HOW AFFECTED WAS WORLD INSURANCE MARKET BY GLOBAL CRISIS?

ANA PREDA, MIRELA MONEA^{*}

ABSTRACT: Global economic and financial crisis triggered in 2008 had a significant impact with effects in economical life worldwide. Insurance industry wasn't spared but was less affected than other sectors of the world economy. The aim of the present paper is to underline the main crisis effects on global insurance market through a comparative study between different regions from the world, taking into consideration the main indicators which give us an insurance market dimension, such as: gross premium volume, insurance density and insurance penetration.

KEY WORDS: *insurance market, financial crisis, gross premium written, insurance density, insurance penetration rate.*

JEL CLASSIFICATION: G01, G14, G22.

1. INTRODUCTION

Everybody sells today, there is a world where it takes more than communication and persuasion, and it is the world of insurance. In the world of insurance the employee is in the centre of attention, professionally trained in sales and management, selling intangible products based on the needs of the clients.

"To many the burst of the global crisis has come up as a surprise, wondering how this severe global credit crisis could happen, how seriously and long lasting it would be and what implications were to come in the future for the financial industry and the world economy" (Jungmann & Sagemann, 2011).

Crises may result from recessions rather than or in addition to causing them. In other words, the entire fall in output may not be properly attributable to the crisis. Similarly, crises may be more likely following periods of unsustainably rapid

^{*} Ph.D. Student, University of Craiova, Romania, <u>ana_preda79@yahoo.com</u>

Assoc. Prof., Ph.D., University of Petrosani, Romania, moneamirela@gmail.com

economic growth; in this case, simply taking the difference between growth rates before and after the event will exaggerate its effects (Lomborg, 2004).

The financial crisis might make us more responsible for the financial protection, being aware of the necessity and importance of personal actions in order to insure our financial future, changing our perspective on savings, making us understand that no one will insure financial protection to the loved ones or a greater pension than ourselves. We go through a financial crisis, not the first and possibly not the last, either, but we must ensure that, as far as possible, we go in the direction we want.

It is very difficult for the insurance companies today to maintain their clients. In order to obtain the clients' loyalty, they should become more popular, should win the customers' trust, since this is essential especially in life insurance, where the duration of the policyholder - insurer relationship is longer. We believe that present client of an insurance company might attract or repel future clients, their previous experiences are very relevant for the expected level of quality, the insurance companies should offer a higher level of quality than the minimum expected by the client, which I believe is very difficult to achieve by insurers in times of financial crisis.

The private insurance market provides coverage that is not available from the government markets, and it is not bound by the diplomatic policy of any one nation (Cook, 2007).

We believe that only in conditions of developing complex strategies of knowing the clients, segmenting the basis of clients on various criteria, adapting the offered products to the needs of the clients, the companies might increase their sales. On a long term, insurances will be affected by the prolonged crisis that will affect the customer's attitude; financial education is still low in many countries, as well as the degree of understanding the new products, such as the unit-linked ones. The companies that will sell guaranteed life insurances, that is policies where the investment risk is assumed by the insurer, and the profit obtained is shared with the customer, will win in the future, In times of crisis, life insurance with significant protection components are required, or else they will not be bought.

In the following year consumers will be reoriented towards products with protection components, giving up, at least for a while, the products with high investment part. We also believe that insurers will have to focus on products with significant differences between them, since these differences will determine the client to choose more easily. Slightly different products are not of interest, analyzing small detail takes time. Therefore, from a strategic point of view, insurers should develop a limited range of products, but with significant differences between them.

One of the most important features characterizing the development of the world insurance system at present is globalization of world insurance market, which is manifest by a gradual liquidation of economic and legislative barriers separating the insurance markets of certain states. An other characteristic of the international insurance market is the existence of an important number of insurance companies operating in various organizational-legal forms, concentration of enormous capital and assets, an extremely large range of operations and insurance products offered, a developed legislation regarding the field of insurance and a viable state surveillance

system, diverse associations and unions of insurers and policyholders, a well developed system of intermediaries, consulting and rating firms.

The current global financial crisis is the worst the world has seen since the Great Depression during 1929-33. The severe worldwide recession - which in most countries began to show up in 2008 - was triggered by the housing bubble in the USA (Jungmann & Sagemann, 2011).

The effects are visible, enveloping and with major consequences in economic field and in economic politics, and has social and cultural dimension.

2. INSURANCE MARKET ANALYSIS THROUGH GROSS WRITTEN PREMIUM BEFORE AND AFTER FINANCIAL CRISIS TRIGGER

The situation of the main markets from the world, before the financial crisis through the first indicator taken into consideration - gross written premium is presented in Table 1 (total gross written premium), and Table 2 (gross written premim from life and non-life insurance).

Region	Total g	Total gross written premium				
Kegion	2005	2006	2007			
AMERICA	1246641	1329729	1417463			
EUROPE	1335057	1484881	1680693			
ASIA	765221	800819	840601			
AFRICA	42718	49667	53294			
OCEANIA	56190	58316	68818			
World	3445827	3723412	4060869			

Table 1. Total gross written premium before the start of the financial crisis (Millions of USD)

Source: Annual Reports Swiss Re: Swiss Re,Sigma Nr. 5/2006, Swiss Re,Sigma Nr. 4/2007, Swiss Re,Sigma Nr. 3/2008

Table 2. Gross written premium from life and non-life insurance before the start of the
financial crisis (Millions of USD)

Region	Gross wri	oss written premium from life insurance			Gross written premium from non- life insurance		
	2005	2006	2007	2005	2006	2007	
AMERICA	556121	601784	659759	690520	727945	757703	
EUROPE	812226	940586	1035942	522830	544295	644751	
ASIA	578567	602266	623469	186644	198553	217132	
AFRICA	29676	35468	38111	13042	14200	15183	
OCEANIA	26968	29214	35807	29222	29102	33011	
World	2003558	2209318	2393088	1442258	1514095	1667780	

Source: Annual Reports Swiss Re: Swiss Re, Sigma Nr. 5/2006, Swiss Re, Sigma Nr. 4/2007, Swiss Re, Sigma Nr. 3/2008

The authority of Europe is to be noticed over all the other areas, including America and Asia. The most significant increase is seen in life insurance that evolved faster than the others, they representing 59% in the total of premiums collected worldwide in the year 2007. In Africa and Oceania a low level of premiums are seen compared to other areas, as well as a slow rate of development in the analyzed period.

Trends in world insurance market by region under the influence of the financial crisis are presented in Table no. 3 (total gross written premium), and Table 4 (gross written premium from life and non-life insurance).

Degion	Tota	Total gross written premium				
Region	2008	2009	2010			
AMERICA	1450749	1349495	1409530			
EUROPE	1753200	1610620	1620437			
ASIA	933358	989451	1161118			
AFRICA	54713	49287	66719			
OCEANIA	77716	67241	81160			
World	4269736	4066094	4338964			

Table 3. Gross written premium after the start of the financial crisis (Millions of USD)

Source: Annual Reports Swiss Re: Swiss Re, Sigma Nr. 3/2009, Swiss Re, Sigma Nr. 2/2010, Swiss Re, Sigma Nr. 2/2011,

Table 4. Gross written premium from life and non-life insurance after the start of the financial crisis (Millions of USD)

Region	Gross written in	n premium surance	from life	Gross written premium from non- life insurance		
	2008	2009	2010	2008	2009	2010
AMERICA	666.954	579.626	612.349	783.795	769.869	797.181
EUROPE	1.050.815	953.515	965.661	702.385	657.105	654.776
ASIA	690.951	732.267	855.370	242.407	257.184	305.748
AFRICA	37.866	32.564	47.244	16.847	16.723	19.475
OCEANIA	43.835	33.594	39.448	33.881	33.647	41.712
World	2.490.421	2.331.566	2.520.072	1.779.315	1.734.528	1.818.892

Source: Annual Reports Swiss Re: Swiss Re, Sigma Nr. 3/2009, Swiss Re, Sigma Nr. 2/2010, Swiss Re, Sigma Nr. 2/2011,

Europe remains the largest insurance market from the world that still dictates the world insurance trends, followed by America, Asia, Oceania and Africa.

Crisis has undermined the stability of the Euro zone and the overall EU and indeed marks the historical shock to which policy makers so far hardly find adequate responses – understanding the role of banks, financial market integration and the overall EU single market developments is required as is the understanding of global international financial markets (Welfens & Cillian, 2011).

Most affected by financial crisis was the year of 2009, when it is notice a decrease of gross premium written in all regions, with an exception in case of Asia, where in the entire period of analysis the premium increased continuously, both from life and non-life insurance. Worldwide the total premium volume decreased in the year of 2009 with 4.77% comparatively with the previous year, most in life insurance (almost a decrease of premiums with 6.38%). In 2010 it is notice a slightly recovering being recording an increase of total premium volume of 6.29% compared with 2009, and in life insurance with 7.48%. In Europe total premium volume decreased in 2009 with 8.13% compared with 2008, and in life insurance was a decrease of 9.26%. In 2010 European insurance market records an increase of premium volume of 0.6%, a little much from life insurance of 1.26%.

On America's insurance market gross premium volume decreased in 2009 with 6.98% compared with 2008, and the premium from life insurance decreased with 13.09%. The trends changed in 2010 when it is notice an increase with 4.25% of gross premium volume from total insurance activity, and with 5.34% from life insurance. In Africa and Oceania recorded decline in total premium volume in 2009 with 9.91% and 13.47%, and than in 2010 recorded an accelerated increase of 26.12% and 17.15%.

Region	Total gross written premium		Gross written premium from life insurance		Gross written premium from non- life insurance	
	2011	2012	2011	2012	2011	2012
AMERICA	1480164	1562153	654935	691372	825230	870781
EUROPA	1650866	1535176	937168	876444	713699	658732
ASIA	1298139	1346223	941958	957712	356180	388511
AFRICA	68080	71891	46297	49888	21782	22002
OCEANIA	99438	97071	46810	45448	52628	51624
World	4596687	4612514	2627168	2620864	1969519	1991650

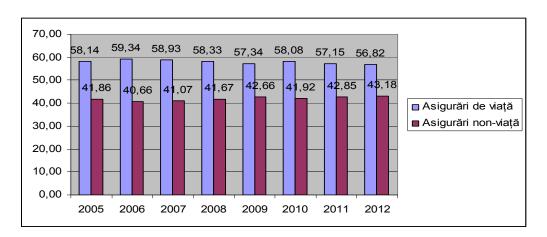
 Table 5. Gross written premium from life and non-life insurance post crisis

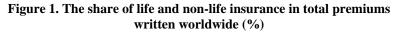
 (Millions of USD)

Source: Annual Reports Swiss Re: Swiss Re, Sigma Nr. 3/2012, Swiss Re, Sigma Nr 3/2013

We analyzed international insurance market before the start of the financial crisis, during the crisis and the period post crisis, until present time through the total gross written premium and gross written premium from life and non-life insurance, and the conclusion is that at the present time, the gross written premium from life insurance represent 56%-58% from total gross written premium worldwide.

The share of life and non-life insurance in total premiums written worldwide is presented in Figure 1.





3. COMPARATIVE STUDY ON INSURANCE DENSITY

In addition to gross premium written for dimensioning insurance market it was used another indicator, insurance density. Insurance density is defined as the ratio of premium to total population (or insurance premiums in US\$ per capita).

It was analyzed insurance density on global level before the beginning of the financial crisis and after financial crisis trigger, on main world region.

	2005		20	06	2007	
Region	Insurance density (from life insurance)	Insurance density (total business insurance)	Insurance density (from life insurance)	Insurance density (total business insurance)	Insurance density (from life insurance)	Insurance density (total business insurance)
North America	1686.3	3735.1	1731.8	3804.0	1869.3	3984.8
Latin America and Caraibe	42.0	105.7	51.3	126.7	63.1	154.1
Europe	911.8	1513.8	1119.6	1745.7	1222.6	1962.4
Asia	149.6	197.9	154.6	205.0	156.7	210.7
Oceania	885.0	1786.3	896.3	1787.3	1071.4	2059.5
Africa	30.7	44.2	38.3	53.6	39.6	55.3
World	299.5	518.5	330.6	554.8	358.1	607.7

Table 6. Insurance density by regions before the beginning of the financial crisis
(USD/inhabitant)

Source: Annual Reports Swiss Re: Swiss Re,Sigma Nr. 5/2006, Swiss Re,Sigma Nr. 4/2007, Swiss Re,Sigma Nr. 3/2008

196

	20	08	20	09	20	10
Region	Insurance density (from life insurance)	Insurance density (total business insurance)	Insurance density (from life insurance)	Insurance density (total business insurance)	Insurance density (from life insurance)	Insurance density (total business insurance)
North America	18855.6	3988.8	1572.8	3634.5	1620.9	3724.4
Latin America and Caraibe	68.5	175.8	75.6	192.2	93.5	219.1
Europa	1244.1	2043.9	1111	1861.5	1110.6	1850.2
Asia	173.9	243.3	180.3	243.1	208.1	281.5
Oceania	1281.5	2271.9	930.7	1862.9	1109.7	2283.1
Africa	38.4	55.6	32.3	48.8	45.8	64.7
World	369.7	633.9	341.2	595.1	364.3	627.3

Table 7. Insurance density by regions after the beginning of the financial crisis (USD/inhabitant)

Source: Annual Reports Swiss Re: Swiss Re,Sigma Nr.3/2009, Swiss Re,Sigma Nr. 2/2010, Swiss Re,Sigma Nr. 2/2011

Table 8. Insurance density by regions post crisis (USD/inhabitant)

	20	11	2012		
Region	Insurance density (from life insurance) Insurance business insurance)		Insurance density (from life insurance)	Insurance density (total business insurance)	
North America	1697	3815	1776.8	3996.3	
Latin America	110	261	120	281.9	
and Caraibe					
Europa	1083	1886	996	1724.4	
Asia	229	314	229.8	321.7	
Oceania	1299	2759	1245.5	2645	
Africa	44	65	46.7	67.5	
World	378	661	372.6	655.7	

Source: Annual Reports Swiss Re: Swiss Re, Sigma Nr. 3/2012, Swiss Re, Sigma Nr 3/2013

For life insurance, in the year of 2008, on world level to purchase a life insurance policy an inhabitant paid an average of 369.7 US dollars, and in 2009 and 2010 the average amount decrease at 341.2 US dollars and 364.3 US dollars. The trends registered were similarly in case of the insurance density from total business insurance. The largest amounts for a life insurance policy have been paid by inhabitants of North America, almost 18855.6 US dollars/inhabitant. The year of 2009 is a year in which it recorded a decrease of insurance density in all regions of the world, a worldwide an inhabitant pays for purchasing a life insurance on average of

341.2 US dollars, and in case of total business insurance(life + non-life) an average of 595.1 US dollars. During 2010, insurance density worldwide increased by 6.34% compared with the previous year, and in Europe it was registered the smallest increase by 0.03%.

It is also observed that this situation is different from the period before the economic and financial crisis began, so during 2005-2007 it was recorded a increasing worldwide insurance density, from 518.5 US dollars/inhabitant in 2005, to 554.8 US dollars/inhabitant in 2006 and 607.7 US dollars/inhabitant in 2007 (in case of total business insurance). For purchasing a life insurance in the period 2005-2007, an inhabitant worldwide paid an average of 299.5 US dollars in 2005, increasing at 341.2 US dollars in 2006 and 358.1 US dollars in 2007.

In 2011 insurance density increased of 661 US dollars in case of total business insurance and at 378 US dollars in case of life insurance, and in the last year of the analyzed period is registered an decreasing level, being of 655.7 US dollars from total business and of 372.6 US dollars from life insurance.

At the beginning of the financial crisis in countries with emerging economy the insurance density was over 40 times less than in developed countries.

4. EFEECTS OF THE FINANCIAL CRISIS ON INSURANCE PENETRATION

Another indicator analysed in the comparative study is insurance penetration rate. Insurance penetration is measured as annual insurance premiums in US dollars as a percentage of gross written premiums in gross domestic product.

$$G = \frac{GWP}{GDP} \ge 100 \tag{1}$$

where:

G - insurance penetration degree;

GWP – gross written premiums;

GDP – gross domestic product.

In Table 9 it is presented the evolution of the insurance penetration from the main regions worldwide before the beginning of the economic and financial crisis.

Also in Table 10 is presented the evolution of the insurance penetration from the main regions worldwide after the start and under economic and financial crisis effects.

In terms of insurance penetration rate the data from table 9 shows no changes in the period between 2005 and 2007, so the percentage of gross written premiums in gross domestic product being similar, about 7.5% in case of total business insurance and about 4.3%-4.5% in case of life insurance.

The data from table 10 shows the decrease trends worldwide from 7.52% in 2005 to 6.9% in 2010. The trend is similar in case of insurance penetration rate from life insurance; it was 4.34% in 2005 and decrease to 4.0% in 2010.

In 2010 the highest insurance penetration (from total business insurance) is registered in North America, equal to 7.8%, followed by Europe with 7.5% and Asia with a rate of 6.2%.

Analyzing the insurance penetration from life insurance in 2010 the highest insurance penetration is registered in Europe equal to 4.5%, followed by Asia and North America (3.4%).

Tabel 9. Insurance penetration by regions before the beginning of the financial crisis (% in GDP)

	20	05	20	06	20	07
Region	Insurance penetration (from life insurance)	Insurance penetration (total business insurance)	Insurance penetration (from life insurance)	Insurance penetration (total business insurance)	Insurance penetration (from life insurance)	Insurance penetration (total business insurance)
North	4.05	8.97	3.9	8.7	4.1	8.7
America						
Latin	0.93	2.35	1.0	2.4	1.0	2.5
America /						
Caraibe						
Europa	4.69	7.78	5.3	8.3	5.0	8.0
Asia	5.16	6.83	5.0	6.6	4.6	6.2
Oceania	3.16	6.38	3.4	6.7	3.4	6.6
Africa	3.33	4.80	3.4	4.8	3.1	4.3
World	4.34	7.52	4.5	7.5	4.41	7.49

Source: Annual Reports Swiss Re: Swiss Re, Sigma Nr. 5/2006, Swiss Re, Sigma Nr. 4/2007, Swiss Re, Sigma Nr. 3/2008

Table 10. Insurance penetration by regions after the beginning of the financial crisis (% in GDP)

2008		20	09	2010	
Insurance penetration (from life insurance)	Insurance penetration (total business insurance)	Insurance penetration (from life insurance)	Insurance penetration (total business insurance)	Insurance penetration (from life insurance)	Insurance penetration (total business insurance)
4.0	8.5	3.4	7.9	3.4	7.8
1.0	2.5	1.1	2.8	1.1	2.7
4.5	7.5	4.5	7.6	4.5	7.5
4.4	6.0	4.5	6.1	4.5	6.2
4.0	7.0	3.1	6.2	2.8	5.8
2.5	3.6	2.2	3.3	2.7	3.9
4.1	7.1	4.0	7.0	4.0	6.9
	Insurance penetration (from life insurance) 4.0 1.0 4.5 4.4 4.0 2.5	Insurance penetration (from life insurance)Insurance penetration (total business insurance)4.08.51.02.54.46.04.46.04.07.02.53.64.17.1	Insurance penetration (from life insurance)Insurance penetration (total business insurance)Insurance penetration (from life insurance)4.08.53.41.02.51.14.57.54.54.46.04.54.07.03.12.53.62.24.17.14.0	Insurance penetration (from life insurance)Insurance penetration (total business insurance)Insurance penetration (from life insurance)Insurance penetration (total business insurance)4.08.53.47.91.02.51.12.84.57.54.57.64.46.04.56.14.07.03.16.22.53.62.23.34.17.14.07.0	Insurance penetration (from life insurance)Insurance penetration (total business insurance)Insurance penetration (from life insurance)Insurance penetration (total business insurance)4.08.53.47.93.41.02.51.12.81.14.57.54.57.64.54.46.04.56.14.54.07.03.16.22.82.53.62.23.32.74.17.14.07.04.0

Source: Annual Reports Swiss Re: Swiss Re,Sigma Nr.3/2009, Swiss Re,Sigma Nr. 2/2010, Swiss Re,Sigma Nr. 2/2011

In the last 2 years 2011, 2012 the value of the insurance penetration degree registered a decrease at 3,8% in 2011 and 3,7% in 2012 (from life insurance), and at 6,6% - 6,5% (in case of total business insurance). The values registered in the major regions of the world are presented in table 11.

	2011		2012	
Region	Insurance penetration (from life insurance)	Insurance penetration (total business insurance)	Insurance penetration (from life insurance)	Insurance penetration (total business insurance)
North America	3.5	7.9	3.6	8.0
Latin America and	1.2	2.8	1.3	3.0
Caraibe				
Europa	4.1	7.1	3.9	6.7
Asia	4.3	5.8	4.1	5.7
Oceania	2.8	5.9	2.6	5.6
Africa	2.5	3.6	2.5	3.7
World	3.8	6.6	3.7	6.5

Table 11. Insurance penetration by regions post crisis (% in GDP)

Source: Annual Reports Swiss Re: Swiss Re, Sigma Nr. 3/2012, Swiss Re, Sigma Nr 3/2013

5. CONCLUSIONS

Economic and financial crisis had direct and indirect effects on world insurance market. Among crisis direct effects the most significant was decrease of the populations incomes, and of course those available from insurance purposes, which leads to a significant insurance mitigation, most of unit-linked insurance contracts. In time of recession financial priorities changes, people use their financial resources for consume not for savings. The other effects consists in decrease of the stock price index, interest ratio variation, decrease of profits, earnings, and investments which affect more trends in life insurance than non-life one. These effects underline the relations between the financial system components and insurance activity. One of the first financial crisis impacts refers to reduction of the insurer undertakings solvability and assets value.

In the period of the study European continent was and still is the largest insurance market from the world through gross premium volume, being that market which dictate world insurance course, followed by America, Asia, Oceania and Africa. The year of 2009 was the most affected year by global crisis pointing out a decrease of gross premium volume with a single exception regarding trends from Asia. Global crisis effects were more visible on life insurance sector than non-life insurance.

For the economy of each country, the share of life insurance should be higher than that of other insurance forms, since it participates in the loan offer on the financial market by fructifying the reserves that are made in the form of investments in bank deposits, treasury bills, bonds, loans to the policyholders in the account of the sums insured for life insurance and other forms of investments. These reserves are invested depending on the possibilities of fructification, on the legal provisions regarding the level of liquidities that should be ensured and the ratio of investments in various types of assets.

At international level, the crisis had an impact on the international market of insurances in a different way, from one region to other, from one country to other. Referring to life insurance, the developed countries were less affected than the countries with emergent economy. Reducing the spending capacity of the clients correlated with reduction of profit in investments resulted in the decline of sales for all types of insurance at international level in the year 2009. In the year 2010 the volume of sales for all types of products has a slightly increasing tendency, which I believe will stay like that in the years to come as well.

The analysts believe that such a global crisis has never been before, and the steps to counteract it, the diminution of its effects and prevention in the future of a reappearance is difficult process involving cooperation at international level between governments and surveillance authorities. The regional or global solutions require time, long negotiations, and are meant to counteract the accentuation of economic protectionism and nationalism, obvious in all countries in the period of the beginning of the crisis. At present, at international level, from the data collected results that there are great discrepancies in covering through insurance, this varying from one country to other, hundreds of thousands of under insured individuals needing the financial protection offered by these products. Confronted with an increasing life expectation and with decreasing national reserves due to social-political and economic causes, especially product covering longevity risks are those sustaining increase in the states with advanced technology.

Meanwhile, there is a great deficiency in underinsuring in the emergent countries, which will be fructified in the future years by the insurers. The segment of life insurance experienced significant increase on emergent markets in Asia, but also on great European markets. In the USA and in Great Britain, the businesses of life insurers went down, but not very rapidly. Looking back to the year 2010, most of the insurance companies came back to the level before the crisis of the analyzed indicators. This favourable evolution is valid both for the insurers in countries with well developed economies, and in countries with developing economies. There are a series of risks of which the insurance industry should be permanently aware: possibility of new disturbances on the financial markets is one of those.

REFERENCES:

- [1]. Astor, B. (1999) CliffsNotes Understandind life insurance, IDG Books Worldwide, Inc., SUA
- [2]. Bhuyan, V. (2009) Life Markets, John Wiley & Sons, Canada
- [3]. Ciurel, V. (2011) Asigurări și reasigurări.O perspectivă globală, Editra Rentrop & Straton, București
- [4]. Cook T. (2007) Global Sourcing Logistics How to Manage Risk and Gain Competitive Advantage in a Worldwide Marketplace, American Management Association, SUA 2007
- [5]. Lomborg, B. (2004) Global Crises, Global Solutions, Cambridge University Press, New York

- [6]. Jungmann, J.; Sagemann, B. (2011) Financial Crisis in Eastern Europe Road to Recovery, Gabler Verlag, Germany
- [7]. Matei, Gh.; Preda, A. (2012) *Romanian insurance market- road to recovery after financial crisis*, Annals of the University of Petroşani, Economics, 12(3), pg. 147-158
- [8]. Person, R. (2010) The development of international insurance, Pickering & Chatto, London
- [9]. Preda, A. (2012) Considerations regarding EU Life Insurance Market, Annals of University of Craiova, Economic Sciences Series, Vol.3, Issues 40, pg. 128-133
- [10]. Zevnik, R. (2004) The complete book of insurance, Sphinx Publishing, USA
- [11]. Welfens, P.; Cillian, R. (2011) Financial Market Integration and Growth, Structural Change and Economic Dynamics in the European Union, Springer, Berlin
- [12]. Annual Reports, Swiss Re (2006) World Insurance in 2005, Moderate Premium Growth, Attractive Profitability, Sigma No 5/2006, Zurich, Switzerland
- [13]. Annual Reports Swiss Re (2007) World Insurance in 2006, Premiums Came Back to Life, Sigma No 4/2007, Zurich, Switzerland
- [14]. Annual Reports Swiss Re (2008) World Insurance in 2007, Emerging Markets Leading the Way, Sigma No 3/2008, Zurich, Switzerland
- [15]. Annual Reports Swiss Re (2009) World Insurance in 2008, Life Premiums Fall in the Industrialised Countries, Strong Growth in the Emerging Economies, Sigma No 3/2009, Zurich, Switzerland
- [16]. Annual Reports Swiss Re (2010) World Insurance in 2009, Premiums Dipped, but Industry Capital Improved, Sigma No 2/2010, Zurich, Switzerland
- [17]. Annual Reports Swiss Re (2011) World Insurance in 2010, Premiums Back to Growth Capital Increases, Sigma No 2/2011, Zurich, Switzerland
- [18]. Annual Reports Swiss Re (2012) World Insurance in 2011, Sigma Nr. 3/2012, Zurich, Switzerland
- [19]. Annual Reports Swiss Re (2013) World Insurance in 2012, Progressing on the Long and Winding Road to Recovery, Sigma Nr 3/2013, Zurich, Switzerland