

# Concentration of Albanian Insurance Market

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## ABSTRACT

The state monopoly in Albanian insurance market lost its position in 1999. But only after 2005, the insurance market in Albania is significantly developed. As result of the increasing of insurance operators and the market size, the competition in insurance market has been increased. The aim of this paper is to examine the evolution of the insurance market structure in Albania. The concentration degree is measured through concentration rates CR1 and CR4 and Herfindahl-Hirschman index for the period 2005-2015. The concentration rates and HHI indexes are calculated separately for life insurance and non-life insurance activity, voluntary and compulsory insurance market, and for each class of non-life insurance: motor, property and health insurance classes. Based on the above indexes, the paper concludes that the competition in insurance market is increased over years, but the market structure type varies among different insurance activities.

**Key words:** Herfindahl-Hirschman index, Competition, Insurance concentration.

**JEL classification:** D40, G22

## Introduction

Insurance can be classified as either private or government insurance. In Albania, both insurance branches are supervised and regulated. Private insurance is supervised by Albanian Financial Supervision Authority, while government insurance is provided and supervised by Institute of Social Insurance. Private insurance, in turn, is divided in life insurance and non-life insurance. Especially after the establishment of Albanian Financial Supervision Authority (2006), the insurance market is significantly developed: the number of operators has been increased, foreign investors entered in the market (2007), the legislation has been significantly revised and improved. As result, the insurance market has been positively developed: the premium volume is generally increased every year and the market is well capitalized. The increase of insurance companies and market size, has positively contributed to the competition among insurance companies, reducing the market concentration. But the results are not the same for each activity or segment of insurance market, especially when the consumer has little information about the products he buys. Competition in the insurance market is measured by several indicators. Referring to the reports of respective Supervision Authorities, the Western Balkan countries use Herfindahl-Hirschman index, in order to evaluate the concentration degree of their respective insurance market, as Table 1 shows.

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**Table 1. Concentration and market share in Western Balkan countries**

	<b>Bosnia and Herzegovina</b>	<b>Kosova</b>	<b>Macedonia</b>	<b>Montenegro</b>	<b>Serbia</b>
<b>Year</b>	<b>2014</b>	<b>2014</b>	<b>2013</b>	<b>2014</b>	<b>2014</b>
<b>Market share</b>	85.4% -CR5	41.3% -CR3	16.74% -CR1 non-life	52.38% -CR2	46.9% -CR2
<b>HHI Index</b>	611	1,077	891	2,041	1,124
<b>Market concentration</b>	Low	Moderate	Almost moderate	Almost high	Moderate

Source: Annual reports of respective supervisory authorities

Among above listed Western Balkans countries, Bosnia and Herzegovina has the lowest market concentration and Montenegro has the highest market concentration. What about Albania? The reports of AFSA do not include any information about the insurance market concentration in Albania. For this reason, the aim of this paper is to measure the concentration degree of the insurance market in Albania, in order to understand the type of competition structure the insurance market has. After the introduction and a short literature review, the third section describes the methodology used in this article. The results of calculations of CR ratios and HHI indexes have been graphically presented respectively in the fourth and fifth sections. The last section contains the conclusions regarding the competition type of Albanian insurance market.

## **Literature review**

Competition of insurance market has been examined by several authors due to the importance it has on profitability of insurance companies. Many of them have been focused on relationship between market concentration degree and profitability. Jedica and Jumah (2006) have examined the insurance industry in Austria, basing on a sample of 52 Austrian insurance companies. They found a positive relation between the market share and profit rate: the more concentrated the insurance market is, the higher the industry profit rates are. Dumm and Macpherson (2006) have examined the premium volume of insurance market in Florida. According them, the concentration of insurance market in Florida has been high: two insurance companies collected 50 percent of total premiums and six largest companies collected 99 percent of the total premiums. Glambotskaya (2009) has studied the structure of insurance market in Belarus. The market was very high concentrated and the biggest share of insurance market belonged to the state owned insurers. According to him, the opportunities for the development of private insurers and insurers with foreign ownership were limited. Health insurance industry in United States is analyzed by Austi and Hungerford (2009). Their evidences suggested that health insurance markets are highly concentrated in many local areas. According to them, the exercise of market power by firms in concentrated markets generally leads to higher prices and reduced output - high premiums and limited access to health insurance - combined with high profits. Njegomir and Stojic (2011) have examined the market structure, conduct and performance relationship hypothesis for the non-life insurance industry in Eastern Europe countries. Their study showed a strong influence of market structure and liberalization on market profitability.

Kramaric (2012) has analyzed the market structure as well as the degree of concentration in insurance markets in new EU member states (Bulgaria, Czech Republic, Estonia, Latvia, Lithuania, Hungary, Poland, Romania, Slovakia and Slovenia). The results of the analysis showed that in all observed countries the level of concentration decreased, though with significantly different intensity. The different degrees of concentration among observed

countries were explained by the fact that these countries were centrally-planned economies where insurance services were provided mostly by one state owned company. After the communism collapse, some countries adopted free-market policies more quickly increasing the proportion of insurance companies operating in insurance markets, especially those with foreign capital which resulted in higher level of competition.

Naqellari (2014) has studied the competition in Albanian insurance market, especially the motor insurance activity, through the concentration market indexes. They concluded that the market has the characteristics of monopolistic competition structure.

## Methodology

Market structure determines the competitive environment of the suppliers of goods and services. The economists classify the market structures in four main categories: perfect competition, monopolistic competition, oligopoly and monopoly.

Imperfect markets as monopolistic competition, oligopoly and monopoly, influence the market. On the other hand, perfect competitions, characterized by a large number of small sellers which offer homogenous products, do not have any power in the market.

Several indexes have been used to measure the market concentration. Concentration rates (CR) and Herfindahl-Hirschman index (HHI) are the most used. Other measures of market concentration such as Gini coefficient, Lerner index, Hall-Tideman index are rarely used in empiric literature, especially in the insurance literature. This article is using CR and HHI to measure the market concentration degree.

Concentration rate is a simple industrial concentration rate and it is calculated based on the "n" largest companies operating in the respective industry. In insurance market case, CR indicates the ratio between the gross written premiums of the "n" largest operators with the total gross written premiums of all the insurance market, within a given year. In practice "n" may take value of 1, 4, 8 or 12, depending on the study's scope, the data at disposal, and the market characteristics. Therefore, CR<sub>n</sub> is calculated with the following formula:

$$CR_n = P_1 + P_2 + P_3 + \dots + P_n = \sum_{i=1}^n P_i$$

where "n" indicates the number of insurance companies and P<sub>i</sub> indicates the market share of the "i" insurance company.

The concentration ratio of the largest company is CR<sub>1</sub>, while the most used concentration ratio is the concentration ratio of the four largest companies CR<sub>4</sub>. In order to determine the market share of each insurance company, reference will be made the ratio of gross premium written by each insurance company with the total gross premium written by all insurance companies.

The concentration ratios range from zero to 100. CR is zero for an infinite supposed number of operators, which equally share the market. CR is 100 if the insurance companies counted in the ratio are all the companies operating in the insurance market.

According to Jedlicka & Jumah, the concentration ratio has to comply with the following axioms:

- If a company increases its own market share, reducing the market share of another company, the market concentration is increased.
- If a new company enters in the market, the market concentration decreases;

- In case of mergers, the concentration increases.

As the concentration ratio does not include all the market operators, it does not comply with the above mentioned axioms. These assumptions are better satisfied by HHI index. Therefore HHI index is considered as a better index of market concentration than the concentration ratios.

Herfindahl-Hirschman index measures the size of the insurance companies in comparison to the industry as a whole. HHI is the squared sum of the markets share of all the insurance companies operating in the industry, times 10,000, in order to avoid the decimal numbers. HHI is calculated using the following formula:

$$HHI = 10.000 \times \left[ \left( \frac{P_1}{P_T} \right)^2 + \left( \frac{P_2}{P_T} \right)^2 + \dots + \left( \frac{P_n}{P_T} \right)^2 \right]$$

HHI measures the size of the insurance company in relation to the industry as a whole, but it is used as an indicator of the competition degree as well. The decline of HHI index is viewed as a market power loosing, while the increase of HHI index is perceived as a market power strengthen.

HHI index ranges from zero (in case of perfect competition) to 10,000 (for monopoly). There are several classifications of market structures according to HHI index. The article will use the classification presented in the Table 2.

**Table 2: Classification of markets according CR4, CR1 and HHI.**

CR4	HHI	Market structure type
CR4=0	HHI = 0	Perfect competition
0<CR4<40	HHI < 1000	Monopolistic Competition or Effective Competition. No concentrated market.
40≤CR4<60	1000 ≤ HHI < 1800	Oligopoly or monopolistic competition. Moderate concentration market.
60≤CR4<90	1800 ≤ HHI < 2500	Strong oligopoly. Concentrated market.
90≤CR4	2500 ≤ HHI < 9999	Almost monopoly. High concentrated market
CR1=100	HHI = 10000	Monopoly

Source: Lipezynski et al. (2005)

The data used in this article are of secondary type. They are based on the annual reports and statistics published by Albanian Financial Supervision Authority.

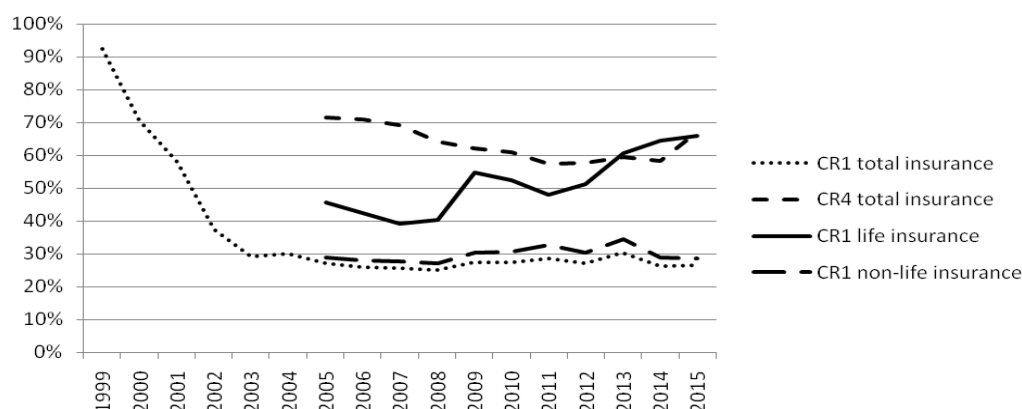
## Concentration ratios

The concentration ratios may be calculated for a "n" number of operators, according to the study requirements and market characteristics. In this article, the author has calculated CR1 and CR4. Considering the limited number of life insurance companies (only three companies), CR1 is calculated for both life insurance companies and non-life insurance companies, while CR4 is calculated only for non-life insurance companies. CR1 ratio shows the market share of the largest insurance company, while CR4 shows the market share of four largest insurance companies. CR4 ratio is calculating with the following formula:

$$CR_4 = \frac{P_1 + P_2 + P_3 + P_4}{P_T}$$

where  $P_i$  indicates the gross premium written by "i" insurance company and  $P_T$  the total gross premium written by all insurance companies operating in the market.

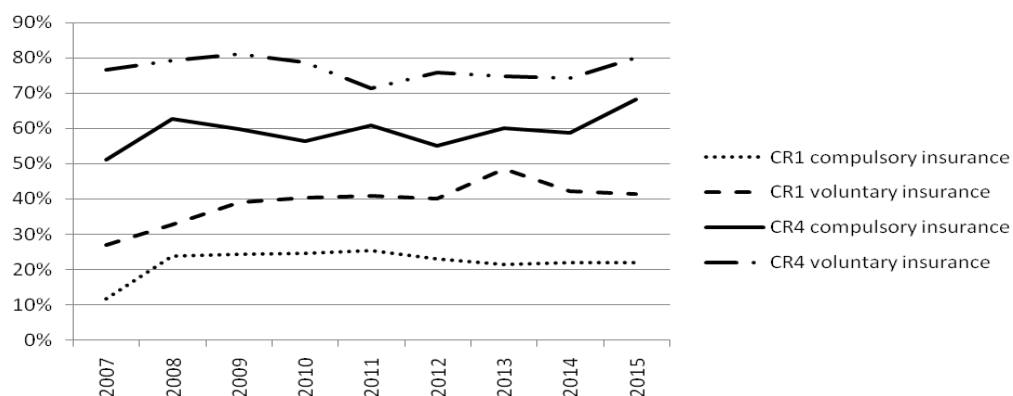
**Fig. 1 Concentration ratios CR1 and CR4 - whole, life and non-life insurance**



Source: Author's calculations

Figure 1 shows the concentration ratios CR1 for the insurance market as a whole and separately for life insurance market and non-life insurance market. CR4 is calculated only for the whole insurance market, as the life insurance activity is performed by only three insurance companies. CR1 ratio for the whole insurance market is calculated starting from 1999, because the two first private insurance companies have been licensed and the state lost its monopoly position in the insurance market in 1999. The other ratios, CR1 for the life activity and non-life activity, and CR4 for non-life activity, are calculated starting from 2005, as in 2005 the life insurance activity is separated from non-life insurance activity by the law. The sole state company Insig, was an exception. It was allowed to carry on both insurance activities: life and non-life insurance. After years of attempts, "Insig" company is finally privatized in 2016, by a domestic insurance company. Observing the CR1 chart, it is obviously evident that the market share of the largest insurance company (92.5%) in 1999, has been significantly declined during the following years. Four years after their licensing (2003), the two first private insurance companies have been positioned the first, ranking Insig the third one. After 2003, the market share of the "Insig" company is ranged from 25% to 31%. CR1 ratio for non-life insurance activity is fluctuated from 27% to 35%. CR1 ratio for life insurance activity, where there are few operators, has been more volatile: from 39% in 2007 to 66% in 2015. While CR4 ratio has been decreasing from 72% in 2005 to 58% in 2014, slightly increasing the last year.

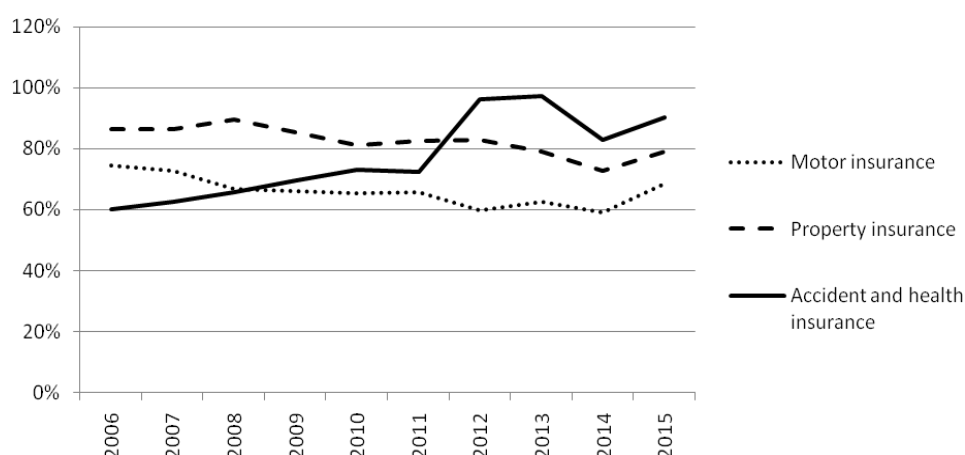
**Fig. 2 Concentration ratios CR1 and CR4 - compulsory and voluntary insurance**



Source: Author's calculations

Figure 2 shows the progress of CR1 and CR4 ratios for the compulsory insurance and voluntary insurance market. CR1 ratios for both the segments and CR4 for compulsory insurance market have been almost increased during the observed period of time. In 2015, CR1 for compulsory insurance, CR1 for voluntary insurance and CR4 for compulsory insurance have been respectively increased by 8.2%, 5.4%, and 3.7% in comparison with 2007. Meantime, CR4 ratio for voluntary insurance have been continually fluctuated, ranging from 71 percent to 80 percent, which means that it has been more stable. However, both the ratios, CR1 and CR4 for voluntary insurance have been higher than CR1 and CR4 for compulsory insurance. Therefore the voluntary insurance market is more concentrated than compulsory insurance market.

**Fig. 3 Concentration ratios CR4 for selected non-life insurance classes**



Source: Author's calculations

Figure 3 shows the progress of CR4 ratio for the main non-life insurance classes. Regarding the motor insurance and property insurance, the ratio has been slightly declined, except two last years. The market share of the four largest insurance companies operating in accident and health insurance market has been very volatile during the last five years. The maximum values of CR4 of this insurance class have been recorded during in 2012 and 2013, respectively 96 percent and 97 percent. The maximum value of CR1 for health and accident insurance class was recorded in 2011 - a sole insurance company has collected 80 percent of the total gross premium for accident and health insurance class.

Based on the classification shown in Table 2 and referring to the CR4 ratio values, the concentration of insurance market in Albania during 2006-2015, is presented as follows:

*Total insurance market:* The minimum and the maximum values of CR4 ratio are respectively 58 percent and 72 percent - the insurance market has been changed from a concentrated market to a moderate concentrated market, with exception of 2015.

*Compulsory insurance:* The minimum and the maximum values of CR4 ratio are respectively 51 percent and 68 percent - the compulsory insurance market is characterized during all the period as a moderate concentrated insurance market, with exception of the last year.

*Voluntary insurance:* The minimum and the maximum values of CR4 ratio are respectively 71 percent and 81 percent - the voluntary insurance market results as a concentrated market.

*Motor insurance:* The minimum and the maximum values of CR4 ratio are respectively 59 percent and 75 percent - the motor insurance market results as a concentrated market.

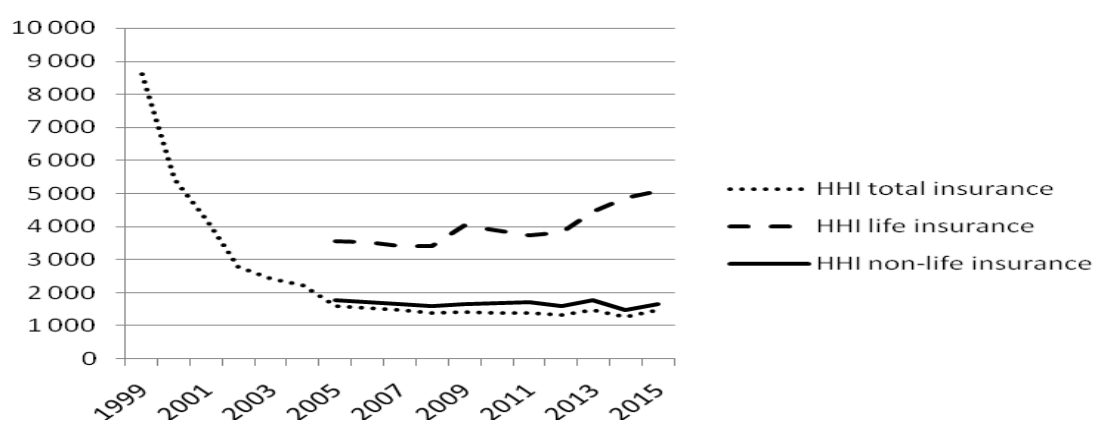
*Property insurance:* The minimum and the maximum values of CR4 ratio are respectively 73 percent and 90 percent - the property insurance market results as a concentrated market.

*Accident and health insurance:* The minimum and the maximum values of CR4 ratio are respectively 60 percent and 97 percent - the motor insurance market results as concentrated market, even in some years (as 2013) it has shown the characteristic of high concentrated market.

## Herfindahl-Hirschman index

As the CR ratios, HHI index is calculated considering the whole insurance market, life and non-life insurance activity, voluntary and compulsory insurance, and three classes of non-life insurance.

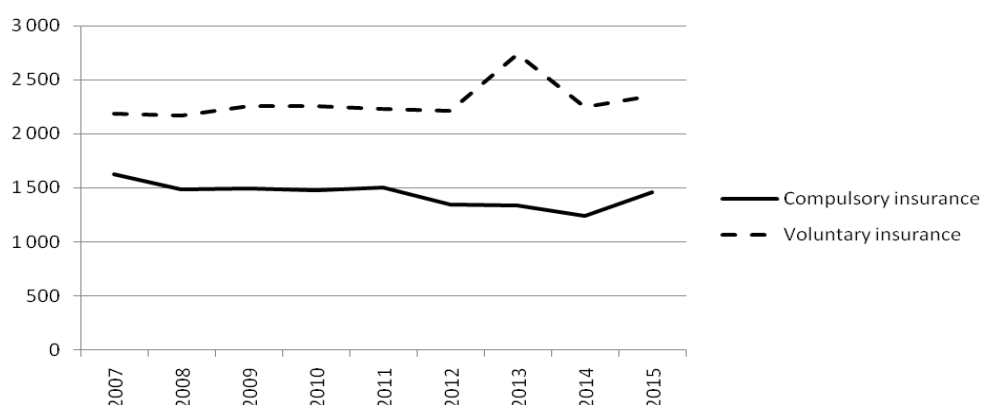
**Fig. 4 HHI index - total, life and non-life insurance**



Source: Author's calculations

Figure 4 shows the progress of the HHI index. Until 1999, insurance market in Albania has been characterized by the state monopoly. From 1999 to 2005, HHI index significantly declines. From 2005, it has been more stable: it has been ranged between the values 1265 (2014) and 1598 (2005). As non-life insurance market constitutes 90 percent of the whole insurance market, the oscillation of non-life insurance HHI index is almost the same as the oscillation of HHI index for the whole insurance market. Regarding the HHI for life insurance activity, it is more than twice as large as the HHI index for non-life insurance. Also, contrary to the non-life index, the life insurance HHI index has been increasing, with a value of 5,067 in 2015. 3 shows the progress of CR4 ratio for the main non-life insurance classes. Regarding the motor insurance and property insurance, the ratio has been slightly declined, except two last years.

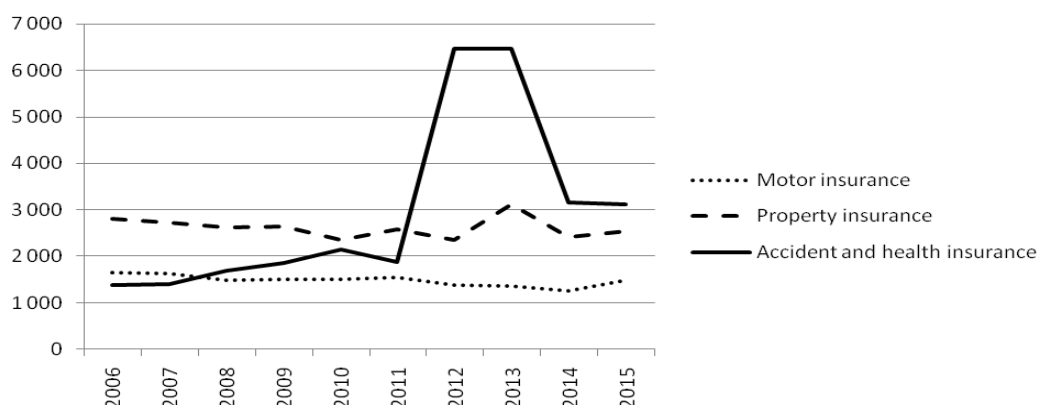
**Fig. 5 HHI index - compulsory and voluntary insurance**



Source: Author's calculations

Figure 5 shows the progress of HHI index calculated apart for the compulsory insurance and apart for the voluntary insurance. As the Figure 5 indicates, the concentration of the compulsory insurance market is obviously lower than the concentration of the voluntary insurance market. At the same time, the HHI index for the compulsory insurance market has been slightly decreased, while the HHI index for the voluntary insurance market has been slightly increased, with a large break in 2013.

**Fig. 6 HHI index - selected non-life insurance classes**



Source: Author's calculations

Figure 6 shows the progress of HHI index for each of the main classes of non-life insurance activity. HHI index has been slightly fluctuated for motor and property insurance classes. While HHI index calculated for accident and health insurance class has been gradually increased until 2011. After 2011 it has been rapidly increased, exceeding the HHI index for motor and property insurance classes. In 2014 and 2015, it has been decreased, but it has remained higher than the index of property and motor insurance classes.

Based on the classification shown in Table 2 and referring to the HHI index values, the concentration of insurance market in Albania during the period 2006-2015, is presented as follows:

*Total insurance market:* The minimum and the maximum values of HHI index are respectively 1,265 (in 2014) and 1,525 (in 2006). Up to 1998, the structure of insurance market was of monopoly type. From 1999 to 2002, the insurance market has the



characteristics of high concentrated market, and from 2005, it is characterized as moderate concentrated market.

*Life insurance activity:* The minimum and the maximum values of HHI index are respectively 3,411 (2007) and 5.067 (2015) - the life insurance market results as a high concentrated market.

*Non-life insurance activity:* The minimum and the maximum values of HHI index are respectively 1,477 (2014) and 1,783 (2013) - the non-life insurance market is characterized as a moderate concentrated market.

*Compulsory insurance:* The minimum and the maximum values of HHI index are respectively 1,244 (2014) and 1,627 (2007) - the compulsory insurance market is characterized as a moderate concentrated market.

*Voluntary insurance:* The minimum and the maximum values of HHI index are respectively 2,168 (2008) and 2,354 (2015) - the voluntary insurance market is mainly characterized as a concentrated market, with exception in 2013, when it is characterized as a high concentrated market.

*Motor insurance:* The minimum and the maximum values of HHI index are respectively 1,260 (2014) and 1,643 (2006) - the motor insurance market is characterized as a moderate concentrated market.

*Property insurance:* The minimum and the maximum values of HHI index are respectively 2,356 (2012) and 3,177 (2013) - the property insurance market is characterized as a high concentrated market.

*Accident and health insurance:* The minimum and the maximum values of HHI index are respectively 1,381 (2006) and 6,470 (2013). Initially, the health insurance market has the characteristics of moderate concentrated market or almost concentrated market. After 2011, it has been characterized as a high concentrated market, recording the highest value in 2013.

## **Conclusions**

In general, the structure of insurance market in Albania has been changed from the state monopoly (until 1999) to oligopoly (up to 2002) and then to monopolistic competition (during the last decade). However, the competition degree varies within the classes and activities of insurance market.

Among life and non-life insurance, the life insurance activity is more concentrated than non-life insurance market, due to the small number of insurance companies operating in life insurance market. Only three companies, out of ten (one is a composite company), provide life insurance in Albania. In 2015, life insurance activity constituted about 7.3 percent of the total insurance activity (the gross written premium in all insurance classes was more than Euro 100 billion). Life insurance activity is provided on voluntary basis. It is underdeveloped due to the low level of personal incomes. The insurance products are still considered as luxury products for Albanian people. As the insurance operators have to wait a long time for a profit in this segment of insurance activity, life insurance seems to be not very attractive to the Albanian business companies. It explains the small number of companies operating in life insurance activity.

Among compulsory and voluntary insurance, the voluntary insurance market is more concentrated than compulsory insurance market. In 2015, the premiums written in compulsory insurance classes constituted about 60 percent of the total insurance premiums. Such distribution of premiums indicates the low level of insurance culture of Albanian people. Due to the communism inheritance, they still are waiting from the state to satisfy their needs in case of disasters.

Among the classes of non-life insurance, the most concentrated market is health insurance, followed by property insurance. Health insurance market is still underdeveloped. In 2015, the premiums written by health insurance class amounted to 5.5 percent of gross premiums written in all the classes of insurance. The non-development of this class of insurance is related to the reform in the social system reform and the low level of insurance culture of Albanian people. All the insurance companies, operating in non-life insurance market, provide health insurance, but only two of them have collected about 76 percent of total premiums written in 2015. In 2006, there were eight insurance companies providing health insurance activity and premiums were distributed more equally between them - the largest company shared about 22 percent of the market, in respect to the written premiums. Eight years later, the share of the largest company became 53 percent. The concentration in the health insurance market is increasing.

Motor insurance market is less concentrated - its structure is of monopolistic competition type. The motor insurance is the most developed insurance activity in Albania. In 2015, the premiums written in motor insurance class accounted about 64 percent of total insurance premiums. All the insurance companies are licensed to issue the motor insurance policies, as this class of insurance is considered to be the most payable insurance class. The concentration in motor insurance market is slightly increasing over years. The liberalization of the premium of this market in 2015, seem to be premature, as the proper infrastructure in the insurance market has not been established yet.

Analyzing the past tendency of CR ratios and HHI indexes, the concentration for some insurance activities has been increased, especially during the last years. As the literature suggests, the mergers and buying of operators, increase the market concentration. In 2015, the number of non-life insurance companies is reduced from nine to eight, resulting in a less competitive insurance market. The competition in the insurance market may drive the premium in both directions: in high concentrated insurance market, the premiums may be highly increased, and in low concentrated market, but not well supervised, the premiums may decline, risking the bankruptcy of the insurance companies. The insurance market in Albania has experienced declines and increases of the premium rates as well. The ensuring of a honest competition in the insurance market, offering qualitative products with affordable prices for consumers and adequate prices for insurers, is an obligation of the respective supervision authority.

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