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Original Article

ANALYSING THE IMPACT OF ECONOMIC AND POLITICAL FACTORS ON THE DEMAND FOR INSURANCE PRODUCTS IN THE REPUBLIC OF SRPSKA

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Abstract: *Given the findings of the research on the impact of geopolitical tensions accompanied by rising inflation rates, declining premium income and other economic and political instabilities on insurance markets in the Adria region, European Union, BRICS, and ASEAN member states, published in scientific and professional papers over the past five years, the aim of our paper is to examine the influence of four selected economic and political factors on the demand for insurance products in the Republic of Srpska during the period from 2010 to 2023. The analysis includes 10 insurance companies headquartered in the Republic of Srpska and 5 branches of insurance companies based in the Federation of Bosnia and Herzegovina, for which a dummy variable Branch was introduced. The Granger Causality Test indicates a statistically significant impact of gross domestic product, inflation, and economic policy uncertainty on insurance demand, whereas the effect of geopolitical risk is not statistically significant. The results of the selected FGLS model outline that GDP growth has a statistically significant positive effect on insurance demand, while the World Uncertainty Index for Bosnia and Herzegovina and the Consumer Price Index have a statistically significant negative effect on insurance demand. Even though the FGLS model suggests a positive impact of increasing geopolitical risk on insurance premiums, the effect is not statistically significant. Interestingly, the Branch variable exhibited a negative impact in the selected model; therefore, the causes of the effect will be the subject of future research. The findings presented in the paper can be useful to insurance company management in the Republic of Srpska for developing strategies that will consider the risks caused by economic and political instability.*

Key words: *economic factors, geopolitical factors, insurance demand, Granger Causality Test, FGLS model*

JEL classification*: G22, C23, O1, E3*

1. INTRODUCTION

In the current literature on insurance, numerous factors influencing the operations of insurance companies have been studied, including company-specific factors (Pjanić, Mitrašević & Luković, 2023) and general factors, which involve economic and non-economic elements such as religion (Berry-Stölzle & Xu, 2022), individual factors (Kozarević & Hodžić, 2021), culture, and the socio-political environment (Outreville, 2018; Trinh, Ha, Ho, et al., 2023). This paper focuses on

the impact of economic and political factors on the demand for insurance products in the Republic of Srpska. The importance of analysing these factors in the insurance market is highlighted by the Insurance Stress Test conducted in 2024 by the European Insurance and Occupational Pensions Authority. The results of the performed stress test indicate that intensified geopolitical tensions leading to rising inflation rates, tighter financing conditions, increased credit spreads, and higher government bond yields due to concerns regarding public debt sustainability combined with insurance-specific elements, such as mass policy cancellations, claims inflation, and reduced premium income, can cause the solvency ratio to drop by nearly 100 percentage points, resulting in capital losses exceeding €270 billion, and finally amounting to 123.3%. It is estimated that the inclusion of management activities, such as adjustments in investment portfolios, tariff changes, and operation cost reductions could enable insurance companies to restore their solvency ratio to 139.9%. Taking into account this projection, we can conclude that insurance companies in the European Union have demonstrated their ability to adapt and improve their positions when facing adverse economic and political conditions.

The data from the Insurance Agency of the Republic of Srpska (2024) show that the total available capital of all insurance companies headquartered in the Republic of Srpska as of 31st December, 2023, amounted to 126,092,011 BAM demonstrating that the available capital exceeded the required adequacy threshold of the available capital by 22,223,465 BAM, or 21.4%. Evidently, the insurance companies in the Republic of Srpska are not at the same level of capital adequacy as those companies which were subjected to the Insurance Stress Test conducted in 2024 by the European Insurance and Occupational Pensions Authority. Therefore, in the less developed insurance market of the Republic of Srpska, such a risk would likely have far more profound effects. Recognising the potential for market development, which, despite being at a relatively low level of development during the analysed period, recorded real growth and exceeded the real GDP growth in the Republic of Srpska, this paper aims to determine the extent to which, alongside economic factors, certain geopolitical factors and political uncertainty have influenced the level of insurance earned premiums as a key measure of insurance demand and the parameter which serves as an element in the calculation of required capital in line with the applicable regulations in the Republic of Srpska. This research is particularly significant in the era of advanced technology, when, as Damjanović (2024) maintains, a number of various types of economic and legal relations have acquired a different meaning.

In the paper, we will provide a theoretical and empirical overview of the research and the impact of the analysed factors on insurance demand. Afterwards, we will present the characteristics of the selected variables and the methodology which will be used, moving on to discussing the empirical results, and ending with a summary and conclusion.

2. LITERATURE REVIEW

Our research on the impact of economic and political factors on the demand for insurance products in the Republic of Srpska started with a review of theoretical and empirical findings published in the scientific journals over the past five years, covering, among other regions, Adria region, BRICS and ASEAN member countries.

Kozarević (2023) examines the relationship between the insurance market and the macroeconomic environment using the example of Adria region countries: Bosnia and Herzegovina, Montenegro, Croatia, North Macedonia, Slovenia, and Serbia, over the period from 2007 to 2023. The results presented in the paper indicate a strong positive Pearson correlation between GDP and total premiums, GDP and premiums per capita, GDP per capita and total premiums, GDP per capita and premiums per capita, average salary and total premiums, and average salary and premiums per capita. Furthermore, the relationship between the development of the insurance sector and GDP per capita is significantly stronger than its relationship with the level of European Union integration achieved by these countries. The author also report a statistically significant negative correlation between the unemployment rate and total premiums, as well as between the unemployment rate and premiums per capita, across all the countries analyzed.

Lee and Lee (2020) analyse the relationship between insurance premium per capita as an indicator of insurance activity, GDP per capita measured in constant 2010 US dollars, and geopolitical risk expressed through the GPR index developed by Caldara and Iacoviello (2018) in BRICS countries (Brazil, Russia, India, China, and South Africa) for the period 1985-2017. The Granger-causality in quantiles analysis has detected that real GDP per capita and the GPR index influence insurance activity. In Brazil and South Africa, there is a one-way causality; while in Russia, there is mutual causality.

Olasehinde & Balcilar (2022) examine the impact of geopolitical risk on insurance premiums from 1985 to 2016 in 18 countries: Argentina, Brazil, China, Colombia, India, Indonesia, Israel, South Korea, Malaysia, Mexico, Russia, Saudi Arabia, South Africa, the Philippines, Thailand, Turkey, Ukraine, and Venezuela. Using second-generation econometric methods, they have identified a positive relationship between the GPR index and insurance premiums. Additionally, real GDP has a statistically significant positive effect on insurance premiums, with the effect being more evident in the non-life insurance sector.

Hemrit (2022) applies a panel autoregressive distributed lag (ARDL) model to examine the impact of economic policy uncertainty (EPU), geopolitical risk (GPR) index, non-oil GDP, inflation, and characteristics of corporate governance on insurance companies in Saudi Arabia using quarterly data from 2013 to 2019. As a measure of economic policy uncertainty, he employs the world uncertainty index developed by Ahir et al. (2018). The results indicate a negative short-term effect of economic policy uncertainty and geopolitical risk on insurance demand; while in the long term, economic growth and inflation have a positive effect on insurance demand.

Xiang, Chang & Jiang (2023) analyse the impact of the economic policy uncertainty index developed by Baker, Bloom & Davis (2016), climate policy uncertainty index introduced by Konstantinos (2021), and the previously mentioned GPR index on China's life insurance premiums from the beginning of 2000 to August 2022, using the Quantile Autoregressive Distributed Lag (QARDL) model.

Their findings demonstrate that the economic policy uncertainty index has a negative impact on life insurance premiums in most cases, except at the lowest quantiles; while the GPR index has a negative impact at the higher quantiles. Xie and Lin (2024) examine the effect of the economic policy uncertainty index on directors' and officers' liability insurance in China from 2010 to 2021. Their results indicate that an increase in EPU leads to greater demand for insurance products.

Lim et al. (2024) examine the impact of economic and geopolitical risk on the development of the insurance market in ASEAN member countries from 1990 to 2020. As a measure of geopolitical risk, they use the GPR index, while economic uncertainty is assessed by using the global economic policy uncertainty Index (GEPU), created by Davis (2016). They apply both linear panel ARDL and asymmetric panel ARDL models. Using both methods, they have noticed the impact of both positive and negative shocks caused by geopolitical risk on non-life insurance companies. However, as for life insurance, the index does not show a statistically significant impact on life insurance companies. Although similar results are found for the GEPU index, the linear panel ARDL model indicates that a positive shock caused by the global economic policy uncertainty index exerts a positive impact on life insurance companies.

In this brief literature review focused on the studies examining the impact of economic and political uncertainty, we can single out Zhou, Zhang, and Huang study published in 2025.

The authors investigate the effect of the China geopolitical risk index, developed by Caldara and Iacoviello (2022), on the demand for insurance products among Chinese companies. Their study concludes that geopolitical risk affects international trade relations indirectly and encourages companies to increase their insurance coverage.

Furthermore, the research indicates that the response to geopolitical risk differs whether a company is state-owned or not. The authors maintain that state-owned companies are more likely to increase insurance coverage when exposed to higher geopolitical risk.

3. METHODOLOGY AND DATA

The study analysing the impact of economic and political factors on the demand for insurance products in the Republic of Srpska, using quarterly data for the period 2010-2023, included 15 companies that operated in the market of the Republic of Srpska during the analysed period. According to the report by the Insurance Agency of the Republic of Srpska (2024), these companies accounted for approximately 73% of the total insurance premiums generated in the Republic of Srpska in 2023.

Out of the 10 companies with headquarters in the Republic of Srpska, two were composite companies, i.e. they performed both life and non-life insurance activities (Grawe osiguranje a.d. and Wiener osiguranje a.d.), while the remaining 8 companies were solely engaged in non-life insurance (Brčko Gas osiguranje a.d., Drina osiguranje a.d., Dunav osiguranje a.d., Krajina osiguranje a.d., Mikrofin osiguranje a.d., Nešković osiguranje a.d., Osiguranje Aura a.d., and Triglav osiguranje a.d). In order to create a balanced panel, the analysis did not comprise the companies established after 2010.

The insurance market also included the companies with headquarters in the Federation of Bosnia and Herzegovina, but which operated their insurance business activities through registered branches in the Republic of Srpska.

Additionally, the analysis included 5 companies that were registered as insurance branches in the Federation of Bosnia and Herzegovina in 2008 (Adriatic osiguranje d.d., Camelia osiguranje d.d., Croatia osiguranje d.d., Euroherc osiguranje d.d., and Vienna osiguranje d.d.), and it is due to these companies that we introduced a Branch variable.

In our model, insurance demand is measured by gross written premiums, expressed in the convertible marks. Since three independent variables are represented as indexes, the logarithmic values of gross written premiums are used in the model based on the prices in 2010.

Taking into account the results of the previous studies on the relationship between economic growth and insurance demand growth, as presented in the literature review, in this paper we use the logarithmic value of gross domestic product (GDP) whose value is expressed in convertible mark based on the prices in 2010 before being log-transformed.

As a measure of inflation, the consumer price index has been used, whose processing methodology is described thoroughly in the Statistical Yearbook of the Republic of Srpska (Institute of Statistics, 2024). Based on the research presented in the literature review, we have used the geopolitical risk index developed by Caldara and Iacoviello (2022) as a measure of geopolitical risk.

The index, intended to represent the measure of unfavourable geopolitical events (events related to wars, terrorism, and any tensions among states or political actors that can impact the peaceful flow of international relations), is calculated monthly by dividing the number of articles discussing geopolitical risk by the total number of articles in the electronic archives of 10 journals - 6 from the United States, 3 from the United Kingdom, and 1 from Canada. The index is then averaged quarterly.

The quarterly World Uncertainty Index for Bosnia and Herzegovina is used in the paper as a measure of economic policy instability.

The World Uncertainty Index (WUI), developed by Ahir, Bloom, and Furceri (2018), has been used for 143 countries since 1996. The index is presented by counting the frequency of "uncertainties" in quarterly Economist Intelligence Unit (EIU) country reports, which focus on economic and political developments.

The theoretical basis for the selection of these variables is presented in the literature review.

Table 1: Description of the researched variables

Variable name	Notation	Source
Gross written premiums	Premium	Insurance Agency of the Republic of Srpska. (2024). https://azors.rs.ba
Gross domestic product	GDP	Institute of Statistics. (2024). https://www.rzs.rs.ba
Consumer price index	CPI	Institute of Statistics. (2024). https://www.rzs.rs.ba
World Uncertainty Index for Bosnia and Herzegovina	WUIBIH	Ahir, Bloom, & Furcer. (2025). https://fred.stlouisfed.org/series/WUIBIH
Geopolitical risk (GPR) index	GPR	Caldara & Matteo (2022). https://www.matteoiacoviello. com/gpr.htm 15.2.2025
Branch of the Association from the Federation of Bosnia and Herzegovina (dummy)	Branch	Insurance Agency of the Republic of Srpska. (2024). https://azors.rs.ba

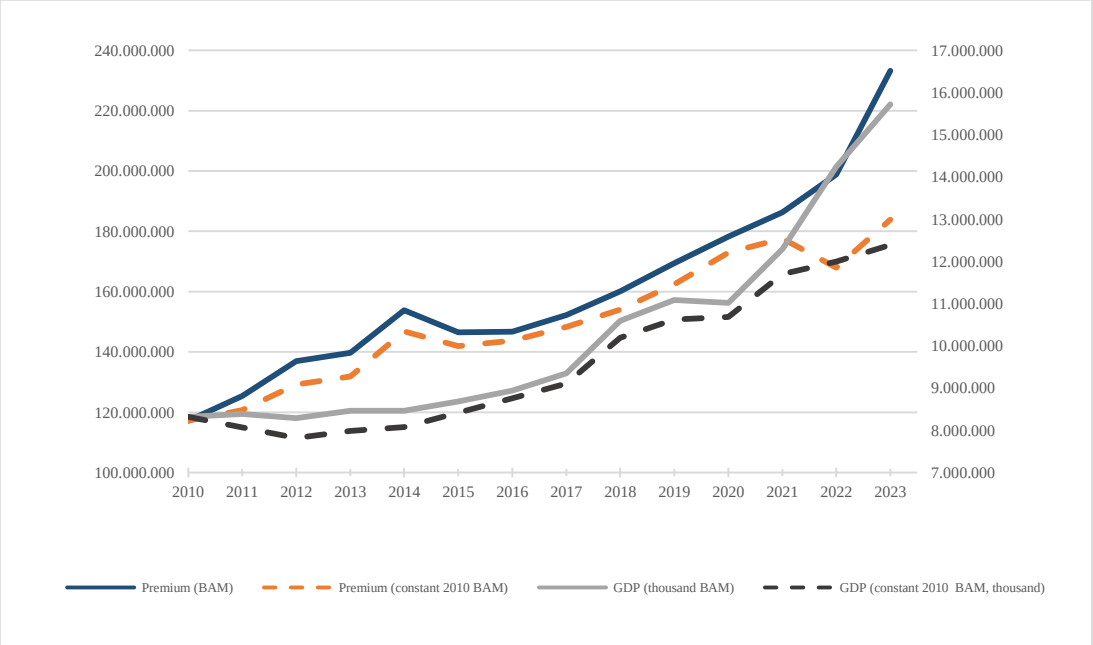
Source: Authors' own elaboration

Note: Branch is a dummy variable which takes the value of 1 for the companies that are branches from the Federation and 0 for the companies based in the Republic of Srpska.

The data presented in Graph 1 illustrate that the total insurance premium of these companies in the period from 2010 to 2023 nearly doubled, while it increased by 1.57 in real terms, which is one of the

reasons why inflation was included in the analysis. Gross Domestic Product (GDP) during this period increased by 1.89, and in real terms, it grew by 1.49, meaning that the achieved premium grew faster compared to GDP.

Graph 1: Total Insurance Premium of the selected 15 companies and GDP in the Republic of Srpska for the period 2010-2023



Source: Authors' elaboration

Nevertheless, despite the mentioned growth, the report by the Insurance Agency of the Republic of Srpska (2024) shows that the premium per capita remained low throughout the entire analysed period. Furthermore, the share of premium in GDP was approximately at the same level as in Serbia, but significantly lower compared to the former Yugoslav Republics of Croatia and Slovenia.

In this paper, we hypothesise that the growth of geopolitical risk and economic policy instability can have a negative effect on the demand for insurance products.

Before selecting the appropriate estimation method of the model parameters, we are going to perform data testing. The presence of multicollinearity will be checked based on Pearson's correlation coefficients.

Afterwards, we will employ first-generation panel unit root Levin, Lin, and Chu, Harris-Tzavalis, and Breitung test. Since the presence of cross-sectional dependence in panel data estimates makes classical models biased and inconsistent, we will perform the Pesaran CD test. If cross-sectional dependence is confirmed, in addition to first-generation stationarity tests, second-generation stationarity tests are necessary.

These include the CADF, CIPS tests of Pesaran, and the robust version of Breitung's test. For testing serial correlation, we will use the Wooldrige autocorrelation test, and for testing heteroscedasticity, the modified Wald test will be used. To verify whether the fixed effects (LSDV model) or random effects (GLS model) are more appropriate for our panel data, we will perform the Hausman test.

For statistical data processing, the software package Stata 13 has been used.

4. EMPIRICAL RESULTS

The analysis of the impact of the selected economic and political indicators on insurance demand in the insurance market of the Republic of Srpska in the period 2010-2023 begins with the examination of the correlation relationships between the variables.

Table 2. Pearson correlation

	lnPremium	lnGDP	CPI	WUIBIH	GPR
lnPremium	1.0000				
lnGDP	0.2004*	1.0000			
CPI	0.1184*	0.674*	1.0000		
WUIBIH	0.0686**	0.2827*	-0.1326*	1.0000	
GPR	0.0776**	0.3208*	0.4626*	-0.0015	1.0000

Note: * indicates statistical significance at 1%
** indicates statistical significance at 5%

Source: Authors' calculation

The results displayed in Table 2 indicate that the correlation coefficients are below 0.7, suggesting the absence of multicollinearity. The Pearson correlation coefficients show that lnPremium is statistically significantly positively correlated with lnGDP, CPI, WUIBIH, and GPR.

Table 3. Results of Stationarity Tests

Variable	LLC	HT	Breitung	CADF	CIPS	Breitung (Robust)
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic
lnPremium	-4.7413*	-7.8205*	-0.4926	-3.290*	-2.6446*	-2.2529**
d.lnPremium	-25.9716*	-82.3248*	-10.5598*	-5.799*	-4.9595*	-2.3761*
lnGDP	-0.5078	-1.7465**	0.6409	-1.246	0.2968	0.1655
d.lnGDP	-41.7009*	-75.3472*	-15.9563*	-8.462*	-5.0041*	-4.1199*
CPI	8.3113	7.9847	11.1859	1.976	4.1937	2.9004
d.CPI	-11.7154*	-29.8608*	-10.7969*	-4.118*	-2.6248*	-2.9850*
WUIBIH	-4.0889*	-26.1780*	-12.8445*	-3.675*	-2.2552**	-3.3164*
GPR	-5.5567*	-35.6052*	-11.3288*	-4.228*	-2.7219*	-2.9251*
Branch	/	/	/	/	/	/

Note: d. stands for first difference indicating an I(1) process.
* indicates statistical significance at 1%;
** indicates statistical significance at 5%

Source: Authors' calculation

The results of the Levin, Lin, and Chu (LLC), Harris-Tzavalis (HT), and Breitung stationarity tests indicate that we cannot reject the null hypothesis of the presence of a unit root for lnGDP and CPI.

These variables are found to be stationary at the first difference level. For testing the dependence of the panel data, we have used Pesaran's CD test, and the results revealed that the data are correlated across panel groups with statistical significance at the 1% level (CD-test: 19.924, p-value: 0.000).

Given the dependence of panel data, alongside the first-generation stationarity tests, we have also applied second-generation stationarity tests: the CADF, CIPS tests by Pesaran, and the robust version of Breitung's test.

Consistent with the first-generation stationarity tests, the results shown in Table 3 do not reject the null hypothesis on the presence of a unit root for lnGDP and CPI, although these variables are again found to be stationary at the first difference level.

For testing the existence of long-term relationships, we have used the Westerlund and Pedroni cointegration tests.

Table 4. Cointegration tests

Westerlund			
Statistic	Value	z-value	p-value
Gt	-2.191	-0.797	0.213
Ga	-8.170	0.931	0.824
Pt	-9.226	-2.340	0.010*
Pa	-8.520	-1.274	0.101
Pedroni			
Statistic	Panel	Group	
v	-2.75		
Rho	1.403	1.675	
t	0.8326	1.015	
adf	6.84	9.008	

Note: H0: no cointegration

Source: Authors' calculation

The results of the conducted tests in both cases show that H0 cannot be rejected, thus the series are not cointegrated.To test the existence of a short-term relationship, we have used the Granger causality test.

Table 5. Granger causality test

		lnPremium	d.lnGDP	d.CPI	WUIBIH	GPR
lnPremium	z-bar	/	-0.1606	26.771	25.232	25.838
	p-value	/	0.8724	0.0074*	0.0116**	0.0098*
d.lnGDP	z-bar	344.641	/	453.137	-26.016	-26.270
	p-value	0.0000*	/	0.0000*	0.0093*	0.0086*
d.CPI	z-bar	59.905	-0.9294	/	-0.7157	198.424
	p-value	0.0000*	0.3527	/	0.4742	0.0000*
WUIBIH	z-bar	31.978	65.130	45.870	/	41.393
	p-value	0.0014*	0.0000*	0.0000*	/	0.0000*
GPR	z-bar	0.4875	90.162	270.922	-23.516	/
	p-value	0.6259	0.0000*	0.0000*	0.0187**	/

Note: *1% statistical significance **5% statistical significance

Source: Authors' calculation

The results of the Granger causality test show a statistically significant impact of GDP, CPI, and WUIBIH on insurance demand, meaning that GDP, CPI, and WUIBIH bring about changes in insurance demand, while the impact of GPR is not statistically significant. Since the results indicate there is no cointegration in the analysed series, but there are short-run effects, that can be estimated by regression.

Table 6. Diagnostic tests

Test	Test statistic	Probability of test statistic
Wooldrige autocorrelation test	F-statistics= 3.635	0.07736***
Heteroskedasticity test	chi2(12)= 1638.38	0.0000*
Hausman's specification test	chi2(12)= 0.00	1.0000

Note: *1% statistical significance

***10% statistical significance

Source: Authors' calculation

The results of the tests indicate that in addition to cross-sectional dependence, there is heteroscedasticity and autocorrelation as well, and the model with stochastic effects is more efficient. The model with stochastic individual effects can be evaluated using Generalised Least Squares (GLS) and Feasible Generalised Least Squares (FGLS) for which the basic assumption is N<T and the panel data are balanced (Titus, 2021).

Table 7. Results of applying the Random effects (GLS) model and FGLS model with random effects.

Variable	Random effects (GLS) model		FGLS model with random effects	
	Coef.	P-val.	Coef.	P-val.
d.lnGDP	0,953729	0,000*	0,3936066	0,000*
L1.WUIBIH	0,4631131	0,043**	-0,1893671	0,000*
L1.GPR	0,0025131	0,002*	0,0002013	0,326
d.CPI	0,005861	0,610	-0,0112937	0,002*
Branch	-1,545016	0,005*	-1,073117	0,000*
C	14,50681	0,000*	14,99183	0,000*
AIC	1034,543		-2,025437	
BIC	1072,266		592,1129	

Note: *p<1%; **p<5%;***p<10%

D1. denotes the first difference; L1 denotes lag

Optimal lag based on BIC

Source: Authors' calculation

Based on the AIC and BIC criteria, we will choose the FGLS model. Lagged WUIBIH and GPR are used based on the results of the Granger causality test, which indicates a causal relationship in the short run, i.e. lagged (earlier) values can predict the value of the dependent variable. The results of the selected FGLS model show that the growth of GDP can have a statistically significant positive effect on insurance demand. Similar to Olasehinde & Balcilar (2022), our results indicate a positive relationship between the growth of geopolitical risk and insurance premium, but this effect is not statistically significant. The World Uncertainty Index for Bosnia and Herzegovina and the Consumer Price Index prove a statistically significant negative effect on insurance premiums. The data also demonstrate that the variable Branch has a negative impact in the selected model. These results are discussed in the following part of the paper.

CONCLUSION

In the paper, we examined the impact of economic and political factors on the demand for insurance products in the Republic of Srpska over the period 2010-2023. Based on the scientific papers published between 2020 and 2025 that cover Adria region, ASEAN and BRICS member countries, we used gross written premiums as a measure of insurance demand. The geopolitical risk indicator established by Caldara and Iacoviello (2022) was used as a measure of geopolitical risk, while the quarterly World Uncertainty Index for Bosnia and Herzegovina, set by Ahir, Bloom, and Furceri (2018), was used as an indicator of economic policy uncertainty. Additionally, we included the quarterly gross domestic product (GDP) and the consumer price index (CPI). The values of gross written premiums and GDP were expressed in the convertible mark according to the prices in 2010 before being log-transformed. We began the analysis by testing for multicollinearity. After calculating Pearson's correlation coefficients, which indicated the absence of multicollinearity, we conducted stationarity tests of the first generation (Levin, Lin, and Chu, Harris-Tzavalis, and Breitung) and second generation (CADF, CIPS tests of Pesaran, and the robust version of the Breitung test). The results showed that the variables lnPremium, WUIBIH, and GPR were stationary, while lnGDP and CPI were stationary at the first difference. Westerlund and Pedroni cointegration tests showed that the series were not cointegrated, therefore we examined the existence of short-run effects using the Granger causality test. The Granger causality test revealed a statistically significant impact of GDP, inflation, and the World Uncertainty Index for Bosnia and Herzegovina on insurance demand, while the

impact of geopolitical risk was not statistically significant. The statistically significant impact of GDP on insurance demand suggests that we cannot reject the demand-following hypothesis which implies that insurance market development follows economic growth. On the other hand, the results indicate that insurance demand does not have a statistically significant impact on GDP, i.e. insurance market development does not lead to economic growth. Therefore, we can reject the supply-leading hypothesis. This finding contrasts with the results of Mitrašević (2017) study conducted in the insurance market in Bosnia and Herzegovina over the period 2004-2015. The test also revealed a statistically significant reciprocal causality between geopolitical risk and the World Uncertainty Index for Bosnia and Herzegovina. There is statistically significant reciprocal causality between inflation and geopolitical risk, whereas economic uncertainty has a one-way causal relationship with inflation. It can be concluded that geopolitical risk, by affecting the level of inflation, has an indirect impact on insurance premiums.

Given that the results of the tests indicate the presence of cross-sectional dependence, heteroscedasticity, and autocorrelation, and the Hausman specification test shows that the stochastic effects model is more efficient, we have used the Generalised Least Squares (GLS) and Feasible Generalised Least Squares (FGLS) models. Based on AIC and BIC criteria, FGLS model has been selected.

The results of the chosen FGLS model show that GDP growth has a statistically significant positive effect on insurance demand. Similar to Olasehinde & Balcilar (2022) and Zhou, Zhang, & Huang (2025), our results show a positive relationship between the growth of geopolitical risk and insurance premiums. However, in our case, it is not statistically significant though. These authors relate this positive relationship to the increase in insurance premiums owing to growing exposure to geopolitical risks or as a result of increased premium levels due to intensified uncertainty.

The World Uncertainty Index for Bosnia and Herzegovina shows a statistically significant negative effect on insurance premiums. A negative effect of geopolitical risk and economic policy uncertainty on the demand for insurance products has also been noticed in Hemrit (2022) for the Saudi Arabian market and Xiang, Chang, & Jiang (2023) in China. Conversely, the results of Xie & Lin (2024) show that an increase in economic policy uncertainty influences the rise of liability insurance premiums for executives and officers in China. The Consumer Price Index also shows a negative impact on insurance demand, which is consistent with the results of Hemrit (2022). The data indicate that branches had an increase in their share of the total insurance premium (from 9.41% to 15.80%) and that the premium increased about three times during the analysed period. However, the variable "Branch" shows a negative impact in the selected model; therefore, this will be the subject of future research.

Based on the results presented in the paper, it can be concluded that we cannot reject the hypothesis that the growth of geopolitical risk and economic policy instability may have a negative effect on the demand for insurance products. Bearing in mind the aforementioned, insurance companies operating in the Republic of Srpska need to be prepared and be able to adapt their strategies to unfavourable economic and political conditions.

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REFERENCES

[1] Ahir, H. & Bloom, N. & Furceri, D. (2018). The World Uncertainty Index. Available at SSRN: https://ssrn.com/abstract=3275033 or http://dx.doi.org/10.2139/ssrn.3275033

[2] Ahir, H., Bloom, N. &Furceri, D. (2025). World Uncertainty Index for Bosnia and Herzegovina [WUIBIH], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/WUIBIH

[3] An index of global economic policy uncertainty - Available at: https://www.nber.org/system/files/working_papers/w22740/w22740.pdf

[4] Baker, S. R. & Bloom, N. & Davis, S.J. (2016). Measuring Economic Policy Uncertainty, *The Quarterly Journal of Economics*, vol. 131(4), 1593-1636.

[5] Balcilar, M., Gupta, R., Lee, C.-C., & Olasehinde-Williams, G. (2020). Insurance and economic policy uncertainty. *Research in International Business and Finance*, 101253. doi:10.1016/j.ribaf.2020.101253

[6] Berry-Stölzle, T. R., & Xu, J. (2022). Local religious beliefs and insurance companies' risk-taking behaviour. The Geneva papers on risk and insurance. *The Geneva Papers on Risk and Insurance – Issues and Practice*, 47(2), 242–278. https://doi.org/10.1057/s41288-021-00211-z

[7] Caldara, D. & Matteo I. (2022). Measuring Geopolitical Risk. *American Economic Review*, 112(4), 1194-1225,

Data downloaded from https://www.matteoiacoviello.com/gpr.htm 15.2.2025

[8] Damjanović, J. (2024). The Significance Of Commercial Law Contracts in The New Economic Reality, *Novi Ekonomist*, Vol 18(1).

[9] Davis, S. J. (2016). An Index of Global Economic Policy Uncertainty. NBER Working Paper No. w22740, Available at SSRN: https://ssrn.com/abstract=2853236

[10] EIOPA. (2024) Insurance Stress Test (report). Available at: https://www.eiopa.europa.eu/eiopas-stress-test-shows-eu-insurers-can-handle-surging-geopolitical-risks-heavy-price-2024-12-17_en

[11] Hemrit W. (2022). Does Insurance Demand React to Economic Policy Uncertainty and Geopolitical Risk? Evidence from Saudi Arabia. *The Geneva Papers on Risk and Insurance*. Issues and practice, 47(2), 460–492. https://doi.org/10.1057/s41288-021-00229-3

[12] Institute of Statistics. (2024), Statistical Yearbook, Available at: https://www.rzs.rs.ba

[13] Insurance Agency of the Republika Srpska. (2024). Report on the state of the insurance sector in the Republika Srpska for the period from 01.01.2023. to 31.12.2023., Available at: https://azors.rs.ba/wp-content/uploads/2024/06/2.Izvjestaj_stanje_sektora_31.12.2023-AZORS-cir.pdf

[14] Kozarević, S. (2024). ADRIA region insurance market 2023 – Trends and correlation with macroeconomic environment, *Proceedings of the 35th Meeting of Insurance and Reinsurance Companies – SorS*, (309-335). Sarajevo: Meeting of Insurance and Reinsurance Companies.

[15] Kozarević, S., and Hodžić, S. (2021). What drives life insurance purchasing decisions in Bosnia and Herzegovina?, *Risk Management and Insurance Review*, 24 (3), 263-278.

[16] Lee, C. & Lee, C. (2020). Insurance activity, Real Output, and Geopolitical Risk: Fresh Evidence from BRICS, *Economic Modelling*, Elsevier, vol. 92(C), 207-215.

[17] Lim, S., Kyophilavong, P., & Soukchalern, P. (2024). Insurance Development, Global Economic Policy Uncertainty and Geopolitical Risk: The Asymmetric Relationship Evidence from ASEAN-5. *Journal of Asian Economic Integration*, 6(2), 154-168.

[18] Mitrašević, M. (2017). Insurance Market Development Trends in Bosnia and Herzegovina and their Contribution to Economic Growth. *Novi Ekonomist, 11(22), 15–23. ttps://doi.org/10.7251/NOE1722015M*

[19] Olasehinde-Williams G. O., & Balcilar M. (2022). The Effect of Geopolitical Risks on Insurance Premiums. *Journal of Public Affairs*, 22(1), 1–12.

[20] Outreville, J. F. (2018). Culture and Life Insurance Ownership: Is It an Issue?. Journal of Insurance Issues, Western *Risk and Insurance Association*, vol. 41(2), 168-192.

[21] Pjanić, M., Mitrašević, M., & Luković, S. (2025). Profitability determinants of life insurance companies in the Republic of Serbia. *Strategic Management*. Advance online publication. https://doi.org/10.5937/StraMan2300041P

[22] Titus, M. (2021). Higher Education Policy Analysis Using Quantitative Techniques (Data, Methods and Presentation). *Springer Nature Switzerland AG*.

[23] Trinh, C.T., Ha, MT., Ho, N.Q. et al. (2023). National Culture, Public Health Spending and Life Insurance Consumption: an International Comparison. *Humanit Soc Sci Commun 10*, 470. https://doi.org/10.1057/s41599-023-01990-7

[24] Xiang, F., Chang, T., & Jiang, S. J. (2023). Economic and Climate Policy Uncertainty, Geopolitical Risk and Life Insurance Premiums in China: A Quantile ARDL Approach. *Finance Research Letters*, 57, 1–7.

[25] Xie, H., Lin, C. (2024). Economic Policy Uncertainty and Directors and Officers Liability Insurance: a Perspective on Capital Market Pressures. *Geneva Pap Risk Insur Issues Pract 49*, 605–635.

[26] Zhou, Q. & Zhang, L. & Huang, H. (2025). Impact of Geopolitical Risk on Corporate Insurance Investment, *Finance Research Letters, Elsevier*, vol. 73(C).

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