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THE IMPLICATIONS OF THE FINANCIAL CRISIS TO THE INSURANCE INDUSTRY – GLOBAL AND REGIONAL PERSPECTIVE

ABSTRACT

This paper analyses the impact of global financial crisis on individual functional operations and resulting insurance industry's relationships with regulators, rating agencies, insureds, reinsurers and capital market investors in order to determine current insurance industry position and to derive a conclusion on necessary measures that have to be taken by insurance companies. The research results indicate that global financial crisis has negative impact on all aspects of insurance companies' business and suggest the need to focus on core business activities and the necessity of further improvement of holistic risk and capital management of global and regional insurers with the aim to overcome problems imposed by financial crisis.[1]

***Key words**: financial crisis, recession, insurance, reinsurance, risk management*

I. INTRODUCTION

The cyclical movements, represented in expansions and contractions, in the economy are typical for market economies[1], and one of the most important lesson of the financial history is that sooner or later every bubble bursts (Ferguson, 2008). The contractions in the economy are usually refered to as crisis. The issues of crisis are studied even in XIX century by Marx, who pointed out that the existence of crisis in the capitalism is conditioned by the inability of producers to sell goods in determined time, which then cause the inability of the realisation of the whole series of payments (Marks, 1978) and in XX century by Keynes whose key point was that effective market demand represents the central problem of modern capitalism (Kejnz, 1956). These thesis have become once more evident with the realisation of the current financial crisis.

The root of current financial crisis is housing market bubble that was created by excesive expansion of banks' credit activities during 2004 and 2005 in the U.S. Led by the opportunities of achieving higher interest rates while speculating on the posibility that they will be able to monetise their receivables in the case of credit default, by the sale of underlying real estates, in addition to usual mortgage credits, banks provided subprime mortgage lending.[2] The expansion of subprime mortgage credits was financed by excessive use of securitisation[3] while the newly created securities were collateralised by these credits. Therefore, the securitisation enabled the transfer of credit default risk to financial market investors. The problem arised when the housing market bubble burst creating a situation

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where banks were not able to compensate even a half of subprime mortgage related debt. The resulting liquidity crisis of the banking industry in the U.S. had been transformed into the financial crisis in the U.S. and later, due to the increased interconnectedness imposed by globalisation, it transformed into global financial crisis. The subsequent loss of confidence in the financial system and the reduction of banks' credit activities provoked the decline of share prices, consumer and investment consumption, which resulted with the global recession in 2008. The reduction in economic growth provided an impetus for monetary and fiscal intervention and increased regulation, measures similar to those taken during the Great Depression of 1930's (Dobb, 1961). The horizon promises continued turbulence as OECD's predicions for first six months of 2009 are that the contraction of economic activities will continue in all OECD member countries as well as in China, India, Brazil and Russia (OECD, 2009).

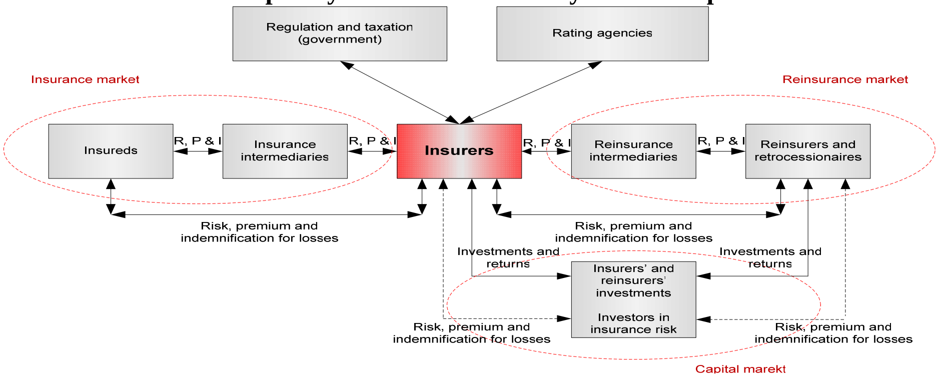
The direct impact of the financial crisis on the insurance industry was less prominent than it was on the banking industry. According to the IMF estimates total losses of writedowns on U.S. loans and securities for the banking industry will be between $725 and $820 billion while for the insurance industry they will be between $160 and $250 billion (Global Financial Stability Report, 2008, 15). However, the financial crisis and subsequent recession imposed substantial changes to the institutional and business landscape in which insurance industry operates. Having taken into the consideration the fact that effects of global financial crisis has started to be felt in the regional economies with a certain delay, compared to when they first had been felt in developed western economies, the analysis of its impacts on global insurance companies' business operations and gained experience is critically important for regional insurers. Thus, the aim of this paper is to determine the short and long-term impact of global financial crisis on different business activities of global as well as regional insurance companies' and to derive conclusions for desirable future development and measures that are needed to be taken to accomplish it in each segment of their business.

II. THE COMPLEXITY OF INSURANCE INDUSTRY RELATIONSHIPS

Insurance is one of the key mechanisms of the risk management.[4] As insurance is based on spreading of losses incurred by a few over the entire group of isureds, insurance companies may be regarded as institutionalised pools of insurable risks, which primarily role is to put together risks of many insureds, collect premiums and indemnify those insureds that suffer a financial loss from a loss event defined in an insurance policy. In order to minimise their excessive exposures to insurance risks, those that are above their retention levels, insurance companies transfer all or part of underwritten risks to reinsurance and/or, by using innovative risk transfer mechanisms, to capital markets' investors. Additionally, on the basis of financial resources obtained by collecting premiums for underwritten risks, insurance companies are one of the major institutional investors. The rationale behind their investment operations is the need to achieve additional income and increase ability for indemnification of losses. In addition to participants with whom insurance companies have direct relationships at insurance, reinsurance and capital markets, important influence on insurance companies have government, which determines the regulatory framework for their business operations, and rating agencies, which assessments of credit and financial strength of insurance companies determine their business success at insurance, reinsurance and capital markets. The complexity of relationships, which stem from their business activities, between insurance companies and many different institutions and individuals is shown in figure 1.

Figure 1

Complexity of insurance industry relationships



Note: R, P & I are abbreviations for risk, premiums and indemnification for losses flows

Although the insurance risks are the main focus of insurance companies' risk management, aforementioned relationships are the source of numerous other risks[5] to which insurance companies are faced with. Although the literature mentions additional risk types such as liquidity risk (Christoffersen, 2003 and Gallati, 2003), media risk (Esch, Kieffer, and Lopez**,** 2005), legal, regulatory, accounting and tax risk (Jorion, 2003), the total insurers' exposure to risks consists of insurance risks (risks that are on the liability side of balance sheet), market and credit risks (risks that are on the assets side of balance sheet), operational and reputational risks. Having considered many different business activities and resulting relationships we argue that the impact of global financial crisis to the insurance industry is complex by its nature as it could have the potential to simultaneously affects all of different risk types to which insurance companies are exposed to. Thus, assessment of the impact of global financial crisis to insurance industry requires the analysis of its impact on the developments in insurers' regulation, ratings, underwriting, investments and risk transfer operations.

III. THE FINANCIAL CRISIS AND THE ROLE OF GOVERNMENT AND RATING AGENCIES

Public confidence in insurance industry is of crucial importance as, by paying premiums, insureds actually are buying promises of future payments that are conditional on the occurrence of the predefined loss events. The role of government is to regulate (to set the rules that will govern insurance companies operations) and supervise (to oversee insurance companies with the aim to ensure that established rules are obeyed) the insurance industry in order to protect public confidence in it. Although the degree of government interference in the insurance market functioning varies between countries, its role is universally the same – customer protection. With that aim governments determine access to the market, compulsory insurance purchases, competition rules, regulate and supervise solvency and directly intervene in the case of insurers that are in financial troubles. Additionally, the public confidence, especially in the case of commercial insurance buyers, is conditional on independent rating grades, summary information about insurers financial strength (Harrington and Niehaus, 2004 120), provided by rating agencies. If the estimate of insurer's financial strength is reflected in lower rating grade the insurance buyers are informed that there is greater probability of insolvency of that insurer than of insurer who has higher solvency rating. Having considered their importance, it is obvious that any deficiencies in the functioning of rating agencies and government regulation and supervision has tramendous impact on public confidence and thus on the functioning of the insurance industry.

As the present crisis resulted from the complex interaction of market failures, global financial and monetary imbalances, inappropriate regulation, weak supervision and poor macro-prudential oversight (Larosiere, et al, 2009, 14) it is obvious that the financial crisis has revealed shortages in the functioning of government regulation and supervision. The most obvious example of this failure and failure of the rating agencies is the financially most troubled insurer American International Group (AIG). Althought the company has achieved positive financial results in the underwriting business, due to its excessive exposures to subprime mortgages that resulted from credit default swaps[6] business of its financial products division and its negative investment results, it declared a loss of $13 billion in August 2008. In order to protect public confidence and avoid potential increase for already present systemic financial risk the government intervened firstly by providing credit line of $85 billion in return for 79.9% share in AIG, factualy nationalising the company, and later by providing additional $37.8 billion. Although the insurance business was well regulated and supervised, the credit default swap business was not supervised, the company reinvested cash collateral[7] and rating agencies have not downgraded its rating until 15th September, when it became obvious that the company is in financial troubles.

This financial crisis has clearly showed that neither government regulation nor rating agencies have in a timely manner anticipated the potential problems, which implies the need for a change in order to prevent problems reccuring in the future. The history shows that market failures are inevitably followed by the change in regulation and supervision.[8] In the UK, Germany and the U.S. governments have already announced their intentions to change current regulation and supervision. However, it must be noted that the financial crisis have proved the adequacy of the regulation of underwriting activities of insurance industry but emphasised the failure of the entirety of their supervision. Because the causes of insurers' and reinsurers' failures were in the field of non-insurance operations and with these operations related entities[9], the change in governments' oversight of the insurance industry must be focused on previously, until the financial crisis, non-regulated constituent entities. Also, having considered the fact that different constituent entities operate in different regulatory and supervisory regimes, financial crisis has emphasised the already existent need for more cross-border cooperation. Problems with credit default swaps indicate the need for more transparency of innovative financial products. Additionally, although we consider the direct governments' intervention was necessary it should be implemented only as a short-term measure in order to stabilise the market, but on a long-term basis it is counterproductive as there is always the danger of favourising one company over another. The unenviable experience of former socialist countries speaks in favour of this. However, we argue that support for holistic approach in insurers' risk management, which contradicts to managing risks in sylos, is of critical importance and that special emphasis in the field of regulation and supervision changes should be given to this issue. The holistic approach to risk management of insurance companies, which individually measures each of the risks to which insurance companies are faced with (insurance, market, credit, operational and reputational risks) but also consider them in integration in order to determine the aggregate capital needed for total risk exposure, need to be embeded into day-to-day operations and not operationally but strategically focused.

Some of the mentioned issues have already been tackled. For example, the new framework for the supervision of the insurance companies in Europe called Solvency II, which is intended to be implemented by 2012, will introduce a holistic approach in regulation and supervision of insurance companies operations, improve group supervision with cross-border cooperation at Euorpean level and will emphasise the role of internal risk and capital management models. Also, International Association of Insurance Supervisors enacted the Standard in order to facilitate regulatory and supervisory impetus for enterprise risk management in insurance companies.[10]

Due to revealed failures in the ratings, it is reasonable to expect that rating agencies will determine new set of rules and increase the capital requirements as insurance industry is faced with more risks than they previously envisaged. They need to be more regulated and supervised in order to provide really independent, timely and reliable information about insurers' financial strength. Additionally, as in the case of regulation and supervision, the rating agency criteria used have to provide impetus for enterprise risk management.[11]

IV. THE IMPACT OF FINANCIAL CRISIS ON THE UNDERWRITING

In the area of underwriting, which is the core function of insurance industry, the strongest impact of financial crisis has been in the field of credit insurance. For example, in Europe credit insurers on average increased their premiums up to 30% for renewal business and up to 60% for new business (Serra and Harris, 2009). However, the most affected were monoline bond insurers with total losses estimated to be around $50 billion (Hess, Karl and Wong, 2008, 6). Bond insurance is a financial guarantee insurance that has been used since 1970's in order to provide the default guarantee primarily for bonds issued by municipalities. Later this type of insurance has started to be used for asset-backed securities. The essence of this type of insurance is the fact that in the case of issuer's credit default the insurer will settle obligations of the issuer, and usually the insurer gives unconditional and irrevocable guarantee that interest and principal will be paid on time and in full in the event of a default (AFGI, 2009). Monoline bond insurers, usually referred to as monolines, were among insurers that had the highest rating given by the rating agencies and by providing financial guarantees they were actually selling their rating, as rating that municipalities got from bond insurers were usually their sole rating. Thus, by providing bond insurance to issuers of municipal bonds and asset-backed securities monolines actually enabled them to collect capital cheaper than they would be able to without bond insurance, as its existence was a clear signal to investors that even high-risk subprime securities are secured enough to be repacked with investment grade ratings. This type of insurance functioned well until the housing market crisis that caused many issuers' credit defaults and subsequent losses to bond insurers. Finally, rating agencies downgraded the ratings of these insurers, producing the additional negative impact on investors in the securities related to subprime mortgages, and increased capital requirements, which means that now monoline insurers need to have more capital in order to obtain the same rating. The summary effect is the limitation in the availability of bond insurance in the U.S. The basic lesson of such a strong impact of the financial crisis on monoline bond insurers is the deficiency in the business model of specialised insurance companies that are not able to adequately diversify risks due to their concentration on only one type of insurance. Additionally, it testify the shortages of heavy relying on loss modeling of individual securities as the models applied by monolines had not been able to predict the crisis on the subprime mortgage market.

Having considered a large number of subprime-related lawsuits[13], the financial crisis will have a significant long-term negative impact on directors and officers liability insurance (D&O) and errors and omissions professional liability insurance (E&O). D&O liability insurance provides financial protection for the directors and officers and the corporation if the directors and officers are sued for mismanagement of the company's affairs and E&O professional liability insurance provides protection against loss incurred by a client because of negligent acts, errors, or omissions by the insured (Rejda, 2005, 325). Financial crisis has caused many losses and it is obvious that those who have suffered losses (such as investors in banks, other companies or securities related to subprime mortgages; banks or other companies themselves as well as their employees) can become plaintiffs. This could trigger insurers' obligations to provide indemnifications for losses that are covered under D&O and E&O insurance policies. For example, it is reasonable to expect lawsuits against banks or funds by their investors who can state reasons such as inadequate information on financial results, wrongful investment portfolio management or inadequate information on total risk exposures, as possible causes for indemnification of losses. It is too early to estimate the total exposure of insurance industry to these type of losses, as D&O and E&O liability insurance policies are usually issued on a claims-made basis, which means that the exact amount of claims may be known only after the reporting period, which is usually several months or a year after the coverage period of the policy. However, on the basis of the data generated by MSCAd database of the Advisen company, the possible total losses of the insurance industry from claims related to D&O and E&O liability insurance could reach $12.3 billion, of which losses related to D&O liability insurance are estimated to be in a range between $4.4 billion and $7.4 billion (Bradford, 2008a) while losses related to E&O liability insurance are estimated to be in a range between $2.4 billion and $4.9 billion (Bradford, 2008b). If these losses realise, they will have considerable impact on these segments of insurance market and will lead to limitation of available capacity for underwriting, incrase in premiums and tightening of underwriting conditions (more exclusions).

The impact of financial crisis on other insurance types is determined by reduction in total economic activity. This impact we should analyse in the context of income elasticity of insurance demand, which shows the percentage change in demand for insurance that results from a given percentage change in income. Studies (Hussels, Ward and Zurbreuegg, 2005 and Enz, 2000) has shown that the level of income directly influence the insurance demand and if other determinants of insurance demand are constant, the higher level of income will result with the higher insurance demand and vice versa. The fact that insurance industry is the most developed in developed economies testifies goes in favour to this conclusion. Also, income elasticity of insurance demand itself varies with the level of income as income elasticity in developing countries is the highest while it is much lower in developed and undeveloped countries. (Enz, 2000). Thus, the current economic recession can have more severe impact on the insurance industry in developing countries.

Having considered the income elasticity of insurance demand and the fact that growth of global life and non-life insurance premiums in 2008 was negative (Hess, Karl and Wong, 2008), we argue that financial crisis and subsequent economic recession will have a considerable negative effect on insurance demand in the future. The decrease of insurance demand will be especially pronaunced in life insurance, particularly unit-linked life insurance that are essentially investment products, as in the time of economic volatility and decreasing investment returns people are less prone for long-term commitments. Additionally, the decrease in demand for life insurance will not impact only new but also the existing business, as it is reasonable to expect an increase of life insurance contracts' lapses. Finaly, although the financial crisis will generally have negative impact on underwriting activities it could also provide opportunities for those types of insurance that show less elasticity to income, such as health, energy or agriculture insurance.

V. INSURANCE INDUSTRY INVESTMENT RESULTS AMID FINANCIAL CRISIS

Insurance industry's investments always need to be balanced in terms of the ratio between expected return and risk. The risk associated with investments has three major constituents: the price risk, or the risk of losses caused by decrease in the market value of assets held in insurers' investment portfolios, the risk of default, which is usually very low as insurers typically invest in highly secure investment-grade securities, and interest rate risk, which depends on the movement of interest rates (when interest rates increase, the value of fixed income securities decline (Harrington and Niehaus, 2004, 93)). Insurers' investment results have historically been positive and provided additional income that insurers used in order to offset negative results in underwriting operations, to offer more competitive premiums to insureds and higher profits to investors. However, the situation changed with the financial crisis, which caused significant capital market turbulences.[14] Investment results of insurance companies are negatively influenced by the decrease in values of shares that is caused by excessive liquidation of capital market positions, which are the result of diminished investors' confidence due to the present economic recession. Additionally, many central banks have significantly lowered the interest rates.[15] Although, the decrease of interest rates have positive impact on fixed income securities already present in the investment portfolios of insurers, it will have negative impact on future investment income. However, the financial crisis has provoked the paradigm shift in regard to the risk of default as it turned out that the strongest negative impact on insurers' investments had writedowns of investments related to subprime mortgages.

The impact of financial crisis on investment activities of insurance companies vary between individual companies. For example, Swiss Re had reported a net group loss of CHF 0.9 billion primariliy because of the decrease of net investment income of 29%, net realised investment losses of CHF 4.7 billion and net unrealised losses of CHF 5.5 billion, generated due to equity and alternative investments (Swiss Re's Annual Report for 2008). In contrast to Swiss Re, the leading reinsurers in the U.S. have reported investment income of $3 billion (Reinsurance Underwriting Report, 2008) a slightly lower than in 2007 when they reported $3.3 billion (Reinsurance Underwriting Report, 2007), primarily due to the conservative investment portfolios. Additionally, the financial crisis had different impact on investment results depending on the type of insurance. Life insurers' investment results are generally under more powerful negative impact of the financial crisis than non-life insurers' as they have invested in riskier investments in order to achieve higher investment returns. The rationale behind such structure of life insurers' investments is the need to be more competitive not only in relation to other life insurers but also in relation to banks, pension and investment funds. The importance of investment results is especially emhasised in the case of life insurers who provide unit-linked policies, life insurance products associated with investments into funds, as the key incentive for buyers of such products is profit making.

Having considered the impact of the financial crisis on insurers' investment activities it is obvious that it had greater impact on those insurers and reinsurers who experimented with high-risk investments, atypical for insurance industry, such as investments in asset-backed securities, non-rated shares and hedge funds. This emphasise the need for more conservative investments with more balanced ratio of risk and return and better allignment with insurers' liabilities. However, we argue that metamorphosis of the financial crisis into economic recession will have increasingly devastating impact on insurers' investment results due to strong negative impact to capital, real estate and exhange rate markets and incrasingly reduced possibility for investment risk diversification due to the global nature of the crisis.

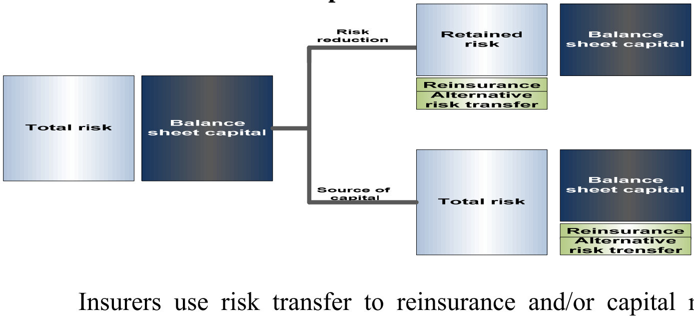
VI. THE EXPECTED EFFECT OF FINANCIAL CRISIS ON INSURANCE RISK TRANSFER

In managing underwritten risks insurers use risk retention and risk transfer. Although different, these methods are not mutually exclusive and are almost always used together. However, if the extent of use of risk retention is greater, the extent of use of risk transfer will be smaller, and vice versa. The basic aim is to achieve the optimal balance between costs and benefits of different insurance risk management methods. The amount of risks that can be retained within insurers' balance sheet is limited with the amount of balance sheet capital that is available for risk coverage, which implies that the greater the balance sheet capital the greater the risk retention would be. The financial crisis had limited the risk retention levels by decreasing the balance sheet capital.[16] However, the balance sheet capital that is needed for risk retention can be increased by issuing of shares or debt to capital market investors. Historically, in the presence of high prices of risk transfer, insurers utilised additional equity and debt capital provided by capital market investors as a support for greater levels of risk retention. However, the present financial crisis, which reduced the available capital of capital market investors and negatively influenced the business confidence, have limited insurers' access to this additional capital. Additionally, the insurers' financial problems imposed by financial crisis impact on their underwriting and investment activities have prompted rating agencies to downgrade their ratings, thus increasing the cost of additional debt and equity capital.[17]

Risk transfer solutions basically provide the reduction in the total retained amount of underwritten risks by their wider dispersion (Marović, 2001). However, they also serve as a substitute for insurers' balance sheet capital because, by reducing total underwritten risk, they reduce the total insurer's liability and thus contribute to reduction in total balance sheet capital that insurers have to hold in order to provide coverage for underwritten risks and protect required solvency level (see figure 2). Having considered the financial crisis impact on the increase of liabilities on underwritten risks and the decrease on investment returns and the availability and cost of additional debt and equity capital, it is obvious that risk transfer, as off-balance sheet substitute for "real" capital, becomes increasingly prominent in current economic conditions.

Figure 2

Different aspects of the role of risk transfer solutions



Insurers use risk transfer to reinsurance and/or capital markets as complementary solutions in order to reduce exposures to underwritten risks that exceeds their risk retention limits. Traditionally, insurers used reinsurance as the only solution for wider spreading of underwritten risks. However, during the late 1990's, because of increased frequency and severity of loss events that caused the limitation of reinsurance capacity and high reinsurance prices, insurers started using alternative risk transfer solutions that transfer insurance risks to capital markets. The same situation is very likely to happen in the aftermath of the financial crisis as it contributed to shareholders equity decrease, by 10.1% on average in the first nine months of 2008 (Guy Carpenter, 2008), across the reinsurance industry. Having considered that financial crisis negatively influenced the amount of reinsurers' available capital and that it also, as in the case of insurers, limits reinsurers' access to addtional debt and equity capital, it is obvious that financial crisis has similar impact on reinsurance companies. As a consequence of financial crisis impact, reinsurers will need to protect their scarce capital by increasing profitability through higher pricing or limited underwriting. In either case it is reasonable to expect that insurers will, as they did after hurricane seasone of 2005, increase the demand for utilisation of alternative risk transfer instruments. Also, their growth will be urged by investors who will be increasingly interested to invest in these instruments, which provide direct investments in insurance risk and thus diversification of total investment risk, as there is absence of correlation between insurance and other risks in investment portfolios (Heike and Kiernan, 2008) and because during financial crisis these instruments provided relativelly higher returns than corporate bonds with the same rating (Ozzizmir, 2008).

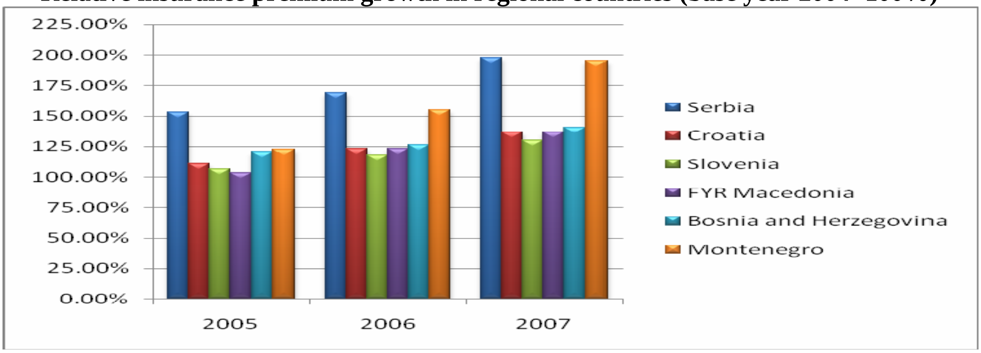
VII. THE REGIONAL INFLUENCE OF FINANCIAL CRISIS

Because of the globalisation, the financial crisis that originated in the U.S. has quickly transferred to developed and later to developing countries in Europe, including economies in the region of South East Europe. The direct impact of the financial crisis to the economies in the region is most visible in the reduction in value of stock market indexes of all stock exchanges in the region in 2008.[18] However, the direct impact of the financial crisis impact on regional economies has not been as severe as it has been in developed and some developing countries, such as Hungary. The regional financial industry is stable primarily because of the more stringent regulation and supervision of financial services, which had facilitated a significantly lower impact of financial crisis. In a banking industry, for example, in 2008 only Moldova had higher ratio of bank regulatory capital to risk-weighted assets than Serbia, while Serbia had highest ratio of bank capital to assets in the world (Global Financial Stability Report, 2008). In insurance industry, for example, Croatian Financial Services Supervisory Agency reduced the highest interest rate in the calculation of mathematical provision from 4.5% in 2006 to 3.3% for 2009 (Ordinance amending the Ordinance on minimum standards, methods of calculating and guidelines for calculating technical provisions in insurance, 2008), which aim is to prompt insurers to have even more conservative investments. Additionally, regional central banks, especially in Serbia and Croatia, have achieved to preserve banks' stability by increasing their reserve requirements. However, we are of the opinion that greater transparency of regional financial markets in relation to those in developed economies, due to the absence of innovative financial market instruments, such as asset-backed securities, had the most profound effect on significant reduction of the financial crisis impact on banks, insurance companies and other financial institutions.

Although the direct impact of the financial crisis has been limited so far, the indirect impact will be more pronounced. It has already negatively influenced the volume of foreign direct investments[19] and will also reduce banks' ability to lend abroad, thus reducing their credit potential. Also, it caused the economic recession that has been already felt in regional economies. In addition to the reduction in the growth of the real GDP in all regional countries, except FYR Macedonia,[20] the economic recession, which inevitably reduces regional companies' export possibilities to developed countries but also within the region, will further deepen the balance of payment deficit, already present in all regional countries except Slovenia. Having considered the fact that the key for economic stability and sustainable economic growth of regional economies, especially financial services industry, is in the stabilisation and continuous improvement of business and consumer confidence, regional governments and central banks have taken fiscal and monetary measures in this regard. For example, the government guarantees for deposits in banks in Serbia and Croatia have been increased to €50000 and HRK 400000 respectively. In addition, measures that will facilitate the consumer and investment demand for domestic products are needed, but regional governments have to avoid to implement measures that will lead to foreign trade protectionism as economic nationalism can provide only short-term benefits but always has long-term negative impact, as is demonstrated by the example of the Great Depression in 1930's, when protectionism measures deepen the crisis (Dobb, 1961).

Growth rates of insurance premiums on average in all regional countries have been much higher than in the developed economies (Straib and Bevere, 2008) in the period before the financial crisis (see graph 1). Although the final data on insurance premiums for 2008 are still absent, because of undeveloped insurance lines such as directors and officers liability insurance, bond insurance and errors and omissions liability insurance, that are at the forefront of the financial crisis impact in the developed countries, we assume that the same trend of growth, marked in previous years, have continued in 2008. Such trends in premium growth rates have made the regional insurance industry more resilient to the first wave of financial crisis impacts.

Graph 1
Relative insurance premium growth in regional countries (base year 2004=100%)



Source: Different sources of insurance markets' data for regional countries

The investment results of insurance companies are usually higher if wider range of financial instruments is present at capital markets, as insurers have more investment possibilities at their disposal for optimal portfolio structure designing. However, the impact of the financial crisis on the investment returns of regional insurance companies have been relatively smaller than in the case of insurers in developed countries exactly because of the absence of wider range of financial market instruments. In fact, the primary reason for smaller impact on investment returns on regional insurance companies has been the absence of innovative financial instruments. Additionally, the undeveloped capital markets and the absence of securitisation have prevented insurers from engagement in complex financial arrangements. This had an important influence on the preservation of the stability of regional insurance industry as insurers' engagement with innovative financial arrangements, such as credit default swaps, was the crucial cause of their problems in developed countries, as the example of AIG clearly demonstrates. Therefore, the financial crisis has directly influenced regional insurers only through the impact of the decreased stock market indexes on insurers' results on investments in shares and investment funds. However, having considered the fact that national insurance laws have limited insurers' investments in shares and that high risk assets represented only small amount of the total insurers' investments[21] it is obvious that even the decline of stock market indexes will have limited effect on regional insurers.

The direct impact of the financial crisis on regional insurance industry has been limited so far. However, as in the case of global insurers, the economic recession has the potential to seriously destabilise the insurance industry by its direct impact on the future decrease in insurance demand, especially in the field of life insurance, and by its impact on investment returns because of further decrease in the value of stock market indexes. Additionally, the access to additional debt and equity capital will be limited, because of limited available capital at regional capital markets, and expensive, because of falling insurers' shares prices. Although such development could potentially trigger solvency problems they also represent the opportunity of regional leaders, such as Triglav, Sava, Croatia or Dunav insurance company to further expand their regional presence by way of relatively cheap acquisitions. Finally, as regional insurers are dependent on the global reinsurance capacity and premiums, the explained most probable increase in reinsurance premiums on a global level will have negative influence on regional insurers' profitability, which accompanied with inflationary pressures can trigger premiums increases.

VIII. CONCLUSION

The analysis of the impact of the financial crisis to the insurance industry has demonstrated the complexity of insurers' exposures to risks and multiplying influence to their overall solvency position. The research has shown that financial crisis and economic recession simultaneously influenced the decrease in the value of assets and an increase in the value of liabilities because it had strong negative impact on all insurers' business activities - underwriting, investments and risk transfer. Because insurers' capital is defined as the difference between the market value of assets and the market value of liabilities and serves as a cushion against the insolvency risk, it is obvious that financial crisis had multiplying effect on capital reduction and thus the increase of insolvency risk of insurance companies. As the decrease in the capital leads to reduced perceived value of insurers among potential insureds and investors, the capital depletion influenced the decrease of insurers' share prices and, in combination with overall economic slowdown, the decrease in insurance demand. Such developments implies that it is reasonable to expect that insurers will intensify efforts to improve their capital position by consolidation and premium rates' increases, especially for those insurance classes that have been severely hit by the crisis, such as credit, D&O and E&O liability insurance. Additionally, as combined ratio, the measure of insurers profitability, is determined by premiums, claims and expenses, and because only claims are not directly manageable by insurers, we argue that in order to increase profitability and thus solvency position, in addition to premium increases, insurers should decrease expenses through efficiency improvement.

Although the overall impact of the financial crisis to the insurance industry was negative, the research results indicate that it has not been the same for all insurance companies. The crisis had strongest negative impact to those insurers who were engaged with innovative financial products, who were specialised and thus not well diversified and who had aggressive investment policies that produced investment portfolios with a considerable share of riskier assets, atypical to insurance industry's traditional assets. This clearly demonstrates that insurance companies' risk management practices had failed to identify overall risk exposures. Also, the overall insurance industry results show that the industry generated underwriting profit. These findings suggest that insurance companies should focus on their core business activities, on underwriting of insurable risks, as that is what they know the best, and that their investments should be more conservative and balanced with corresponding liabilities. Also, insurers should focus to the improvement of holistic approach to risk and capital management that could provide them with the ability to identify, in a timely manner, all potential treats to their solvency position, thus making them more resilient to similar shocks in the future, with the ultimate aim of insureds and shareholders protection. This will require greater managers' responsibility for identification, measurement, monitoring and treatment of all identified risks in conformity with defined risk tolerance, greater emphasis to accumulations of risk exposures, precise definition of maximal total limits for individual losses and greater transparency in reporting overall risk exposures.

NOTES

1. During the 1960-2007 period 21 OECD countries experienced 122 recessions, 112 credit contraction episodes, 114 episodes of house price declines, 234 episodes of equity price declines and their various overlaps. (Claessens, Kose, and Terrones, 2008)
2. Subprime mortgages exposed banks to higher credit risks as they were provided without any participation of debtor, without banks' insight into credit capability of debtors and even without any insight into debtors' income but with significantly higher interest rates.
3. Securitisation is the process by which an asset (or asset pool) is sold for cash, which in turn is raised by the sale of securities whose cash flows are collateralised by the principal and interest income on the original asset pool. (Culp, C.L., 2006)
4. Other forms include risk avoidance, loss prevention and reduction, retention and non-insurance transfers.
5. In this context we consider the most comprehensive definition of risk according to which "the risk is the combination of the probability of an event and its consequences". (ISO/IEC Guide 73, 2002)
6. Credit default swap is a bilateral contract on a par value of a specified reference asset, with a protection buyer that pays a periodic fixed fee or a one-off premium to protection seller (guarantor), in return for which the seller will make a payment on the occurrence of a specified credit event. (Choudhry, 2006)
7. By lending assets, which are hold in order to meet long-term liabilities, for short periods in return for cash collateral insurers provide short-term liquidity. This practice is not considered controversial in the US. However, AIG reinvested that cash collateral in order to generate extra returns and by that exposed policyholders to liquidity risk, especially because the company reinvested its collateral in the residential mortgage-backed securities.
8. For example, the Sarbanes Oxley was enacted after the financial scandals of Enron and WorldCom.
9. For example, AIG's financial products unit.
10. The Standard states that supervisors should review insurers' risk management processes and financial conditions and if necessary drive them to strengthen it, including solvency assessment and capital management processes. Source: Standard on Enterprise Risk Management for Capital Adequacy and Solvency Purposes, International Association of Insurance Supervisors, October 2008, Basel

11. For example, in 2007 rating agency Standard and Poor's embedded estimates of the degree of the enterprise risk management implementation in its ratings criteria.
12. Although the word "monolines" can also be applied to other specialised, insurers engaged in only one type of insurance business.
13. In just the first nine months of 2008, the number of subprime mortgage and related cases filed (448) significantly exceeded the total for all of 2007 (294). (Nielsen, Paczosa and Schoeffler, 2008).
14. Capital market indexes tramandously decreased in 2008. For example, during the third week of September 2008 FTSE 100 decreased for 3.7%, CAC decreased for 3.3%, DAX decreased for 2.5% and Dow Jones decreased for 504 basis points.
15. For example, the Bank of England lowered the official bank rate in March 2009 to 0.5%, the historical minimum since the bank's foundation in 1694.
16. In the first eight months of 2008 non-life insurers have lost 10% to 15% while life insurers have lost 15% to 20% of their shareholder equity (Hess, Karl and Wong, 2008).
17. If the rating is downgraded the insurance company will appear riskier to investors and they will consequently demand a higher return on their investments in securities issued by insurance company.
18. For example, in the period between 1.1.2008 till 1.1.2009, index of most liquid shares of the Belgrade stock exchange – Belex 15 decreased in value by around 78%, Zagreb's stock exchange index – CROBEX decreased in value by around 67% and Slovenian stock market index – SBI 20 decreased by around 70%.
19. For example, the volume of foreign direct investments in 2008 in relation to 2007 in Croatia was reduced by more than 12% while in Bosnia and Herzegovina it was reduce by more than 68% (Transition Report, 2008).
20. In 2008 in relation to 2007, the real GDP growth decreased from 6.8% to 4.3% in Slovenia, from 5.6% to 3.5% in Croatia, from 6.8% to 6.0% in Bosnia and Herzegovina, from 10.3% to 7.0% in Montenegro and from 7.5% to 7.0% in Serbia, while in FYR Macedonia it slightly increased from 5.1% to 5.3% (Transition Report, 2008).
21. For example, in the third quarter of 2008 the participation of shares in investment portfolios of Serbian insurance companies was 11% while the participation of insurers' investments in investment funds in Croatia in 2007 was 11.2%

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POSLJEDICE FINANCIJSKE KRIZE NA INDUSTRIJU OSIGURANJA – GLOBALNA I REGIONALNA PERSPEKTIVA

SAŽETAK

U radu se analizira utjecaj svjetske financijske krize na pojedinačne funkcionalne operacije i iz njih proizlazeće međuzavisnosti industrije osiguranja sa regulatorima, rejting agencijama, osiguranicima, reosiguravateljima i investitorima na tržištu kapitala u cilju determiniranja sadašnje pozicije industrije osiguranja te na bazi toga donošenja zaključka o neophodnim mjerama koje osiguravajuće kompanije trebaju poduzeti. Rezultati istraživanja ukazuju da svjetska financijska kriza ima negativnog utjecaja na sve aspekte poslovanja osiguravajućih kompanija i sugeriraju potrebu fokusiranja na izvorne poslovne aktivnosti i neophodnost daljeg unapređenja holističkog upravljanja rizikom i kapitalom globalnih i regionalnih osiguravatelja u cilju svladavanja financijskom krizom nametnutih problema.

Ključne riječi: *financijska kriza, recesija, osiguranje, reosiguranje, upravljanje rizikom*