

Kozarevic, Safet; Sain, Zeljko; Hodzic, Adela

## Article

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# OBSTACLES TO IMPLEMENTATION OF SOLVENCY II REGIME IN NONLIFE INSURANCE COMPANIES IN BOSNIA AND HERZEGOVINA

**Safet Kozarevic<sup>1</sup>**  
**Zeljko Sain**  
**Adela Hodzic**

## **Abstract**

Aimed at protection of the market and consumers, the control of solvency is very important for insurer's business activities. Regarding the fact that insurer's insolvency causes a chain of problems, the state regulation is needed that forces insurers to keep their solvency at the necessary level. Insurance companies in the European Union work on the implementation of a new regulatory framework defined by the Solvency II Directive, which demands a better risk management as well as a better connection of capital and risk profile, increased transparency, and higher flexibility of insurance companies' business. In the period to come, this would present a huge challenge for the authorities in Bosnia and Herzegovina (BiH) as well, which would need to prepare their resources for the introduction of the Solvency II concept. For this purpose, the analysis of the current condition of the insurance market in BiH was made. By using the primary research and applying the survey as a questioning technique, the attitudes were gathered on the current conditions and possibilities for the implementation of the Solvency II Directive into the business activities of insurance companies in BiH.

**Keywords:** nonlife insurers, Solvency II, capital adequacy, solvency margin.

*Jel Classification:* G22, G28

## **INTRODUCTION**

A regulatory challenge has been put before insurance companies in the form of the new Solvency II Directive, which the European Union (EU) started creating at the beginning of the new millennium. The point at issue is the Directive 2009/138/EC that

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<sup>1</sup> **Safet Kozarevic**, PhD, Associate Professor, Faculty of Economics, Universita of Tuzla; **Zeljko Sain**, PhD, Associate Professor, School of Economics and Business, University of Sarajevo; **Adela Hodzic**, MA, Moja Banka, Sarajevo, Bosnia and Herzegovina.

was adopted and announced in 2009. This regulatory framework, which is a result of a turbulent environment and changes in other segments of the financial system, demands an integral approach to risk management by insurance and reinsurance companies, better connection of the capital structure and risk profile, increased business transparency, and higher flexibility of insurance companies' business activities. One of the basic goals of this new regulation is to achieve a universal dynamic measure of solvency. Since the implementation of the new regulation is extremely complex, the participation of regulatory bodies of all EU member states is needed.

The basic concept of Solvency II is evident in the approach to integral risk management. This actually means that the risk culture needs to be infused in the whole company's pyramid and those able to respond to such a challenge shall go one step ahead of their competition. Financial companies should have a defensive mechanism regarding the appropriate volume of capital that would ensure fulfilling obligations due for payment upon their receipt (liquidity principle) but also the one that would provide a permanent payment ability (solvency principle), whereby the minimum amount of capital is legally determined depending on the specific features of certain markets. Hence, insurance companies should be adequately capitalized in relation to the risks taken, provided that they adapt their business policy to their own risk exposure.

A new regulatory framework Solvency II can be seen through three pillars, whereby the first pillar is related to quantitative measures, the second one is related to the risk management system and control over the company's business activities by the supervisory body, while the third pillar refers to the market discipline and increased business transparency. In the first pillar, Solvency II joins demands in terms of company's capital, their investment activities and their technical reserves.

Solvency II starts from two levels of capital Solvency Capital Requirement (SCR) and Minimum Capital Requirement (MCR). SCR defined the level of capital necessary for an insurance company to perform contract obligations and be solvent regarding the risks taken, while MCR is the lowest allowed level of a company's capital. Numerous studies showed that underestimating technical reserves in the existing regulation Solvency I is definitely one of the drivers of insolvency of nonlife insurance companies. Unlike the Solvency I concept, the new regulation Solvency II uses technical reserves for calculating SCR.

The introduction of the Solvency II regulation reflects the requested capital since the risks being observed expanded. The basic idea of this concept is that different insurance companies should possess different level of capital, whose amount shall be determined on precisely identified and defined risks. In this paper, the research focuses on the model of capital adequacy, that is, the Risk Based Capital Model (RBC Model) developed in the USA as early as in 1992 for life and in 1993 for nonlife insurance. This model is used for determining the amount of capital that would reflect the size and the total exposure to risk of an insurance company.

Regarding the constitutional system of government of BiH, the insurance sector is regulated by the institutions that supervise and regulate the insurance market at the level of entities. These include two supervisory institutions at the entity level: Insurance Supervisory Agency of the Federation of BiH (FBiH) and Insurance Supervisory Agency for Republic of Srpska (RS), while Insurance Agency of BiH is at the state level, which is without the supervisory function. In the period to come, the authorities in the field of insurance in BiH shall need to end the harmonization and

adaptation of the valid BiH laws with the Solvency II Directive, but they would also have to conduct the activities for preparing the implementation of the Solvency II concept in order to create an efficient control over business activities of insurance companies. Since the introduction of new regulatory rules on the BiH market is a complicated and complex process, the cooperation shall be necessary among the regulatory and supervisory bodies, insurance companies and professional associations in BiH.

In the modern business environment, developed insurance companies realized an inevitable significance of the concept of capital adequacy as a key variable in all solvency models. In the future, we may expect the adaptation of the BiH insurance sector to the solutions suggested by Solvency II. The new regulations impose on insurance companies the need to develop internal models that would foster the leading insurance companies on financial markets. However, the problem appears in the cases of insufficiently financially solid companies that would still use the standard formula. Ultimately, we shall see the improved internal models of risk management in accordance to the generally set principles. The aim of this paper is to provide an answer to the question whether insurance companies in BiH are prepared to rise to the challenge of Solvency II, especially in view of the quantitative demands of the first pillar of this regulatory project, that is, the concept of capital adequacy.

The main research hypothesis is formulated as follows: Nonlife insurance companies in BiH are still not prepared for the implementation of the new regulatory framework Solvency II and they would need to conduct some systematic changes in their risk management system, especially in terms of their models for determining capital adequacy.

## **CAPITAL ADEQUACY IN NONLIFE INSURANCE COMPANIES IN BIH**

Nonlife insurance companies in BiH operate on the principles of the version adapted to the Solvency I Directive (Directive 2002/13/EC), which defined the company as solvent provided that it has:

- adequately reserve for covering due payments;
- adequately calculated solvency margin for covering unexpected liabilities, and
- minimum guarantee fund.

As in the EU member states, according to the regulations in BiH the solvency margin is calculated by applying the fixed coefficient, based on the premium index or claims index for nonlife insurance and on the amount of mathematical reserve for life insurance.

Capital adequacy is the ratio of the stock capital and solvency margins, meaning the minimum guarantee fund of an insurance company. In BiH, solvency margin is calculated on the model of the fixed coefficient in accordance to the Rulebook on the Elements and Control of the Solvency Margin enacted by the Insurance Supervisory Agency of the FBiH (FBiH Official Gazette, 3/13), while in RS, solvency margin is calculated in accordance to the Rulebook on Elements and Control of Solvency Margin of the Insurance Companies in Republic of Srpska (RS Official Gazette, 103/12). In both rulebooks, solvency margin is calculated separately for life and nonlife insurance. For nonlife insurance, solvency margin is determined as in Solvency I regime, meaning

on the basis of the premium index and claims index, whereby the higher result is taken. Table 1 shows the calculation of solvency margin in nonlife insurance companies in BiH and the defined calculation of solvency margin in accordance to the Solvency I regime.

**Table 1.** Calculation of solvency margin in BiH as specified by the Directive 2002/13/EC

	Calculation of solvency margin	
	Premium index method	Claims index method
Basis for calculating solvency margin	BAM 100 million gross premium in the last fiscal year	BAM 70 million of average gross claims in the last three fiscal year
Calculation rate	18% on the amount below BAM 100 million and 16% on the amount above BAM 100 million with the ratio number correction	26% on the amount below BAM 70 million and 23 % on the amount above BAM 70 million with the ratio number correction
Minimum guarantee fund	1/3 of solvency margin, in the range of BAM 1-3 million, depending on the type of insurance (according to the Solvency I regime in the range of BAM 2-3 million, depending on the type of insurance)	

The past analyses of the insurance sector in BiH (Kozarevic and Kovac 2013; Selimovic 2012; Sain and Taso 2012) defined the major causes of insurers' insolvency as follows:

- overestimation of assets and capital;
- underestimation of technical reserves;
- late payment of insurance compensations;
- inappropriate investment policy;
- debts to business banks;
- defined insurance premium that is not appropriate to risks taken;
- unfounded premium discounts and other forms of unfair competition;
- non-transparency of financial reports;
- uncontrolled transactions with the allied companies and
- inappropriate internal and external control.

All the factors mentioned above have so far led to insolvency of several insurance companies in BiH. The statistical indicators in the Report for the year 2012 show that the insurance sector registered the increase in assets by 8.70% in the sector of financial services, when compared to the year 2011, although banks still dominate the financial market in BiH with the share of 86.31%.

The latest statistical indicators show that currently in BiH there are 25 active insurance companies, 14 of them operate with nonlife insurance, one company deals with life insurance, nine of them are composite companies and one deals with reinsurance. In 2012, two companies lost their work licenses, one of them was involved in nonlife insurance and the other one in life insurance, and both were domestically-owned. According to the latest statistical indicators, the insurance and reinsurance sector has a share of 4.77% in the total assets of the financial sector in BiH, worth BAM 24.6 billion. This is certainly a low percentage, considering the importance of insurance companies as institutional investors.

In 2012, insurance and reinsurance companies in FBiH registered an increase in the total income by 3.46% when compared to 2011. In RS the total income also increased by 3.58% when compared to 2011, as Table 2 presents (source, Insurance Agency of BiH, 2013).

**Table 2.** Total income of insurance and reinsurance companies in 2009, 2010, 2011, and 2012 (in BAM million)

	2009	Share (%)	2010	Share (%)	2011	Share (%)	2012	Share (%)
BiH	503	100	516	100	526	100	545	100
FBiH	361	71.80	361	70.01	368	69.97	381	69.94
RS	142	28.20	155	29.99	158	30.03	164	30.06

The profit in insurance companies in FBiH also increased by 21.21%, while in RS the profit increased by 39.94% when compared to 2011. The capital of insurance and reinsurance companies was increased in 2012 by 3.60% when compared to 2011 (see Table 3, source Insurance Agenci of BIH, 2013).

**Table 3.** Sum capital of insurance and reinsurance companies in 2009, 2010, 2011, and 2012 (in BAM million)

	2009	Share (%)	2010	Share (%)	2011	Share (%)	2012	Share (%)
BiH	309	100	307	100	317	100	340	100
FBiH	218	70.46	202	65.90	213	67.09	221	64.94
RS	91	29.54	105	34.10	104	32.91	119	35.06

## RESULTS OF THE EMPIRICAL RESEARCH

### Sample selection and questionnaire

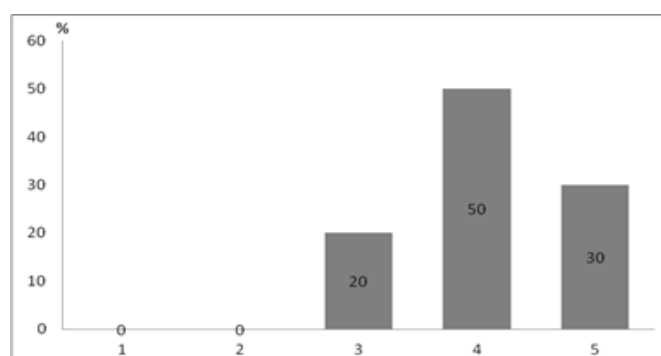
In order to examine the readiness of the insurance market in BiH for the introduction of Solvency II, a survey was conducted among the insurance companies in BiH. Regarding the research character and the complexity of Solvency II problem area, the survey was sent only to the experts in the insurance field on the territory of BiH. Out of 40 subjects, 20 of them gave their answers. They were mainly the actuaries of nonlife insurance companies, followed by university professors, relevant employees of supervisory institutions, and other experts in the field of insurance.

The questionnaire included three parts. The first part was aimed at establishing how well insurers and experts in the insurance sector know and understand the rules of the Solvency II Directive, and in what way they plan to improve their knowledge in this field. Another aim of this part was to give a precise time deadline that insurers need for the introduction of Solvency II into business activities of the insurance companies on the market of BiH. The second part of the questionnaire was aimed at finding out what the biggest challenge of the Solvency II Directive is, and which model insurers plan to use in order to assess capital adequacy. The aim of the third part was to evaluate the influence of implementation of the Solvency II Directive on the entire insurance sector on the market in BiH.

## Data analysis

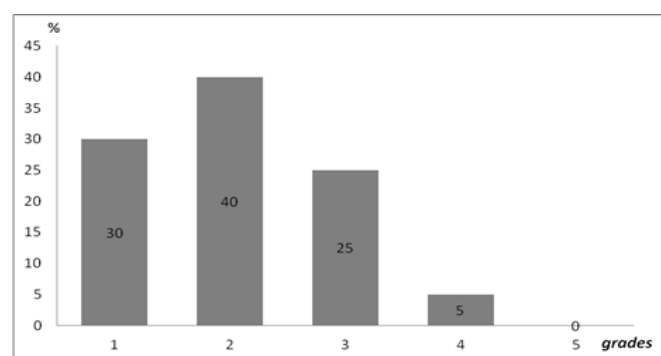
The following part of the paper presents the most important results obtained on the basis of subjects' answers.

Answering the question how well they know and understand the rules of the Solvency II Directive, the subjects responded with the grades ranging from 1 (completely uninformed) to 5 (completely informed). As Figure 1 shows, 50% of them stated that they know the rules of the Directive well, while 30% assessed their knowledge in Solvency II as excellent. Only four out of 20 subjects stated that the rules of the Solvency II Directive are not completely clear and known. These data are rather encouraging, since most of the subjects, 80% of them, are well informed about the regulations of Solvency II.



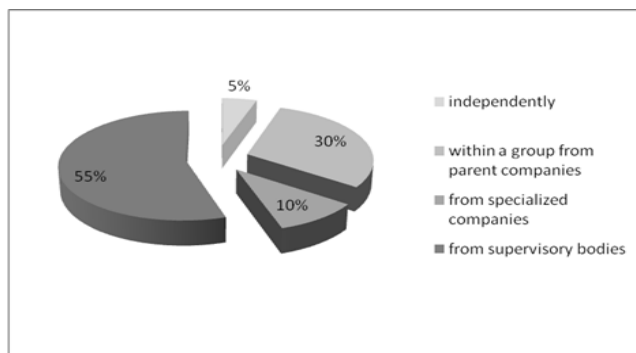
**Figure 1.** Knowing and understanding the Solvency II Directive

Figure 2 shows the answers to the question about how prepared insurance companies are for the implementation of the Solvency II Directive. The subjects gave their grades on a scale from 1 (completely unprepared) to 5 (completely prepared). It is rather concerning that 70% of the subjects stated that they were unprepared at the initial stage of the Solvency II implementation.



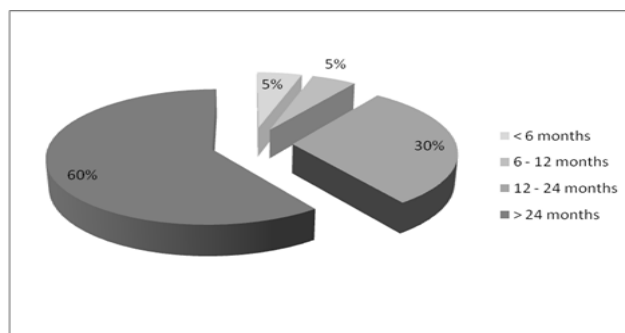
**Figure 2.** Company's readiness for adopting and implementing the Solvency II Directive

In terms of the way in which insurance companies plan to adopt the necessary knowledge on Solvency II, the subjects provided their responses which are presented in Figure 3.



**Figure 3.** Means of adopting the necessary knowledge on Solvency II

Regarding the time deadline when the companies shall be ready to adopt the Solvency II Directive, the subjects responded in the way presented in Figure 4. As much as 60% of the subjects believe that they would not be able to adopt the Directive rules within the specified deadline, the beginning of 2016.



**Figure 4.** Deadline for adopting the Solvency II Directive

Answering the question whether the introduction of the Directive would demand additional education of human resources at insurance companies, as much as 95% of the subjects recognized the need for additional education of companies' employees. Since the new directive is particularly important for actuaries, but also for the entire range of organizational parts within insurance companies, it is necessary to organize education at all levels of company's organizational structure. This indicates that insurance companies do not have a systematized set of knowledge and information on the new system, although the insurers are aware of the changes that the new system would bring.

The answers to the question if their company has a risk management department suggest that the insurers largely recognize the importance of the appropriate risk management, since 41% of the subjects stated that the companies have risk management sectors. In the future period, the insurers would definitely be forced to pay more attention to the establishment of risk management sectors with an integrated



approach, as it is necessary for every company to have a department of educated actuaries that would implement the holistic approach to risk management in coordination with other sectors.

Answering the question whether the company has a team for the implementation of the Solvency II Directive, 80% of the subjects gave an identical answer, that is, they stated that they do not have any employees particularly in charge of the implementation of the Solvency II Directive. A number of 20% of the subjects believe that the companies have teams that would implement the new rules of the Directive. This fact also confirms previous answers and the fact that the insurance companies in BiH have not yet started with a more serious procedure for the introduction of the new rules of the Directive into their business, which is, on the other hand, concerning, due to such short deadline remained for the Directive implementation.

Regarding the complexity of the rules in the Solvency II Directive, a high percentage of subjects (80%) agreed that the rules are too complex, which additionally confirms that the companies are not prepared for the new rules that the Directive would bring.

In terms of the rules of the Directive that are seen as the most serious difficulties for the insurers (demands related to pillars I, II or III), 60% of them think that the qualitative demands of the second pillar are most complex. It is interesting that only 25% of the subjects see quantitative requirements, regarding technical reserves, MCR, and SCR, as well as the harmonization of assets and liabilities, as the greatest challenge of the Solvency II Directive. The remaining 15% of the subjects think that the requirements of the III pillar, related to market control, are difficult to implement.

When questioned if the introduction of the Solvency II Directive would increase the level of the necessary capital in companies, a high percentage of subjects (70%) agreed that it would lead to the increased needs for company's own capital. The remaining part believes that companies have a sufficient amount of capital and that the new rules on the prescribed amount of capital shall not be a large change for these insurers.

A large enticement for the companies is also the selection of a model for the assessment of capital adequacy. As expected, the largest number of the subjects (55%) stated that the companies would apply the standard model defined in the Solvency II Directive for determining capital adequacy. Other 30% of the subjects stated that they would apply a combination of the standard and internal model. Only 15% of the subjects confirmed that they would apply the internal model and that they would take the knowledge necessary for the implementation of the Directive from their parent companies with the seat in a country which is an EU member. There is no insurance company that would immediately start applying the internal model. Indeed, such approach is not allowed in the EU since, regardless of the approved internal model, the Directive decrees the previous recalculation in accordance to the standard form. Taking into consideration the situation with the current regulation of the insurance market in BiH, it is certain that a longer period shall be needed for establishing the rules that would regulate the development of the internal models in the companies.

As much as 70% of the subjects agrees that the new rules included in the Solvency II Directive would increase the safety and stability of the insurance sector in BiH, 20% of the subjects believe that no significant changes would happen, while only 10% think that the new regulation shall not bring any improvements in the form of increased safety and security of the insurance sector in BiH.

Although a high percentage of the subjects agreed that the new rules of the Directive would bring the business safety to the insurance companies, answering the question if the Directive rules would make the market more competitive, the subjects expressed different opinions. Some 50% of them think that the Directive rules would increase the competitiveness of the insurers in BiH, 30% of them believe that the new regulation would not result in any significant changes in the existing competition, while 20% of the subjects agree that the new rules may decrease the competition on the insurance market.

The subjects also commented on advantages and disadvantages of the introduction of the Solvency II Directive in company's business activities. It is particularly emphasized that the EU projects, aimed at the preparation of the insurance market for the new regulation, passed unnoticed. It is stated that the implementation of the Solvency II Directive on the insurance market in BiH would be rather difficult. What was also stressed was the readiness of certain companies in terms of their capacities for the introduction of the Solvency II Directive, as well as the fact that most companies in BiH are not able to provide such capacities. Furthermore, it is also mentioned that the advantages of the new Directive are seen in the needs for the harmonization of the regulation and proper work of insurance companies in accordance to the modern European regulatory framework. The disadvantages refer to the fact that the Directive comes too early for BiH since a large number of companies have still not completely implemented the Solvency I regime. Another disadvantage is seen in the increase of tasks and staff, which are not in the function of insurance sale, and the market has difficulties in handling such increase. Also, the portfolio of the insurance companies is considered to be too small for such complicated procedures.

## Findings

The insurance market in BiH is largely limited by macroeconomic environment in the state. Concerning the fact that the economy in BiH is stagnant due to an inappropriate program of economic improvement and unstable political environment, the insurance sector is slowed down in the development process. The largest consequences on the insurance market have been left by the economic and political system based on socialist values prevailing until the early 1990s. Since that period, some significant reforms have happened on the insurance market. The destruction of economy and infrastructure has occurred, which in total affected the stability of the financial market.

A serious economic situation, political instability, and unfair competition are the main reason why the insurance market in BiH is stagnant in its development, when compared to the insurance markets in the EU. Unfair competitors are an ever increasing barrier to the development of the insurance sector on the domestic market. By using the damping prices, not based on the actuarial principles, they foster the collapse of the entire insurance sector in BiH.

Only by the mid-2000s, did the legal regulation in the insurance field become harmonized between the entities in BiH (along with the Brčko District). This created the basis for the expansion of the insurance market between the entities, as well as for a significant entry of foreign insurers to the domestic market. This was the first step towards getting closer to the regulations valid in the EU member states. This reform

brought a mild advance on the insurance market in BiH, whereby the nonlife insurance sector registered higher development in comparison to the life insurance market. The insurance market is limited by high unemployment rate and low standard of living in BiH. That is the reason why most BiH citizens settle only obligatory insurances. This explains a mild growth on the nonlife insurance market showed by the statistical data for the year 2012.

Currently, the issue of solvency in BiH is based on the Solvency I regulation. BiH efforts to get closer to the EU single market would inevitably include the adaptation to the Solvency II Directive. As a result of the conducted research, the following obstacles can be identified for the introduction and implementation of the rules of the Solvency II Directive:

- insufficient knowledge and staff competencies;
- need for additional capital, in accordance to the new demands;
- inappropriate data bases in BiH;
- inappropriate IT support;
- unregulated statistics that would primarily make the development of internal models more difficult, since their development requires precise and detailed data;
- companies have not developed the plans for adaptation to the new system;
- inability to develop internal models that require additional financial resources;
- unfair competition on the market;
- insufficient support of the regulators in both entities as well as of the state agency;
- falling behind in the implementation of legal regulations;
- substandard legal background, etc.

The survey results showed that the insurers in BiH do not have a systematized set of findings about the new regulation, and all the subjects agreed that additional education of staff in insurance companies is needed. A high-quality implementation of the Solvency II Directive requires the education of employees in all organization units, including accounting and management departments and risk managers. The insurance companies showed that they would not be ready for the implementation of the Directive on January 01, 2016, that was specified as the final deadline for implementation after the original deadline (January 01, 2013) was prolonged.

The results confirm that the highest percentage of the insurers would use a standard formula for assessing solvency or the combination of the standard and internal model, whereby the knowledge necessary for the procedure would be taken from the supervisory bodies or parent companies in the EU. The insurance companies in BiH are not prepared for the development of their own internal models due to their high price, although the internal models are a more precise approach to determining capital requirements, when compared to the standard formula. Besides the price of the internal model development, the obstacle to the development of such a complex calculation is also the lack of knowledge, data, and appropriate IT support.

The subjects believe that the implementation of the Directive would definitely increase the capital requirement and the level of resource safety. The rules of the Solvency II Directive would pose a problem for those insurers whose reserves are not in accordance to the legal regulations. Small insurers would be first bearing the brunt of new increased requirements for the necessary capital, since they would not have the possibility

to financially restructure from their parent companies, unlike large insurers. All this can lead to a collapse of small insurers, which is followed by increase in premium as well as in the market game of large insurers. In order to survive on the financial market, the insurers would be forced to develop new products but also to expand their activities on the international level.

Due to inappropriate solutions related to supervision that is still at the entity levels, low level of development of the financial market in BiH but also insufficient knowledge of employees at insurance companies, the conclusion is that the companies are not ready for the challenges brought by the new Directive as well as for the entry on the single insurance market. The insurance market in BiH cannot develop independently, but in the context of the entire country's economy. Since the legal regulations are an inappropriate basis for the development of the insurance sector, it is certain that a hurried entrance on the single EU insurance market can bring the financial market in BiH more problems than benefits. Elimination of all the negative factors requires the political and economic determination in order for the insurance market to be stabilized and ready for the entrance on the single market.

## CONCLUSION

Insurance is an important sector of the financial market, regarding the fact that the financial resources collected from the sale of insurance services are invested on the financial market, which increases the economic power of a country. From an individual point of view, insurance is seen as the protection against the risk of negative events. Therefore, individuals pay the price in the form of premium for the transfer of such risk onto the insurers. Insurance companies, in order to have a long-term ability to fulfill the liabilities by their own resources, need to use precisely their own resources to keep their solvency. Insurer's insolvency threatens primarily the insured persons and then the entire financial sector, which is the reason why the insurance industry is regulated by relevant legal rules.

Insurance companies can decrease the risk of insolvency by increasing the capital, diversifying the insurance and investment risks or by transferring the risk surplus onto the reinsurers or coinsurers. For the protection of the insured persons and the insurance market in the EU, a new regulatory framework is at its final stage of implementation, known as Solvency II. The foundation of the Solvency II regulation is the principle that prescribes that the capital related requirements of the insurer need to be assessed in relation to the risks that are characteristic of a certain insurance company. The aim of the new Directive is to achieve higher protection of the insureds and improve market competition, which would result in a full development of the single insurance market in the EU. The Directive can be considered through three pillars, whereby the first pillar presents quantitative requirements, the second one presents qualitative requirements in terms of insurance supervision and control, while the third pillar is related to the market rules.

The first pillar, which presents quantitative requirements, defined the assessment of assets and liabilities, calculation of technical reserves and categorization of company's own resources and it presupposes two levels of capital: SCR and MCR. According to the Solvency II Directive, the lowest possible value of the threshold of MCR is € 2.2

million for nonlife insurance and € 3.2 million for life insurance, whereby MRC must not be lower than 25% or higher than 45% of SCR of a given insurance company. Unlike the previous model, the new regulation is a complex model which, while calculating solvency margin and minimum capital, takes into consideration the variability of assets and liabilities. In calculating SCR, the Directive provides the insurers with the possibility to use a standard formula or to develop their own internal model. Insurers would use value at risk VaR as a risk measure, with the level of reliability of 99.5% during one year. Unlike the existing regulation, where solvency margin was calculated on the basis of premium index and claims index taking into consideration the insurance risk only, Solvency II considers all insurer's risks – market risk, credit risk, liquidity risk, insurance risk, and operational risk. The new regime encourages insurers to develop their internal models for risk assessment, which would probably be done by large insurers, since small companies, due to high financial resources necessary for the development of the internal model, would not be able to afford it.

Based on the results, it is possible to accept the postulated basic research hypothesis that the nonlife insurance companies in BiH are still not ready for the implementation of the new regulatory framework Solvency II and that they would need to make systematic changes in risk management system, especially when it comes to the models for the assessment of capital adequacy. The research results showed that the existing regulatory framework in the insurance sector in BiH is considerably lagging behind the Solvency I framework that is currently implemented in the EU. The new regulatory framework Solvency II specifies the systematic approach to risk management in the insurance sector. This approach requires not only the capital but also better staff competences in insurance companies. By using a comparative analysis of the existing and expected regulatory framework Solvency II, nonlife insurance companies may make an important step forward and preparation for the new regime.

The new Directive has been the largest challenge ever for the European insurers since it requires extensive preparation while the commencement date of the new regime in a company is the beginning of 2016. The results of the conducted survey showed that the problem for the implementation of the Directive in BiH would be a too complex nature of the Directive rules, whereby a high percentage of the subjects emphasized the need for additional education and training of staff in all organizational units of companies. The new regulation Solvency II shall bring long term profitability for more developed insurance companies and financial burden for smaller insurers. The requirements for the increase in capital amount may destroy smaller insurers that would not be able to financially restructure from the parent companies. A difficult economic situation, political instability, and unfair competition are the main reasons why the insurance market in BiH is slowed down in its development when compared to the insurance markets in the EU. The insurers would have to fight competition by developing new products but also by expanding their business activities on the international level.

Regarding a low development of the financial market in BiH and the fact that supervision is still at the entity level, the conclusion is that the companies are not ready for the challenges the new Directive would bring or for the entrance to the single insurance market. The question is whether the market needs such a hurried entrance on the single market at all, since the legal regulations are a low quality basis for the

development of the financial market. Therefore, the companies lack a good foundation for the development of the insurance sector, hence the introduction of the Solvency II in their business activities.

A further research is needed to establish efficiency of the existing regulation that is rather restrictive for the development of the insurance sectors. Bearing in mind the importance of insurance companies as institutional investors, the ways might be explored in which the state might stimulate the development of this sector, by means of using company's reserves for financing investment projects. This would greatly contribute to the development of the insurance sector. Along with the things mentioned, a key question now arises that needs to be answered: Do we need to rush with the implementation of the new rules in business activities of insurance companies in BiH? This research showed that the nonlife insurance companies in BiH are not prepared for the new challenges brought by the Directive. In this context, this research should be extended by other researches into the readiness of life insurance companies, in order to obtain a broader objective illustration of the readiness of the entire insurance sector in BiH for the implementation of the new rules brought by Solvency II.

## REFERENCES

- FBiH Official Gazette. *Rulebook on the Elements and Control of the Solvency Margin*, no. 3/13.
- Insurance Agency of Bosnia and Herzegovina. 2013. *Statistics of Insurance Market in Bosnia and Herzegovina: Annual report 2012*. <http://www.azobih.gov.ba/cms/dokumenti/publikacija-bs-12.pdf>, (accessed January 20, 2014).
- Kozarevic, Safet, and Radivoj Kovac. 2013. *Economics of Insurance*, Off-set, Tuzla: Faculty of Economics, University of Tuzla.
- Official Journal of the European Communities. 1973. *Directive 73/239/EEC of 24 July 1973 on the coordination of laws, regulations and administrative provisions relating to the taking-up and pursuit of the business of direct insurance other than life assurance*.
- Official Journal of the European Communities. 2002. *Directive 2002/13/EC of the European Parliament and of the Council of 5 March 2002, amending Council Directive 73/239/EEC as regards the solvency margin requirements for non-life insurance undertakings*.
- Official Journal of the European Communities. 2002. *Directive 2002/83/EC of the European Parliament and of the Council of 5 November 2002, concerning life assurance*.
- Official Journal of the European Union. 2009. *Directive 2009/138/EC of the European Parliament and of the Council of 25 November 2009 on the taking-up and pursuit of the business of Insurance and Reinsurance (Solvency II)*.
- RS Official Gazette. *Rulebook on Elements and Control of Solvency Margin of the Insurance Companies in Republic of Srpska*, no. 103/12.
- RS Official Gazette. *Rulebook on Method of Calculation of the Capital and Capital Adequacy of Insurance Companies*, no. 103/12.
- Selimovic, Jasmina. 2012. *Actuarial models and solvency measurement in life insurance*. PhD diss, School of Economics and Business, University of Sarajevo.
- Sain, Zeljko and Edin Taso. 2012. Insurance market in BiH in the last decade. In: *Proceedings X international symposium: Achieved results and prospects of insurance market development in modern World*, Faculty of Economics, Belgrade and Serbian Actuarial Association, Belgrade.