ECONOMIC POLICY UNCERTAINTY AND THE INDIAN ECONOMY

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BY

RAKTIM GHOSH
University of Gour Banga, India

AND

BHASKAR BAGCHI
University of Gour Banga, India

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To the Holy Feet of
Lord Venkateshwara Swamy

In Loving Memory of

Late Smt. Nihar Bagchi

(26.04.1941 - 30.07.2020)

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LIST OF ABBREVIATIONS

ADF – Augmented Dickey–Fuller
AIDS – Acquired Immune Deficiency Syndrome
ARIMA – Autoregressive Integrated Moving Average
AR – Autoregressive
ARCH-LM – Autoregressive Conditional Heteroscedasticity–Lagrange Multiplier
ARDL – Autoregressive Distributed Lag
BOLT – BSE Online Trading
BRICS – Brazil, Russia, India, China, and South Africa
BSE SENSEX – Bombay Stock Exchange Sensitive Index
BTC – Bitcoin
CAD – Current Account Deficit
CEE – Central and Eastern European
COVID – Coronavirus
DCC-MGARCH – Dynamic Conditional Correlation–Multivariate generalized Autoregressive Conditional Heteroskedasticity
DF – Dickey–Fuller
DIPP – Department of Industrial Policy and Promotion
DJIM – Dow Jones Islamic Market
EoDB – Ease of Doing Business
EPU – Economic Policy Uncertainty
EPZ – Export Processing Zone
EU – European Union
FC – Factor Cost
FCI – Food Corporation of India
FDI – Foreign Direct Investment
FIGARCH – Fractionally Integrated Generalized Autoregressive Conditional Heteroscedasticity
FOB – Free on Board
FPI – Foreign Portfolio Investment
FRED – Federal Reserve Economic Data
G7 – Group of Seven
GARCH – generalized Autoregressive Conditional Heteroscedasticity
GDP – Gross Domestic Product
GEPU – Global Economic Policy Uncertainty
GGM – Gaussian Graphical Model

GMO – Genetically Modified Organism
GVAR – Global Vector Autoregression
H1N1 – Haemagglutinin Type 1 and Neuraminidase Type 1
HIV – Human Immunodeficiency Virus
ICSS – Iterated Cumulative Sum of Squares
IMF – International Monetary Fund
IOC – Indian Oil Corporation
KPSS – Kwiatkowski–Phillips–Schmidt–Shin
MLE – Maximum Likelihood Estimation
MPU – Monetary Policy Uncertainty
MRS – Markov Regime Switching
NATO – North Atlantic Treaty Organization
NIFTY 50 – National Stock Exchange 50
NSDL – National Securities Depository Limited
NSE – National Stock Exchange
OLS – Ordinary Least Squares
PP – Phillips–Perron
PPE – Personal Protective Equipment
QQR – Quantile-on-Quantile Regression
RBI – Reserve Bank of India
REER – Real Effective Exchange Rate
SBI – State Bank of India
S&P – Standard and Poor
SEBI – Securities and Exchange Board of India
SEZ – Special Economic Zone
SSSS – Stochastic Search Specification Selection
SVAR – Structural Vector Autoregressive Model
T-bill – Treasury Bill
TGARCH – Threshold Generalized Autoregressive Conditional Heteroskedasticity
TVP-VAR – Time-Varying Parameter Vector Autoregression
UK – United Kingdom
UNCTAD – United Nations Conference on Trade and Development
USA – United States of America
USD – United States Dollar
USSR – Union of Soviet Socialist Republics
VAR – Vector Autoregression
VC – Venture Capital
VECM – Vector Error Correction Model
VIX – Volatility Index
WHO – World Health Organization

ABOUT THE AUTHORS

Raktim Ghosh is presently pursuing his PhD research in the Department of Commerce, University of Gour Banga, Malda, West Bengal, India. He is also serving as a faculty in the Department of Commerce, Maharaja Srischandra College. He graduated from Heramba Chandra College and completed his MCom from the Department of Commerce, University of Calcutta. He also pursued MPhil in Commerce from the University of Calcutta. His research interest area includes capital market, mutual funds, stress management, macroeconomic developments, and other contemporary issues on the subject.

Bhaskar Bagchi, PhD, works as a Professor in the Department of Commerce, University of Gour Banga, Malda, West Bengal, India. He has teaching and research experience of more than 20 years and is an active reviewer of many reputed international journals. He has authored four books on finance and has several publications in some of the leading finance journals of the world. His areas of interest include corporate finance, capital markets, economic policy, and financial econometrics.

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PREFACE

This study empirically investigates the effects of economic policy uncertainty (EPU) on the Indian economy and stock markets in times of different crises like global recession, COVID-19 pandemic, and Russia–Ukraine conflict. Simultaneously, it measures the impact of the conflict between Russia and Ukraine on the Indian economy by analysing the effect of surging crude oil price on the Indian stock market indices and the real effective exchange rate (REER) using daily data from 24 February 2022 to 29 July 2022. Moreover, it also measures and analyses the long-run and short-run relationship between the EPU index and select Indian macroeconomic variables like export of goods and services of India, import of goods and services of India, foreign direct investment (FDI) in India (net), foreign portfolio investment (net), treasury bill (T-bill) yields (364 days), and gross domestic product (GDP) along with stock market indices from India like Bombay Stock Exchange Sensitive Index (BSE Sensex) and National Stock Exchange 50 (NIFTY 50). The study furthermore examines the changeover in a relationship (if any) among the select variables during the global financial recession period (from December 2007 to June 2009), pre-recession period (from April 2003 to November 2007), post-recession along with pre-COVID-19 period (from July 2009 to February 2020) and COVID-19 period (from March 2020 to January 2022). Moreover, the causal relationship between the EPU index, select macroeconomic variables, and Indian stock market indices along with the regime-switching behaviour of the select variables during the global recession period, pre-recession period, post-recession along with pre-COVID-19 period and COVID-19 period, that is, from low-volatility regime to high-volatility regime and vice versa is also measured. The volatility spillovers among the EPU index, select macroeconomic variables, and Indian stock market indices for the study period are also studied.

Theoretically, an attempt has been made to exhibit an idea regarding EPU and the EPU index from an Indian perspective. Further, a broad-spectrum summary on macroeconomic indicators and the functioning of Indian stock markets is also summarized. Apart from using daily data to examine the effect of the Russia–Ukraine conflict on Indian stock markets and REER, in order to accomplish the other objectives of the study, monthly data of select variables like macroeconomic indicators (export of goods and services of India, import of goods and services of India, FDI in India (net), FPI (net), T-bill yields (364 days), GDP, and EPU index) have been used along with stock market indices like BSE Sensex and NIFTY 50. Various econometric tools like breakpoint unit root test (innovative outlier model), Johansen co-integration analysis, Wald test, Granger causality test, vector error correction model (VECM), Markov regime-switching (MRS) model, fractionally integrated generalized autoregressive conditional heteroscedasticity (FIGARCH) model, and dynamic conditional correlation–multivariate generalized autoregressive conditional heteroskedasticity (DCC-MGARCH) model are used.

The data of the different variables like T-bill rate (364 days) and FDI are collected from the Reserve Bank of India (RBI) database. Import and export data are collected from the database of the Ministry of Commerce and Industry, Government of India; BSE Sensex data are collected from BSE database; NIFTY 50 data are collected from NSE database. Data on FPI are collected from the database of National Securities Depository Limited (NSDL); data on the GDP are collected from the database of Federal Reserve Economic Data (FRED); and the data of EPU index are collected from India news-based policy-uncertainty database by Baker, Bloom, and Davis (www.policyuncertainty.com). The total period of the study spans from April 2003 to January 2022 covering a period of 19 years approximately. Furthermore, to study the effects of the Russia–Ukraine conflict, daily data of Brent crude oil prices, BSE Sensex, NIFTY 50, and REER are collected from 1 September 2021 to 29 July 2022. The data of Brent crude oil price are collected from the database of investing.com, and the data of REER are collected from the database of BIS Statistics Warehouse.

In conducting this study, one of the motivations is to cover different financial shocks as much as possible that have occurred over the years. So, with this objective in mind, the authors decided to choose the study period from April 2003, because the dataset on the EPU index for India is not available beyond this period. The period of the study is extended up to January 2022, so that the authors can study the effect of COVID-19 shocks as well. The study period is mainly fragmented into four divisions – pre-recession period (from April 2003 to November 2007), global recession period (from December 2007 to June 2009), post-recession along with pre-COVID-19 period (from July 2009 to February 2020), and COVID-19 period (from March 2020 to January 2022). The period of global recession has been determined as per the reports of the Business Cycle Dating Committee, National Bureau of Economic Research, USA.

BSE Sensex, NIFTY 50, import, export, FDI, FPI, T-bill, and GDP that have been selected for the study are normal in nature. It is observed that BSE

Sensex, NIFTY 50, import, export, T-bill, and GDP are non-stationary at the level but stationary at first difference. However, FDI, FPI, and EPU are stationary at both level and first difference. Hence, the non-existence of a unit root is confirmed for all the stock market indices along with the macroeconomic indicators with EPU, and therefore, the variables are free from a random walk. It can be noted that there remains a long-run association among the select variables or the select variables are co-integrated. It is found that there remains a short-run association between EPU and BSE Sensex and EPU and NIFTY 50. Also, there remains a short-run association between EPU and import and EPU and T-bill. Though there is no short-run association between EPU and exports, FDI, FPI, and GDP. The VECM model provide the findings that export, FDI, FPI, T-bill, and GDP bear a negative coefficient, and BSE Sensex, NIFTY 50, and import bear a positive coefficient, which allows the researcher to conclude that the negative coefficients indicate the percentage of correction in terms of speed made within the variables following a deviation in the previous month. The positive coefficients indicate that the variables instead of returning to equilibrium continue to move away from equilibrium. Also, there is a significant long-run causality running from EPU to BSE Sensex, NIFTY 50, export, FDI, FPI, and T-bill. Granger causality suggests that there is bidirectional causality between EPU and BSE Sensex, NIFTY 50, import, export, FDI, FPI, and T-bill, although there is no significant causality between EPU and GDP. MRS model represents the possibility of the select variables to move from high-volatility regime to a low-volatility regime and vice versa along with the possibility to remain in one particular state.

The FIGARCH (1,1) model indicates the presence of the ARCH effect or volatility within all the dependent variables running from EPU. The variance in volatility is noted for all the variables except import. However, a long-memory effect is observed for BSE Sensex, NIFTY 50, FPI, and GDP, indicating the remembrance of the shock from EPU over a long time period. The DCC-MGARCH (1,1) model indicates the presence of both short-run and long-run volatility within the select variables running from EPU. Even, a long-memory effect was found for BSE Sensex and NIFTY 50 due to a steep surge in Brent crude oil price during the conflict between Russia and Ukraine. Both short-run and long-run volatility spillover are noted from crude oil prices during the period from 1 September 2021 to 29 July 2022.

It is suggested that policies should be framed by the government to curb the effects of EPU at the macrolevel. It is recommended that necessary policies should be taken up to check the underlying effects of the global financial recession and the outbreak of the COVID-19 pandemic. Impetus needs to be provided to the prospective investors for making investments in the stock market. Congenial investment conditions should be made to attract FDI and FPI which can lead to an infusion of foreign exchange within the economy. Dependency on imports should be reduced, and production in the home country, that is, India, should be escalated along with an increase in exports to maintain the foreign exchange reserve which can be the resilience to shocks. Relaxations should be provided in terms of the legal framework, providing a greater amount of relief in tax burden, setting up new business parks, and many more can be done by the government to invite new foreign investment in the form of FDI and FPI. More investments in T-bills need to be ensured. All these can lead to a greater GDP.

After China, India is the world's second-largest importer of crude oil, over 80% of which is imported. Because of the Russia–Ukraine conflict, there is no doubt that the steep surge in oil prices increases the likelihood of inflation accelerating in India. In order to shield the economy from the negative impact of escalating crude oil prices, Indian oil companies like Indian Oil, Numaligarh Refinery, and others have bought millions of barrels of crude oil from Russia at discounted rates ignoring global backlash including Western countries. According to the report published by 'Nomura', the steep hike in crude oil prices, coupled with high domestic demand, is going to drastically escalate India's import bill. Although India does not import much of its crude oil from Russia, still a neighbourhood effect of Russia–Ukraine war can be noted in case of India. Moreover, India should also adopt policies to make necessary corrections in their domestic currency to check the volatility in the REER.

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Raktim Ghosh
Bhaskar Bagchi

1

INTRODUCTION

1.1. BACKGROUND OF THE STUDY

Since the inception of the economic policy uncertainty (EPU) index by Baker, Bloom, and Davis, the concept of EPU has undergone widespread examination as studied by Antonakakis, Chatziantoniou, and Filis (2013), Colombo (2013), Karnizova and Li (2014), Klößner and Sekkel (2014), and Wang, Zhang, Diao, and Wu (2015) in their several studies.

As an economic body, the stock markets play a pivotal role in accelerating the competence of capital formation and distribution, and thus, the functioning of a stock market is of great worth to all its stakeholders. Empirical evidence has shown that the development of a capital market is essential for economic growth (Asaolu & Ogunmuyiwa, 2010). The performance of stock markets around the globe may be affected by EPU, and to assess the impact of such uncertainty, EPU index was constructed by Baker, Bloom, and Davis (2016).

In recent times, EPU has drawn the attention of business persons, investors, and researchers compelling them to focus on the momentous shock on both the goods and asset markets. However, it also draws the attention of macroeconomists and financial economists to study the perception of the different market participants in terms of their investment patterns (Sum, 2012). The reason behind such concentration is when businesses, consumers, and investors are unwilling to make spending and show an unwillingness to invest, the status of the economy can be harmfully affected, leading to a high amount of uncertainty in the economy where companies are expected to put a hold on possible investment projects and freeze hiring, thus leading to contraction of the economy (Bernanke, 1983). Several studies like Amengual and Xiu (2014), Antonakakis et al. (2013), Balcilar, Chang, Gupta, and Li (2013), Brogaard and Detzel (2015), Sum and Fanta (2012), Johnson and Lee (2014), Kang and

Ratti (2013), Lam and Zhang (2014), etc. have been conducted to examine the shock of EPU on the returns from the stock market (Liu & Zhang, 2015).

Baker, Bloom, and Davis (2012) are of the view that due to higher uncertainty about the future in terms of taxes, spending, regulations, healthcare reforms, and interest rates, customers and firms might have a propensity to defer spending on investment projects and consumption of goods and services. A negative correlation was found between investment and policy uncertainty (Rodrik, 1991). Further, Julio and Yook (2012) demonstrate a depressing relationship between political uncertainty and investment activities.

It can be noted that very little priority is given to assessing the relationship between EPU and stock markets. Out of those, only a handful of studies are limited to the last few decades like Antonakakis et al. (2013), Brogaard and Detzel (2015), Kang and Ratti (2015), and Liu and Zhang (2015). Practically, in the Indian context, literature are hard to find.

It needs to be mentioned that the context of EPU has acquired a greater amount of relevance throughout the globe due to the occurrence of the global recession during the period from December 2007 to June 2009. The participation of India in international trade was witnessed in a greater way since 1991 as a part of its foreign trade policy. This deepening worldwide assimilation of India made it exposed to the global financial crisis. The global recession created an impact on India by creating a barrier to the inflow of capital and a crumple of both external and domestic demands (Joseph, 2009).

In developing economies like India, it has gathered much relevance in terms of the stock markets and the key economic determinants as a huge amount of funds are channelized into the stock markets, and the macroeconomic factors play a noteworthy role to influence the decisions of the prospective investors to invest in riskier investment avenues like the stock market which suffers from financial and economic volatility following a financial contagion.

Findings from different existing literature like Bonaime, Gulen, and Ion (2018), Antonakakis et al. (2013), Dzielinski (2012), and others suggest that most of the decisions about business and investment are linked with EPU. The lower the economic uncertainty is, the more the economy is likely to develop, leading to escalating investment by prospective investors. Considering the significance and magnitude of EPU on a country's economy, the present study primarily delves to investigate the effect of such EPU on Indian stock market volatility and macroeconomic variables like import, export, foreign direct investment (FDI), foreign portfolio investment (FPI), treasury bill (T-bill), and gross domestic product (GDP).

Further, it also needs to be added that in this context of measuring the impact of EPU, the authors will also consider the occurrence of the contemporary events, that is, the outbreak of the COVID-19 virus on 31 December 2019 in Wuhan, China, which is being declared as a pandemic on 11 March 2020 by the World Health Organisation (WHO) and the geopolitical crisis between Russia and Ukraine that started on 24 February 2022. It is the inference of different economists that the outbreak of this COVID-19 pandemic could be the probable cause of a loss to the economy of 0.7% of the global GDP in the coming days (World Economic Forum, 2020).

The COVID-19 pandemic bears the capability to put at risk macroeconomic circumstances in both developed and developing nations. The effect will be varied across different sectors of the economy and the people occupied therein. It is argued that re-distribution from the least exposed sectors to the most vulnerable ones can be performed by developed economies, and the shock will thus be alleviated (Glover, Heathcote, Krueger, & Rios Rull, 2020). Priority needs to be given to the developing economies where the governments of these economies cannot depend on issuing debt as fiscal expansion will lead to additional stress on taxation in the future. Moreover, a greater amount of expenditure by the government in terms of medicines and other medical equipment to fight the virus along with the elevated administrative cost to provide essential services during lockdowns will surely lead to heavy erosion in the government treasury. The sentiments of the consumers have also been changed in terms of expenditure made, as a greater amount is spent on COVID-19 essentials like sanitisers, masks, gloves, hand wash, hair caps, disinfectants, and many more following which a change is witnessed in their investment decisions in terms of risk appetite.

Even a large number of studies indicate that the COVID-19 pandemic has affected different aspects of the economy, but it is a big challenge to determine the same as it takes place with tremendous speed (Sha & Sharma, 2020).

Standing on such a scenario, it is quite relevant and imperative to make a necessary and in-depth analysis to look into the relationship between EPU and Indian stock market volatility along with some key macroeconomic factors like import, export, FDI, FPI, T-bill, and GDP in the Indian context considering the period covering global recession from December 2007 to June 2009 and also by covering the pre-recession period (from April 2003 to November 2007), post-recession period along with pre-COVID-19 period (from July 2009 to February 2020), and COVID-19 period (from March 2020 to January 2022). Here, it is to be noted that the COVID-19 period is not yet over, but for the purpose of this study, the authors have considered the dataset up to January 2022 which is being termed the COVID-19 period in the present study.

Moreover, the authors also consider the outbreak of the conflict between Russia and Ukraine and use daily data on crude oil prices, real effective exchange rates (REER), Bombay Stock Exchange Sensitive Index (BSE Sensex), and National Stock Exchange (NSE) 50 (NIFTY 50) to examine and analyse the impact of the Russia–Ukraine conflict on the Indian economy by measuring the effect of rising crude oil prices on BSE Sensex, NIFTY 50, and REER.

1.2. LITERATURE SURVEY

To enrich our study, an extensive literature survey has been done, and following research works from national and international contexts have been examined and analysed from which some interesting outcomes have been noted below.

Abbassi et al. (2022) in their paper titled 'What makes firms vulnerable to the Russia–Ukraine crisis?' scrutinized the influence of the Russia–Ukraine war on the constituent firms of the foremost stock market indices of the G7 nations to provide intuitions into the weakness of firms to war events by considering 531 sample firms from 2 March 2021 to 8 March 2022. Stock prices are delicate to geopolitical jeopardies and trade dependency.

Adam, Sidek, and Sharif (2022) in their paper titled 'The impact of global economic policy uncertainty and volatility on stock markets: Evidence from Islamic countries' examined the influence of uncertainty and volatility on 10 Islamic stock returns by considering monthly data from May 2011 to May 2021. By applying continuous wavelet transform and wavelet coherence ratios, they inspect the causal association among stock market returns, EPU, and volatility. It is observed that EPU bears an adverse impact on the majority of Islamic stock returns, excluding the Dow Jones Islamic Market (DJIM). Moreover, volatility bears a noteworthy positive impact on most of the Islamic stock returns in many countries. Also, both EPU and volatility have a superior impact on the Islamic stock returns following the COVID-19 outbreak.

Boubaker, Goodell, Pandey, and Kumari (2022) in their paper titled 'Heterogeneous impacts of wars on global equity markets: Evidence from the invasion of Ukraine' studied the influence of the Russian incursion of Ukraine on the worldwide stock market indices. It was observed that the developed markets were the greatest sufferers in an adverse manner than the developing economies. Remarkably, it was noted that the US market was positively affected by the war on the day of the event. Further, it was found that the war did not affect the Asian markets.

Chiang (2022) in his paper titled 'Evidence of economic policy uncertainty and COVID-19 pandemic on global stock returns' scrutinized the shock of adjustment in EPU and COVID-19 shock on stock returns by collecting monthly data from January 1990 to August 2021 of 16 stock market indices across the globe. A negative relationship between stock return and the country's EPU is witnessed. Further, the generalized autoregressive conditional heteroscedasticity (GARCH) model was applied which suggests an increase in the US EPU causes not only a reduction in a country's stock return but also a pessimistic spillover effect on the international market. Nevertheless, an equivalent negative effect from international EPU to US stocks could not be found in their study.

Chortane and Pandey (2022) in their paper titled 'Does the Russia-Ukraine war lead to currency asymmetries? A US dollar tale' applied event study methodology and market model estimates to study the influence of the Russia–Ukraine war on the price of international currencies in contradiction to the US dollar (US$). An adverse influence on the value of the international currencies was found; nevertheless, a region-by-region analysis demonstrates that while European currencies (predominantly the Russian rouble, Czech koruna, and Polish zloty) devalued against the US$, Pacific currencies appreciated considerably, and the currencies of the Middle East and Africa (ME&A) are insignificant.

Dole (2022) in her paper titled 'Russia-Ukraine war: Impact on Indian economy' stated that the crisis between Russia and Ukraine has led to a tremor within the market throughout the globe. Although both the countries contribute very less to world trade and commerce, however, they deliver a significant portion of different product supplies like 37% of global palladium, 17% of natural gas, 13% of wheat, 12% of oil, and 9% of nickel throughout the globe. The sanction on both these countries will lead to an effect on the market. The ever-growing price of petroleum will certainly lead to a devaluation of the Indian rupee, an upsurge in inflation and the budget dearth, and a slackening of GDP growth.

Ghosh, Bagchi, and Chatterjee (2022) in their paper titled 'The effect of economic policy uncertainty index on the Indian economy in the wake of COVID-19 pandemic' attempted to inspect empirically the influence of India's EPU index on different macroeconomic variables of India like import, export, interest rate, exchange rate, inflation rate, and the stock market during pre-COVID-19 and COVID-19 period by applying dynamic conditional correlation–multivariate generalized autoregressive conditional heteroscedasticity (DCC-MGARCH) model and Markov regime-switching (MRS) model. The results of the DCC-MGARCH model indicate the occurrence of volatility in the dependent variables rising out of EPU bearing in mind the breakdown of the study period into pre-COVID-19 and COVID-19. The results of the MRS model demonstrate that the variables make a noteworthy move from a low-volatility regime to a high-volatility regime due to the existence of COVID-19.

Huang, Dong, Chen, and Zhong (2021) in their paper titled 'Do oil prices and economic policy uncertainty matter for precious metal returns? New insights from a TVP-VAR framework' expressed their opinion that shocks from oil price and EPU are the two key drivers of numerous macroeconomic and financial variables. They applied the time-varying parameter vector autoregression (TVP-VAR) framework to analyse the dynamic effects of oil price shocks and EPU on precious metal returns by applying monthly data from April 1990 to April 2018. It has been witnessed that shocks from oil prices affected positively the returns of precious metals before the global recession. Furthermore, the impact of EPU changes over time and is positive.

Huang, Wu, and Guo (2022) in their paper titled 'Venture capital staging economic policy uncertainty' studied how EPU influences investment staging decisions and exit results in China's venture capital (VC) market. A total of 61,661 samples are collected for the study. It is witnessed that real options premise that VCs hold up to refinance their portfolio companies under elevated EPU. However, this hold-up effect is significantly reduced by intense VC rivalry, high-tech businesses, and favourable economic conditions.

Kammer et al. (2022) in their paper titled 'How war in Ukraine is reverberating across world's regions' specified that the entire globe is supposed to suffer from rapid inflation through three channels, namely greater prices for commodities like food and energy, neighbouring markets in individual will struggle with interrupted trade, supply chains, and transfers; as well as a significant increase in refugee flows, and reduction in the business buoyancy and greater investor ambiguity will weigh on asset prices, contraction in financial situations and possibly stimulating capital outflows from developing markets.

Khalfaoui, Solarin, Al-Qadasi, and Ben Jabeur (2022) in their paper titled 'Dynamic causality interplay from COVID-19 pandemic to oil price, stock market, and economic policy uncertainty: Evidence from oil-importing and oil-exporting countries' studied the time-varying causal consequence of the novel COVID-19 pandemic in the most important oil-importing and oil-exporting nations on the oil price adjustments, stock market volatilities, and the economic uncertainty using the wavelet coherence and network analysis. They also applied Gaussian graphical model (GGM) frameworks. They found that the COVID-19 pandemic has rigorous pressure on oil worth, stock market indices, and economic uncertainty. Furthermore, it is also observed that the concentration of the causality outcome is stronger in the longer horizon than in the short ones, suggesting that the causality exercise persists. Lastly, it is also observed that the COVID-19 pandemic has an insightful instant time-frequency consequence on the US, Japanese, South Korean, Indian, and Canadian economic uncertainties.

Kumar (2022) in his paper titled 'Impact of Russia Ukraine war on the Indian exports' stated that till now the exports of India have not been affected by the rising crisis between Russia and Ukraine, but it is certainly to affect Indian exports.

Meena (2022) in his paper titled 'Impact of Russia Ukraine war on Indian economy' stated that since India and Russia are closely connected to each other in the geopolitical background, it is to impact India in a negative manner.

Nagarjuna (2022) in his paper titled 'Russia's invasion of Ukraine: Impact on Indian economy – Strategies to mitigate and sustain' stated that the conflict has a direct effect on India's overseas strategy and security. It is certainly to escalate political and economic inequalities.

Nazeeruddin (2022) in his paper titled 'The Russia-Ukraine war crisis – It's impact on Indian economy' stated that when a conflict between two neighbouring countries occurs, that is, Russia and Ukraine, it turns out to be a key obstruction to the global economy, and it unfavourably distresses the development and high inflation rate. The crisis can lead to sluggish growth and quicker inflation across the world. He further stated that the majority of the citizens are reducing their consumption of fried food and even vegetables owing to the rapid increase in the prices of edible oil and fuel.

Pandey and Kumar (2022) in their paper titled 'Russia–Ukraine War and the global tourism sector: A 13-day tale' by applying an event study method inspected the influences of the Russia–Ukraine war, 2022, on the international tourism sector stocks. The findings provided mixed results with differences in the effects through different markets.

Sun, Song, and Zhang (2022) in their paper titled 'The effects of 2022 Russian invasion of Ukraine on global stock markets: An event study approach' inspected the reactions of the stock market to the Russian incursion in 24 February 2022. By using an event study methodology, they found that the war has a dissimilar influence on stock markets across countries and sectors, based on how intensely the countries or industries are tangled in the war. They found that companies in European Union (EU) nations have experienced an enormous reduction in cumulative abnormal returns although companies in other nations away from the battlefield seem not to be affected in a noteworthy manner established by a country-level analysis. They further state that economic deliberation is probable to be the convincing factor for the Russian government to stop its war in Ukraine.

Tank (2022) in his paper titled 'Economic impact of Russia–Ukraine war' assessed the spillover effects by applying the global econometric model

(NiGEM) and stated that the war is to add to a decline in GDP in Russia (relative to base) of 1.5% in 2022 and 2.6% by the conclusion of 2023.

Wang, Lee, and Chen (2022) in their paper titled 'The effects of economic policy uncertainty and country governance on banks' liquidity creation: International evidence' examined the effects of EPU and country governance on bank's liquidity creation in different countries by using the cross-country bank data. It is seen that EPU troubles asset-side liquidity creation and benefits liability-side liquidity creation. The results reveal that uncertainty delays bank credit, and people are inclined to create deposits in banks for safety.

Albulescu (2021) in their paper titled 'COVID-19 and the United States financial markets' volatility' investigated the impact of COVID-19 on the financial markets' volatility in the context of the United States. Data from both the United States and the world of COVID-19 are collected to portray that the sanitary crisis augments the S&P 500 realized volatility. It is found that volatility persists due to the advent of the global pandemic and is a great challenge to the management of risk.

Dai, Xiong, Liu, Huynh, and Sun (2021) in their paper titled 'Preventing crash in stock market: The role of economic policy uncertainty during COVID-19' analysed the nonlinear effect in terms of short-run recession due to pandemic and the health cost where an instant and reflective impact is witnessed.

Engelhardt, Krause, Neukirchen, and Posch (2021) in their paper titled 'Trust and stock market volatility during the COVID-19 crisis' investigated whether trust has an impact on global stock market volatility during the COVID-19 pandemic. They collected data from 47 international stock markets during the study period and found that stock market volatility is comparatively lower in countries with greater trust due to the shock of COVID-19.

Ghosh, Saha, and Bagchi (2021) in their paper titled 'Does economic policy uncertainty affect stock markets? Empirical evidence from India' inspected empirically the bearing of India's EPU on India's stock market by applying the DCC-MGARCH model along with the Bai–Perron test and descriptive statistics. The existence of volatility in the dependent variables rising out of EPU is witnessed and the Bai–Perron test confirms the existence of structural breaks during the study period.

Hazgui, Sebai, and Mensi (2021) in their paper titled 'Dynamic frequency relationships between bitcoin, oil, gold, and economic policy uncertainty index' tried to inspect the occurrence of co-movements and asymmetric reliance between bitcoin (BTC), gold, Brent crude oil, and the US EPU index. By applying the wavelet approach and quantile-on-quantile regression (QQR) method, they found that positive interdependency exists among BTC and