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1 INTRODUCTION

Nowadays, reinsurance is one of the essential parts of almost any big and small insurance company in the world. The importance of it is already proven more than hundred years ago and is obviously connected to the big catastrophes or natural disasters. New political and economical circumstances, international terrorism, natural catastrophes all of the world and the existing world financial market are making the reinsurance one of the crucial elements in the modern economy.

Reinsurance is simply the insurance for the insurance company and it can be bought from several reinsurers at the same time. The reinsurer itself can have reinsurance and the company can be both reinsurer and primary insurer at the same moment.[1]

The biggest reinsurers today, operating globally, created the new level of reinsurance market, which involve all continents and regions all over the globe. One single catastrophic event in one part of the world can influence the whole market in absolutely different regions.

Although the main participants of global reinsurance market were historically established and functioning now in the industrialized countries of the Western world, the developing countries show the great achievement of prospering the industry and some of them are already participating on the global level.

Reinsurance is also an important business of world offshore centers and, as a result, its regulation on governmental and international level is a necessary for the whole financial system.

The first chapter of this paper will give a little information about the history of development of the reinsurance from Middle Ages till the modern times. It will be also discussed the main historical events that influenced the evolution of the reinsurance in the world and described the first established global reinsurers operating up to now.

For a better understanding of the topic, the second chapter will provide with the main definitions of reinsurance, its nature and list some of the most important functions and goals of it.

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[1] cf. Scor.com, [http://www.scor.com/en/the-group/about-reinsurance.html]

The third chapter will examine the main three types of reinsurance contracts existing today and show some examples of them. It will also be explained in what situation which of the type of the contract is used.

The forth chapter will give many detailed explanations of the main forms of reinsurance and some of their sub-forms with a comprehensive graphical description and modern examples. It will be analyzed under which circumstances the proportional and non-proportional reinsurance is used and it will also provide the illustration of financial reinsurance.

And finally, the last chapter will focus on the main subject of this thesis, examining the global reinsurance market today and its current trends. The world's biggest reinsurers and their business will be analyzed in detail. This chapter will also show us the top 40 reinsurers and their detailed business. The importance of reinsurance not only in Western world, but also in developing countries is also discussed in this paper with many examples of the leading countries in this industry.

2 BRIEF HISTORY OF REINSURANCE

Reinsurance, as many could believe, is not a new invention. The history of it already begins from the Middle Ages. In 1799 the British judge, Sir James Alan Park wrote in his treatise, that reinsurance is simply the contract where the first insurer wants to exempt himself from the high risks by sharing them with other underwriters, whom he called re-assurers.[2] But even earlier, in 1457, the word "to reinsure (rasichurare)" was mentioned for the first time in a maritime document in Florence, Italy.[3]

The tragedy in London in 1666, when the fire destroyed almost the whole city, gave the nudge for insurance and reinsurance to develop, because nobody at that time was using fire insurance.[4] This disaster caused a notable growth of insurance and reinsurance in Britain, which made this country to be leader of these industries in Europe. After some decades there were already many countries that had special laws about reinsurance, for instance Hamburg, Bilbao, Venice and Prussia.[5]

The fire industry caused the development of reinsurance industry not only in Britain. Contemporary reinsurance business was starting to flourish on the base of fire insurance, and because of that, the insurance companies were facing problems with the limited coverage and were trying to spread the risk not only with firms from their countries, but also internationally. The example of it was the German company, The Niederrheinische Gueterassekuranz-Gesellschaft, which tried to reinsure one-third of their insurance portfolio in 1842 with another company from France, but the negotiations failed.[6]

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[2] cf. Holland. (2009), 4
[3] cf. Holland. (2009), 11
[4] cf. Klein. (2001), [http://www.irmi.com/expert/articles/2001/klein06.aspx]
[5] cf. Holland. (2009), 13
[6] cf. Holland. (2009), 16

2.1 The development of Reinsurance in the 19th century

In 1846 the first professional reinsurance company in the world, Cologne Re, was created. Again, the big fire in Hamburg and the significant losses that the city suffered, was the main reason why it was founded.[7] After the Cologne Re, several independent reinsurance companies were also founded in Germany, like Frankfurter Re (1857), Magdeburger Re (1862) and others. By the year 1871 there had been already 13 reinsurers counted in Germany, and that caused a very serious competition, the result of which was that most of them were bankrupt by the year 1880.[8]

Not only Germany was prospering with reinsurance – the fire in Glarus in 1861 led to the opening of a new reinsurance company on the continent – Swiss Re, which was founded by Helvetia General Insurance, Basler Handelsbank and Credit Suisse. By that time a lot of contracts were signed with other countries, for instance, Italy, Austria, Belgium and Russia.[9]

One of the biggest reinsurance companies, working globally already from the beginning to nowadays, Munich Re, was created by Carl von Thieme already in 1880 after the unification of Germany. The company's target to be internationalized was based on the spreading risk by operating in different fields and locations. And the internationalization was seen as the main key of success of the Munich Re.[10]

The reinsurance system operated in Britain was used to develop the reinsurance market in the United States and already in 1837 the Supreme Court of New York made the use of reinsurance contracts legal. But they were not as important and successful as they were in Europe.[11]

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[7] cf. Morrison. (2012), [http://www.iclr.org/images/Morrison_cat_presentation_May_2012.pdf]
[8] cf. Holland. (2009), 18
[9] cf. Swiss Re. (2013), [http://www.swissre.com/about_us/established_1863/?syr=1860&eyr=1869]
[10] cf. Munich Re. [http://www.munichre.com/de/group/history/early_years.aspx]
[11] cf. Holland (2009), 18-19

2.2 20th century and recent history

In the 20th century the life reinsurance played a big role on the market, because of big catastrophes, which led to many casualties like Titanic (1912) and San Francisco Earthquake (1906). Life reinsurance in the United States of America was developing mainly with the cooperation of big European companies such as Munich Re and Cologne Re and also some Russian companies. The majority of shares of the First Reinsurance Company of Hartford was owned by Munich Re, making this company to be the main monopolist on the market. Only from 1910 till 1930 the US local companies started to make their own reinsurance business involving less foreign companies.[12]

During the World War I the reinsurance market in the world changed tremendously. There were two types of countries: supplying reinsurance and demanding reinsurance. Supplying countries were Switzerland, Austro-Hungary and, of course, Germany. As mentioned above, United States did not have strong reinsurance market by that time, in comparison with Germany, which counted 67 percent of the total reinsurance income all over the world. But after entering the war United States and other countries banned all the trade with Germany, and in order to meet the demand for reinsurance, they were trying to involve other countries that did not take part in the War, like Denmark or Switzerland. Interesting to note, that during the World War I, about 100 insurance and reinsurance companies were founded in Denmark, which were closed down after the war.[13]

Several independent reinsurance companies were created after or at the end the World War I, for instance the Reinsurance Life Company of America (1917), Connecticut General (1919) and Metropolitan Life Insurance Company (1919). The last company was also the world leader of life reinsurance in the world. In 1923 the Swiss Re created specially the North American Reassurance Company, which operated only in Canada and the United States.[14]

After the World War I, many other strong events affected the reinsurance market in the world. The Great Depression, hyperinflation as a consequence of war in Germany,

[12] cf. Holland (2009), 20-21
[13] cf. Holland (2009), 22
[14] cf. Holland (2009), 22-23

worldwide stock market crash and subsequently the World War II could not let stable not only the reinsurance market but also the whole world economy. The Second World War was also definitely a reason of cancellation of all trade contracts between countries, but it gave a big benefit to the reinsurance market of neutral countries – such as Switzerland, Spain and Portugal.[15]

The postwar times were very comfortable for the expanding reinsurance business, especially in life reinsurance, and in 1948 the Security Life of Denver (ING Re) penetrated the market, and also other numerous big reinsurance companies were created.[16] The 1970s were the shocking times of reinsurance development, when the US oil magnate, Eugene Mullendore was murdered. This person carried out policies with amount of $15 millions, and $14.9 millions were reinsured. The first reinsurer retroceded some amount to other companies, who subsequently ceded some risks. More than 100 reinsurers were included in this case, which was fully connected with mafia. Another black case was called "The Fraud of the Century", when Equity Funding in 1973, using their good reputation, in order to take high percent of the commission for reinsurance was trying to fraudulently create new businesses.[17]

During the 1970s and 1980s plenty of changed coinsurance transactions took place, which gave significant tax benefits to the reinsurance business owners, and as a result it involved more and more newcomers, especially in the field of life reinsurance.

Global reinsurance market had some transformations during 1990s, because these years were associated with the insolvency of the largest insurance companies in North America, like Mutual Benefit, Confederation Life and Executive Life, but the enlargement of life reinsurance was caused primarily because of launching new competitive products and preferred underwriting classifications. What is also very interesting to note, is that only in the 1990s the life reinsurance companies went offshore and plenty of M&A processes between European and American insurance and reinsurance companies took place.[18]

The reinsurance continued to grow in the 2000s and especially the year 2002 was a historic peak of its growing, but it was declining after 2002 mostly because the

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15 cf. Holland (2009), 23
16 cf. Holland (2008), http://www.marclife.com/research/pdf/reins-hist.pdf, 13
17 cf. Holland (2009), 24-25
18 cf. Holland (2009), 25

reinsurers concentrated themselves on return on equity and cost of capital. The mergers and acquisitions of reinsurance companies all over the world continued to appear even to a greater extent than before.[19]

Nowadays the reinsurers are facing many other problems, which did not exist before. International terrorism, disastrous earthquakes, hurricanes and other natural catastrophes are now the main reason why the reinsurance is still operating successfully. The reinsurance business is playing a great role in risk management throughout the world. Insurance and reinsurance companies today are linked to such issues like credit for reinsurance, economic capital, enterprise risk management and many others.[20] In the next chapters the modern history of global reinsurance will be also discussed with many examples in detail.

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[19] cf. Holland (2009), 26
[20] cf. Holland (2009), 27

3 THE DEFINITION OF REINSURANCE, ITS NATURE AND FUNCTION

Insurance companies offer today many risk financing services by combining plenty of similar risks. The underwriting potential although depends on many internal and external factors (e.g. market factors, regulation, underwriting activity and location of business). In order to enlarge the potential of underwriting and to maintain more organized risk portfolios, insurers use *reinsurance.* Reinsurance is simply the insurance bought by first insurers to cover their portfolio of risks using the special contract, which allows the first insurer to share its risk with other insurance company called *reinsurer* or *reinsurance company*.[21]

"*Reinsurance* is the shifting of part or all of the insurance originally written by one insurer to another insurer. The insurer that initially writes the business is called the ceding company. The insurer that accepts part or all of the insurance from the ceding company is called the reinsurer."[22] The size of insurance kept by the ceding company for its private account is called the retention limit. And on the contrary the size of insurance given to the reinsurance company is called a cession.[23]

With the help of reinsurance the whole industrial world is sharing risks with each other. If any catastrophe occurs in one part of the planet, it will definitely influence many other insurers and reinsurers on the other continents.[24] Reinsurance is essential for the successful functioning of insurance market globally. Buying reinsurance from numerous international reinsurers is not a rare procedure for a primary insurer. The reinsurers in order to gain better risk management also use reinsurance. This means, that the insurance firm can function both as primary insurer and reinsurer.[25] 90% of all reinsurance premiums in the world belong just to eight countries: Germany, Ireland, Bermuda, Switzerland, United Kingdom, Japan, United States and France.[26] The figure 1 below, provided by the NAIC (National Association of Insurance Commissioners) shows us the 10 largest reinsurers with respect to net premiums.

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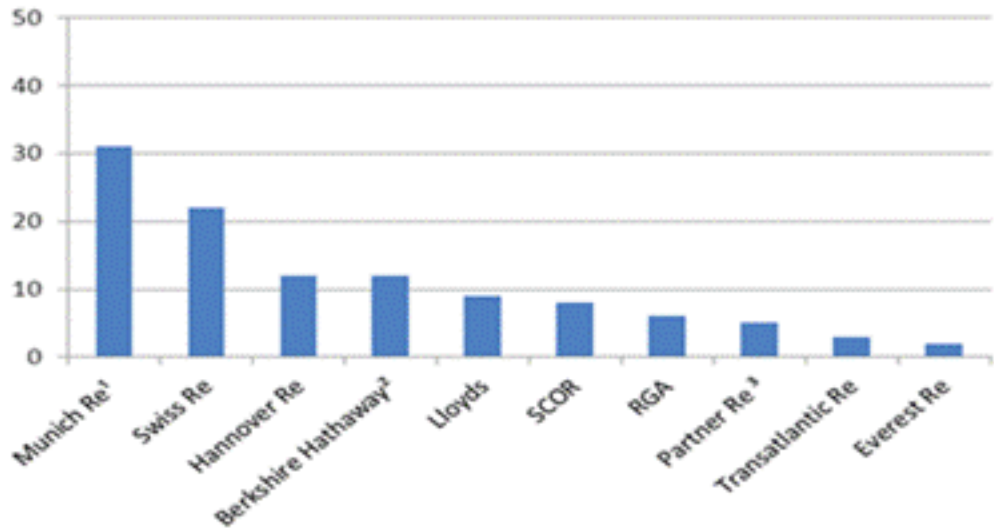
[21] cf. Skipper et. al. (2007), 597
[22] cf. Rejda. (2004), 593
[23] cf. Rejda. (2004), 593
[24] cf. Trieschmann et. al. (2004), 488
[25] cf. Skipper et. al. (2007), 598-599
[26] cf. Group of Thirty. (2006), 3

Figure 1: World's biggest reinsurance companies, 2009 (Net premiums, $ billion)



Source: NAIC's Capital Markets Bureau, *Investment Portfolios of Reinsurers within the U.S. Insurance Industry, (*http://www.naic.org/capital_markets_archive/120406.htm)

3.1 Types of Reinsurers

There are four main types of reinsurers on the market. *Professional reinsurer* is a specialized insurance firm that is writing only reinsurance and usually does not undertake risks as a primary insurer. But the primary insurer can have a *special department* inside the company that involves in reinsurance. *Reinsurance pools* are the group of both insurance and reinsurance companies that have an arrangement where all members jointly undertake risks of each other. The underwriting potential of pools is much higher than the potential of single reinsurer. Lastly, some *Lloyd's of London syndicates* can also conduct the reinsurance business.[27]

[27] cf. Skipper et. al. (2007), 600-601

3.2 Reinsurance Distribution Systems

The distribution of reinsurance is processed directly or by reinsurance brokers. If the reinsurance firms are supplying reinsurance to first insurers directly, they are called direct writing reinsurers. The larger part of reinsurance contracts are made by brokers, however the largest and safest reinsurers are making it without them.[28] On the other hand, the reinsurance broker is "a reinsurance intermediary who negotiates contracts of reinsurance between a reinsured and reinsurer on behalf of the reinsured, receiving commission for placement and other services rendered from the reinsurer."[29]

Reinsurance brokerage firms are simply the first insurers that want to conduct business with one or more reinsurers. With the help of reinsurance intermediary the global reinsurance market can be easily reached without difficulty that the insurer would face doing it alone. Depending on how the reinsurance contract is structured, the brokerage can put risk with many reinsurers at the same time.[30]

The profit of top 40 reinsurance brokers was more than $3 billion at the beginning of 21th century. The main reinsurance brokers in the world are also located in North America and Western Europe. In the last few decades the roles of brokers became significantly important due to the changing international market rules and conditions.[31] Thus, the reinsurance brokers can be very helpful and essential to the cedant and they are usually very skilled and high-experienced in conducting new business.[32]

3.3 Reasons for and Advantages of Reinsurance

There are many reasons why the insurance company wants to use the reinsurance and transfer some part of their business to another company. The main reasons why the reinsurance is used worldwide now are the willingness to enlarge underwriting capacity, reduction of the unearned premium reserve requirement, provision of protection against

[28] cf. Skipper et. al. (2007), 601
[29] cf. Guy Carpenter (2013), [http://www.guycarp.com/portal/extranet/utility/glossary_b.html?vid=1]
[30] cf. Group of Thirty (2006), 22
[31] cf. Group of Thirty. (2006), 23
[32] cf. Skipper et. al. (2007), 601

a catastrophic loss, stabilization of profits.[33] The most important reasons are described in detail below:

- **Enlarge underwriting capacity**

Reinsurance is often used to extend the insurer's underwriting capacity because every firm should have its liability for losses that is limited due to the size of the firm. The absence of reinsure will cause the company not accepting many types of risk. Reinsurance also allows the first insurer to issue a single policy more than its retention for the entire amount of insurance.[34]

- **Stabilize profits**

One of the most important advantages of using reinsurance is surely the stabilized profit and loss ratio. The companies try normally to have lower but stable level of profits, than to have unstable but higher one. But this does not mean, of course, that reinsurance always reduce profit levels. It just flattens the fluctuations on the market that always exist. And also the reinsurance does not always reduce premium volume, because many firms generally accept the business of other companies.[35]

- **Reduce the unearned premium reserve**

Reducing the unearned premium reserve is also a great advantage of reinsurance. It can be quite hard for new and small insurance companies to write large amounts of insurance because they are limited by the unearned premium reserve need. The *unearned premium reserve* is simply a part of liability on the balance sheet of insurance company that shows the unearned part of gross premiums on pending policies at a specific time. In other words, it can be seen like premiums paid in advance without protection. Over time, some portion of premiums is earned, but there is always unearned one. So, the potential to grow can be seriously restricted by this factor, because the

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[33] cf. Rejda. (2004), 593-594
[34] cf. Rejda. (2004), 594
[35] cf. Trieschmann et. al. (2004), 489

whole gross premium should be put in this unearned premium reserve, when the policy is made.[36]

Reinsurance decreases the amount of the unearned premium reserve and provisionally enlarges the surplus position of an insurance company. Afterward, the ratio of policyholders' surplus to net written premiums is ameliorated, and allows the primary insurer to remain growing.[37]

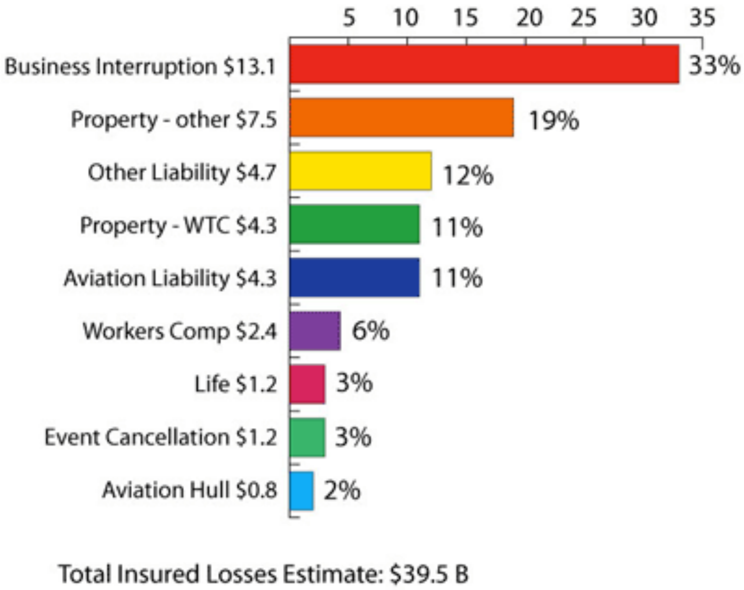
- **Provide protection against a catastrophic loss**

Insurance companies can often come across many catastrophes as a result of natural disasters, terrorist attacks, explosions and other undesirable events. Reinsurance can supply significant protection to the primary insurer that suffers a catastrophic loss by covering some part or all of the losses up to some defined limit.[38]

The example of terrorist attack 9/11 can undoubtedly show us the impact of reinsurance on the whole insurance industry. This tragedy resulted the loss of many lives and property destruction and was the biggest catastrophe ever happened for the insurance companies in the US. Reinsurance companies covered almost half of all losses in 2001. Thus, they were starting to raise the premiums rapidly that narrowed the whole reinsurance market in the United States. Subsequently, the Congress passed the Terrorism Risk Insurance Act, which created a special reinsurance program that provided a federal help for insurance companies.[39] The figure 2 below shows the influence of losses on different types of insurance:

[36] cf. Rejda. (2004), 594
[37] cf. Rejda. (2004), 594
[38] cf. Rejda. (2004), 594
[39] cf. Rejda. (2004), 595

Figure 2: 9/11 Industry Loss Estimates ($ billion)



Source: Insurance Journal (2009), *9/11 and Insurance: The eight Year Anniversary, (http://www.insurancejournal.com/news/national/2009/09/11/103694.htm).*

- **Retiring from Underwriting**

Because of reinsurance, the liabilities for prevailing insurance may be transferred while coverage of policyholders can stay unperturbed. For instance, if an insurance company wants to retire the life insurance and stop underwriting it, it can do so with the help of reinsurance. It is important to note that life insurance policy cannot be annulled which means that the policyholder still has its protection. And, if there were no reinsurance, it would be unachievable for an insurer to get rid of the fulfilling its obligations to the life insurance coverage.[40]

[40] cf. Trieschmann et. al. (2004), 489

4 TYPES AND NATURE OF REINSURANCE CONTRACTS

Reinsurance contracts existing today are very different and cannot be usually made uniform between all parties. Divergent market rules and legislation in different parts of the world do not let us strictly categorize them. Nevertheless, the reinsurance contracts may be sorted as being treaty, facultative or facultative-obligatory (fac-oblig).[41]

4.1 Facultative reinsurance

In facultative reinsurance the primary insurer has an independent agreement for each policy it wants to reinsure. The reinsurance company holds the "faculty" to undertake or not the specific insurance policy from primary insurer and the primary insurer decides which policies to retain. Every specific policy can have its own different reinsurance agreements, and terms and conditions can vary from each other. Usually, the facultative reinsurance is prevalent in large, uncommon, catastrophe risks. It requires plenty of resources from reinsurer to undertake those risks cautiously.[42]

The facultative reinsurance can be used also when the risk undertaken is greater than the underwriting maximum of primary insurer, therefore making it possible for a ceding company to undertake it. Another important reason for using facultative reinsurance is that it can fill gaps in compensation by having different types of policies. Furthermore, the reinsurer can be involved in facultative reinsurance because of the willingness of being present on market in the short term. This can help the reinsurer to reduce the risks and benefit from advantageous rates.[43]

Facultative reinsurance certificates are habitually very short and simple documents. At the beginning of the contract the parties, the policyholder and the policy number are determined, then the type of reinsurance and the premium, notice of loss, net retention, cancellation, insolvency etc. is written. Typically, facultative certificates do not take into consideration an arbitration provision.[44]

However the facultative reinsurance has some weaknesses. It is not very easy for primary insurer to find the right reinsurer quickly, which can lead to high administrative

[41] cf. Skipper et. al. (2007), 602
[42] cf. Raim et. al. (2007), 16
[43] cf. Raim et. al. (2007), 16
[44] cf. Raim et. al. (2007), 17

costs or little commission. It is also necessary to reveal the important information for insurer about itself to all parties with whom it wishes to make a reinsurance agreement. All this can lead to greater premium discharges for an insurer when it decides to put risks using facultative reinsurance.[45]

4.2 Treaty reinsurance

"Treaty reinsurance means the primary insurer has agreed to cede insurance to the reinsurer, and the reinsurer has agreed to accept the business. All business that falls within the scope of the agreement is automatically reinsured according to the terms of the treaty"[46]

In comparison with the facultative reinsurance, treaty reinsurance has less weakness to the insurer. It is usually automatically maintained and there is no unpredictability or holdups. The treaty reinsurance is also less expensive, as it does not require searching for new reinsurance before creating the policy. Still, the treaty reinsurance has a disadvantage too. It is not always profitable for the reinsurance company. The reinsurance firm usually does not have enough information about the single applicant and should be confident of the underwriting verdict of the insurer. The primary insurer can have black business and try to reinsure it. It can cause unacceptable premium. Consequently, when the insurer has a sparse choice of risks or demands unacceptable rates, the reinsurer can suffer losses. Yet, if the insurer regularly transfers unsuccessful business to reinsurance companies, it would be very hard for the ceding insurer to function that way, as many reinsurers will not agree on that.[47]

Sometimes the treaty reinsurer buys the facultative reinsurance in order to keep safe itself and the other party of the reinsurance contract.[48]

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[45] cf. Skipper et. al. (2007), 603
[46] cf. Rejda. (2004), 597
[47] cf. Rejda. (2004), 597
[48] cf. Raim et. al. (2007), 16

4.3 Facultative-obligatory (fac-oblig) reinsurance

There is also comparatively uncommon type called fac-oblig reinsurance treaty. Within this type of contract the cedant can select what risks to transfer and the reinsurance company decide which risks to undertake. The fac-oblig treaty has functions both of facultative and obligatory reinsurance. For the primary insurer, this type of contract allows fast reinsurance following treaty facilities and also gives automatic provision for uncommon risks. However, for the reinsurance company it is very easy to spread the risk within the fac-oblig reinsurance in contrast to facultative reinsurance. The problems of facultative-obligatory reinsurance treaty are the adverse selection by the primary insurer and the lack of control over the trading.[49]

On the table 1 below the short description of all types of reinsurance contracts is shown:

Table 1: Differences between Automatic(Treaty), Facultative and Facultative-Obligatory agreements

Types of Reinsurance	Polices Ceded	Policies Assumed
Automatic	Ceding company must cede all policies that meet the specifications set in the treaty.	Reinsurer must accept all policies that meet set criteria.
Facultative	Ceding company may submit policies of its choice to the Reinsurer for its consideration.	Reinsurer may accept policies of its choice. .
Facultative Obligatory	Ceding company may cede policies of its choice.	Reinsurer is obligated to accept policies unless it does not have the available retention capacity to cover the policy.

Source: Reinsurance Administration. *Reinsurance Coverage,* (http://www.reinsadmin.org/pdf/RcdModule1.pdf)

[49] cf. Scribd.com [http://www.scribd.com/doc/111620698/60/Facultative-Obligatory-Treaty]

5 FORMS OF REINSURANCE

All types of reinsurance (treaty, facultative and facultative-obligatory) can exist either in proportional or non-proportional form. It can be already understood from the names that the allocation of claims, losses and premiums depends on their form. In a proportional reinsurance the nature of agreement between the reinsured and reinsurance company is usually mutually advantageous and coordinated. On the other side, the non-proportional reinsurance can cause contradictions depending on how both sides conduct their business.[50]

The reinsurance premium in proportional reinsurance is much higher than in non-proportional because both of the parties share the expenditures of it. High premium can let the reinsurer to finance real direct costs while giving future profit.[51]

5.1 Proportional reinsurance

All kinds of proportional reinsurance assume that the ceding company and reinsurer share all the losses, risks, premiums, expenses etc. between each other at a determined ratio using special agreement. In this case, the premium share of the reinsurance company is always proportional to its necessity to pay out losses. The ratio can be equal for all risks, or it can be different depending on the type of the risk. In the first case, it is called *quota share reinsurance*.[52]

a) *Quota share reinsurance*

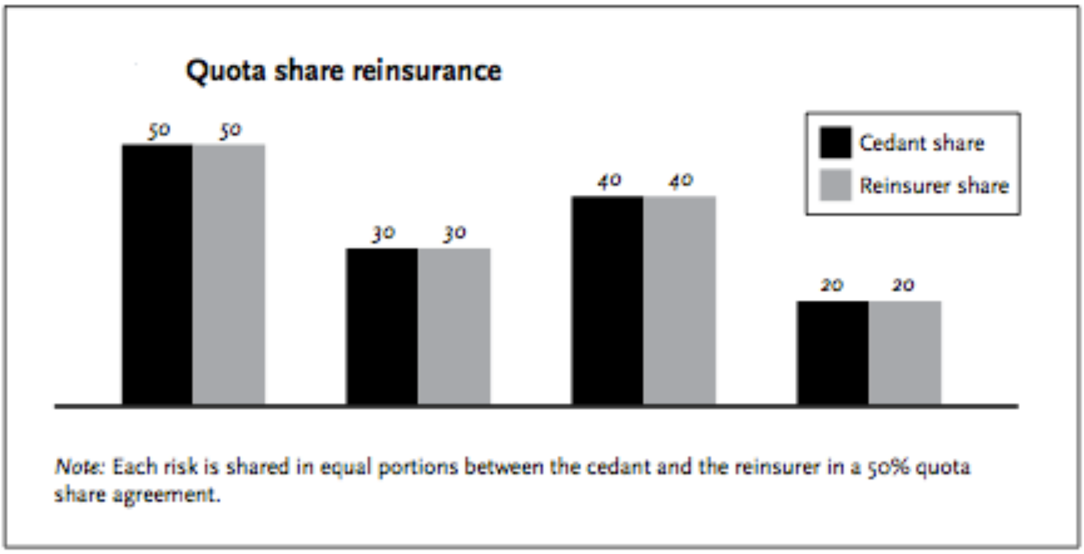
In this form of proportional reinsurance the insurer cedes the same part or "quota" of risks to the reinsurer according to the contract. Expenses, losses, premium are split with the equal proportion. In this case, the reinsurance company has an obligation to pay the insurer certain commission for the administrative and other costs of the business. Additionally, it is very common to have the profit sharing formula that permits the reinsurer to transfer its own part of the total profit to the insurer in order to compensate

50 cf. Wehrhahn. (2009), 7
51 cf. Wehrhahn. (2009), 9
52 cf. Swiss Re (1996), 21

the cedant for excellent underwriting and administrative skills. The proportionality of the risk sharing can also depend on the type of reserves that the companies have. It is always obligatory for the reinsurer to have its own reserves in business.[53]

The insurer decides to use quota share reinsurance when it wants to open a new type of business for which it does not have enough experience or expertise. Moreover, it is a great opportunity to enlarge the capacity of underwriting and reduce the unearned premium reserve. It is also very common to operate with many reinsurers at the same time in quota share reinsurance.[54] The figure 3 below shows the example of quota share treaty between the cedant and the reinsurer:

Figure 3: Example of Quota Share Reinsurance



Source: Wehrhahn, R. (2009), Introduction to Reinsurance, *The World Bank, 2,* 7

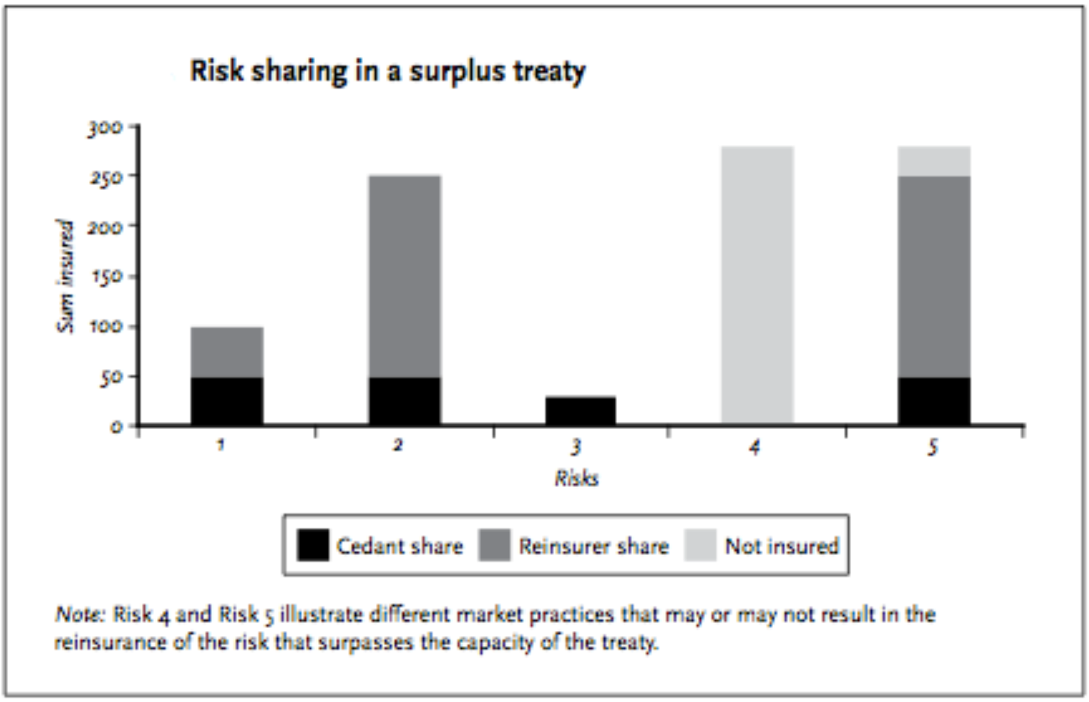
b) *Surplus reinsurance*

In this form of proportional reinsurance the ceding company decides how much to retain per every risk separately. In comparison with quota share reinsurance, this form is more complicated and costly for both parties.[55] Here, the insurer sets the proportions of the risk it wishes to reinsure and to retain. Also it determines an amount known as *surplus line* or *retention,* which is simply the maximum level that the insurer can retain

[53] cf. Wehrhahn. (2009), 7-8
[54] cf. Skipper et. al. (2007), 604
[55] cf. Swiss Re. (1997), 8

on a certain risk. Everything that is above the surplus line is known as *capacity* and is ceded to a reinsurance company by an agreement. Within the surplus reinsurance the insurance company has an opportunity to alter the level of involvement in any risk using the retention limit for that risk. For instance, using the example of Wehrhahn's article (2009): if a treaty has a capacity of $200 and the retention is $50 and it comprises 4 retentions, then the risk of $100 is shared by half both by cedant and reinsurer; the risk of $250 is shared with proportions 20/80, where the reinsurer gets 80%; the risk less than $50 is not reinsured and the equal risks where the insured sum is greater than the reinsurer's part can not be an element of the reinsurance contract.[56] The example is legibly displayed on the figure 4 below:

Figure 4: Example of Surplus Treaty Reinsurance



Source: Wehrhahn, R. (2009), Introduction to Reinsurance, *The World Bank, 2,* 9

Surplus reinsurance allows the insurance company to have its own automatic capacity. The insurer retains low risks because it is not always necessary to reinsure them. Thereby, the stabilization of the risk and loss portfolio takes place. It is quite often to have one year's reciprocal surplus agreements in order to analyze the business

[56] cf. Wehrhahn. (2009), 8

regularly.[57] Treaty reinsurance demands a lot of administration skills and resources and also good control of underwriting processes.[58]

5.2 Non-proportional reinsurance

In contrast to proportional reinsurance, which uses mainly the proportional cession and liability, in non-proportional reinsurance the cover and the amount of loss are the main components. So, it is also often called excess-of-loss reinsurance (or XL reinsurance). The crucial point of the contract in non-proportional reinsurance is that: many types of business can be reinsured at the same time, there is a fixed limit of losses to be covered by the insurer itself and a limit of cover to be paid by the reinsurance company for claims.[59]

Non-proportional reinsurance allows many cedants to avoid many claim peaks, and to operate the business on a normal level. The dispersal of liabilities and claims is often very different in this case. The appearance and the amount of loss are unexpected, with changing probabilities. The losses agreed in the contract are covered only at the certain period of time. The cover of losses in non-proportional reinsurance is unconnected with the original portfolio, premiums and policies. Therefore, there are no reserves for premiums and losses in XL reinsurance.[60]

Excess-of loss reinsurance has many forms. Some of them are explained in detail below:

a) Facultative XL reinsurance

This form of reinsurance is invented to finance the losses of a single risk over the insurer's loss retention. For that reason it is also called policy or per risk XL reinsurance. Usually the policy XL reinsurance increases together with the climb of

[57] cf. Skipper et. al. (2007), 605-606
[58] cf. Swiss Re. (1997), 10
[59] cf. Swiss Re. (1997), 20
[60] cf. Swiss Re. (1997), 20

large risks that cause serious losses to cedants. There is a strong dependence between captive insurers and per risk XL reinsurance.[61]

b) *Working XL reinsurance*

Under this type of a contract the reinsurance company covers any losses of the cedant to a certain limit, more than cedant's surplus line for each risk covered in the contract. For instance, the reinsurance company covers up to $400,000 for each loss more than cedant's surplus line of $80,000. This type of treaty is also known as risk XL reinsurance. Risk XL reinsurance may be very helpful for stabilizing the cedant's loss background. Usually, excess-of-loss reinsurance sets low surplus lines such causing plenty of losses. It operates analogously to surplus reinsurance treaty where not the risks are divided but losses. It is quite common by the working XL reinsurance agreements, that reinsurance companies fix both maximum obligations per loss and total indemnity for the whole coverage duration.[62]

c) *Catastrophe (cat) XL reinsurance*

Another category of non-proportional reinsurance type is known as catastrophe XL reinsurance. It is essential under this type of contract not only to overreach the priority but also the catastrophic incident has to be happened for a cedant to have its reinsurance cover. Earthquakes, tsunamis, floods, volcano eruptions etc. – all of this fall under this category. But cat XL reinsurance usually does not indemnify every incident. There are some exceptions which although can be seen as catastrophe events but are not covered by cat XL reinsurance, for instance, nuclear tragedies, terrorism attacks and so on. These unexpected, rare and horrible events are usually related to the specialized government pools.[63]

The definition of *hours clause* is very important for this type of reinsurance agreements. "Hours clause" is simply the time interval during which the reinsurance company should cover all remaining losses that occurred because of some catastrophes. This time

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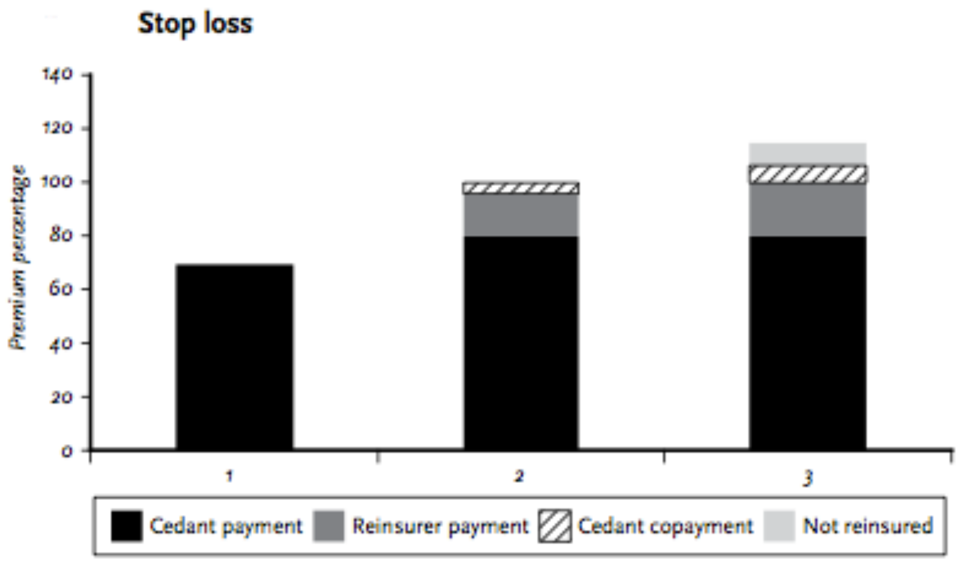
[61] cf. Skipper et. al. (2007), 607
[62] cf. Skipper et. al. (2007), 607
[63] cf. Wehrhahn. (2009), 13

interval is generally calculated in hours and sometimes can be also used for the property reinsurance.[64]

d) Stop loss reinsurance

This form of non-proportional reinsurance is a little bit different from other forms. Here, the whole portfolio is covered according to the contract. The reinsurance company will cover the losses only if the priority is overreached by summing up all claims indemnified during the coverage interval. In the ordinary stop loss reinsurance this priority is usually shown by a percentage of the premium. It is quite often to demand a copayment more than the priority. On an example on the figure 5 below we can see a contract with a priority of 80%, 25% copayment and 20% are seen as a capacity[65]:

Figure 5: The example of Stop Loss Reinsurance



Source: Wehrhahn, R. (2009), Introduction to Reinsurance, *The World Bank, 2,* 12

64 cf. Guy Carpenter. (2013), [http://www.guycarp.com/portal/extranet/utility/glossary_h.html?vid=1]

65 cf. Wehrhahn. (2009), 11-12

e) Umbrella XL reinsurance

This type of reinsurance is made to cover the losses of insurer when the limits of insurance are already empty. By some big catastrophe events this reinsurance can supply with a sufficient liability and also with many other measures. Umbrella excess-of-loss reinsurance has 3 fundamental functions: to increase the limit of policies when total limit is achieved, to supply excess limits for cat losses and to supply with indemnifies that are not included to the basic policy.[66]

A typical characteristic of many non-proportional reinsurance forms is a *reinstatement provision*. "A reinstatement provision puts a limit on either the number of occurrences or the aggregate losses that will be paid under the contract. For example, if a contract has a provision for one reinstatement based on the number of occurrences, then the reinsurer will be responsible for at most two occurrences (original occurrence plus one reinstatement)."[67]

Reinstatement provision may be free of charge or paid. In case when the reinstatement provision is free of charge, the premiums are usually paid out frank. In case when the reinstatement provision is paid, some part of the premium is paid out usually before the event had happened. The reinstatement premium can differ depending on the amount of reinstatement or duration time of the contract.[68]

5.3 Financial reinsurance

Financial reinsurance is another form of reinsurance that examines the time value and also loss comprising provisions. The main goal of it is to increase insurer's financial statements and/or operating ratios like: combined ratio; financial quota share, loss portfolio transfers and others.[69]

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[66] cf. Woytus (2010), [http://www.casact.org/education/spring/2010/handouts/C27-Woytus.pdf]
[67] cf. Anderson. R, 305 [http://www.casact.org/pubs/forum/98sforum/98sf303.pdf]
[68] cf. Anderson. R, 306 [http://www.casact.org/pubs/forum/98sforum/98sf303.pdf]
[69] cf. Wehrhahn. (2009), 31

Financial reinsurance can be classified as retrospective (old) and prospective (new) financial reinsurance. In retrospective financial reinsurance the previous loss experience of the insurance company is covered. The losses that occur during the agreement are not yet solved by the reinsurer and are still to be transferred and reported. *Loss portfolio transfer (LPT)* and *Time and distance contracts* are two essential parts of the retrospective financial reinsurance.[70]

Time and distance contracts were created to enlarge surplus by the direct recognition of future investment profit with the loss reserves of the primary insurance company. The insurer can always enlarge its surplus due to country's accounting legislation of not allowing the discounting of the loss reserves. If the primary insurance company is allowed to discount it, then the reinsurance agreement can bring not much value to the insurance company. Many countries allow these discounting, thus making it all be simple.[71]

Loss portfolio transfer (LPT) is "a financial reinsurance transaction in which loss obligations that are already incurred and will ultimately be paid are ceded to a reinsurer. In determining the premium paid to the reinsurer, the time value of money is considered, and the premium is therefore less than the ultimate amount expected to be paid." The surplus of the primary insurer grows by the residue between the premiums and the reserves.[72]

But nowadays the most important part of financial reinsurance is prospective reinsurance. By doing this, the primary insurer cedes the risk to the third party, and not always to a reinsurance company. Generally they are long-term contracts that mean that the insurance company should pay premiums for the next years and the reinsurance firm should pay losses till the specified limit.[73]

Financial reinsurance contracts generally consist of the following essentials: coverage period, profit sharing contract, limit on coverage and finite term of contract.[74]

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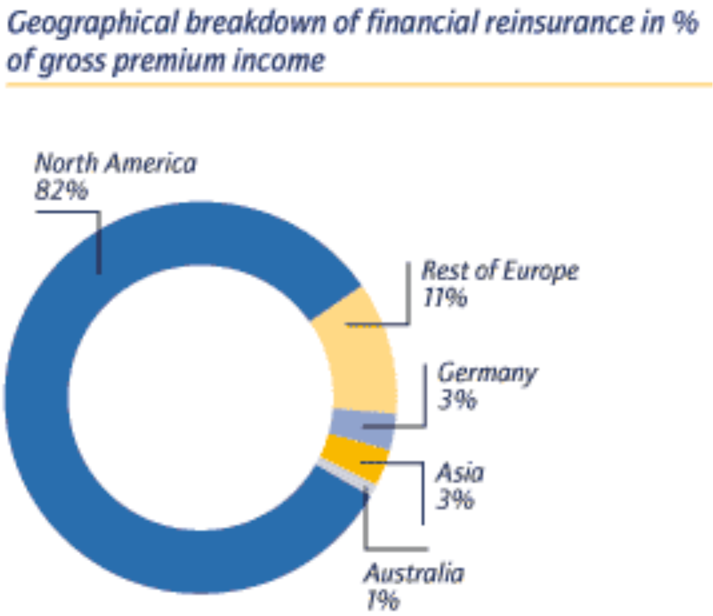
70 cf. Skipper et. al. (2007), 610
71 cf. Skipper et. al. (2007), 610-611
72 cf. IRMI [http://www.irmi.com/online/insurance-glossary/terms/l/loss-portfolio-transfer-lpt.aspx]
73 cf. Skipper et. al. (2007), 611
74 cf. Skipper et. al. (2007), 612

Financial reinsurance is an essential part of global reinsurance market. It is not equally popular in all countries of the world.[75] On the figure 6 below we can see what a big role financial reinsurance plays for North America nowadays in comparison with other continents:

Figure 6: Geographic distribution of Financial Reinsurance (2010)



Source: Hannover Re, *Annual Report 2000,* available for download at http://production.investis.com/hnr-report/8/8-7/

[75] cf. Hannover Re (2010), [http://production.investis.com/hnr-report/8/8-7/]

6 WORLD REINSURANCE MARKET

Reinsurance is one of the most international features of insurance companies. The reinsurance business nowadays has about more than 150 most functional institutions that have more than $160 billion premiums totally, where the share of non-life premiums is 80%, and life premiums - 20%. Although, the reinsurance business is considered to be international, most of the companies involved in worldwide reinsurance are founded and operating in Western Europe and North America (more than 80%). Nearly all of the companies are founded only in some different countries: Bermuda, Germany, United States, United Kingdom, Japan and others. In contrast to other 7 countries, the United States has historically been the biggest net importer of reinsurance. But the developing countries are also involved in reinsurance. Usually it is a single leading company in the region that operates with other small insurance firms. Furthermore, the reinsurance business is considered to be an important part of the offshore centers in the world. Bermuda here is a clear example.[76] The world reinsurance market both in industrialized world and developing countries will be discussed in this chapter in detail.

6.1 The Hegemony of Big International Reinsurers

Today on the market of reinsurance business there is a very strong centralization. As already mentioned above, the majority of reinsurers are located in the same regions and countries and the biggest twenty of them cover more than 60% of premiums.[77]

It can be clearly seen from the Table 1 in the Appendix that half of the reinsurance companies in the top 10 come from Europe, and Germany, Bermuda, Japan and United States are represented in the top 20 more than once. The centralization of leaders on global reinsurance market is proven also by the fact that only Switzerland, Germany, United States, Spain, Bermuda, Japan, France, Australia, India and Brazil are the only countries that are represented in the top 40 reinsurance companies by Standard & Poor's report. As it can be clearly seen from the table, the importance of reinsurance companies in Bermuda is inevitable for the global reinsurance market. The table rates the reinsurance companies by net premiums written. Munich Re, Swiss Re, Berkshire

[76] cf. Group of Thirty. (2006), 17-18
[77] cf. Group of Thirty. (2006), 20

Hathaway Re, Hannover Rueckversicherung AG and Lloyd's are the world's biggest reinsurers today. The data is provided for the year 2010 and 2011 and on the second part of the table it can be also seen the exact information about pretax operating income, combined ratio, total adjusted shareholders' funds and rate of return.[78]

The period of world financial crisis, recent catastrophes and all consequences of it all over the planet have shown the influence and the role of the global reinsurance market, its weaknesses and strengths. Although this type of industry stays quite reliable, it can be also affected by many external financial factors.[79]

A.M. Best rating organization analyzed in 2011 the global reinsurance market with the top 50 reinsurers by gross premiums. Although the situation has changed a little bit since that period, anyway most of the problems continue to be the same. The property and casualty (P&C) sector suffered much loss because of catastrophes and market fluctuations. In its report, Best also assumed that "underwriting losses were offset by a combination of net investment income and a modest level of realized capital gains to produce a small overall profit for the year. Unrealized capital gains attributed to declining interest rates against fixed income portfolios also helped to stabilize the composite's capital position, as did some minor capital-raising activity."[80]

The paper also proves that the majority of top global reinsurers are involved now both in property and casualty reinsurance and in life reinsurance, which can undoubtedly affect the capital and the structure of losses. For instance, the biggest reinsurance company in the world, Munich Re had about 1/3 of total written premiums in life reinsurance.[81]

What is also interesting to note from this report, is that American, European and other markets of reinsurance show different capitalization, because European reinsurance market is working with a broad diversification and Bermuda is mostly specialized in P&C reinsurance. The new players on reinsurance markets, especially from developing

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78 cf. Standard & Poor's. (2012), 50-51
79 cf. Standard & Poor's. (2013) [http://www.standardandpoors.com/spf/upload/Ratings_EMEA/2013-06-05_WhatsBehindOurRatingsOnTheTop23GlobalReinsurers.pdf]
80 cf. Insurance Journal. (2012), [www.insurancejournal.com/news/international/2012/09/05/261701.htm]
81 cf. Insurance Journal. (2012), [www.insurancejournal.com/news/international/2012/09/05/261701.htm]

countries are also penetrating it constantly, in spite of the fact that they are not listed in top 50 reinsurers. And finally, Best also agrees with the fact that reinsurance industry is quite stable and will not have serious problems in the future.[82]

As a result of geographical and business diversification, the top reinsurance industry firms remain to be very competitive in comparison with other similar industries. The influence of a strong reliable reputation plays also a big role in supporting its levels of competitiveness. The latest report about top reinsurers of Standard & Poor's Rating Services shows us that the industry has a very strong capital and earnings flexibility, capitalization, capital adequacy and financial risk profile. However, the global catastrophes in recent decades influenced to a great extent the loss ratios of reinsurance companies and can cause a high risk. Moreover the overcapacity, reinsurance pricing, increased surplus line and local law regulation can bring difficulties to the reinsurance law regulation.[83]

Since 2011 numerous different changes happened to the reinsurance industry worldwide. The fluctuations on financial markets, new big natural catastrophes and other reasons make the leaders in reinsurance business to think about their future. All these difficulties demand from the companies to have more reserves to protect themselves from difficulties.[84]

The top global reinsurance companies have a surplus capital level of more than $24 billion already since the 2012. The disparity on the market remains to be an issue and can arise from different factors. The companies located in Bermuda, for instance, have a very high catastrophe business that demands to have a strong capital and reserves.[85]

So, what can influence the global reinsurance market nowadays? The answer of it can be seen in the report of "Standard & Poor's Global Reinsurance Highlights of 2012". This rating agency proposes several scenarios that could seriously affect the market in the nearest future. For instance, it believes that the fluctuations in inflation could negatively affect the capital position and decrease the value of securities and reserves.

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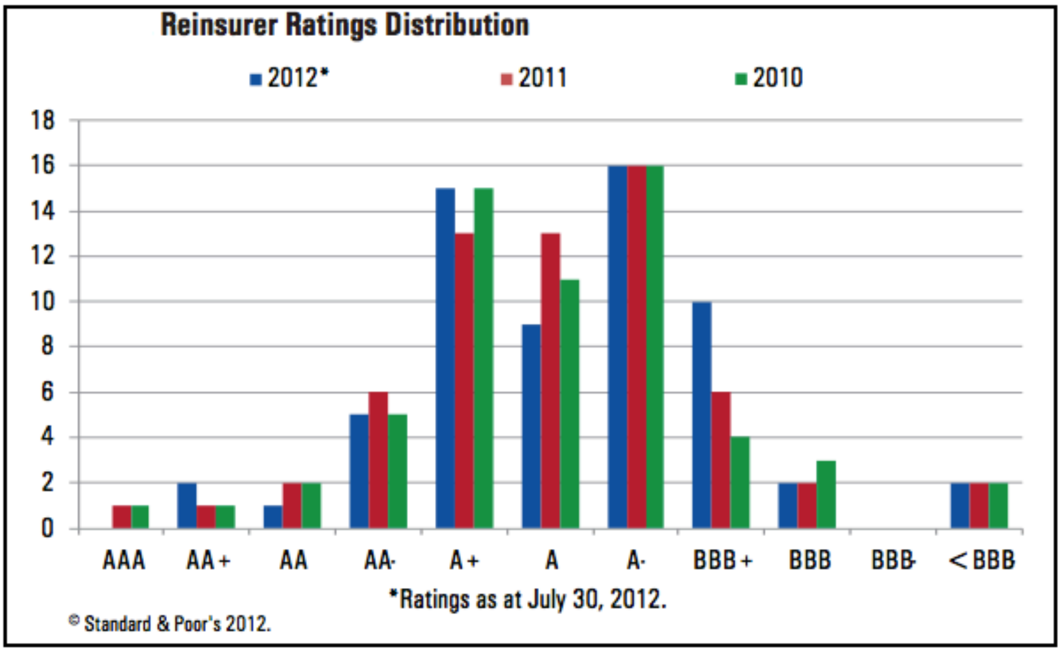
[82] cf. Insurance Journal. (2012), [www.insurancejournal.com/news/international/2012/09/05/261701.htm]
[83] cf. Standard & Poor's. (2013) [http://www.standardandpoors.com/spf/upload/Ratings_EMEA/2013-06-05_WhatsBehindOurRatingsOnTheTop23GlobalReinsurers.pdf]
[84] cf. Standard & Poor's. (2012), 8
[85] cf. Standard & Poor's. (2012), 9-10

Moreover, it assumes that a strong political or economical event can also have a strong impact on reinsurance industry. For example, if the Eurozone loses one of its members it can negatively influence the capitalization, economical flexibility and solvency levels. The third scenario shows the influence of a catastrophic event in the United States, - one of the biggest centers of global reinsurance market, which can also have an impact on the whole industry in the world. Previous hurricanes, floods and other common catastrophic events in the United States can be very good examples of that. Not only the reinsurance business can be affected, but also the whole financial system in the world. The tragedy of 9/11 caused not only property damage but also big changes on global financial market.[86]

Although the general financial strength rating (FSRs) of Standard and Poor's for the reinsurance companies continues to be well-balanced, the separate ratings of individual reinsurers is different from each other. Some reinsurance companies have lost significantly their good rating positions due to the market conditions and capital adequacy, for example "Mapfre Group" and "Caisse Central de Reassurance". Other reinsurance companies lost their positions due to the big losses after the catastrophes like "Thai Reinsurance Public Co. Ltd. (Thai Re)" after the floods in Thailand in 2011. The other group of reinsurers improved their rating after the consequences of global financial crisis by lowering the risk and stabilizing the profit.[87] The figure 7 below shows us the most recent dispersal of ratings of biggest reinsurance companies:

[86] cf. Standard & Poor's. (2012), 10-12
[87] cf. Standard & Poor's. (2012), 26-27

Figure 7: The distribution of Ratings of Reinsurance Companies



Source: Standard & Poor's. (2012), 27, *Global Reinsurance Highlights 2012 Edition*, [http://www.standardandpoors.com/spf/upload/Ratings_EMEA/GRH_2012.pdf]

The involvement of reinsurance companies in global reinsurance market may be also determined by *cession rates.* Cession rate – is simply the new amount of insurance that were reinsured. It is determined in percentage. For instance, the American life insurance had a cession rate more than 50% some years ago. That means that most of the life insurance business in United States was reinsured in the same year. But the situation has changed recently with decreasing cession rates in last 2 years.[88]

6.2 The role of reinsurance in developing countries

Reinsurance can be very helpful for expanding the whole insurance market in developing countries. The problem of small capitalization and impossibility to underwrite high risks can cause many difficulties for little local insurance companies to gain more profits. Global reinsurance companies from industrialized countries are fully involved in their local markets. The most popular form of reinsurance used in developing countries is proportional treaty.[89]

[88] cf. Bruggeman. (2012), 6
[89] cf. Skipper et. al. (2007), 614

6.2.1 Middle East

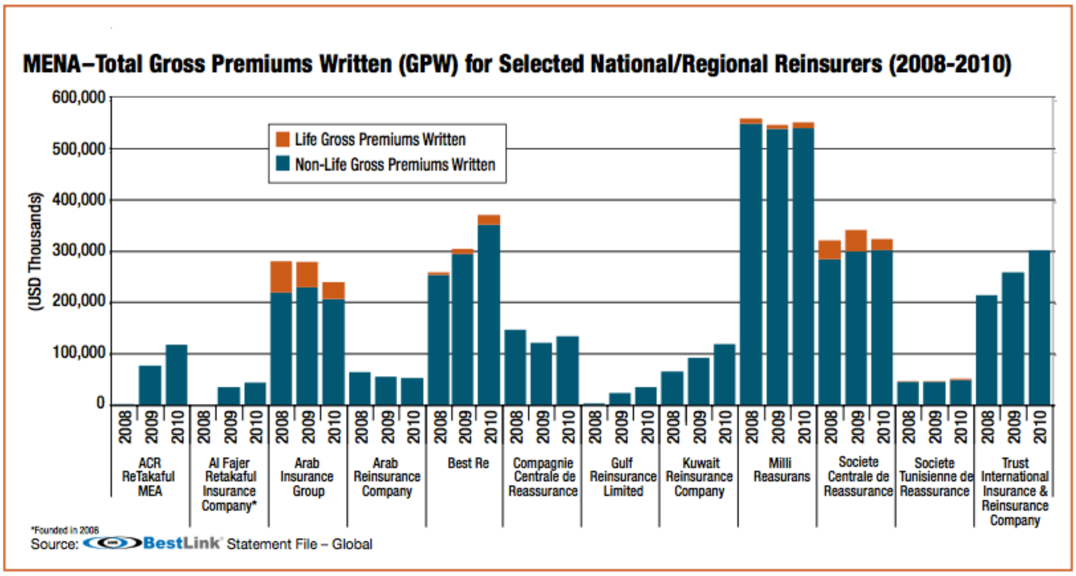
Local reinsurance companies in the Middle East have shown quite successful figures during the last years and still there are many newcomers on the market. Many of the reinsurance companies in Arab countries are also involved in business in the East Asia, although this region is very famous for having strong natural disasters during the last decades. However, most of the business is still belonging to the biggest global reinsurers from the developed countries.[90]

There are several elements on the reinsurance market of Middle East and North Africa that show the significant levels of development nowadays. The reinsurance demand is still growing with increasing capacity despite many economical and political events happened recently. As mentioned above, the proportional reinsurance treaty is the main form of reinsurance conducted in these countries, but the demand for facultative form is also growing up with fast levels. In general the insurance and reinsurance market in the countries of Middle East is very heterogeneous including many nationalized firms.[91]

The gross premiums written still continue to grow which can be obviously connected with the significant development of countries' non-energetic sector and some big newcomers like Al Fajer Retakaful, Gulf Reinsurance, Qatar Insurance Group etc. that started their business only since the end of 2010s.[92] The figure 8 below shows us the biggest newcomers and their total gross premium written (GPW) for life and non-life reinsurance:

[90] cf. A. M. Best's MENA Review. (2012), 2
[91] cf. A. M. Best's MENA Review. (2012), 4
[92] cf. A. M. Best's MENA Review. (2012), 4-5

Figure 8: Total Gross Premiums Written for Some MENA Reinsurers



Source: A. M. Best's MENA Review. (2012), 5 [http://www.ambest.com/europe/menareport.pdf]

The main difference between newcomers and old big reinsurance firms in this region is that the capital of newcomers mainly consists of private investors and enterprises, where the old ones are mostly nationalized. Additionally, many large reinsurers was firstly created as a compulsory reinsurance organizations by the government, for instance, Milli Re in Turkey in 1929, Compagnie Centrale de Reassurance in Algeria and others.[93]

The problem of volatility in financial markets caused many difficulties to maintain investments effectively. "Some reinsurance companies previously have had aggressive investment strategies. Companies are coming under pressure to focus increasingly on technical expertise, profitable underwriting and reduction of exposure to investments through de-risking or restructuring their balance sheets".[94]

The problem of political and social instability in the countries of Arab Spring (recent protests in Arab world) makes investors to worry about the future of their investments, which of course can also affect the reinsurance market. The damages after riots and civil wars in countries of Arab Spring still cause many problems with paying claims.[95]

[93] cf. A. M. Best's MENA Review. (2012), 5
[94] cf. A. M. Best's MENA Review. (2012), 5
[95] cf. A. M. Best's MENA Review. (2012), 6

As mentioned above all of the countries in the region of Middle East and North Africa have nationalized reinsurers. There are many examples of companies which were created either as a compulsory or to solve specific problems and then became leaders on the market.[96] On the figure 9 it can be seen several nationalized companies in the Middle East and North Africa (MENA) region, their date of establishment and ratings:

Figure 9: A.M. Best Ratings of MENA Reinsurers

A.M. Best Ratings of National/Regional Reinsurers*

Country	National/Regional Reinsurer	Date Established	FSR	Outlook	ICR	Outlook
Algeria	Compagnie Centrale de Reassurance	1973	B+	Stable	bbb-	Stable
Bahrain	Arab Insurance Group (ARIG)	1978	B++	Stable	bbb+	Stable
	Trust International Insurance & Reinsurance Co. (Trust Re)	1989	A-	Stable	a-	Stable
	ACR ReTakaful MEA	2008	A-	Stable	a-	Stable
Egypt	None	n/a	n/a			
Iran	None	n/a	n/a			
Iraq	None	n/a	n/a			
Israel	None	n/a	n/a			
Jordan	None	n/a	n/a			
Kuwait	Kuwait Reinsurance Co.	1972	A-	Negative	a-	Negative
	Al Fajer Retakaful Insurance Co.	2008	B++	Negative	bbb+	Negative
Lebanon	Arab Reinsurance Co.	1972	B+	Positive	bbb-	Positive
Libya	None	n/a	n/a			
Morocco	Societe Centrale de Reassurance	1960	B++	Stable	bbb	Stable
Oman	Oman Re	2008	NR			
Qatar	Q-Re	2009	NR			
Saudi Arabia	Saudi Reinsurance Co.	2008	NR			
Syria	Arab Union Reinsurance Co.	1974	Rating Withdrawn***			
Tunisia	Societe Tunisienne de Reassurance (Tunis Re)	1981	B+	Stable	bbb-	Stable
	Best Re (L) Limited**	1985	A-	Stable	a-	Stable
Turkey	Milli Reasurans	1929	B++	Stable	bbb	Stable
United Arab Emirates	Gulf Reinsurance Ltd.	2008	A-	Stable	a-	Stable
	Takaful Re Ltd.	2005	NR			
Yemen	None	n/a	n/a			

*As of Sept. 20, 2011
** Now based in Malaysia
*** Rating was B_u and bb_u when withdrawn on May 9, 2011
Source: BestLink Statement File – Global

Source: A. M. Best's MENA Review. (2012), 8 [http://www.ambest.com/europe/menareport.pdf]

6.2.2 China

Chinese reinsurance market has not a long-time history. Only in 1996 the first reinsurance firm China Reinsurance Company (ChRC) was created as a nationalized company to maintain the compulsory reinsurance in the country. After China joined the World Trade Organization (WTO), foreign global reinsurers started to participate on the local market in life and non-life sectors without any limitations. Since the beginning of

96 cf. A. M. Best's MENA Review. (2012), 7

21th century top global reinsurers such as Munich Re, Swiss Re, Hannover Re and others opened their departments in China and started to influence the sector, however, ChRC remains to be the biggest player on the market and it has more than 70% of the premiums in life reinsurance.[97]

The newcomers from developed countries and the abolishment of compulsory reinsurance brought many challenges to a Chinese market. The demand increased, the market became much more competitive and diverse and the overall quality of services in insurance sector significantly improved. Nevertheless, the reinsurance industry is now only in the stage of beginning. As in all developing countries, the proportional reinsurance plays the biggest role even so there are slight increases in the non-proportional sector too.[98]

Reinsurance premiums in the middle of the 2000s were about $2.87 billion, and the share of non-life reinsurance was about 80%. The government was not satisfied with these numbers and the State Council launched the new system to develop the national reinsurance market by setting new goals for its future development. It was planned to strengthen the regulation in national reinsurance industry, to put more importance on solvency for regulators and on protection products for direct insurers. The reinsurance premiums were planned to grow to more than $65 billion by 2010.[99]

6.2.3 Africa

Regardless of having many economical and political problems some regions of African continent are considered to be very successful in economic performance and growth potential. The economic boom of some countries, mostly in sub-Saharan Africa have proven the importance of developing reinsurance sector there.[100]

The total reinsurance premium in 2009 was more than $150 billion for 35 reinsurance firms operating in Africa nowadays. The biggest of them are Africa Re, CICA Re and others. Four companies from developed countries are also operating there: Munich Re,

97 cf. Huang et. al. (2010), 8
98 cf. Huang et. al. (2010), 8
99 cf. Huang et. al. (2010), 10
100 cf. Africa Re. (2012), 1

Hannover Re, Swiss Re etc.).[101] The table 2 below represents the share of African reinsurance both in life and non-life sector in comparison with the other continents:

Table 2: The share of African reinsurance in the world (2012)

	North America	Europe	Africa	Asia/Australia/Middle East/Cent & South America	Total
Life	24,44	19,76	0.836	6.96	52.00
N/Life	48,501	40,383	5,400	13.72	108.00
Total	**72,941**	**60,143**	**6,236**	**20.68**	**160.00**

Source: Africa Re. (2012), The African Reinsurance Market – Current Trends, 3 [http://www.scor.com/en/sgrc/insurance-market/item/2131.html?lout=sgrc]

The African financial market is strongly affected by the global economical and political changes of other regions. The tendency of liberalization and decentralization of African insurance companies take place during the last years. Only Zambia and Tanzania still have fully nationalized insurance companies. The regulation and operation standards are becoming very similar to the European ones. Another new trend is that the African reinsurers are becoming open to the most famous rating agencies in order to show the ability of fulfilling necessary requirements. Undoubtedly, the proper regulation should play the essential role to boost the industry and to transfer it to the global level.[102]

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101 cf. Africa Re. (2012), 3

102 cf. Africa Re. (2012), 7-8

6.2.4 Brazil

Despite being one of the leading economies in the developing world, Brazilian insurance market remained to be closed for the international insurers and reinsurers for a long time. Only since 2008 many reinsurance companies started to penetrate this important emerging market. However, even today, the Brazilian national reinsurer, Instituto de Resseguros do Brazil (IRB-Brasil Re) is the biggest company on the market. The market is still not so competitive, although the market share of Brasil Re has declined significantly in the recent years (having total 25% in 2010).[103]

The new legislation that could put an end to the monopoly of Brasil Re determined the new regulation of reinsurers, and the process of retrocession between the market participants. As specified by new law, reinsurance companies can be now ranged as "local", "occasional" and "admitted" having different capital and operating rules.

The biggest foreign reinsurance companies operating in Brazil are Munich Re and Lloyd's. The market share of them is 4 and 9 per cent respectively.[104]

The political situation in Brazil is very stable in the recent decades and the idea of nationalizing biggest corporations is not new and it is quite supportable by the population. The intensive preparation for large events like Olympics 2016 and World Cup 2014 has also a notable impact not only on the insurance sector, but on the whole economy.[105]

6.2.5 Russia

A decade ago the Russian economy was one of the fast growing economies in the region because of the oil and gas prices. Stable unemployment and inflation rates and new strategies of the government could help the country reaching new goals. But in the recent years due to the dependence on the oil industry and because of the global

[103] cf. Poon Affat. (2012), 24-25
[104] cf. Poon Affat. (2012), 25
[105] cf. Poon Affat. (2012), 27

financial crisis Russian economy is stagnating. That must obviously influence the reinsurance and insurance sector in the country too.[106]

Although the Russian reinsurance market allows foreign reinsurers to participate on their market, the majority of the companies that is involved in reinsurance business are local. Foreign reinsurance firms mostly conduct the business in the field of corporate assets, building and construction industry, marine insurance and other high-risk industries. Russian reinsurers are mostly involved in automobile insurance, cargo reinsurance etc. Although, the universal reinsurance companies on the market have not a stable reputation and do not have the enough expertise but many of them are also conducting business with large global reinsurers. However, some of the large companies have a sufficient underwriting capacity, allowing them to reinsure high risks too.[107]

Many insurers get rid of the conducting reinsurance and as a result the other large reinsurers increase their market share, which can lead obviously to monopolies. What is also interesting to note, is that the geographical location of Russia is very favorable for the reinsurance market, as Russia does not observe many natural catastrophes like other countries. The prices for the reinsurance are also absolutely low in comparison with the European and American reinsurers and this can be a great competitive advantage to develop the industry in the future.[108]

6.2.6 South Korea

The reinsurance market of South Korea is continuing to increase and is quite stable in comparison with the other countries in this region. That can be explained by the lack of natural catastrophes in the country, even though there are some typhoons that cause the

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106 cf. The World Bank. (2013), [http://www.worldbank.org/en/country/russia/overview]
107 cf. Tranzalova. (2010), [http://arbir.ru/articles/a_3185.htm]
108 cf. Tranzalova. (2010), [http://arbir.ru/articles/a_3185.htm]

losses of more than $85 million. As it can be seen, in correspondence to other countries described above the losses are very low.[109]

The regulation of reinsurance market and its connection with global players can be also important part of developing new strategies. The well-balanced portfolio and profit can prove these positive trends.[110]

The major Korean reinsurance companies have shown very successful growth, and improved capitalization. The biggest company in the country, Korean Re has more than 60% of the market share and is obviously one of the biggest countries in the region. The use of proportional reinsurance dominates like in other developing countries. Korean Re has the highest financial rating of agency A.M Best (A).[111]

The publication of Swiss Re's Sigma research has shown the importance of developing the reinsurance industry in the emerging markets. It is said that the premiums has grown more than 10% in emerging markets and only more than 1% in developed countries. Global reinsurers see a great perspective of penetrating the market of advanced developing countries to stabilize their profit. The pleasant economic situation, proper regulation and low rates of inflation attract foreign companies. The growth of premiums will remain positive in the future years both in life and non-life reinsurance.[112]

[109] cf. Lai. (2011), [http://insurancenewsnet.com/oarticle/2011/12/13/south-koreas-reinsurance-market-buffeted-by-regulatory-change-catastrophes-global-economic-trends-a-312041.html?topnews#.Ucr40uBvDww]
[110] cf. Lai. (2011), [http://insurancenewsnet.com/oarticle/2011/12/13/south-koreas-reinsurance-market-buffeted-by-regulatory-change-catastrophes-global-economic-trends-a-312041.html?topnews#.Ucr40uBvDww]
[111] cf. Lai. (2011), [http://insurancenewsnet.com/oarticle/2011/12/13/south-koreas-reinsurance-market-buffeted-by-regulatory-change-catastrophes-global-economic-trends-a-312041.html?topnews#.Ucr40uBvDww]
[112] cf. Guy (2012), [http://reinsuranceasiaonline.com/articles/future-growth-will-be-tough-emerging-markets]

7 CONCLUSION

Historically the reinsurance was firstly connected with the large disasters or natural catastrophes when the damage exceeded the potential of insurance companies to cover the big losses. As the time passed, already at the beginning of 20th century the reinsurance became a fully international process, involving many countries.
The evolution of reinsurance introduced many types of agreements, new forms and the various regulation of it. It makes no difference which type of contract reinsurance has, or which form of reinsurance the parties use, it still has the same goals: to enlarge the capacity of business, to stabilize profit, to reduce unearned premium reserves, to protect insurance company from catastrophe losses.

The nations that first introduced the reinsurance are still leaders in this field having more than 60% of the world market, however the developing countries are becoming more and more important for the global progress of the industry; for example, the countries of Middle East and East Asia have recently shown positive trends, making this industry to prosper. In addition, it is clear that the different regulation and the diffusion of it in Brazil, Russia, Middle East, South Korea and other developing countries with the large economies is very important nowadays.

Being one of the most international features of insurance companies, the reinsurance has proven the importance of operating on a global level. The biggest reinsurers from Germany, United States, Japan, United Kingdom and Bermuda are present in every region of the world. The offshore market of reinsurance is also playing a big role in the global financial system and for this reason it requires a strict regulation on international level.

In the first decade of the 21th century a financial crisis has an enormous impact on the financial markets and even if that reinsurance is considered to be a large-capitalized business, the influence of the world financial crisis on it is considerably low. Several rating agencies like Standard & Poor’s, A. M. Best etc. are evaluating top reinsurers as very stable and well-balanced.

Concluding the facts mentioned in this paper, the compulsory placement of reinsurance, which played the role of helping the emerging markets to protect and expand their insurance industry has an enormous impact on the developing reinsurance in the future: furthermore the emerging markets will also remain to play an essential role of expanding reinsurance in the future. The largest global reinsurers have a strong competition and the penetration of the market of developing countries is their main priority today.

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APPENDIX

Table 3: Top 40 reinsurers in the world

Top 40 Global Reinsurance Groups Ranked By Net Reinsurance Premiums Written

		Footnote		Net Reinsurance Premium Written (Mil. $)	
Ranking	Company	Footnote	Country	2011	2010
1	Munich Reinsurance Co.		Germany	33,719.2	29,269.1
2	Swiss Reinsurance Co.		Switzerland	22,868.0	19,433.0
3	Berkshire Hathaway Re	1	U.S.	15,350.0	14,669.0
4	Hannover Rueckversicherung AG	2	Germany	14,279.2	13,652.2
5	Lloyd's	3	U.K.	10,735.5	9,762.1
6	SCOR SE		France	8,891.5	8,141.3
7	Reinsurance Group of America, Inc.		U.S.	7,335.7	6,659.7
8	PartnerRe Ltd.	4	Bermuda	4,486.3	4,705.1
9	Everest Reinsurance Co.		Bermuda	4,108.9	3,945.6
10	Transatlantic Holdings Inc.		U.S.	3,859.6	3,881.7
11	MS&AD Holdings		Japan	3,700.9	3,587.4
12	Korean Reinsurance Co.	5	Korea	3,057.5	2,803.0
13	NKSJ Holdings	6	Japan	2,786.1	2,526.1
14	Tokio Marine Group	7	Japan	2,654.2	2,617.2
15	General Ins. Corp. of India	8	India	2,421.9	2,321.4
16	Mapfre Re		Spain	2,310.5	2,125.2
17	XL Re Ltd		Bermuda	2,088.1	1,920.5
18	Toa Re Co. Ltd.		Japan	1,961.4	1,805.0
19	AXIS Capital Holdings Ltd.	1	Bermuda	1,953.3	1,815.3
20	Validus Holdings Ltd		Bermuda	1,835.5	1,761.1
21	QBE Insurance Group Ltd.		Australia	1,758.4	2,184.0
22	Caisse Centrale de Reassurance		France	1,732.8	1,759.9
23	Maiden Re	9	U.S.	1,723.5	1,227.8
24	Catlin Group Ltd.	10	Bermuda	1,569.6	1,141.9
25	Allied World Assurance Co. Holdings Ltd.	11	Bermuda	1,533.8	1,392.5
26	R+V Versicherung AG		Germany	1,495.6	1,387.1
27	Odyssey Re	12	U.S.	1,495.0	1,364.1
28	Alterra Capital Holdings Ltd	13	U.S.	1,432.0	1,040.0
29	ACE Tempest Reinsurance Ltd.		Bermuda	1,321.7	1,431.8
30	Amlin Group		U.K.	1,124.5	852.2
31	IRB-Brasil Resseguros S.A.	14	Brazil	1,108.3	628.9
32	Aspen Insurance Holdings Ltd.		Bermuda	1,098.1	1,118.5
33	Endurance Specialty Holdings Ltd.	7	Bermuda	974.3	933.9
34	Arch Capital Group Ltd.		U.S.	952.0	852.1
35	Sirius Group	15	Bermuda	915.7	865.7
36	RenaissanceRe Holdings Ltd.		Bermuda	913.5	809.7
37	Deutsche Rueckversicherung AG		Germany	745.4	796.8
38	Platinum Underwriters Holdings, Ltd.		Bermuda	651.5	760.6
39	Montpelier Re Holdings Ltd.		Bermuda	624.0	668.8
40	Flagstone Reinsurance Ltd.	16	Bermuda	558.4	668.7
	Total			**174,131.2**	**159,285.9**

Pretax Operating Income (Mil. $)		Combined Ratio (%)		Total Adjusted Shareholders' Funds (Mil. $)		ROR (%)	
2011	2010	2011	2010	2011	2010	2011	2010
3,187.0	3,620.7	114.1	101.0	28,737.4	29,037.2	7.7	9.4
2,003.0	1,022.0	101.3	94.5	30,931.0	26,608.0	7.5	4.1
NA	NA	56.0	93.2	95,000.0	94,400.0	NA	NA
778.9	1,280.8	104.5	98.5	9,914.5	9,443.9	5.0	8.6
-3,006.1	912.8	130.6	90.3	28,154.1	28,142.9	-26.6	8.0
299.1	502.3	104.9	98.6	5,701.9	5,758.4	3.2	5.8
746.4	757.0	NM	NM	6,137.1	5,040.6	8.4	9.4
-593.3	553.4	125.4	95.0	6,467.5	7,206.9	-11.2	10.1
-240.9	489.3	118.5	102.8	6,071.4	6,283.5	-5.1	10.6
-302.1	442.8	113.9	98.2	4,083.0	4,284.5	-7.1	10.2
NA	NA	NA	NA	28,074.2	30,529.3	NA	NA
37.0	127.9	103.6	97.7	1,242.0	1,185.7	1.2	4.3
NA	NA	NA	NA	16,426.6	17,860.1	NA	NA
2,578.3	1,759.0	NA	NA	19,388.5	20,229.6	NA	NA
-480.3	262.6	143.1	111.4	1,913.0	2,191.9	-18.9	10.8
139.5	229.9	100.6	95.7	1,097.7	1,124.4	5.8	10.9
NA	NA	97.8	80.1	NA	NA	NA	NA
-966.3	-20.1	168.8	111.2	2,191.8	2,801.8	-46.6	-1.1
NA	NA	119.2	88.6	5,444.1	5,625.0	NA	NA
75.0	325.9	99.3	89.4	3,448.4	3,504.8	3.9	17.1
-163.8	394.3	113.5	83.7	1,729.9	1,639.3	-9.3	20.0
606.4	232.9	77.8	101.0	5,458.4	5,117.8	31.6	11.7
104.7	114.0	98.1	96.9	769.0	750.4	6.4	9.1
-277.9	92.5	103.8	72.3	3,297.7	3,446.9	-18.2	7.6
305.5	692.0	96.0	84.9	3,149.0	3,075.8	17.4	43.1
323.1	307.3	106.4	99.9	6,211.7	5,685.0	16.6	17.7
-152.8	288.4	122.0	93.0	3,335.4	3,320.5	-8.8	17.4
208.6	329.0	98.2	85.7	2,809.2	2,918.0	12.5	23.5
615.0	755.6	85.6	72.5	NA	NA	36.2	42.5
-246.1	106.4	127.2	83.7	2,195.3	2,676.3	-23.0	12.6
384.7	366.9	85.5	53.7	1,303.4	1,352.9	30.3	29.3
-143.0	340.3	115.6	78.5	3,172.0	3,236.9	-10.8	24.6
-128.2	345.5	126.0	87.0	2,611.2	2,848.2	-11.7	30.9
402.3	573.8	87.4	74.3	3,998.3	3,954.0	32.5	46.5
-18.8	145.0	100.2	94.0	1,612.8	2,028.4	-2.0	14.9
NA	NA	114.3	38.4	3,055.2	3,386.3	NA	NA
12.1	20.0	103.3	105.0	805.2	810.6	1.5	2.3
-209.4	187.7	145.3	89.3	1,690.9	1,895.5	-25.7	20.5
-154.4	164.0	131.1	82.0	1,399.3	1,628.8	-22.3	23.4
-278.1	29.0	153.6	99.9	789.0	1,134.7	-46.9	3.9
5,445.1	**17,751.0**	**107.2**	**95.1**	**349,817.3**	**352,164.7**	**1.7**	**10.0**

Source: Standard & Poor's. (2012). *Global Reinsurance Highlights 2012 Edition,* 8-51, http://www.standardandpoors.com/spf/upload/Ratings_EMEA/GRH_2012.pdf

Abstract (English)

The purpose of this paper is to show the historical aspect and theoretical background of reinsurance industry nowadays and to examine the current trends of global reinsurance market. The first chapters of the paper describe brief history of reinsurance and provide with the general definitions, explain main types and forms of reinsurance agreements including financial reinsurance.

The main focus of this paper, widely described in the last chapter, is the importance of reinsurance industry in the world financial system. Global reinsurance market involving all regions of the world plays an enormous role in the development of the world insurance industry. The participation of big developing countries and their growing global market share brings a lot of changes to the future development of this industry.

Abstract (German)

Das wichtigste Ziel dieser wissentschaftlichen Arbeit ist die Beschreibung des historischen Aspektes und theoretischen Hintergrunds der Rückversicherung heutzutage und die fortlaufenden Trends des globalen Rückversicherungsmarktes. Die ersten Kapitel dieser Arbeit beschreiben die kurze Geschichte der Rückversicherung und geben die wichtigsten Definitionen, erklären die Hauptarten und –formen des Rückversicherungsvertrages einschließlich Finanzrückversicherung.

Der Schwerpunkt dieser Arbeit ist die Wichtigkeit der Rückversicherungs-Industrie in dem Weltfinanzsystem. Der globale Rückversicherungsmarkt, der mit allen Regionen der Welt verbunden ist, spielt eine wesentliche Rolle in der Entwicklung der Versicherungsindustrie weltweit. Die Teilnahme der großen Entwicklungsländer an der Rückversicherung und ihrer wachsender globaler Marktanteil bringt viele Änderungen in der Zukunft dieser Industrie.

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