The causal nexus of geopolitical risks, consumer and producer confidence indexes: evidence from selected economies

Ferhat Pehlivanoğlu¹ · Saffet Akdağ² · Andrew Adewale Alola^{3,4}

Accepted: 10 October 2020 / Published online: 19 October 2020
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Abstract

The effect and significant of risk in every real life situation is increasingly becoming a pertinent subject in almost every field, thus causing potential adverse effects on both the individual's propensity to consume and invest. Also, the likelihood of the exposure of the developing countries to geopolitical risks amid experience of economic fragilities as indicated by security indexes has remained an important driver of the global market dynamics. On this note, this study is aimed at examining whether related risks in selected economies (Brazil, Indonesia, Republic of Korea, Russia, China, South Africa, Mexico, and Turkey) with geopolitical risks have a significant effect on consumer and producer confidence indexes by employing a monthly data between January 2004 and June 2018. A combination of two panel causality techniques that examined both the panel and country-specific causality were employed to examine both the panel causal relationship and the country-specific causal relationship. The study found a causality relationship from geopolitical risk index to the consumer and producer confidence index for the overall panel. Also, the results in terms of the individual country showed that causality from the geopolitical risk index to the consumer confidence index is valid for Indonesia, South Africa, and Mexico. Meanwhile, the causality from geopolitical risk index to producer confidence index is valid for China, Indonesia, South Korea, and Mexico. The study presented useful financial and security policy measure for the examined panel of selected countries.

Keywords Geopolitical risk · Consumer confidence index · Producer confidence index · Developing countries · Granger causality

1 Introduction

In the last decades, the world has experienced different levels of uncertainties and shocks that are associated with dynamics in geopolitical tensions, macroeconomics, terrorist attack, and global pandemics [such as the Coronavirus (COVID-19)] (Aye et al. 2019; Li et al. 2019). In fact, the level of instability arising from political tension and and by other means has

✉ Andrew Adewale Alola
aadewale@gelisim.edu.tr

Extended author information available on the last page of the article

significantly increased across the globe. For instance, the recent changes in the United States' trade policy has further indicated the dynamics of the sources of global instability ranging from politics, economics, and of course trade (Alola 2019a, b). However, the spate of geopolitical tensions across the regions of the globe is increasingly having significant impact on varying economic activities (Balcilar et al. 2018; Alola et al. 2019). In retrospect, Caldara and Iacoviello (2018) earlier indicated that the Geopolitical Risks (GPRs) is one of the important determinant of investment decisions that affects financial markets and business cycles. As such, the impact of GPR have been examined in different financial markets that include the stock markets and oil market (Antonakakis et al. 2017; Aysan et al. 2019), tourism (Akdağ et al. 2019), even in defense and military-related perspective (Apergis et al. 2018). While these previous studies of GPRs have addressed both the demand and supply side of the different segments of markets, the strands of literature are short of examining the effect of GPRs on some specific indicators such as the composite leading indicator, the consumer and business confidence indexes.

Meanwhile, in the first study of consumer confidence, Mueller (1963) examined the role of consumer confidence in explaining or determining the consumers spending with the Michigan survey of consumers over a 10-year period. After the study of Mueller (1963), the consumer confidence index has been explored in different perspectives (Croushore 2005; Jansen and Nahuis 2003; Dees and Brinca 2013). For instance, Van Oest and Franses (2008) reported that the study of consumer confidence is being vitally considered because it potentially underpins the shift pattern of the consumers toward a negative, positive and neutral opinions. Additionally, the study indicated that the interpretation of the shift in confidence of the consumer exhibit a potential link with the sample of subjects under consideration. This is no means suggesting that the determinants of consumer confidence especially as related to business cycle is limited to the aforementioned dynamics.

However, the current study is designed to build on the above motivation, thereby examining the effect of GPRs on consumer confidence in the panel of eight (8) selected countries (Brazil, China, Indonesia, South Africa, South Korea, Mexico, Russia and Turkey) over the period January 2004–June 2018. Although the GPRs data is available for eighteen (18) countries, the choice of the eight selected countries is because the consumer confidence index data is only available for eight (8) (excluding Israel) of the eighteen (18) countries. While the objective of establishing the effect of GPRs on the consumer confidence is being methodologically examined, on the other hand the novelty of the study is being enhanced in fold. Importantly, this study is novel especially since it is considered the first to examine the nexus of GPRs and the confidence index. Several other studies as earlier mentioned have examined each of the variables alongside other variables, but to authors' best knowledge, no exiting literature has explored the current dimension. Additionally, the current study utilizes the advantages of the panel causality approaches of Dumitrescu and Hurlin (2012) and Emirmahmutoğlu and Köse (2011). In so doing, a more robust estimation result is expectedly presented in the study.

The study layout is as follow: section two provides an overview of the dynamics of geopolitical risk and consumer confidence, Sect. 3 illustrates the data and the adopted empirical approaches. While Sect. 4 presents and discusses the empirical results, the concluding remark with potential policy pathway are presented in Sect. 5.

2 Literature

Geopolitical risk indexes has consistently remained one of the contemporary subject of academic studies in recent time. In regard to related studies, there has been concise focus on the geopolitical risks and stock indexes of countries. Studies on the effect of geopolitical risk index on economic and financial indicators were conducted in recent times. In specific, İltaş et al. (2017) explored the relationship between geopolitical risk index and stock indexes. In the indicated study, İltaş et al. (2017) scrutinized the relationship between the stock yield of 204 companies that are traded in the Istanbul Stock Exchange and geopolitical risks by employing the GMM method. The result implied that there is a negative relationship between geopolitical risks and share earnings. The relationship between geopolitical risk index and the most important stock indexes of twelve countries was also reviewed in the study of Akdağ et al. (2018) used panel cointegration and causality techniques. The result of the panel causality analysis revealed that there is causality from the change in geopolitical risk index to the yield of the stock index. Moreover, a long-termed relationship between the related variables established a significant and negative effect of an increase in geopolitical risks on the stock indexes earnings. Apergis et al. (2018) employed the high-order causality methodology of Nishiyama et al. (2011) to investigate the relationship between geopolitical risk index and yield of the volatility of stocks of 24 global defense companies.

Considering the evidence from previous studies, there is no consensus evidence linking geopolitical risks with the share earnings. For instance, Balcilar et al. (2018) conducted a study that employed the data of BRIC countries to posit a relationship between yield and volatility of stock indexes of examined countries in relation to geopolitical risk. The indicated result found that geopolitical risks increase the volatility of stocks in the following patterns: Russia as a country is affected by geopolitical risks in a larger proportion; India is the strongest country against geopolitical risks. Also, Gupta et al. (2018) tested whether geopolitical risks are effective on trade flows by Hausman and Taylor's model. They used the data of 64 countries and mentioned that an increase in geopolitical risks negatively affects the trade flows. Whereas, Pan (2018) used panel regression analysis and tested the relationship between geopolitical risk index and share earnings. The study utilized the data of 17 countries and expressed that an increase in geopolitical risks decreases share earnings. Similarly, Rawat and Arif (2018) conducted a survey by using quantile regression analysis and data of BRIC countries. According to the result of the study, the stock indexes of Brazil and Russia are more sensitive to geopolitical risks and negatively affected by related risks while the stocks in India and China resist the impact of geopolitical risks. Moreso,

Akdağ and İskenderoğlu (2019) tested the relationship between geopolitical risk index and tourism index of Turkey by using the Johansen cointegration test with the fully-modified ordinary least squares (FMOLS) and dynamic ordinary least squares (DOLS) tests. Interestingly, Akdağ and İskenderoğlu (2019) found that there is a long-run relationship between geopolitical risks and the BİST tourism index. Specifically, the study found that geopolitical risks negatively affect the BİST tourism index. Bouras et al. (2019) used a different method and tested the relationship between geopolitical risk index and yield from the volatility of stock indexes by using the Generalized Autoregressive Conditional Heteroscedasticity (GARCH) model. The study used the data for 18 developing countries and found that geopolitical risks have no significant effect on earnings of stock indexes as well as the same risks are effective on the volatility in earnings of stock indexes. Bouri et al.

(2019) who look at the issue from a different aspect tested the relationship between geopolitical risk index, Dow Jones Islamic World stock index and Dow Jones Sukuk index by employing the non-parametrical Granger causality analysis. From the result of the investigation, the geopolitical risk index estimates the volatility rather than the yield of the Dow Jones Islamic World index; the related risk is successful to estimate both yield and volatility of Dow Jones Sukuk index.

Furthermore, Demir et al. (2019) researched the relationship between geopolitical risk index and tourism indicator by employing the GMM method. They used the data of 18 countries and expressed that geopolitical risks negatively affect the number of tourists. Demiralay and Kılınçarslan (2019) used four global tourism and travel indexes (TOXX Travel & Leisure Global, STOXX Travel & Leisure Asia-Pacific, STOXX Travel & Leisure Europe and STOXX Travel & Leisure North America) as the dependent variable and tested the effect of geopolitical risks on the indicated indexes by using both the linear regression and quantile regression analyses. The indicated result showed that geopolitical risks have a negative effect on tourism and travel indexes in general. Such implication can be linked to the negative developments about geopolitical risks. Moreso, Şahin and Akdağ (2019) reviewed the causality relationship between related variables of six countries' geopolitical risk index and bank index data by using the bootstrap causality analysis. The implied result showed a causality relation from geopolitical risks to the bank indexes for Israel and Turkey.

Interestingly, the aforementioned the literature reviewed that geopolitical risks are linked with the dynamics of the stock indexes especially in a negative pattern. Moreover, the evidence from the studies posits that the geopolitical risk index is the reason for stock indexes.

3 Data and methodology

3.1 Data description

The dataset used in the study were specified as geopolitical risk index, producer and consumer confidence index. The geopolitical risk index, the consumer and producer confidence indexes were computed and were all obtained from the Organization for Economic Co-operation and Development (OECD) database (OECD 2019) and the FRED professional estimation surveys of the Federal Reserve Bank of Saint Louis (FRED, 2019). The variables of the analyzed 8 selected countries consists of the monthly data of the period January 2004–June 2018. While this study investigates the panel countries: Brazil, Indonesia, South Korea, Russia, China, South Africa, Mexico, and Turkey, the logarithm of the series was employed to control for possible heteroscedastic.

The geopolitical risk index is computed in the study of Caldara and Iacoviello (2017). The geopolitical risk, is described as the risk related to tension between states which affect the normal and peaceful progress of international relations, thus causing terrorist actions and war. The geopolitical risk index was computed from the algorithm that counts the frequency of articles that used the related words in newspapers in the USA, England, and Canada.

3.2 Empirical method

3.2.1 Cross-sectional dependency and unit root tests

Cross-sectional dependency and homogeneity tests were performed for variables before the unit root and causality analyses in this paper. Cross-sectional dependency and homogeneity test results are crucial in selecting the unit root tests and cointegration tests. The LM (Lagrange Multiplier), Cross-section Dependence LM (CDLM) and CD tests well all estimated from the developed study of Pesaran et al. (2008), Pesaran (2004) and of Breusch and Pagan (1980) as it examines whether there is a dependency between cross sections (countries). CD and CDLM tests are preferred when the cross section dimension is bigger than the time dimension; LM and LMA_{adj} tests are preferred when the time dimension is bigger than the cross section dimension (Menyah et al. 2014; Kar et al. 2011). The slope homogeneity test that was developed by Pesaran and Yamagata (2008) checked whether explanatory variable varies by cross section to cross section. The second-generation unit root test CADF that was developed in the study of Pesaran (2007) and unit root test that was developed by Hadri and Kurozumi (2012) were used to determine whether data are stationary based on the result of the cross sectional and homogeneity test results. Hadri and Kurozumi's (2012) unit root test which is a form of the KPSS unit root test that is further employed for the panel. The null hypothesis of unit root implies that a series is stationary; the alternative hypothesis assumes that the series are not stationary. The CADF test that was developed by Pesaran's (2007) is preferred in the assumption of cross sectional dependency.

3.2.2 Panel cointegration test

Westerlund Durbin-Hausman (2008) cointegration test was utilized to find whether there is a long-term relationship between variables. The related test can be used to check the long-term relationships between variables that are not stationary and have a cross sectional dependency. This method can also be used in situations in which some of the independent variables are stationary and the dependent variable is absolutely stationary. Different test statistics can be computed for hypotheses that consider both panel homogeneity and panel heterogeneity. The long-term cointegration relationship is further examined in panel and group dimensions one by one through the Westerlund Durbin-Hausman's (2008) method. It uses the Durbin-H panel statistics and the autoregressive parameter is the same for all sections. On the other hand, Durbin-H group statistics accept that autoregressive parameter varies between the cross sections. From this aspect, the presence of cointegration relation for all the sections in the panel is accepted when the H_0 hypothesis is not accepted in the Durbin-H panel test. The presence of cointegration relation in some of the sections of the panel at least when H_0 main hypothesis is not accepted by the Durbin-H group test (Westerlund 2008). Durbin-h test is used in situations in which $t > N$. Durbin-H panel and Durbin-H group test statistics that belongs to Durbin-H test is computed as follows (Westerlund 2008:203);

$$Durbin - HPanel = \sum_{i=1}^n \hat{S}_i(\tilde{\phi}_i - \hat{\phi}_i)^2 \sum_{t=2}^T \hat{e}_{it-1}^2 \quad (1)$$

$$Durbin - HGrup = \hat{S}_i(\tilde{\phi}_i - \hat{\phi}_i)^2 \sum_{i=1}^N \sum_{t=1}^T \hat{e}_{it-1}^2 \quad (2)$$

where S_i , ϕ , e are respectively the variance term, the OLS estimator, and error term for the cross-section N and estimated period T .

3.2.3 Granger causality tests

While the panel causality analysis that was developed in by Dumitrescu and Hurlin (2012) determines the causality relationship between variables for the entire panel, the causality analysis that of Emirmahmutoglu and kose (2011) is utilized to obtain the results for each of the cross sections i.e. each of the country. In this study, the aforementioned Granger causality methods are employed.

Firstly, Dumitrescu and Hurlin's (2012) panel causality analysis which is based on the assumption of cross sectional dependency and heterogeneity is applied based on Wald statistics. This analysis can be used when time dimension (T) is higher or lower than the cross section dimension (N). In Dumitrescu and Hurlin's (2012) panel causality analysis, the alternative hypothesis which expressed that there is causality relation at least in one cross section is tested against the main hypothesis which assumes that there is no causality relation in cross sections. The model that is used for each i value of t period in T period with N number of cross sections on the condition that the two investigated variables such as x and y are stationary (Dumitrescu and Hurlin 2012: 1451). A related model is as follows;

$$y_{i,t} = \alpha_i + \sum_{k=1}^K \gamma_i^{(k)} y_{i,t-k} + \sum_{k=1}^K \beta_i^{(k)} x_{i,t-k} + \varepsilon_{i,t} \quad (3)$$

where K represents the lag length, $\gamma_i^{(k)}$ is the autoregressive parameter, while $\beta_i^{(k)}$ represents the regression coefficient which is allowed to vary within the groups. The causality test is normally distributed and allows for heterogeneity. However, the homogenous non-stationary hypothesis is employed to estimate causal nexus with heterogeneous models. Thus, the null and alternative hypotheses for homogenous non-stationary causality are specified as follows:

$$H_0 : \beta_i = 0 \quad \forall_i = 1, \dots, N$$

$$H_1 : \beta_i = 0 \quad \forall_i = 1, \dots, N_1$$

$$\beta_i \neq 0 \quad \forall_i = N_1 + 1, N_1 + 2, \dots, N$$

where the unknown parameter is denoted by N_1 , which satisfies the condition $0 \leq N_1/N < 1$. Consequently, the ratio of N_1/N is expected to be less than 1. But, should $N_1 = N$, it then presents that no causality across cross-sections, thus this translates to failure to reject the null of homogenous non-stationary causality. But, $N_1 = 0$ implies a causal nexus in the macro panel approach.

Individual Wald statistics are computed for each of the cross sections to test the null hypothesis of Dumitrescu and Hurlin (2012). These statistics show the causality relation for each section. Then, Wald statistics that is valid for the panel is obtained by calculating the average of individual Wald statistics (Dumitrescu and Hurlin 2012).

$$W_{N,T}^{Hnc} = \frac{1}{N} \sum_{i=1}^N W_{i,T} \quad (4)$$

The standardized test statistics that is offered in the study of Dumitrescu and Hurlin (2012) when the time dimension is bigger than the cross section dimension ($T > N$) is as follows (Dumitrescu and Hurlin 2012: 1453);

If $T > N$;

$$Z_{N,T}^{Hnc} = \sqrt{\frac{N}{2K}} \left(W_{N,T}^{Hnc} - K \right) \xrightarrow{d}_{T,N \rightarrow \infty} N(0, 1) \quad (5)$$

Another causality test that was used in this study is Emirmahmutoğlu and Köse (2011) causality analysis. The Emirmahmutoğlu and Köse's (2011) causality analysis uses meta-analysis of Fisher (1932) and is the form of Todo-Yamamoto (1995) causality test that is adapted to the panel is utilized even though the variables are not stationary at the same levels. Another advantage of this test is that cross sectional dependency is considered and it can be used even if the cointegration relation cannot be determined (Emirmahmutoğlu and Köse 2011). Since the test has a heterogeneous structure, it provides results for both the general of the panel and each of the cross sections (Kurt and Köse 2017). Equations (6 and 7) which show the causality relation based on the VAR model with two variables can be established as follows (Emirmahmutoğlu and Köse 2011: 872);

$$x_{i,t} = \mu_i^x + \sum_{j=1}^{k_i+dmax_i} A_{11,ij} x_{i,t-j} + \sum_{j=1}^{k_i+dmax_i} A_{12,ij} y_{i,t-j} + \mu_{i,t}^x \quad (6)$$

$$y_{i,t} = \mu_i^y + \sum_{j=1}^{k_i+dmax_i} A_{21,ij} x_{i,t-j} + \sum_{j=1}^{k_i+dmax_i} A_{22,ij} y_{i,t-j} + \mu_{i,t}^y \quad (7)$$

$i = 1, 2, \dots, N$ ve $j = 1, 2, \dots, k$

x_i and y_i represent variables; μ_i shows the error term; A is fixed effects matrix; k_i is lag; $dmax_i$ shows the maximum integration value for every cross section; i is the cross sections; t is the time period.

4 Findings and discussion

Descriptive statistics of related variables were computed before making analyses by the data of geopolitical risk index (GRI), consumer confidence index (CCI) and producer confidence index (PCI). Table 1 shows the descriptive statistics.

It is seen in the descriptive statistics of Table 1 that volatility is higher in geopolitical risk index. The investigated variables were subjected to cross sectional dependency and homogeneity tests before checking whether the datasets of variables are stationary. First of all, the main reasons for conducting tests is that unit root tests based on cross sectional dependency and homogeneity test results are different. Table 2 shows the related test results.

Concerning cross sectional dependency test results in Table 2, the null hypothesis which expresses that there is no cross sectional dependency is denied at a 1%

Table 1 Descriptive statistics

Variables	Mean	Maximum	Minimum	Standard error
lnGRI	4.5476	5.6144	3.1492	0.3266
lnCCI	4.6058	4.6815	4.5352	0.0185
lnPCI	4.6044	4.6441	4.4249	0.0177

The GRI, CCI, and PCI are the geopolitical risk index, consumer confidence index and producer confidence index respectively

Table 2 Cross sectional dependency and homogeneity test results

Test	lnCCI = f (lnGRI) Statistics	lnPCI = f (lnGRI) Statistics
LM	193,298*	279,762*
CD _{LM}	22,089*	33,643*
CD	3,125*	−3,428*
LM _{adj}	11,442*	10,671*
$\check{\Delta}$	45,0780*	39,1219*
$\check{\Delta}_{adj}$	45,6022*	39,5768*

* is the 1% statistical significance level. Also, the GRI, CCI, and PCI are the geopolitical risk index, consumer confidence index and producer confidence index respectively. The LM and CD are the Lagrange multiplier and the cross-sectional dependence respectively

Table 3 Unit root test results

Variables	Hadri-Kurozumi		Pesaran (2007) CADF	
	Constant	With constant and trend	Constant	With constant and trend
lnPRI	2.3736*	2.3242*	−7.209*	−7.653*
Δ lnPRI	2.3046	−2.7433	−6.190*	−6.420*
lnCCI	15.1175*	25.2120*	−1.783**	−0.671
Δ lnCCI	−1.8969	−2.3137	−5.231*	−5.266*
lnPCI	25.6391*	15.0298*	−1.719**	−1.505***
Δ lnPCI	−2.4315	−2.4564	−6.074*	−6.272*

*, **, and *** are the 1%, 5%, and 10% statistical significance level respectively. Also, the GRI, CCI, and PCI are the geopolitical risk index, consumer confidence index and producer confidence index respectively. The LM and CD are the Lagrange multiplier and the cross-sectional dependence respectively

significance level. For related test results, a series of countries of the cross section affect each other. It is tested in Table 3 whether slope coefficient is homogeneous. For the results of related tests, the hypothesis of the slope coefficient is homogeneous at a 1% significance level is rejected. For related test results, Hadri and Kurozumi (2012) and Pesaran's (2007) unit root test that is based on the cross sectional dependency was used to determine whether data are stationary. Table 3 shows the test results.

Table 4 Cointegration test results

	t statistics
Model: $y(CCI) = f(GRI)$	
Durbin-H group statistics	20.233*
Durbin-H panel statistics	11.956*
Model: $y(PCI) = f(GRI)$	
Durbin-H group statistics	43.572*
Durbin-H panel statistics	64.087*

* is the 1% statistical significance level. Also, the GRI, CCI, and PCI are the geopolitical risk index, consumer confidence index and producer confidence index respectively. The H and t are the heteroscedasticity and the test statistic respectively

Table 5 Dumitrescu and Hurlin's (2012) panel causality test results

Direction of causality	W-statistics	Zbar-statistics	Probability	Result
$\ln GRI \rightarrow \ln CCI$	15.5530*	2.5034	0.0123	There is granger causality
$\ln GRI \rightarrow \ln PCI$	18.6939***	-1.7424	0.0814	There is granger causality

* and *** are the 1% and 10% statistical significance level respectively. Also, the GRI, CCI, and PCI are the geopolitical risk index, consumer confidence index and producer confidence index respectively

We can say based on unit root test results in Table 3 that series include unit root at level; in other words, they are stationary only at difference series. Table 4 shows the Westerlund-Durbin Hausman cointegration test results that reveal the long-termed relationship between variables.

For results in Table 4, there is a long-termed relationship between geopolitical risks and both producer and consumer confidence indexes. This cointegration evidence between the geopolitical risks and consumer confidence indexes implied that there is a significant link especially in the long term between the induced factors of political instability and the purchasing confidence of consumers toward goods and services in the examined panel of 8 countries. In addition to the cointegration evidence, the Granger causality evidence between the investigated variables is a substantial approach. For instance, a Panel causality analysis that considers cross sectional dependency i.e. the Dumitrescu and Hurlin's (2012) is further used in the study and the result is indicated in Table 5. The Dumitrescu and Hurlin's (2012) result found a uni-directional Granger causality from geopolitical risks to consumer confidence index and producer confidence index. The implication is that the previous history of geopolitical risk is a significant predictor of the present and future values of both the consumer confidence and producer confidence indexes. Furthermore, Dumitrescu and Hurlin's (2012) panel causality test results, geopolitical risks are the reason for both consumer and producer confidence index. In addition to this, the panel causality test especially that shows causality results for each of the cross sections and was developed in Emirmahmutoğlu and Köse's (2011) study is further utilized in this study. While the result of the Dumitrescu and Hurlin's (2012) panel causality is shown in Table 5, that of the Emirmahmutoğlu and Köse (2011) is implied in Table 6.

For the Emirmahmutoğlu and Köse (2011) panel causality test results in Table 6, the causality from geopolitical risk index to consumer confidence index is valid for Indonesia,

Table 6 Emirmahmutoğlu and Köse (2011) panel causality results

H ₀ : Geopolitical risk index is not the reason for consumer confidence index		H ₀ : Geopolitical risk index is not the reason for business world confidence index	
Countries	Test statistics	Countries	Test statistics
Brazil	2.534	Brazil	0.761
China	3.174	China	1.484
Indonesia	22.379*	Indonesia	5.273
South Africa	14.481**	South Africa	37.995*
South Korea	4.260	South Korea	1.763
Mexico	3.786	Mexico	9.874**
Russia	12.490**	Russia	5.184
Turkey	5.722	Turkey	3.488

* and ** are the 1% and 5% statistical significance level respectively

South Africa, and Russia; on the other hand, the causality from geopolitical risk index to producer confidence index is valid for South Africa and Mexico. So, it translates that both the consumers and producers in South Africa are motivated and demotivated in their response to specific goods and services especially when the previous information of geopolitical risks and related factors are changing with time. But, except for the case of Indonesia and Russia (for consumer confidence index) and Mexico for the producer confidence index, the Granger causality evidence among these indicators is not significant in other examined countries.

5 Conclusion and policy suggestions

Geopolitical risks which is regarded as the risk that affects the normal and peaceful progress of international relations are mostly linked with terrorist actions, wars and the tension between states have started to show an increase in recent years. An increase in related risks may be effective in the decisions of many economic agents such as the producer and consumer. This study carefully examined whether geopolitical risks exert an effective impact on producer and consumer confidence indexes through the cointegration and causality approaches. The related analysis used is the monthly data of the period between January 2004 and December 2018 for eight countries whose geopolitical risk index, producer and consumer confidence index data are accessible. From the Westerlund-Durbin Hausman's cointegration test results, result found that there is a long-term relationship between geopolitical risk and producer with consumer confidence index. With reference to Dumitrescu and Hurlin's (2012) panel causality test results, there is causality from geopolitical risk index to producer and consumer confidence index. Emirmahmutoğlu and Köse (2011) panel causality analysis was also performed to illustrate the country-specific relationship between the examined variables. For the results, there is causality from geopolitical risk index to consumer confidence index for Indonesia, South Africa, and Russia. The causality from geopolitical risk index to producer confidence index is seen in South Africa and Mexico. The implication of the country-specific results posited that geopolitical risks are not intensely experienced in Indonesia, South Africa, and Mexico. Indicatively, the social structure that is sensitive to change in risks may be the reason for this situation. Also, the

very-high level of geopolitical risks specific to Russia is likely to be the reason for the implied result.

In conclusion, the interesting result of this study has a significant policy implication potentials. For instance, the governments and policymakers should void projecting or creating tension, unease information that likely to spike a high geopolitical risks is experienced. Also, effective policies should ensure possibly mitigate the sources of volatilities in financial markets or apply policies that can minimize the geopolitical risks. As such, the market can reach a more consistent structure. It is also thought that future studies that is centered on the effect of geopolitical risks on financial instruments and the use of more sophisticated methods will definitely enhance the literature.

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Affiliations

Ferhat Pehlivanoğlu¹ · Saffet Akdağ² · Andrew Adewale Alola^{3,4}

Ferhat Pehlivanoğlu
fpehlivanoglu@kocaeli.edu.tr

Saffet Akdağ
saffetakdag@tarsus.edu.tr

¹ Department of Economics, Faculty of Economics and Administrative Sciences, Kocaeli University, Umuttepe, Kocaeli, Turkey

- ² Department of Banking and Finance, Faculty of Applied Sciences, Tarsus University, Tarsus, Mersin, Turkey
- ³ Faculty of Economics, Administrative and Social Science, Istanbul Gelisim University, Istanbul, Turkey
- ⁴ Department of Financial Technologies, South Ural State University, Chelyabinsk, Russia