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THE EVOLUTION OF REINSURANCE SUPPLY IN ALGERIA: AN ANALYTICAL STUDY

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Abstract

This study aims to analyze the development of the reinsurance offering in Algeria by examining the evolution of national acceptances, primarily represented by the premiums accepted by the Central Reinsurance Company (CCR), and international acceptances by foreign reinsurance companies during the period (2010-2023). The study mainly employs a qualitative descriptive approach. The research concluded that, since the implementation of Executive Decree No. 10-207, the mandatory cession rate to the CCR has increased to 50%, leading to a rise in the volume of premiums accepted locally to over 90% of the CCR's total activity. In contrast, international premiums did not exceed an average of 10%. Although national acceptances constitute the bulk of the CCR's business, the company has achieved notable progress in the international market in recent years thanks to policies aimed at expanding its external activities. The dominance of the local market is attributed to the CCR's monopoly over national acceptances, enhancing its capacity to absorb major risks in the local market, particularly in the IARDT (Fire, Accidents, Miscellaneous Risks, and Transport) branch and natural disasters. However, the company faces challenges in the international market, including intense competition in Europe. In conclusion, the research highlights the importance of developing the Algerian reinsurance market by updating the legislative framework and creating a competitive environment, which would enhance the ability of Algeria to manage risks more effectively locally and internationally.

Keywords: *Reinsurance; Reinsurance Premiums; National Acceptances; International Acceptances; Retained Premiums; Ceded Premiums; Central Reinsurance Company.*

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1 INTRODUCTION

Despite its importance in insurance and financial markets, reinsurance has received little attention in economic and financial literature (Berger, Cummins, & Tennyson, 1992). It becomes evident that research in the field of reinsurance is quite recent. Even by the early 1990s, specialized studies were scarce and limited to works such as (Mayers & Smith, 1990), (Hoerger, Sloan, & Hassan, 1990), and (Doherty & Fine, 1981).

The first question that comes to mind when addressing this topic is: How did the concept of reinsurance originate? Generally, the answer lies in the fact that insurance companies issue policies and collect premiums in exchange for the promise to pay claims when accidents occur. For many types of insurance, the gap between the occurrence of an accident and its settlement can span several years. If an insurance company defaults during this period, policyholders may lose part of their claims. Therefore, the ultimate concern of any policyholder is the continued financial viability of the insurance company. This scenario presents several challenges, most notably (Cummins, Dionne, Gagné, & Nouira, 2021) (Weiss, 2007):

1. Policyholders cannot diversify their risks by using multiple insurance companies.
2. Policyholders cannot monitor insurance companies due to the high costs and expertise required.
3. The cyclical nature of the insurance business and the inherent risks in its operations.

From this context, the idea of reinsurance emerged, where an insurance company, called a reinsurer, accepts all or part of the loss risks covered by another insurance company, known as the ceding company (Graven & Tennant, 2003) (Crisafulli, 2023). In other words, reinsurance is a legal insurance contract whereby the reinsurer agrees to compensate the ceding insurance company for a specified share of certain insurance claims paid by the ceding company for a single policy or a defined group of policies (Patrik, 2006).

To put it simply, reinsurance is "insurance for insurance companies." (Gbenro, Duramany-Lakkoh, & Kamara, 2023). Reinsurance is a way for insurance companies to manage risks and protect themselves from big financial losses. Using this tool, catastrophic risks such as climate risks, which are typically difficult to insure, become insurable by transferring the risks to reinsurance companies (Xiong, Peng, & Nadarajah, 2023).

Because the concepts of reinsurance and co-insurance are often confused, it is significant to distinguish between them. Co-insurance is a process in which several insurers (insurance companies) cover the same risk under a single insurance contract, with risks distributed in equal or unequal shares as agreed upon. The management responsibility, from the beginning of the contract to its termination or cancellation, is assigned to the principal insurer, who receives a commission for this role (Driessen, Fragnelli, Katsev, & Khmelnitskaya, 2015) (Olubajo, 2003). This type of insurance is typically used for major risks, such as environmental pollution (Driessen, Fragnelli, Katsev, & Khmelnitskaya, 2015).

The following diagram illustrates the difference between reinsurance and co-insurance in a simplified manner:

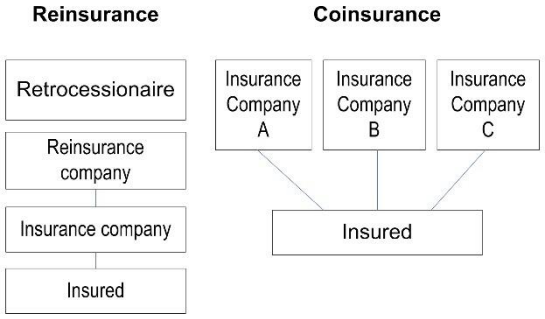

Fig. 1 The difference between reinsurance and co-insurance (Wehrhahn, 2009)

The reinsurance plays a significant role in absorbing the risks inherent in the direct insurance industry. It serves two main purposes:

- Reinsurance capital allows direct insurance companies to underwrite more business.
- Reinsurance capital protects insurance companies from budgetary fluctuations caused by large and unexpected losses (Haueter, 2020).

It is observed that the risks borne by insurance companies are not highly diversified, as these companies tend to specialize geographically and technically to make their distribution structures profitable and leverage their underwriting expertise. This highlights the importance of reinsurance in enabling insurance companies to

mitigate the surges in risk levels. Reinsurance companies use actuarial models more intensively because they bear the most hazardous and least diversified portion of the claims (Deelstra & Plantin, 2014).

Therefore, reinsurance helps reduce insolvency risk, enhances the financial viability of insurance companies, mitigates losses, smooths the insurance cycle, and reduces agency costs (Bernard, 2013). Overall, reinsurance serves the following functions: increasing underwriting capacity, reducing equity capital constraints, decreasing the variability of technical results, lowering unearned premium reserves, providing protection against catastrophic loss (Crisafulli, 2023), reducing expected taxes by exploiting specific tax structures, and gaining comparative advantages in delivering real services (Cummins, Dionne, Gagné, & Nouira, 2021). It also opens new horizons and greater business opportunities in consulting services through partnerships between reinsurers and insurance companies (Witthoff, 2020).

While reinsurance may be a relatively recent concept for the global economy, in Algeria, it is even more nascent, with the market still in its early stages in terms of legislative and institutional frameworks, activity volume, coverage, risk types, acceptances, and all other indicators of the reinsurance industry. Algeria has only one reinsurer, the Central Reinsurance Company (CCR). Additionally, even in terms of academic research on reinsurance in Algeria, the reality shows a very limited number of specialized studies in this field.

1.1 Study Problem

Like all other sectors, the interaction between supply and demand for reinsurance operations is subject to market forces and mechanisms. Algerian insurance companies, representing the demand side, seek coverage for part or all the risks that exceed their capacity. On the other hand, reinsurance companies in general, and the Central Reinsurance Company (CCR) in particular, representing the supply side, agree to provide coverage. This research paper will analyze the development of reinsurance supply in the Algerian market by studying the evolution of both national and international acceptances following the issuance of Executive Decree No. 10-207 on September 9, 2010. This decree mandates that at least 50% of all reinsurance business must be ceded to the national reinsurer (CCR), compelling Algerian insurance companies and CCR to adhere to this regulation, thereby affecting the supply of reinsurance in the Algerian market.

Given the context, the research phenomenon can be framed through the following main question:

> *What is the status of the development of national and international acceptances in the Algerian reinsurance market after the issuance of Executive Decree No. 10-207?*

1.2 Study objectives

The primary purpose of this study is to analyze the development of the reinsurance supply in Algeria by tracking the evolution of national acceptances, represented by the premiums accepted by the Central Reinsurance Company (CCR), and international acceptances by global reinsurance companies during the study period of 2010-2023.

This analysis will provide insights into the current state of the reinsurance market in Algeria, including its various indicators, strengths, and weaknesses. Such understanding will be highly valuable in formulating significant recommendations to help develop the Algerian reinsurance market and enhance its competitive capacities both locally and internationally.

Additionally, this research aims to bridge the local research gap in this field. Previous Algerian studies addressing the topic of reinsurance in Algeria are very rare, and most available studies are written in French and Arabic, while studies in English are extremely limited.

2 LITERATURE REVIEW

The Algerian insurance and reinsurance market has undergone significant transformations in recent decades, with numerous studies addressing various aspects of the sector to support economic growth and market development.

The study by Bouzaher & Necira (2017) provided a fundamental analysis of the development of the reinsurance market in Algeria, highlighting the

factors that could boost demand in the national reinsurance market. It also examined the economic contributions of reinsurance and its interaction with the broader insurance market, offering a deeper understanding of the critical role reinsurance plays in Algeria.

Improving retention levels in reinsurance has been a key aspect of the Algerian insurance market development. The study by Cheraitia and Medjden (2020) explored this aspect by examining convex optimization techniques, offering insights into how these methods can be used to enhance risk management and pricing accuracy. This study is particularly relevant to the Algerian reinsurance market, where effective risk management practices through reinsurance cessions are essential for the stability and growth of the insurance sector.

Technological advancements have also played a significant role in shaping the Algerian insurance market, particularly in auto insurance, which accounts for more than 50% of the sector's total production. Oucherif and Touche (2023) developed advanced pricing systems using machine learning algorithms, which have the potential to revolutionize the way risks are assessed and priced. These innovations are crucial for improving the efficiency and accuracy of pricing models in the Algerian insurance market, contributing to better risk management, and enhancing the market's competitiveness.

Social and cultural factors have also been identified as key determinants of consumer behavior towards insurance products in Algeria. The study by Mahdjour and Benhabib (2017) found that religious beliefs negatively impact Algerian consumers' attitudes toward insurance, particularly in cases where insurance products conflict with religious values. This social and cultural dimension underscores the need for the insurance market to develop culturally sensitive products that align with the values and beliefs of Algerian consumers, presenting a challenge with significant implications for market penetration and acceptance.

In addition to technological, social, and cultural factors, the profitability of insurance companies in Algeria has been closely linked to risk management practices through reinsurance arrangements, as identified in a study by (Lazli & Bouakkaz (2024). Components such as disaster indicators and underwriting practices were identified as critical factors influencing profitability. The study's findings indicated that effective risk management is not only necessary for insurance and/or reinsurance companies but also contributes to the stability and growth of the entire market.

The regulatory environment has also played a significant role in shaping Algeria's reinsurance market. Despite efforts to liberalize the insurance sector, the reinsurance market remains dominated by the national reinsurer "CCR" (Caisse Centrale de Réassurance, formerly the Algerian Reinsurance Fund), resulting in limited competition in the reinsurance field. Several studies, including those by Altuntas, Garven, and Rauch (2018) and Cole and McCullough (2006), acknowledged the ineffectiveness of regulatory changes and highlighted the potential for market failure and insufficient coverage for catastrophic risks.

Demand for reinsurance in Algeria is also influenced by economic conditions, including trade openness and economic growth. Studies by Eling and Jia (2017), and Eling and Luhnen (2010) emphasized the impact of economic fluctuations, such as changes in oil prices, on the financial stability of insurance companies and their demand for reinsurance coverage. These studies underscore the interconnection between the economic environment and the stability of insurance and reinsurance markets.

Growth opportunities in Algeria's reinsurance market are emerging, driven by increased awareness of risk management and the importance of insurance among businesses and individuals. Cole, Lee, and McCullough (2007) discussed the potential for developing specialized reinsurance products, such as catastrophe bonds, which could enhance the market's capacity to handle large-scale risks.

(Kajwang, 2022) suggested that by adopting advanced analytics, artificial intelligence, and digital platforms, reinsurance companies could improve their competitiveness and better meet the needs of direct insurance companies.

3 METHODOLOGY

To address the research problem and contribute effectively to achieving its objectives, the descriptive methodology was adopted, which is considered one of the most suitable approaches for studying various social phenomena in general (Nassaji, 2015) (Creswell & Creswell, 2018) and economic and financial natural phenomena in particular.

Descriptive research aims to describe the studied phenomenon and its various characteristics (Gall, Gall, & Borg, 2007). Thus, descriptive research works to make precise and detailed observations and document phenomena of significance (Bhattacherjee, 2012). In other words, it aims to shed light on current issues and problems through an organized data collection process that enables a more detailed description of the situation, as compared to not using this method (Manjunatha, 2019).

There are several reasons why researchers propose using a qualitative descriptive method, most notably: when it is challenging to define a specific problem or research objectives clearly; when the research goals require a more detailed and in-depth understanding; when the objective is to study the occurrence of natural phenomena; when the researcher wishes to study several interconnected research policies; or when a more modern approach is needed (Furidha, 2013).

Regarding the sources of information, the study relied on various secondary sources, including books, journals, conferences, working papers, international reports, and specialized websites. Additionally, the study utilized a series of annual reports issued by the Central Reinsurance Company during the study period. It is important to note that all reports were in French, as it is the official language used in Algeria's financial and banking sector and its administration. These reports were translated and used for analysis and conclusion.

4 CENTRAL REINSURANCE COMPANY (CCR) ACTIVITY

Reinsurance offerings in Algeria are primarily represented by the acceptances of the Central Reinsurance Company (CCR). Therefore, we will first provide an overview of CCR as the national reinsurer, followed by an examination of the development of reinsurance offerings through the study of both international and national acceptances in the Algerian market.

4.1 Overview of the Central Reinsurance Company (CCR)

The Central Reinsurance Company (CCR) was established by Ordinance 54/73, dated October 1, 1973. It is a joint-stock company with a capital of 40 million DZD as of 1975, fully owned by the Algerian state, with its headquarters located in Ouled Fayet, Algiers. The company began its actual operations in 1975 by reinsuring risks ceded from national insurance companies. During this period, CCR benefited from a monopoly in the Algerian insurance market until 1995, when the market was liberalized. Despite this, CCR continues to hold a dominant position in the Algerian reinsurance sector, offering services across various branches of reinsurance to its clients both domestically and internationally. Moreover, CCR reinsures natural disasters under state guarantees, in addition to insuring all the insurance companies in the Algerian market.

CCR maintains commercial relationships with all Algerian insurance companies and numerous reinsurers and brokers worldwide. These professional relationships with the international reinsurance market are crucial nationally and internationally. They have enabled CCR to gain commercial expertise and reputation, while also allowing it to collaborate with foreign entities such as MED RE, AFRICA RE, and ARAB RE AWRIS, in which it is an active member of reinsurance syndicates. Thanks to its importance and the quality of its relationships, CCR currently competes with reinsurance companies in the Arab world, Africa, and Asia, participating in risk coverage in those regions. It is also an active member of the executive committee of FAIR and participates in the technical committees of reinsurance pools, owing to its extensive experience in reinsurance, such as the Arab Pool for Marine and Non-Marine, the African Pool for Aviation and Fire, and the Asian Pools for Non-Marine and Aviation.

In 2023, the CCR's capital reached 30 billion DZD, equivalent to 227 million USD. It has been rated B+ for financial strength by the American agency AM Best and carries a credit rating of BBB- (Issuer

Credit Rating, ICR). Additionally, CCR enjoys state guarantees for covering natural disaster risks. The mandatory cession rate in favor of CCR was raised to 50%, which significantly boosted its capital and business volume, reducing its reliance on agreements with the international reinsurance market in its favor. Consequently, CCR now controls a substantial market share, as reflected since the enforcement of Decree 10-207 in 2011. According to data provided by AM Best Rating, CCR has had the best technical performance among all reinsurers in the Middle East and North Africa (MENA) region over the past five years. One of the CCR's key strengths lies in the quality of its qualified and multidisciplinary human resources. Executives are carefully selected and undergo specialized reinsurance training, both nationally and internationally, with advanced training provided by the world's leading reinsurance companies, enabling CCR to serve its clients domestically and abroad.

4.2 Evolution of the Capital of the Central Reinsurance Company

Since its establishment, CCR has experienced capital growth, which we will outline as follows.

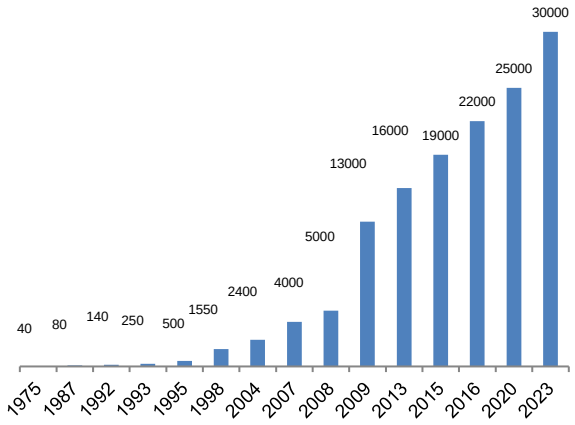

Fig. 2 Evolution of the CCR's Capital (1975-2023)

As observed from the figure above, the CCR's capital has shown continuous growth since its establishment. The highest growth rate was recorded in 1998, with an increase of 210%, as the capital grew from 500 million DZD in 1995 to 1.55 billion DZD in 1998. This significant increase resulted from the liberalization of the insurance and/or reinsurance market during that period and the CCR's entry into the international reinsurance market. Consequently, this step was essential for enhancing the CCR's competitiveness and its ability to offer attractive proposals to Algerian insurance companies.

Following this, the next notable growth occurred in 2009, with a capital increase of 160%, driven by the company's efforts to obtain ratings from global rating agencies. In recent years, from 2013 to 2020, the growth rates have been declining, recorded at (23%, 19%, 16%, 14%) for the years 2013, 2015, 2016, and 2020, respectively. However, in 2023, the capital rose significantly to 30 billion DZD, reflecting the company's financial strength.

Given the CCR's substantial connection to the international reinsurance market, it is essential to study the evolution of its capital in US dollars, which is detailed in:

Table. 1 Evolution of the CCR's Capital in USD during the period (1987-2023) (Compagnie centrale de réassurance, 2023).

Year	Capital (Million DZD)	Exchange Rate (USD)	Capital in USD (Million USD)
1987	80	87.91	0.9
1992	140	87.91	1.6
1993	250	87.91	2.8
1995	500	87.91	5.7
1998	1550	87.91	17.6
2004	2400	87.91	27.3
2007	4000	87.91	45.5
2008	5000	87.91	56.9
2009	13000	87.91	147.9
2013	16000	87.91	182
2015	19000	107.76	177.4
2016	22000	110.76	198.6
2017	22000	114.8	191.6
2018	22000	117.93	186.59
2019	22000	119.25	184.48
2020	25000	131.23	190.5
2023	30000	135.84	220,84

We observe that, despite the continuous growth of the CCR's capital in Algerian dinars, its growth in US dollars has been less significant. This discrepancy is due to changes in the exchange rate, which has seen a decline in recent years, beginning in 2017. This can be further illustrated in Figure 3.

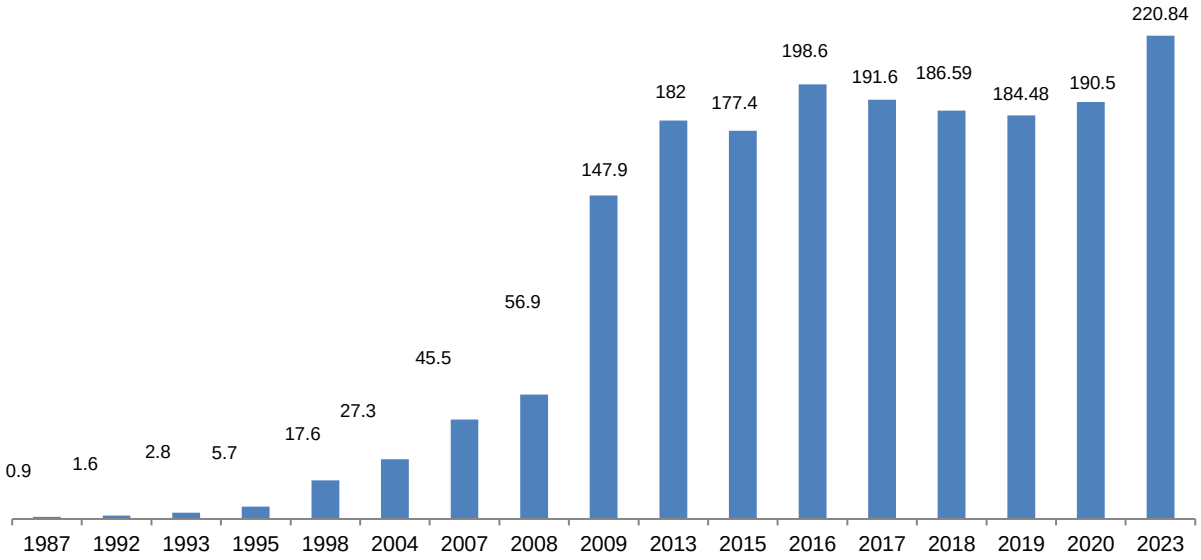

Fig.3 Evolution of the CCR's Capital in USD (in millions) from 1987 to 2023

Wwe observe that the growth rates were very similar during the early years, from 1987 to 2013, due to the stability of the exchange rate during this period. However, from 2015 onwards, there was volatility in the evolution of the CCR's capital values in US dollars. Despite the capital growth denominated in Algerian dinars, there was a decrease when evaluated in US dollars during 2015, 2017, 2018, and 2019, with the following respective rates: (-3%, -4%, -3%, -1%).

4.3 Branches in which the Central Reinsurance Company (CCR) operates

As CCR is a multi-branch reinsurance company, it provides coverage in all forms of reinsurance, whether in life reinsurance or non-life reinsurance. Furthermore, except for financial reinsurance (through capital markets), which the company does not engage in, CCR possesses the expertise and capabilities to handle all forms of proportional and non-proportional reinsurance. This can be differentiated between the domestic market and the international market:

4.3.1 Domestic Market

CCR offers its services to cedents in Algeria, covering their reinsurance needs across almost all branches of property and casualty insurance and life insurance. As the sole national reinsurance company specializing in reinsurance since its inception in Algeria, CCR responds to any coverage requests from its domestic clients in the following branches:

A. Non-marine branches:

These include fire and related risks, including business interruption, engineering risks, machinery breakdown, drilling equipment, natural disasters, motor, political risks, all forms of civil liability, decennial liability, agricultural risks, etc. For life insurance, the guarantees offered include assistance and travel, credit insurance, accidents, health insurance, etc., and all other insurance products previously mentioned, which are provided by property and casualty insurance companies as well as life insurance companies.

B. Marine branches:

These cover hull insurance for ships and aircraft, transported goods, including anticipated business interruption losses, civil liability for carriers (land, sea, and air), railway goods transport, war risks, and transport-related risks, etc.

4.3.2 International Reinsurance Market

CCR offers its capabilities to its partners in various regions (Africa, the Arab world, Asia, and Europe) within the international reinsurance market, covering major branches of activity: marine, non-marine, and energy. CCR has been operating in

the international market since its inception and, as a result, favors long-term commercial relationships with its partners. The proposed branches include treaty reinsurance in areas such as fire, engineering risks, transportation, motor, life, agricultural risks, etc. In facultative reinsurance, the branches include fire and related risks, land/marine risks, engineering risks (TRC/TRM/BDM), ship hulls, etc.

5 DEVELOPMENT OF DOMESTIC AND INTERNATIONAL ACCEPTANCES IN THE ALGERIAN REINSURANCE MARKET

Reinsurance offerings are represented by the volume of acceptances achieved by CCR, whether domestic or international. These acceptances reflect the turnover of the Central Reinsurance Company and are particularly important in terms of international acceptances, as they contribute to the company's overall turnover in foreign currency and are considered services exported abroad.

5.1 Evolution of the Total Turnover of CCR

The turnover of CCR represents the volume of premiums accepted, whether national or international. This is governed by the following relationship:

Total Turnover of CCR = Nationally Accepted Premiums + Internationally Accepted Premiums. Referring to the CCR's annual financial reports, the evolution of total turnover can be observed in the graph in Fig. 4.

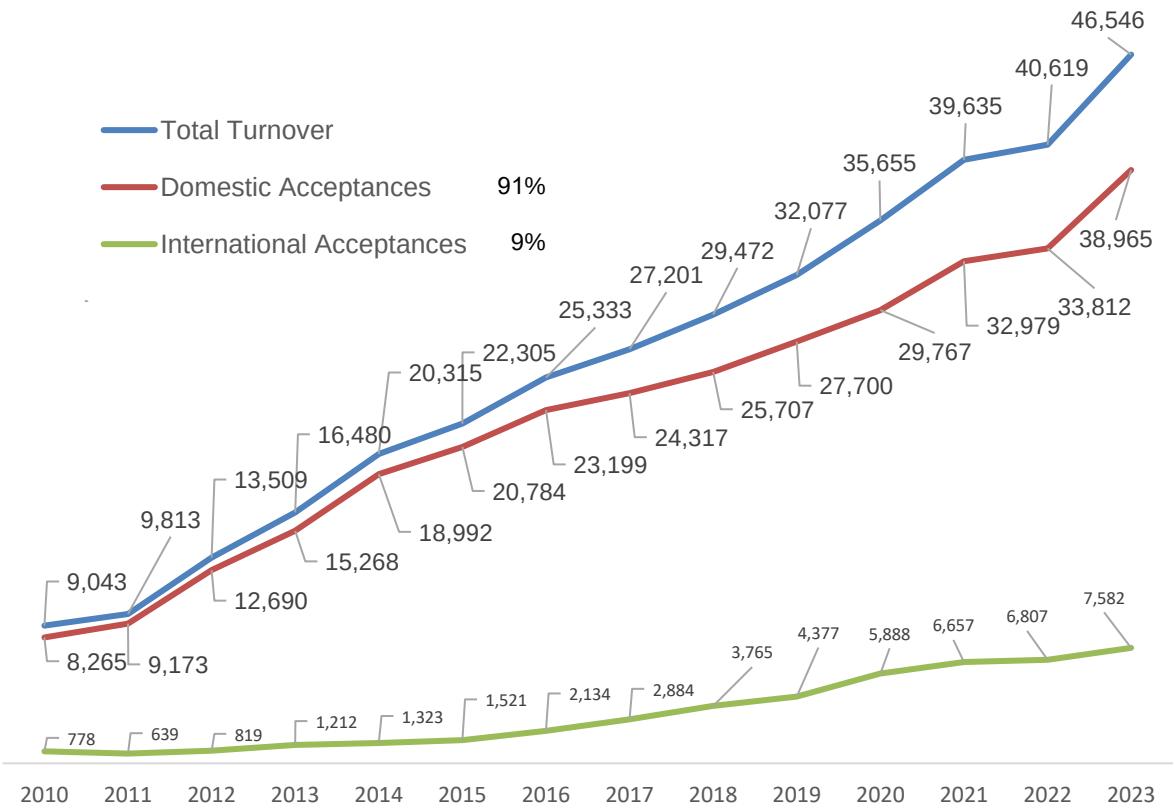

Fig.4 Evolution of the CCR's Turnover (2010-2023) – Units: Million DZD.

The majority share of the CCR's turnover over the years is attributed to national acceptances rather than international ones. This is primarily the result of compulsory cessions from all insurance companies in Algeria, which are required to cede at least half of the business designated for reinsurance to the national reinsurer, CCR. Despite the decree being implemented in 2011,

national acceptances were already high in 2010 due to the demand from public damage insurance companies, which in turn deal with CCR.

We observe that the growth rates of the CCR's turnover are closely aligned with the growth rates of national acceptances, in contrast to international acceptances, which have grown at approximately double the rate of the overall turnover or national acceptances since 2010. However, 2009 saw a decline of 18%. The average share of national acceptances during the studied period represents 91% of acceptances, while international acceptances averaged only 9% of the CCR's total turnover. Despite this, there has been notable growth in international acceptances in recent years, attributed to the CCR's policy of targeting the international market. These acceptances are divided according to geographic regions as illustrated in the graph in Fig. 5.

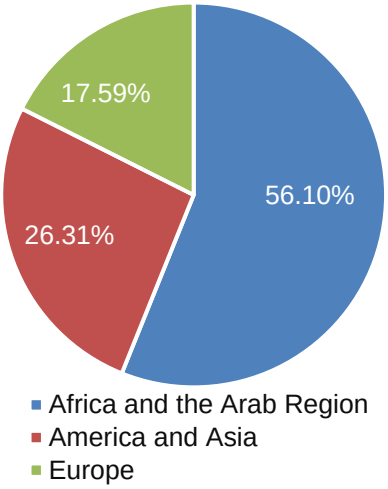

Fig.5 Distribution of International Acceptances by Geographical Region

This distribution reflects the CCR's strong position in Africa and the Arab region, where it is considered a significant competitor. The relatively low percentage in Europe is primarily because major reinsurers are concentrated there, making the competition much more intense. The IARDT branch holds the largest share of acceptances, whether overall, national, or international, due to the nature and severity of the risks involved in this branch. The branches can be observed in the Fig. 6.

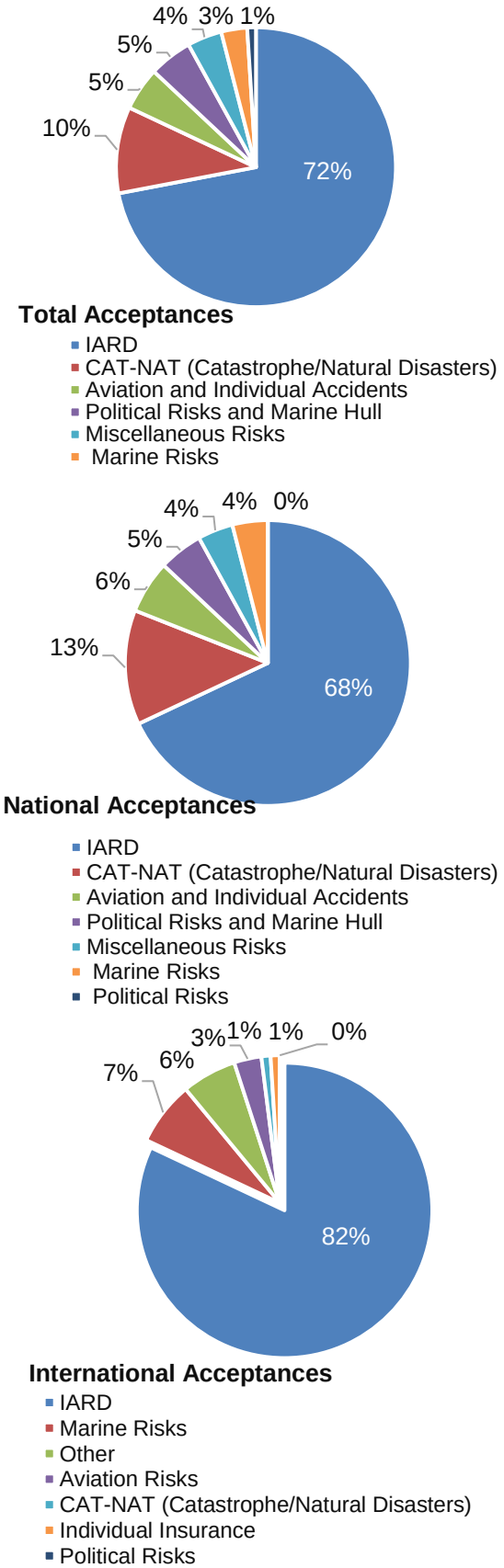

Figure. 6 Structure of Branches in the Acceptances Achieved by CCR (%)

The IARDT branch takes the largest share of acceptances, followed by the natural disaster branch, considering that CCR manages the latter. Despite its mandatory nature, the figures do not reach the desired level. The overall acceptance rates closely align with national acceptance rates, representing over 90%.

5.2 The Position of International Acceptances in the Algerian Reinsurance Market

The turnover in the insurance market is calculated by aggregating the premiums issued in direct insurance by all damage and life insurance companies, including both public and private cooperatives, as well as the premiums issued by the specialized insurance companies SGCI and CAGEX, and the international acceptances within the framework of reinsurance operations conducted by CCR. International acceptances constitute only 3% of the total turnover of the Algerian insurance and/or reinsurance market, as illustrated by:

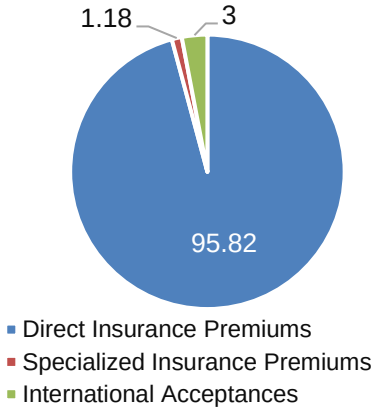

Fig. 7 The position of international acceptances in the Algerian insurance and/or reinsurance market

From the above figure, we observe that the largest share of production, 95.82%, is attributed to direct insurance, which refers to the total premiums issued, net of cancellations, by damage and life insurance companies, cooperatives, whether public, private, or mixed, operating within Algeria. These amounts represent the gross value, including reinsurance amounts (ceded premiums), whether to the Central Reinsurance Company (CCR) or international reinsurance companies, as they are merely transfers of premiums from the accounts of cedents to the accounts of reinsurers.

Therefore, we focus solely on international acceptances, which refer to premiums ceded by insurance companies operating outside Algeria to the benefit of the Central Reinsurance Company, to cover specific risks, whether through agreements or facultative reinsurance. These premiums are in foreign currency and are considered part of the export of services abroad; they constitute only 3% of the total turnover achieved in the market. The remaining percentage, 1.18%, pertains to the premiums issued by the specialized companies SGCI and CAGEX.

5.3 Retention and Retrocession in CCR

The total accepted premiums may be partially retained by CCR, with the portion exceeding its capacity being retroceded to reinsurers in the international market. Here, we refer to:

Net CCR Turnover (retained premiums) = Gross Turnover (total accepted premiums) - Assigned premiums (retroceded).

The development of retention and retrocession rates can be observed in Table 2.

Table. 2 Development of the CCR's net turnover (2010-2023) (Units: million DZD).

Year	Total Turnover (Accepted Premiums)	Net Turnover (Retained Premiums)	Retention Rate (%)	Assigned Premiums (Retroceded)	Retrocession Rate (%)
2010	9,043	5,219	59	3,824	41
2011	9,813	5,903	60	3,910	40
2012	13,509	7,534	56	5,975	44
2013	16,480	9,063	55	7,417	45
2014	20,315	12,798	63	7,516	37
2015	22,305	13,471	60	8,834	40
2016	25,333	14,660	58	10,673	42
2017	27,201	16,423	60	10,778	40
2018	29,472	17,904	60.7	11,568	39.3
2019	32,077	19,871	62	12,206	38
2020	35,655	22,304	63	13,351	37
2021	39,635	22,240	56	17,395	44
2022	40,619	23,588	58	17,031	42
2023	46,546	26,826	57	19,720	43

The table shows that the retention rate at CCR ranges between 55% and 63% during the period from 2010 to 2023, while the retrocession rate ranges between 37% and 45%. This indicates that the company follows a relatively conservative policy, retaining approximately 60% of the accepted premiums, while redistributing around 40% to international reinsurers.

Retrocession is a strategy employed by CCR to alleviate the burden of large risks that may impact its financial capacity. This process helps protect the company from significant market fluctuations or catastrophic losses. The greater the company's ability to retain more premiums without needing to retrocede, the more financially stable and profitable it becomes, provided that it can effectively absorb those risks.

The high retention rates, averaging around 59.7%, reflect the CCR's ability to absorb a substantial proportion of risks without heavily relying on retrocession. This bolsters the trust of both the local and international markets in the company and demonstrates its financial strength. However, this financial strength is not absolute; CCR still relies on retrocession for approximately 40% to mitigate high risks.

We observe variations in the retention rate across different years, with the highest retention rate

recorded in 2014 and 2020 at 63%, and the lowest in 2013 at 55%. This variation is due to financial pressures and changes in the type and size of risks the company faced during this period. This leads us to examine the retained and ceded branches at CCR over the study period, as illustrated in Fig. 8.

The IARDT branch, which includes industrial and commercial insurance as well as natural disasters, represents the largest portion of retained premiums and ceded premiums. This is expected due to the significant risks in this branch. For instance, natural disasters are high-impact risks requiring substantial financial capacity to manage. Therefore, the company resorts to ceding a significant portion of these risks.

The distribution between retention and ceding across the different branches reflects the CCR's specialization in handling a diverse range of risks. Branches that involve high risks, such as natural disasters and marine insurance, often experience a relatively larger degree of ceding, given the potential size of the losses.

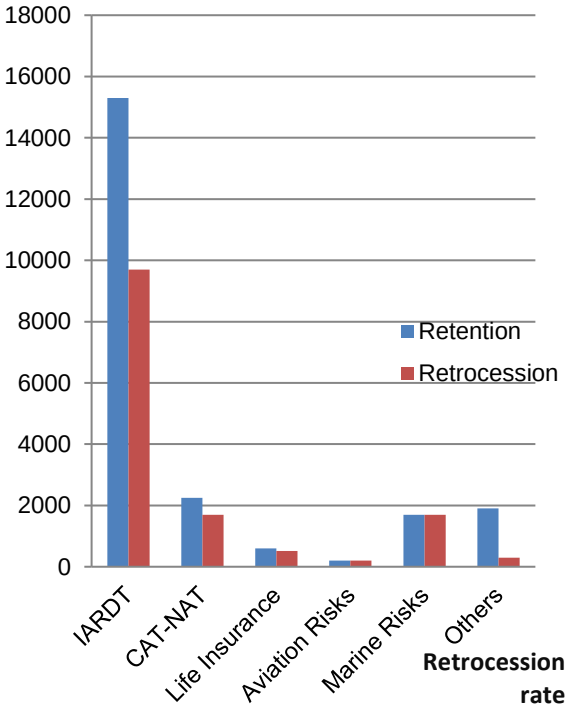

Fig.8 Retained and ceded branch shares at CCR

Looking at previous data, we can observe that the retention rate has remained relatively stable in recent years, with some slight improvement in its average. This reflects the company's ability to improve risk management over time, leveraging its accumulated experience to increase retention rates while maintaining a reasonable balance between retention and ceding.

The continuous improvement in the retention rate is a result of the CCR's enhanced ability to manage risks, thanks to growth in capital and the strengthening of specialized human resources. This improvement has helped CCR gain more control over operations within both the local and international markets, reducing reliance on ceding.

Although ceding reduces the financial risks associated with directly bearing premiums, it also affects the company's profitability, as CCR forfeits part of the revenues to reinsurers in foreign currency. The stability of the retention rate around 60% indicates the company's desire to balance risk reduction with profitability increase. A ceding rate of approximately 40% suggests that the company still requires the support of reinsurers, especially for large or international risks.

The analysis of retention and ceding at CCR shows that the company relies on a balanced strategy, blending the retention of a significant portion of premiums with ceding part of the risks to the international market. This policy supports the company's financial stability, with the potential to enhance this strategy to increase profitability and reduce reliance on ceding, by strengthening capital and developing internal risk management capabilities.

6. CONCLUSIONS

The study demonstrated that the implementation of Executive Decree No. 10-207, which imposes a mandatory cession of at least 50% in favor of CCR, has reinforced the company's dominance in the Algerian reinsurance market. This decree has led to a significant increase in the volume of national acceptances, accounting for 91% of total accepted premiums, which illustrates the local market's heavy reliance on CCR. In contrast, international acceptances remain relatively limited at just 9%, highlighting the need for the company to expand its activities on international markets.

On the other hand, the data showed that the IARDT branch represents the largest portion of total accepted premiums, followed by natural disasters. However, the figures for natural disasters have not reached the expected levels despite their mandatory nature, raising questions about the effectiveness of the current management of this branch.

Regarding retention and ceding rates, the retention rate hovers around 60%, indicating the CCR's ability to handle a significant portion of the risks internally while redistributing the remainder to international reinsurers. This is a positive indicator, as the company demonstrates the capacity to retain a large portion of its business, strengthening its financial position. However, the relative reliance on ceding suggests the need to enhance the company's internal capabilities to increase retention rates and achieve greater independence.

Study Findings:

The study's findings can be summarized in the following points:

- Increased dominance of CCR in the local market: The mandatory cession rate increase has bolstered the company's dominance over national acceptances, enhancing its financial stability but reducing competition in the market.
- Limited international acceptances: Despite noticeable expansion, international acceptances remain limited compared to national ones, necessitating the development of more effective strategies for international market expansion.
- High retention with reliance on ceding: High retention rates reflect the company's strength in absorbing risks but continued reliance on ceding indicates the need to strengthen the company's capabilities to reduce external dependence.
- Weak management of natural disasters: Despite being mandatory, natural disaster figures remain below the required level, highlighting the need to improve management policies in this branch to increase its effectiveness.

These findings open the door for a reassessment of the current reinsurance policies in Algeria, with a focus on enhancing competition and expanding international operations to improve market efficiency.

Lastly, this study recommends reconsidering the mandatory cession rate, currently set at a minimum of 50% for the Central Reinsurance Company. The study also recommends the development of the Algerian reinsurance market through several measures, the most notable being:

- Encouraging competition in the local market: There should be a reconsideration of the mandatory cession rate in favor of CCR to encourage competition from other reinsurers in the local market. This could stimulate innovation and improve the quality of insurance services provided to insurance companies, ultimately enhancing overall market efficiency.
- Strengthening collaboration with regional and international reinsurers: CCR can enhance its partnerships with reinsurers in Africa, the Arab region, and Asia by developing new agreements and capitalizing on opportunities in these markets. This would increase the CCR's share in the international market and

reduce its reliance on European reinsurers, who pose strong competition.

- Improving risk management: the CCR's risk management system should be enhanced by adopting artificial intelligence technologies and big data analytics to predict future disasters and risks more accurately. Additionally, improving governance within the company will ensure transparency and efficiency in decision-making related to the cession and retention of premiums.
- Investing in education and professional training: To ensure CCR is capable of meeting international market challenges and improving its performance, continuous education, and specialized training for employees must be prioritized. Advanced training in underwriting models and risk management will enhance the company's ability to make better-informed decisions.
- Diversifying reinsurance products: Expanding CCR's products into areas such as agricultural, health, and environmental reinsurance will help diversify risks and increase growth opportunities, especially given the rising demand for such insurance products.
- Increasing digitization and technological innovation: CCR should invest in advanced digital systems to improve operational efficiency, from evaluation and underwriting to risk management. This could include advanced analytics for pricing, claims management, and customer service, contributing to enhanced competitiveness and improved overall performance.
- Developing cession strategies: Cession strategies can be improved by establishing precise risk assessment mechanisms for high-impact risks. This will enable CCR to determine when it is necessary to cede part of the risks and identify the best global markets to manage them, thus improving returns on investments related to the cession.
- Adopting a smart retention policy: A "smart retention" policy should be implemented, where more premiums are retained in cases where the company is better equipped to absorb the risks while reducing premium cession in higher-risk scenarios. This approach will increase the company's ability to control returns from retained premiums.
- Developing advanced underwriting models: The use of advanced actuarial and analytical models for risk assessment will allow the company to retain more premiums without increasing financial risk.

By following these recommendations, CCR can improve its performance and competitiveness locally and internationally, contributing to the more efficient and sustainable development of the Algerian reinsurance market.

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