

Global Health Crises and Geopolitical Tensions as Drivers of Economic Policy Uncertainty: Evidence from Asia

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Abstract

The study aimed to examine the impact of global health crises, represented by the COVID-19 pandemic, and geopolitical risks on economic policy uncertainty in four major Asian economies, namely China, India, Japan, and Korea, over the period from September 2019 to March 2021. To do so, it employed the PMG estimator within a panel ARDL framework and relied on panel time-series data as well as cointegration tests to investigate both the short-run and long-run relationships among the variables.

The study found a positive long-run relationship between both COVID-19 and geopolitical risk on the one hand, and economic policy uncertainty on the other. This indicates that increases in infection cases and intensifying geopolitical tensions lead to higher levels of economic policy uncertainty. These findings support the view that Asian economies experienced a dual shock during the period under review, consisting of a global health shock and geopolitical tensions, both of which contributed to increasing economic policy uncertainty.

Key words: COVID-19, Economic Policy Uncertainty, Geopolitical Risk, PMG approach, Asian economies .

Jelclassification : C54, E61, O53

الأزمات الصحية العالمية والتوترات الجيوسياسية كمحركات لعدم اليقين في السياسات الاقتصادية: دليل من آسيا

ملخص :

هدفت الدراسة إلى تحليل أثر الأزمات الصحية العالمية، ممثلة في جائحة كوفيد-19، والمخاطر الجيوسياسية على عدم اليقين في السياسة الاقتصادية في أربعة اقتصادات آسيوية رئيسية، وهي الصين والهند واليابان وكوريا، خلال الفترة الممتدة من سبتمبر 2019 إلى مارس 2021، وذلك باستخدام منهجية PMG ضمن إطار Panel ARDL. واعتمدت الدراسة على بيانات سلاسل زمنية بانلية واختبارات التكامل المشترك لفحص العلاقات القصيرة والطويلة الأجل بين المتغيرات.

وتوصلت الدراسة إلى وجود علاقة طويلة الأجل موجبة بين كل من جائحة كوفيد-19 والمخاطر الجيوسياسية من جهة،

وعدم اليقين في السياسة الاقتصادية من جهة أخرى، بما يعني أن ارتفاع عدد الإصابات وتزايد التوترات الجيوسياسية يؤديان إلى زيادة مستوى عدم اليقين في السياسات الاقتصادية وتدعم هذه النتائج الفكرة القائلة إن الاقتصادات الآسيوية واجهت صدمة مزدوجة خلال الفترة المدروسة، تمثلت في الصدمة الصحية العالمية والتوترات الجيوسياسية، وكلتاها أسهمت في رفع حالة عدم اليقين في السياسة الاقتصادية .

الكلمات المفتاحية: كوفيد-19، عدم اليقين في السياسة الاقتصادية ، المخاطر الجيوسياسية ، منهجية PMG ، الاقتصاد الآسيوي.

تصنيف جال:O53.E61.C54.

INTRODUCTION

On March 11, 2020, the World Health Organization (WHO) officially declared the novel corona virus (COVID-19) outbreak a global pandemic. The outbreak of the pandemic COVID-19 has rapidly disrupted the global supply chain and the economy; eventually, it has led to a dramatic transformation in the world economy. Yet, it is unpredictable how long the virus outbreak will persist, the economic normalcy exclusively depends on the immediate cure or vaccine or herd immunity increase. The COVID-19 pandemic is one example of how uncertain economic policies distorted the vision for the economy, affect all market participants, and illustrate the global economy's interconnections. according to (Caggiano & al, 2020) provide evidence that The world had not seen anything like this disease since the 1918 influenza pandemic, the effects of which were extrapolated by its uncertainty. The COVID-19 pandemic increased the uncertainty in daily life due to several factors, including the uncertainty of the pandemic's duration, how it will consequently change the world, and whether another pandemic would impact the global economy. according to (Baker & Terry, 2020) provide evidence that current uncertainty levels are much higher than those during the 2008–2009 Great Recession, and are closer to the level of the Great Depression in the United States. They also claim that most of the current economic slowdown is a product of the extremely high uncertainty due to the COVID-19 outbreak.

This has significantly complicated the decision-making process for executives in all sectors, whether private, public, or non-prof. To capture the essence of the current scenario and what it may lead to in the future, This study attempts to answer two research questions related to the COVID-19 Pandemic and geopolitical risk and economic policy uncertainty in the context of in China, India, Japan, Korea: (a) can COVID-19 Pandemic and the geopolitical risk increase or decrease economic policy uncertainty in four leading Asian economies, namely China, India, Japan, Korea? (b) is it possible to empirically verify the existence of the relationship between the COVID-19 Pandemic and the geopolitical risk and economic policy uncertainty in four leading Asian economies, namely China, India, Japan, Korea?

The Hypotheses of the Study:

The double blow of COVID-19 Pandemic and geopolitical risk increases or decreases economic policy uncertainty in four leading Asian economies, namely China, India, Japan, Korea.

The Approach and Objectives of the Study:

This study examines the impact of COVID-19 Pandemic and geopolitical risk on economic policy uncertainty in four leading Asian economies, namely China, India, Japan,

Korea, for the period Sept, 2019, to March, 2021 This study used the PMG method proposed by Pesaran et al. (1999), for co-integration in order to test the long-run relationship between the variables subject of study.

The rest of the paper is organized as follows. Section 2 provides a brief review of the literature. Section 3 explains the model specification, data and methodology. Section 4 discusses the empirical results. Section 5 concludes the research paper.

1- LITERATURE REVIEW

Many empirical studies have examined whether or not there exists a mutual relationship between COVID-19 Pandemic and geopolitical risk and economic policy uncertainty . Some empirical studies found a direct relationship that comes from COVID-19 Pandemic and geopolitical risk to stimulate the economic policy uncertainty of a country. Other studies viewed the relationship between these variables from another aspect; particularly that COVID-19 Pandemic and geopolitical risk induces economic policy uncertainty growth. However, still other studies found inconclusive results about this relationship. This difference in results is due to different economic conditions of different countries in addition to the studied period and the used variables. We now provide a brief review of the growing body of literature investigating this topic.

(Iyke, 2020) found that the pandemic has a positive and statistically significant impact on EPU in China and Korea. (McKibbin WJ, 2020) explored the short-run and long-run economic policy uncertainty of a country generated by the covid-19 situation is a matter of great concern to the regulators, business enterprises and all the economic entities at large also that even a contained outbreak could significantly impact the global economy in the short run. These scenarios demonstrate the scale of costs that might be avoided by greater investment in public health systems in all economies but particularly in less developed economies where health care systems are less developed and population density is high. According to (Albulescu, 2020) presented an analysis of the effect of the novel corona virus and crude oil prices on the United States (US) economic policy uncertainty (EPU) and indicated that interactions that the new infection cases reported at global level, and the death ratio, have no significant effect on the US EPU, whereas the oil price negative dynamics leads to increased uncertainty.

According to (Dayong & al, 2020) using statistical analysis of the impact of the COVID-19 pandemic on stock market risk for Countries on the top 10 list of confirmed cases have been selected (according to the data on 27 March, 2020) together with Japan, Korea and Singapore during the period from dated 29 Feb, 2020 to 27 March, 2020. The results have shown that the individual stock market reactions are clearly linked to the severity of the outbreak in each country. The great uncertainty of the pandemic and its associated economic losses has caused markets to become highly volatile and unpredictable. That means the COVID-19 had a significant impact on the financial markets from 29 Feb, 2020 to 27 March, 2020. Another results show that global financial market risks have increased substantially in response to the pandemic. (Saeed & Ridoy, 2020) studied the impact of coronavirus (COVID-19) on the economic policy uncertainty in UK, over the period 11 March 2020 to 7 May 2020, an ARDL model has been applied in this study to capture both the short-run and long-run impact of

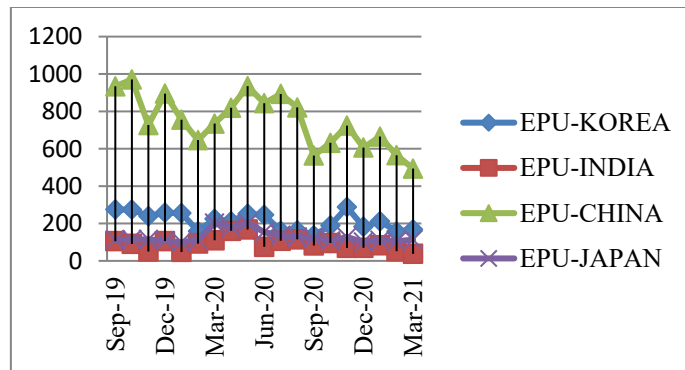
COVID-19 on economic policy uncertainty. Based on the ARDL result, it is found that both COVID-19 new cases and new deaths reported in the UK have a strong and positive association with the UK economic policy uncertainty in the long-run.

(Arshian, 2020) examined the connectedness between the recent spread of COVID-19, oil price volatility shock, the stock market, geopolitical risk and economic policy uncertainty in the US within a time-frequency framework. The coherence wavelet method and the wavelet-based Granger causality tests applied to US recent daily data unveil the unprecedented impact of COVID-19 and oil price shocks on the geopolitical risk levels, economic policy uncertainty and stock market volatility over the low frequency bands. Additionally, the COVID-19 risk is perceived differently over the short and the long-run and may be firstly viewed as an economic crisis.

Furthermore (Abebe & al, 2019) found that the effect of oil prices on economic policy uncertainty is time-varying. Our results show that the estimated time-varying coefficient function of the oil price was negative in years in which increases in oil prices were driven by a surge in global aggregate demand. Further, our nonparametric local linear estimates show that the country-specific and common trend functions are increasing over time. Our findings are robust to endogeneity and alternative specifications in G7 countries. In addition, (Zhifeng & al, 2020) conducted a study to find out the impact between economic policy uncertainty and crash risk of US stock market during the COVID-19 pandemic by applying a GARCH with skewness and their findings report a negative correlation between EPU and stock market crash risk, indicating the aggravation of EPU increase the crash risk. Moreover, the negative correlation gets stronger after the global COVID-19 outbreak, which shows the crash risk of the US stock market will be more affected by EPU during the epidemic. In a recent paper, (Xiaolei Sun & Jianping, 2020) investigated the impact of oil price shocks on economic policy uncertainty (EPU) from a multi-scale perspective using discrete wavelet transform and VAR model and noted that oil price shocks impose a positive effect on EPU at an original level while effects of oil price shocks on EPU are time-varying over different time-scales. However, in the medium term, the negative effect of oil price shocks on EPU is identified.

Starting from all these facts, we will try through econometric modeling to verify the impact of COVID-19 Pandemic and geopolitical risk on economic policy uncertainty in four leading Asian economies, namely China, India, Japan, Korea, for the period Sept, 2019, to March, 2021 . Figure 1 displays the graphical presentation of the economic policy uncertainty in China, India, Japan, Korea; the EPU index in the Asian countries experienced extreme upward swings during the COVID-19 pandemic. In Times of COVID-19 induced EPU upwards in China and Korea but less so in the other countries (Japan and India).

Figure N° 1. Economic policy uncertainty (EPU) in four leading Asian economies



Source : Website of Economic Policy Uncertainty

2- METHODS AND MATERIALS

2.1- DATA SET

This study attempt to measure the impact of COVID-19 Pandemic and geopolitical risk on economic policy uncertainty in four leading Asian economies, namely China, India, Japan, Korea, for the period Sept 2019, to March 2021. Therefore we use EPU index as the dependent variable in our study. We use Covid-19 daily new cases geopolitical risk as independent variables. Definitions and sources for all variables can be found in Table 01.

Tableau N° 1 presents a schematic overview of the variables of this study

Variable	Description	Source
EPU economic policy uncertainty	(news-based index)	Website of Economic Policy Uncertainty
COVID-19	observations of COVID-19 (measured as a number of the infected cases of a novel COVID-19)	Centers for Disease Control and Prevention (CDC)
(GPR) Geopolitical Risk	The GPR index is an index based on news related to geopolitical events	Website of Economic Policy Uncertainty

Source : The World Bank Database, Global Entrepreneurship Monitor, 2021.

2.2-Method :

The Literature Review employed to explore the connection that exists between variables and economic policy uncertainty is combination of theoretical and empirical. Accordingly, the model specification will be as follows:

$$EPU = f(Covid19, GPR).....(01)$$

To reduce the variation and induce stationary in the variance-covariance matrix, the natural logarithmic form (Ln) is applied to all the variables. The log linear (1) equation to examine the long run relationship between variables is given as follow:

$$EPU_{it} = \beta_i + \beta_1 COVID-19_{i,t} + \beta_2 GPR_{i,t} + \varepsilon_{it} \dots\dots\dots(02)$$

where $i=1,2,\dots\dots,N$ and $t=1,2,\dots\dots,T$

To estimate equation (02) in the long run impacts of COVID-19 geopolitical risk on economic policy uncertainty are examined by applying the panel autoregressive distributed lag (ARDL) approach to c-ointegration. There are various reasons which make panel-ARDL model more useful than other techniques. Firstly, it can be applied irrespective of whether the series are I(0) or I(1). Also, panel-ARDL approach is more suitable and produces more valid results for small sample size. Also, The panel ARDL technique was selected to investigate the long-term and short-term c-ointegration correlations between the determinants and extract the ECM (error correction version) of the panel characteristics to identify the short-term dynamic. Based on the study variables (Pesaran & al, 1999). The panel ARDL specification of our model is given as:

$$EPU_{it} = \sum_{m=1}^p \phi_{im} EPU_{i,t-1} + \sum_{n=0}^q \lambda_{in} COVID-19_{i,t-n} + \sum_{n=0}^q \delta_{in} GPR_{i,t-n} + U_i + \varepsilon_{it} \dots\dots\dots(03)$$

Where λ_{in} , δ_{in} , and ψ_{in} are $1 \times K$ vector of coefficients of the regressors, ϕ_{im} are scalars of the coefficient of lagged dependent variable. Equation (03) is reparametrized to account for both the short run dynamics and adjusting coefficients, the specification is as follows:

$$\Delta EPU_{it} = \alpha_{1i} EPU_{i,t-1} + \alpha_{2i} COVID-19_{i,t-1} + \alpha_{3i} GPR_{i,t-1} + \sum_{m=1}^{P-1} \phi_{im} \Delta EPU_{i,t-m} + \sum_{n=0}^{q-1} \lambda_{in} \Delta COVID-19_{i,t-n} + \sum_{n=0}^{q-1} \delta_{in} \Delta GPR_{i,t-n} + U_i + \varepsilon_{it} \dots\dots\dots(04)$$

The error correction form is given as;

$$\Delta EPU_{it} = \alpha_{1i} v_{i,t-1} + \sum_{m=1}^{P-1} \phi_{im} \Delta EPU_{i,t-m} + \sum_{n=0}^{q-1} \lambda_{in} \Delta COVID-19_{i,t-n} + \sum_{n=0}^{q-1} \delta_{in} \Delta GPR_{i,t-n} + U_i + \varepsilon_{it} \dots\dots\dots(05)$$

where $v_{i,t-1} = EPU_{i,t-1} - \rho_{1i} COVID-19_{i,t-1} - \rho_{2i} GPR_{i,t-1}$ and long-run coefficients are given as;

$$\rho_{1i} = -\alpha_{2i} / \alpha_{1i}, \rho_{2i} = -\alpha_{3i} / \alpha_{1i}$$

3-RESULTS AND DISCUSSION

3-1 Result of Descriptive Statistics:

The summary statistics of the variables used for the analysis are presented in the Table 2; the mean for economic policy uncertainty is 2.302518 with standard deviation of 0.374750. While the corresponding values for mean and standard deviation for COVID-19 and geopolitical risk are 1.185999 and 0.149730 and 4.928954 and 1.992662 respectively. The statistic of Skewness reveals that economic policy uncertainty, are skewed to right while COVID-19 and geopolitical risk has the left side skewness.

Tableau N° 2 Descriptive Statistics

	EPU	COVID_19	GPR
Mean	2.302518	4.928954	1.992662
Median	2.209027	4.923817	2.009125
Maximum	2.987143	7.087095	2.259606
Minimum	1.576545	0.477121	1.480698
Std. Dev.	0.374750	1.185999	0.149730
Skewness	0.447930	-0.591322	-0.659170

Source :Eviews 09 output

3-2 Result of Unit Root Test:

We start by applying the IPS, LLC, ADF, PP, panel unit root tests to each individual series, in order to conclude whether the series are stationary or not. Table 3 in the Appendix; shows the test of stationary result, from the table we see that Economic policy uncertainty (EPU) and COVID-19 Pandemic is stationary at level and variable geopolitical risk are non stationary at level but stationary at 1erdifference with 5% significance level. As all the variables are found to have the order of I(0) and I(1), we choose to employ Panel-ARDL test in order to determine the long-run co-integration between Economic policy uncertainty (EPU) and select variables for China, India, Japan, Korea. In these case, the long-term relationship between the research variables is examined by Pedroni and Kao Residual Co-integration Test (1999).

Tableau N° 2 Panel Unit Root Tests

Variables	Statistics	Values	Order of integration
	LLC	-6.44***	I(0)

EPU	IPS	-4.56***	I(0)
	ADF	-7.37***	I(0)
COVID-19	LLC	-5.98***	I(1)
	IPS	-5.67***	I(1)
	ADF	-4.94***	I(1)
GPR	LLC	-5.49***	I(1)
	IPS	-4.04***	I(1)
	ADF	-6.29***	I(1)

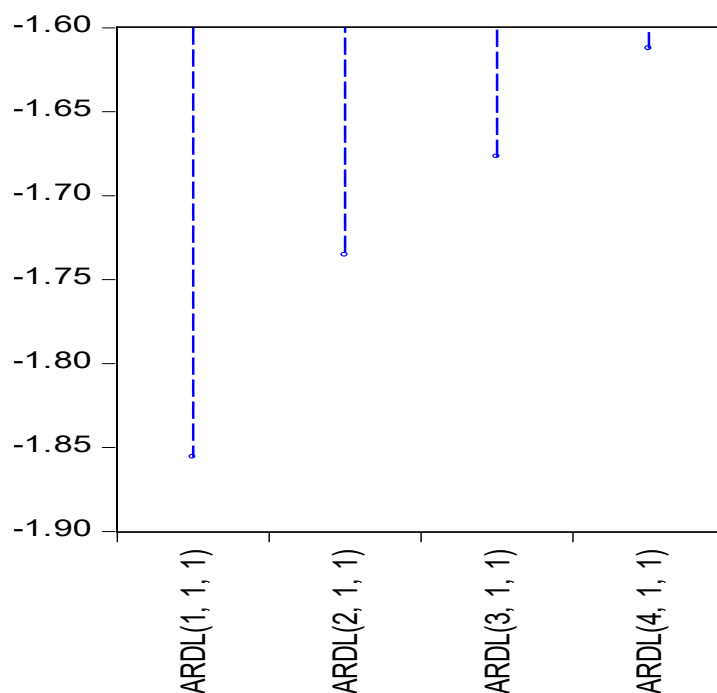
***significant at the 5 per cent level.

Source :Eviews 09 output

The second step was the estimation of a basic panel-ARDL model that explains Economic policy uncertainty (EPU) and its determinants. are achievable. The first step is to determine the optimal delay and ARDL pattern form. As seen in Fig. 02, Schwartz's lowest criterion is related to ARDL(1, 1, 1) Therefore, the optimal pattern is ARDL(1, 1, 1).

Figure N° 2. Selection optimal model ARDL according to Schwarz criterion

Akaike Information Criteria



Source :Eviews 09 output

3-3 Results of co-integration test:

The Third step of our empirical work involves investigating the long-run relationship between COVID-19 Pandemic and the geopolitical risk, economic policy uncertainty, using the panel co-integration technique due to (Kao, 1999) and (Pedroni, 2004).

According to the (Pedroni, 2004) the cross-sectional units have to be independent, otherwise their size properties would be misleading. Introduces seven panel co-integration statistics based on both homogeneity and heterogeneity assumptions. Assuming a panel of N countries T observations and regressors (X_m) the co integration test follows the equation :

$$y_{it} = \alpha_i + \lambda_{it} + \sum_{j=1}^m \beta_{j,it} x_{j,it} + \varepsilon_{it}$$

Where y_{it} and x_{it} are assumed to be integrated of order one in levels i, e I(1). The seven statistics can be divided into two sets. The first one consists of four panel statistics (the panel variance-statistics, the panel ρ -statistics, the panel PP-statistics, the panel ADF-statistics). The second set consists of three group panel statistics (the group ρ -statistics, the group PP-statistics, the group ADF-statistics). Under the null hypothesis all seven tests indicate the absence of cointegration $H_0: \rho_i = 0 \forall i$ whereas the alternative hypothesis is given by $H_1: \rho < 1 \forall i$; where ρ_i is the autoregressive term of the estimated residual under H_1 .

In Table 4 indicates that the four panel statistics among the four statistics used of the within- dimension, discard the no co integration null hypothesis and approve the variables co integration. The null hypothesis is further discarded by two out of the three between-dimension statistics, namely the PP-statistic and the ADF-statistic, which further confirms the existence of co integration among variables. To conclude, six out of seven tests confirm the long-term variables co integration.

Tableau N° 4 Results of Pedroni cointegration test

Pedroni Residual Cointegration Test

Series: EPU COVID_19 GPR

Alternative hypothesis: common AR coefs. (within-dimension)

			Weighted	
	<u>Statistic</u>	<u>Prob.</u>	<u>Statistic</u>	<u>Prob.</u>
Panel v-Statistic	-4.821614	0.0056	-4.869901	0.0002
Panel rho-Statistic	-5.100383	0.0006	-5.075667	0.0000
Panel PP-Statistic	-4.435994	0.0074	-4.714268	0.0033
Panel ADF-Statistic	-4.248945	0.0058	-4.150203	0.0000

Alternative hypothesis: individual AR coefs. (between-dimension)

	<u>Statistic</u>	<u>Prob.</u>
Group rho-Statistic	0.070498	0.4719
Group PP-Statistic	-3.148286	0.0008
Group ADF-Statistic	-4.029259	0.0000

Source :Eviews 09 output

In addition, The (Kao, 1999) test follows the same approach as the Pedroni test but is based on the assumption of homogeneity across panels with

$$x_{it} = \alpha_i y_{it} \beta + \varepsilon_{it}$$

Where $i=1, \dots, N$; $t = 1, \dots, T$; α_i = individual constant term, β = slope parameter and ω_i = stationary distribution ; X_{it} and Y_{it} are integrated processes of order I(1) for all i and (Kao, 1999) derives two (DF and ADF) types of panel cointegration tests both tests can be calculated from :

$$\bar{\omega}_{it} = \rho \bar{\omega}_{it-1} + V_{it} \quad \text{and} \quad \bar{\omega}_{it} = \rho \bar{\omega}_{it-1} + \sum_{j=1}^{\rho} \theta_j \Delta \bar{\omega}_{it-j} + V_{it}$$

Where $\bar{\omega}_{it-1}$ is obtained from the equation (01), the null hypothesis is $H_0: \rho = 1$ no cointegration, while the alternative hypothesis is $H_1: \rho < 1$. According to Kao Residual cointegration Test (Kao, 1999), the hypothesis of zero non-cointegration is rejected and the existence of a long-term relationship between researches variables is confirmed (Table 05). In these case We reject the null hypothesis and accept the alternative hypothesis that there is a common integration between the variables of the study. These results allow us to estimate the error model of the Panel ardl (long-term equilibrium speed).

Tableau N 5 Results of KAO cointegration test

Kao Residual Cointegration Test		
Series: EPU COVID_19 GPR		
	t-Statistic	Prob.
ADF	-6.478704	0.000
Residual variance	0.011571	
HAC variance	0.007970	

Source : Eviews 09 output

3-4 Long and Short-Run estimates of Panel-ardl Approach:

In Table 6; shows the long run coefficient of PMG model, from the we can see that the according to long run coefficients of Economic policy uncertainty (EPU) and COVID-19 Pandemic and geopolitical risk (GPR), are statically significant in levels at 1%, 5%, 10%. On the other hand, the results show that Economic policy uncertainty is positively correlated with the COVID-19 Pandemic, this indicate that an increasing of 1 point COVID-19 score will increases the Economic policy uncertainty (0.138806) within a Month Meaning that an increase in the new cases raises the uncertainty of economic policy . The results also show that economic policy uncertainty (EPU) is positively correlated with the geopolitical risk, this indicate that an increasing of 1 point geopolitical risk score will increases the Economic policy uncertainty (0.217992) within a Month Meaning that an increase in the geopolitical risk raises the uncertainty of economic policy in four leading Asian economies, namely China, India, Japan, Korea. This result is consistent with the finding theoretical and empirical.

The short run results of PMG method of estimation is displayed in Table 6. The findings displayed a valid short run relationship between Economic policy uncertainty (EPU) and its

determinants Asian economies, namely China, India, Japan, Korea. The coefficient of error term is displaying the value of around -0.556528 propose that around 55 % of instability is adjusted in the present year. Results also error correction coefficient (ECTt-1), is negative and significant at 5%, the coefficient indicates the adjustment speed to restore equilibrium in the dynamic model, that is the effect of a shock will be corrected by 55 % with a days. This result is consistent with the finding of empirical studies.

Tableau N 6 Estimated long-run and short-run coefficients using the PMG approach

Dependent Variable: D(EPU)
Method: ARDL

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
Long Run Equation				
COVID_19	0.138806	0.023188	5.986141	0.0000
GPR	0.217992	0.234714	0.928755	0.0000
Short Run Equation				
COINTEQ01	0.556528	0.168114	3.310418	0.0020
D(COVID_19)	2.249066	2.219262	1.013430	0.0073
D(GPR)	0.224043	0.227840	0.983333	0.0007
C	1.822562	0.530239	3.437250	0.0014

Source :Eviews 09 output

3-5 Long-Run Coefficients by Country:

According to long run coefficients of COVID-19 Pandemic and geopolitical risk in the four countries comprising the Asian economies (China, India, Japan, Korea) are statically significant in levels at 1%, 5% and 10%. These results indicated that in Table 7; the results show that Economic policy uncertainty is positively correlated with the COVID-19 Pandemic, this indicate that an increasing of 1 point COVID-19 score in China, India, Japan, Korea will increases the Economic policy uncertainty (0,670); (0,487); (0,654); (0,654) respectively, within a Month Meaning that an increase in the new cases raises the uncertainty of economic policy .

Tableau N 7 Long-Run Coefficients by Country

Variables	Constant	COVID-19	GPR
China	15,678 (0,0000)	0,670 (0,0000)	0,908 (0,0000)
India	33,324 (0,0000)	0,487 (0,0000)	0,964 (0,0000)
Japan	73,556 (0,0000)	0,654 (0,0000)	0,698 (0,0000)
Korea	54,890	0,890	0,342

	(0,0000)	(0,0000)	(0,0000)
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Note : Prob are in the parentheses

CONCLUSION

we attempt to measure the impact of COVID-19 Pandemic and geopolitical risk on economic policy uncertainty in four leading Asian economies, namely China, India, Japan, Korea, for the period Sept, 2019, to March, 2021 This study used the PMG method proposed by Pesaran et al. (1999). The results show that:

- ✓ the literature indicating that the explained this pandemic (COVID-19) outbreak will cause a dual demand and supply shock simultaneously which can slow down the trade flows and can cause international supply chain distortions and the oil market is witnessing the exceptional negative demand and positive supply shocks;
- ✓ the variables are found to have the order of I(0) and I(1), we choose to employ Panel-ARDL bound test in order to determine the long-run co-integration;
- ✓ There existe a long run equilibrium relationship between the Economic policy uncertainty (EPU) and this determinats according to Kao and Pedroni Residual co-integration Test (1999);
- ✓ the results show that Economic policy uncertainty is positively correlated with the COVID-19 Pandemic, this indicate that an increasing of 1 point COVID-19 score will increases the Economic policy uncertainty (0.138806) within a Month Meaning that an increase in the new cases raises the uncertainty of economic policy. The results also show that economic policy uncertainty (EPU) is positively correlated with the geopolitical risk, this indicate that an increasing of 1 point geopolitical risk score will increases the Economic policy uncertainty (0.217992) within a Month Meaning that an increase in the geopolitical risk raises the uncertainty of economic policy in four leading Asian economies, namely China, India, Japan, Korea.

General Proposals and Recommendations :

- ✓ The policymakers should be more cautious when conducting the economic policy uncertainty in this pandemic time because the COVID-19 Pandemic and the geopolitical risk could destroy the effective outcomes of these policies.
- ✓ This study will be new insights for other scholars who will show their interest in this economic policy uncertainty in future.

References

- Abebe, H., & al. (2019). «Oil prices and economic policy uncertainty: Evidence from a nonparametric panel data model». *Energy Economics* vol 83 , 40-51 <https://doi.org/10.1016/j.eneco.2019.06.010>.
- Albulescu, C. (2020). «Do COVID-19 and crude oil prices drive the US economic policy uncertainty?» *SSRN Electronic Journal* , 1-8 DOI:10.2139/ssrn.3555192.
- Arshian, S. (2020). «COVID-19 pandemic, oil prices, stock market, geopolitical risk and policy uncertainty nexus in the US economy: Fresh evidence from the wavelet-based approach». *International Review of Financial Analysis* 70 , 101496 <https://doi.org/10.1016/j.irfa.2020.101496>.

- Baker, S. R., & Terry, S. J. (2020). «Covid-induced economic uncertainty ». . . (*Working Paper No. w26983*). *National Bureau of Economic Research*. Retrieved from [10.3386/w26983](https://doi.org/10.3386/w26983).
- Caggiano, G., & al. (2020). «The Global Effects of Covid-19-induced Uncertainty». *Bank of Finland Research Discussion Paper No. 11/2020* .
- Dayong, Z., & al. (2020). «Financial markets under the global pandemic of COVID-19». *Finance Research Letters vol 36*, doi: [10.1016/j.frl.2020.101528](https://doi.org/10.1016/j.frl.2020.101528).
- Iyke, B. N. (2020). «Economic Policy Uncertainty in Times of COVID-19 Pandemic». *Asian Economics Letters*, 1(2) , 1-4 <https://doi.org/10.46557/001c.17665>.
- Kao, C. (1999). «Spurious regression and residual-based tests for cointegration in panel data ». *Journal of Econometrics* 90(1) , 1-44 .
- McKibbin WJ, F. R. (2020). «The global macroeconomic impacts of COVID-19: Seven scenarios ». *CAMA Working Paper No 19/2020* , 1-45 <http://dx.doi.org/10.2139/ssrn.3547729>.
- Pedroni, P. (2004). «Panel cointegration: Asymptotic and finite sample properties of pooled time series tests with an application to the PPP hypothesis ». *Econometric Theory* 20(3) , 597–625 doi: [10.1017/S0266466604203073](https://doi.org/10.1017/S0266466604203073).
- Pesaran, M. H., & al. (1999). «Pooled mean group estimation of dynamic heterogeneous panels ». *J Am Stat Assoc* 94(446) , 621–634. doi: [10.1080/01621459.1999.10474156](https://doi.org/10.1080/01621459.1999.10474156).
- Saeed, S. J., & Ridoy, D. N. (2020). «Covid-19, oil price and UK economic policy uncertainty: evidence from the ARDL approach ». *Quantitative Finance and Economics* 4(3) , 503-514. doi: [10.3934/QFE.2020023](https://doi.org/10.3934/QFE.2020023).
- Xiaolei Sun, Q. F., & Jianping, L. (2020). «How does economic policy uncertainty react to oil price shocks? A multi-scale perspective ». *Applied Economics Letters* 27(3) , 188-193 <https://doi.org/10.1080/13504851.2019.1610704>.
- Zhifeng, L., & al. (2020). «COVID-19, economic policy uncertainty and stock market crash risk ». *Quantitative Finance* , 1-17.