate the financial responsibility for the risks they've taken on. It allows them to free economic and risk capital that they put aside to pay for the losses, worry less about the solvency problems that they face as well as reduce their risk of bankruptcy. They help in stabilizing insurance by absorbing some of their losses. By doing so, it allows for the companies to reduce their risk exposure and their own capital requirement. With the aid of reinsurance, insurers will face today's risks and remain solvent, as well as keep new customers' rates competitive. Cedants (insurance companies) have an option to purchase reinsurance often if the risk they face is high or unpredictable or if they are specialist insurers with a fairly limited range of risk diversification. In these situations, they rely heavily on reinsurance. (Chasseray, Eldin, & Lefebvre, 2017, pp. 16-17)

3. The role of Reinsurance:

Why an insurance firm is keen to purchase reinsurance? The key role of insurers is to take risks. This is similar to the business model of other financial organizations, and both forms leverage the capital provided by shareholders through raising debt. However, insurers raise debt by selling policies to insureds, which makes the debt very risky (due to uncertainty around the timing and severity of claims), whereas financial debt would typically rather have pre-determined expiry and face value (severity). This leveraging activity is a competitive advantage, but also makes the companies vulnerable to distress and insolvency, creating the demand for risk management. Among the available risk management tools, risk transfer through reinsurance then plays an important role in improving the company’s overall risk profile. (Albrecher, Beirlant, & Teugels, 2017, p. 2)

The main motivations for the insurer to buy reinsurance as a means of risk transfer (several of which are not independent of each other) are:

- **Reducing the probability to suffer losses that are hard to digest:** This is a rather general statement and many of the items below are in fact refinements of this criterion. It should be kept in mind that for an insurance company buying reinsurance means passing on some of its insurance business (i.e., its core activity), and hence typically the goal is to keep the reinsured part small. However, reduction of risk exposure can be desirable or necessary for the reasons outlined below. (Albrecher, Beirlant, & Teugels, 2017, p. 2)
- **Stabilizing business results:** Entering a reinsurance contract reduces the volatility of the cedent’s financial result, as random losses are replaced by a

(typically deterministic) premium payment. That is, reinsurance can be a means to steer the volatility of an insurance company towards a desired level, and the latter can have particular advantages (e.g., with respect to taxes, capital requirements and market expectations). (Albrecher, Beirlant, & Teugels, 2017, pp. 2-3)

- **Reducing required capital:** Reducing the aggregate risk will reduce the required capital to bear such risks, and in view of capital costs this may be desirable. Concretely, if the reinsurance premium (together with the administration costs) is smaller than the gain resulting from the corresponding reduction of capital, the reinsurance contract is desirable. In fact, due to the ongoing shift towards risk-based regulation, the notion of capital and its management becomes a central issue for insurance companies, and reinsurance then should be understood as a tool in this context. This corresponds to an important finance function of reinsurance as a substitute for capital, freeing up capacity. (Albrecher, Beirlant, & Teugels, 2017, p. 3)
- **Increasing underwriting capacity:** In the presence of a reinsurance contract, only a certain part of the risk is assumed by the insurer, and hence under otherwise identical conditions an insurance company can afford to underwrite more and larger policies, which may be desirable for various reasons, including market share targets, testing and entering of new markets, gaining (data) experience in certain business lines or regions etc. It also can lead to enhanced liquidity. (Albrecher, Beirlant, & Teugels, 2017, p. 3)
- **Support in risk assessment, pricing, and management:** In certain situations an insurance company does not have enough data points or manpower available to analyze the risks (in particular their tails), and passing on those risks to an entity with respective experience is a natural procedure, which is often much cheaper than dealing with such risks by other means. This also includes business expansions to new regions or business lines, in which the reinsurer may already have experience from earlier activities. In fact, reinsurance contracts often have a certain consultancy component, as the reinsurer may share its expertise and data on the respective risks with the cedent. (Albrecher, Beirlant, & Teugels, 2017, p. 4)

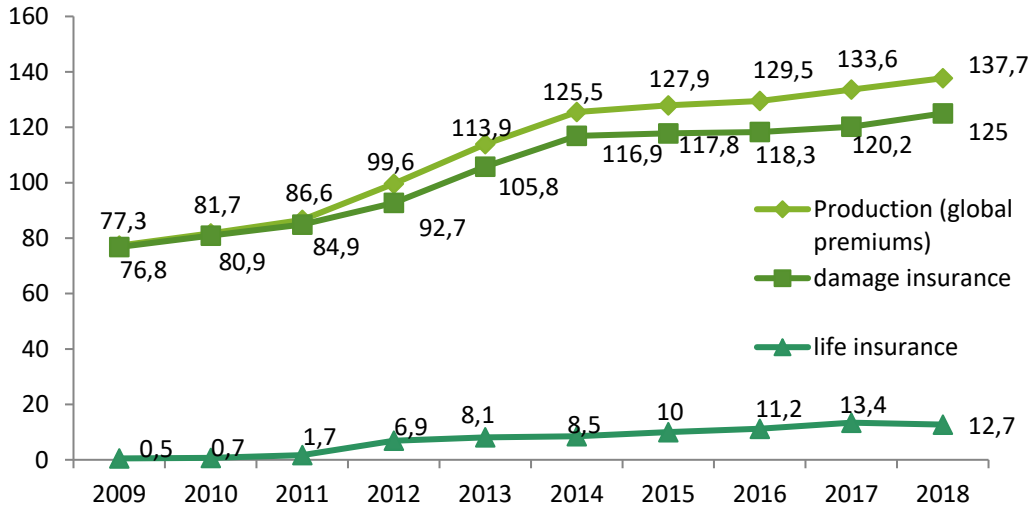
On the society level, reinsurance allows insurers to write more business, which makes insurance more broadly available and affordable. This can foster economic growth and increase stability at large. Reinsurance enables risks to be insured that otherwise would not be insurable, and assigning premiums to (i.e., quantifying) risks can also provide incentives for more risk-adequate behavior and possibly risk prevention. For all these reasons, reinsurance serves as a tool to increase the efficiency of the marketplace. When designing reinsurance contracts, all these aspects will play some role. The goal of this book is to focus on the actuarial elements involved in the process as well as the statistical challenges that appear in this context. (Albrecher, Beirlant, & Teugels, 2017, p. 4)

II.The technical activity of Algerian insurance companies:

1. The evolution of production between 2009 and 2018:

The progress of the turnover (global premiums) of Algerian insurance market can be followed using figure1:

Fig. 1: « The evolution of production between 2009-2018 (Unit: Billion AD) »



Source: Prepared by researchers based on the Ministry of Finance reports on insurance activity in Algeria for the years 2009-2018.

The volume of production increases every year; however, the obligatory insurance (especially the automobile insurance) remains predominant with a 50% share of overall production.

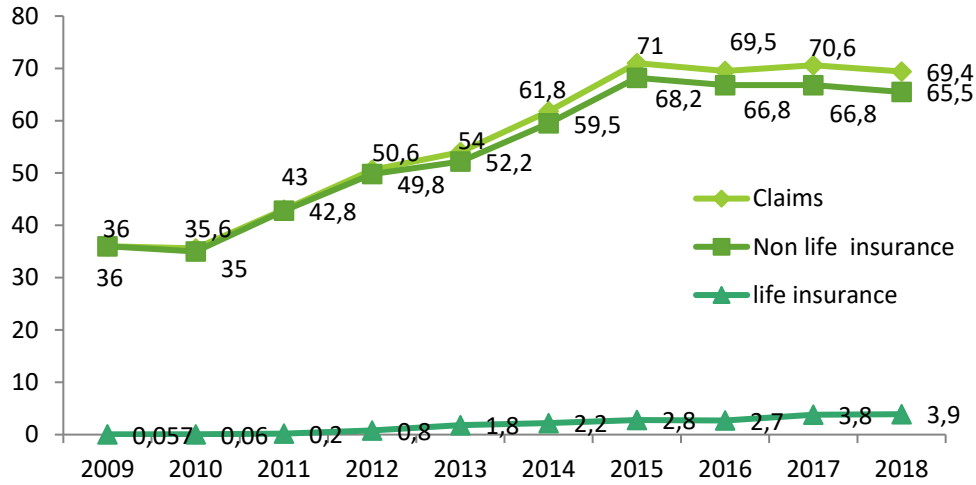
The Public companies dominate over 50% of production; despite the considerable number of private insurance companies.

After over 10 years have passed since the separation between the non-life insurances and the life insurances, the volume of production in the life insurance did not exceed 10%.

2. Evolution of claims paid during the period 2009-2018:

The claims paid during the period 2009-2018 will be shown in figure below:

Fig. 2: « The evolution of claims paid by Algerian insurance companies between 2009 and 2018 (Unit: Billion AD) »



Source: Prepared by researchers based on the Ministry of Finance reports on insurance activity in Algeria for the years 2009-2018.

In general, the period between 2009 and 2015 witnessed a continuous increase in the claims paid;

The years 2010, 2016 and 2018 recorded a slight decrease in the amount claims paid;

The year 2015 recorded the highest claim paid, estimated at 71 billion DA. This is due to the implementation of the average cost agreement "ARCM", concluded between the Algerian Union of Insurance and Reinsurance Companies (UAR) with damage insurance companies, which aims to clean appeal files (appeals recours) and liquidate claim files for the years 2010, 2011 and 2012; (Ministère des finances, 2015, p. 20)

94% of the claims paid are directed to the damage insurance branches and only 6% to the individual insurances, which is an expected percentage compared to the average production volume. 70% of the claims are paid to the auto insurance branch, which reflects the increasing number of traffic accidents.

3. Reinsurance in Algeria:

The Algerian legislator defines reinsurance as contract or treaty; it is an agreement by which the insurer or ceding company discharges to a reinsurer or assignee all or part of the risks it has insured. In matters of reinsurance, the insurer remains solely liable to the insured. (ORDONNANCE N ° 95-07, 1995)

Reinsurance is a transaction by which an insurer insures itself with a company (reinsurer) for some or all of the risks it has guaranteed, in return for the payment of a premium. (Conseil National de la Comptabilité, 2011, p. 107)

The reinsurance activity in Algeria is carried out mainly by the Central Company of reinsurance (CCR), which remains the sole operator specialized in reinsurance on the Algerian market.

The obligatory cession in favor of the CCR, fixed at a minimum of 50% of the amount of reinsurance ceded.
A right of priority for the CCR in facultative cessions. The benefit of this right is acquired when the CCR presents offers of reinsurance equal to or better than those obtained on the market international reinsurance.
Use of foreign reinsurers with a minimum rating of BBB in order to promote reinsurance programs with high sufficient levels of security. (Ministère des finances, 2018, p. 28).

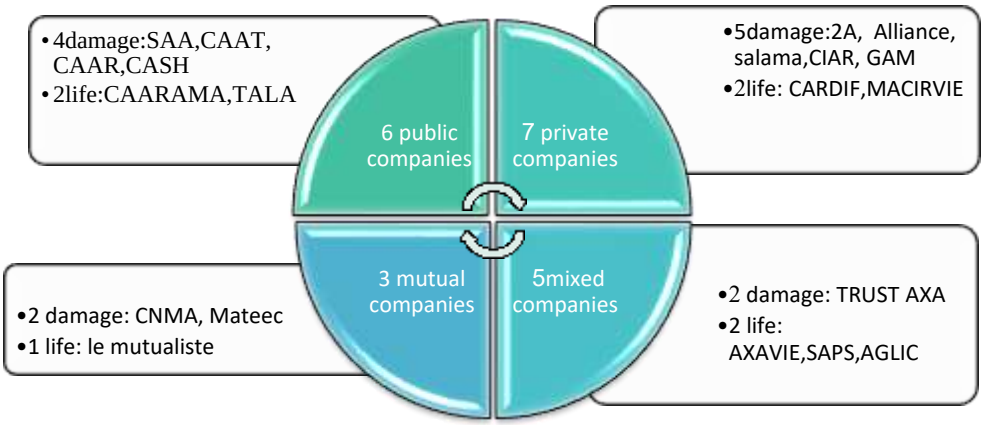
III. Study variables:

1. The Algerian ceding companies:

There are 24 companies in Algerian insurance market divided as follows:

- One company is specialized in reinsurance (CCR).
- Two companies are specialized in the insurance of real estate credit and (SGCI); export credit (CAGEX).
- 21 ceding companies divided as shown in figure3:

Fig. 3: « The Algerian ceding companies »

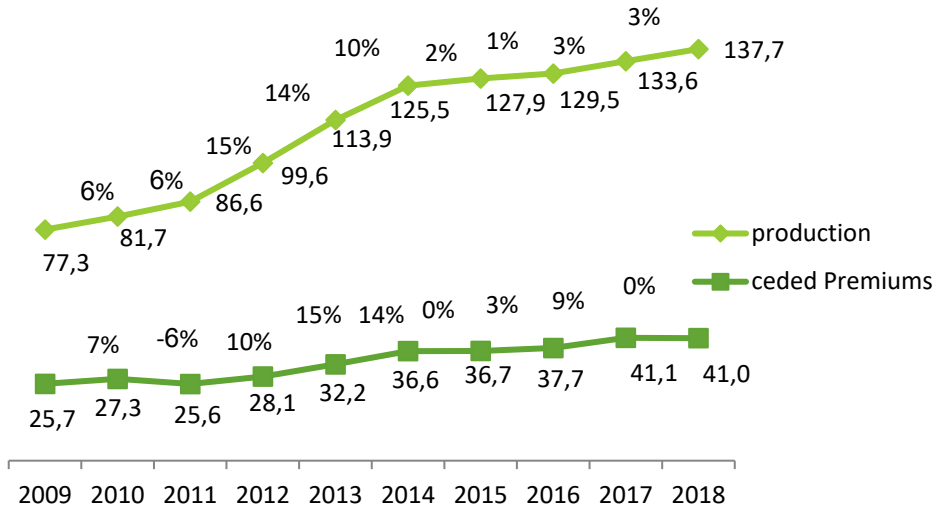


Source: Prepared by researchers based on the Ministry of Finance reports on insurance activity in Algeria.

2. The reinsurance ceded premiums 2009-2018:

The changes of the premiums' cessions by the Algerian insurance companies compared to the total production in the following figure:

Fig. 4: « The Global ceded premiums in Algeria (2009-2018)(Unit: Billion AD) »



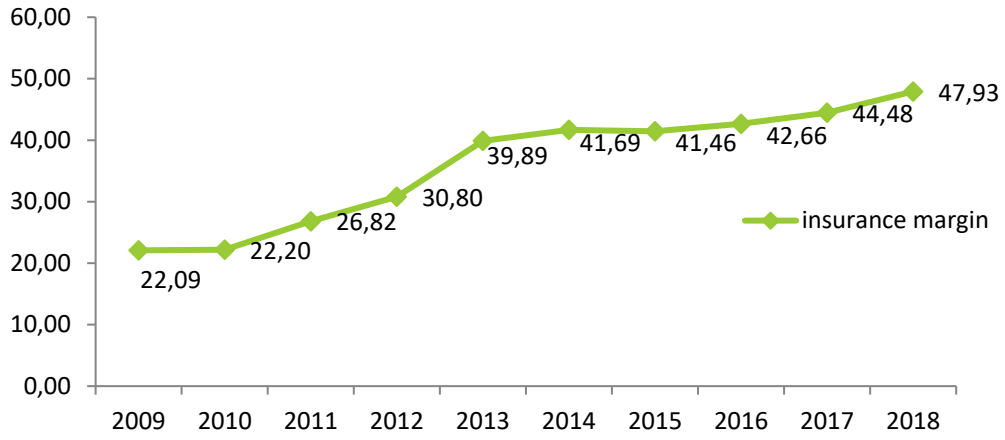
Source: Prepared by researchers based on the Ministry of Finance reports on insurance activity in Algeria for the years 2009-2018.

Overall, the higher the total production, the more ceded premiums;
The cession process is a transfer of premiums from insurance companies to reinsurance companies;
In the turnover of the insurance market, the ceded premiums are not calculated because it is included in written premiums;
The cession rate of insurance companies, in general, ranges between 28 and 34%, which indicates that insurance companies' retention is between 66% and 72% of the written premiums;
During the period of 2009-2018, the average retention rate for the insurance companies is 70% of total premiums issued, this indicates their capacity to take risks; in return the average cession rate for it is 30%.

3. The changes in Algerian ceding companies' insurance margin between 2009 and 2018:

The Underwriting (technical) results or insurance margin: Consists of the difference between turnover and underwriting expenses (claims in particular)**.**(Ministère des finances, 2010, p. 45)**.**

Fig. 5: « The changes of insurance margin during (2009-2018)(Unit: Billion AD)»



Source: Prepared by researchers based on the Ministry of Finance reports on insurance activity in Algeria for the years 2009-2018.

The insurance margin increases every year, indicating that the volume of total global premiums is greater than the claims paid.

IV. The econometric study "the impact of reinsurance ceded premiums on the insurance margin of Algerian ceding companies".

1. Correlation Matrix:

The table below presents the correlation matrix of study variables; where we can note the positive moral correlation between insurance margin and reinsurance ceded premiums, confirming that 0.5550> 0.05.

Table 1: « Correlation Matrix »

The correlation rates (Probability)	Insurance margin	Reinsurance ceded premiums
Insurance margin	1	0.5550 0.0000
Reinsurance ceded premiums	0.5550 0.0000	1

Source: Prepared by researchers

2. Evolution results of panel data models:

The table below shows the evaluation results of three panel data models:
Pooled Regression Model (PRM), Fixed Effects Model (FEM) and Random Effects Model (REM).
Then we perform tests to determine the appropriate model for this study:

Table 2: « The three panel data models »

Explanatory variables	Evaluation method					
	PRM		FEM		REM	
	Probability	**Coefficient of determination**	**Probability**	**Coefficient of determination**	**Probability**	**Coefficient of determination**
Reinsurance ceded premiums	0.0000	0.5106	0.0000	0.4603	0.0000	0.4655
C	0.0000	922.5162	0.0000	1003.071	0.0269	994.7838
R-squared		0.3080		0.9510		0.3056
F-statistic	0.0000	92.6201	0.0000	173.9240	0.0000	73.9039

Source: Prepared by researchers.

The table shows that all the models results are close to one another. Reinsurance ceded premiums has a positive moral effect on a margin insurance of 46 to 51% explanatory power for regression and random model estimated 30%, whereas the fixed effects model has more explanatory power, estimated at 95% However, this results from adding the dummy variables.

3. The appropriate model:

3.1. The F- test:

The F- test is used for differentiation between the regression effects model and fixed effects model.

The null hypothesis (H_0): pooled regression model is the appropriate model;

The Alternative hypothesis (H_1): fixed effects model is the appropriate model;

The Results were as follows:

Table 3: « The F- test »

Kind of test	Value of test	P.value
F-test	123.4593	0.0000

Source: Prepared by researchers.

Through the F- test we can note that the value of accompanying probability equals to 0.0000 which is less than 0.05; therefore, we reject the null hypothesis and accept the alternative hypothesis at 5% significance level, thus the fixed affects model is the appropriate model for the study data.

3.2. LM test:

The Breusch-Pagan test is used for differentiation between the fixed effects model and the random effects model. So that:

H_0: Pooled regression model is the appropriate model;

H_1: Random effects model is the appropriate model.

The results were as follows:

Table 4: «The LM test »

Kind of test	Value of test	P.value
Breusch- Pagan test	801.6967	0.0000

Source: Prepared by researchers.

Through the Breusch-Pagan test, we can note that the value of accompanying probability equals to0.0000 which is less than 0.05; therefore, we reject the null hypothesis and accept the alternative hypothesis at 5% significance level, thus the random effects model is the appropriate model for the study data.

3.3. The Hausman test:

The Hausman test is used for the differentiation between the fixed and the random effects model. The null hypothesis, based on random effect capacity is the most efficient:

H_0: Random effects model is the appropriate model;

H_1: Fixed effects model is the appropriate model.

The results were as follows:

Table 5: « The Hausman test »

Kind of test	Value of test	P.value
Hausman test	0.0856	.07698

Source: Prepared by researchers.

Using the results in the table above, we can note that the value of accompanying probability equals to 0.0856 which is more than 0.05; therefore, we accept the H_0 at 5% significance level. The test favored random effects model.

4. Discussion:

After the selection tests, we conclude that the appropriate model is the Random effects model:

Insurance Margin (technical results) = 0.4432× Reinsurance ceded premiums + 1162.5214

After weighting the random effects model as an appropriate model for study data, we can note that the value of coefficient of determination is equal to 0.30 which is 30% of changes in insurance margin caused by reinsurance ceded premiums; additionally, Fisher's statistical value and its accompanying probability equals 0.0000 which is less than 0.05, indicating that the model as a whole has a statistical significance at 5%. We can also note using the results that the value of reinsurance ceded premiums is 0.4655.If the reinsurance ceded premiums value increases by 1 million AD, the insurance margin is presented in increments of 465500 AD; this effect is statistically significant because the value of statistical probability of ''Student" T-test is 0.0000 which is less than 0.05.

Finally we can note that the value of constant in the model worth about 994 Million AD, this value is statistically significant because the value of statistical probability of "student (T-test)" is 0.0269 which is less than 0.05.

Conclusion:

Through our study, we concluded that:

The insurance companies cede risks that are beyond their capacity to protect themselves and achieve a positive insurance margin;

The Algerian insurance companies have a high retention capacity and cede more than the obligatory cession rate compared to the CCR company;

We concluded that there is a positive impact between the reinsurance ceded premiums and the insurance margin (technical results) of the Algerian ceding companies;

The more the reinsurance ceded premiums, the more the insurance margin increases in Algerian ceding companies.

Bibliographic References:

- Albrecher, H., Beirlant, J., & Teugels, J. L.. Reinsurance: Actuarial and Statistical Aspects. Chichester: Wiley . (2017).
- Banks, E. Alternative Risk Transfer (Integrated Risk Management through Insurance, Reinsurance). Chichester (West Sussex): john wiley and sons, Ltd. (2004).
- Bokšová, J.. Gross Written Premium of Insurance Companies in Cee Countries –Mismatching Problems in Financial Statements. Procedia Economics and Finance, (2015) pp. 423 – 429.
- Chasseray, P., Eldin, G., & Lefebvre, A. P&C Reinsurance modeling (Pure Premium Estimation and Creation of a Reinsurance Program). brest: Euro-Institut d'Actuariat(2017).
- Conseil National de la Comptabilité.. AVIS N° 89: Avis portant plan et règles de fonctionnement des comptes et présentation des états. Alger: Ministère des Finances(2011).
- Deelstra, G., & Guillaume, P.. Risk theory and reinsurance. London: Springer(2014).
- Kyriaki, N.. Reinsurance Arbitrations. Athens: Springer-Verlag Berlin Heidelberg(2013).
- Ministère des finances. Activité des assurances en Algérie. Alger: Direction Générale du Trésor, Direction des assurances(2010).
- Ministère des finances.. Activité des Assurances en Algérie. Alger: Direction des assurances(2018).
- Ministère des finances.. Activités des assurance en Algérie. Alger: Direction des assurances(2015).
- Okotha, G. S.. Reinsurance Management. Kampala: the Insurance Institute of Uganda (2017).
- Ordonnance n ° 95-07. (1995, janvier 25). Relative aux assurances et ses textes d'application. Article 4 . Alger, algérie.

Appendices:

1. Correlation Matrix

Sample: 2009 2018
Included observations: 210

Correlation t-Statistic Probability	MAS	RAS
MAS	1.000000 ----- -----	
RAS	0.555065 9.623939 0.0000	1.000000 ----- -----

2. Fixed effects Model

Dependent Variable: MAS
Method: Panel Least Squares
Date: 08/13/20 Time: 19:19
Sample: 2009 2018
Periods included: 10
Cross-sections included: 21
Total panel (balanced) observations: 210

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RAS	0.460344	0.057076	8.065439	0.0000
C	1003.071	99.16826	10.11484	0.0000

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.951047	Mean dependent var	1740.467
Adjusted R-squared	0.945579	S.D. dependent var	2386.146
S.E. of regression	556.6493	Akaike info criterion	15.58061
Sum squared resid	58253389	Schwarz criterion	15.93126
Log likelihood	-1613.964	Hannan-Quinn criter.	15.72236
F-statistic	173.9240	Durbin-Watson stat	0.982371
Prob(F-statistic)	0.000000		

3. Pooled regression model

Dependent Variable: MAS
Method: Panel Least Squares
Date: 08/13/20 Time: 19:20
Sample: 2009 2018
Periods included: 10
Cross-sections included: 21
Total panel (balanced) observations: 210

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RAS	0.510633	0.053059	9.623939	0.0000
C	922.5162	161.4718	5.713173	0.0000

R-squared	0.308097	Mean dependent var	1740.467
Adjusted R-squared	0.304771	S.D. dependent var	2386.146
S.E. of regression	1989.578	Akaike info criterion	18.03871
Sum squared resid	8.23E+08	Schwarz criterion	18.07059
Log likelihood	-1892.065	Hannan-Quinn criter.	18.05160
F-statistic	92.62019	Durbin-Watson stat	0.073574
Prob(F-statistic)	0.000000		

4. Breusch-PaganLM test

Lagrange Multiplier Tests for Random Effects
Null hypotheses: No effects
Alternative hypotheses: Two-sided (Breusch-Pagan) and one-sided (all others) alternatives

	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	801.6967 (0.0000)	1.870676 (0.1714)	803.5673 (0.0000)

5. Random effects model

Dependent Variable: MAS
Method: Panel EGLS (Cross-section random effects)
Date: 08/13/20 Time: 19:12
Sample: 2009 2018
Periods included: 10
Cross-sections included: 21
Total panel (balanced) observations: 210
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RAS	0.465517	0.054270	8.577824	0.0000
C	994.7838	446.3702	2.228607	0.0269

Effects Specification	S.D.	Rho
Cross-section random	1998.522	0.9280
Idiosyncratic random	556.6483	0.0720

Weighted Statistics

R-squared	0.262160	Mean dependent var	152.6999
Adjusted R-squared	0.258613	S.D. dependent var	645.0635
S.E. of regression	555.4245	Sum squared resid	64167242
F-statistic	73.90394	Durbin-Watson stat	0.896896
Prob(F-statistic)	0.000000		

Unweighted Statistics

R-squared	0.305692	Mean dependent var	1740.467
Sum squared resid	8.26E+08	Durbin-Watson stat	0.069657

6.F-test

Equation: Untitled
Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	123.459319	(20,188)	0.0000
Cross-section Chi-square	556.202036	20	0.0000

7.Hausman test

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	0.085657	1	0.7698

8. Mean of variables study during 2009 to 2018.

Ceding companies	Reinsurance ceded premiums		Insurance margin	
	Mean	Std.Dev	Mean	Std.Dev
SAA	2465,30	9853,70	760,05	1976,25
CAAR	6097,90	4581,60	762,25	720,87
CAAT	8319,80	5755,20	2270,91	1407,64

CASH	8042,10	1905,40	1029,03	441,52
GAM	286,70	1496,90	32,37	255,96
SALAMA	598,00	1406,00	355,94	371,76
TRUST AL	1109,80	639,90	244,20	199,84
alliance	726,00	1820,20	163,29	473,83
CIAR	1274,90	2548,50	260,32	599,22
2A	1567,80	1457,80	1424,61	349,50
AXA D	597,70	404,10	519,50	450,54
MAATEC	2,20	54,10	4,18	95,66
CNMA	503,60	1029,20	271,50	324,10
MACIR VIE	326,40	538,20	242,11	419,42
TALA	320,90	376,80	208,56	276,61
SAPS	194,70	501,00	131,25	366,15
Caarama	778,80	438,60	556,19	333,52
CARDIF	101,40	1032,80	66,32	425,11
AXA Vie	250,20	343,60	296,20	315,98
Le mutualiste	12,49	280,70	12,69	210,89
AGLIC	61,90	85,50	133,90	145,84

9. The evolution of variables study during 2009 to 2018.