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IMPACT OF PANDEMIC COVID-19'S ON NATIONAL CURRENCY AND FINANCIAL MARKETS: AN ANALYSIS ON DEVELOPING AND DEVELOPED COUNTRIES

Erdem BAĞCI[1]

Ayşe Meriç YAZICI[2]

Abstract

Coronavirus outbreak which started as an epidemic in Wuhan, China and soon transformed into a pandemic in the first quarter of 2020 is about to bring a profound stagnation to many national economies. In the study, to understand the effects of the covid-19 pandemic on national currency and financial markets from the perspective of developing and developing countries, daily data including the stock market closing prices, exchange rate and WTI gross oil prices of the effects of COVID-19 in the period of March 10, 2020 and May 9, 2020 for developing and developed economies were used. China, South Korea, Brazil, and Turkey are chosen to represent the developing world and Italy, France, Germany, Spain and England represent the developed world. Logarithms of all variables were taken and in the econometric application part, vector autoregression model was used. At the end of the study, it was determined that the number of Covid-19 cases did not affect exchange rates, but had an effect on stock prices in developing economies. As a result, It has been determined that developing economies affect more than developed economies from pandemic.

Keywords: Covid-19, Stock Exchange, Exchange Rates, Financial Markets.

Jel Codes: B22, B26, D53, F31.

[1]Assoc. Prof., Bandırma Onyedi Eylül University, e-posta: ebagci@bandirma.edu.tr., ORCID: 0000-0003-1856-3517,
[2]PhD Candidate, Istanbul Aydin University / Blue Marble Space Institute of Science, E-posta: ayse.meric@bmsis.org., ORCID: 0000-0001-6769-2599,

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COVID-19 PANDEMİSİNİN ULUSAL PARALAR VE FİNANSAL PİYASALAR ÜZERİNDEKİ ETKİLERİ: GELİŞMİŞ VE GELİŞMEKTE OLAN ÜLKELER ÜZERİNE BİR ANALİZ

Öz

Çin'in Wuhan kentinde bölgesel salgın olarak başlayan ve kısa süre sonra 2020'nin ilk çeyreğinde küresel salgına dönüşen koronavirüs salgını, birçok ulusal ekonomide derin bir durgunluğa yol açmak üzeredir. Covid-19 pandemisinin ulusal para birimleri ve finansal piyasalar üzerindeki etkilerini, gelişmekte olan ülkeler ve gelişmiş ülkeler perspektifinden anlamak için yapılan bu çalışmada, gelişmiş ve gelişmekte olan ekonomiler için 10 Mart 2020 ve 9 Mayıs 2020 dönemindeki COVID-19 etkilerinin borsa kapanış fiyatları, döviz kuru ve WTI brüt petrol fiyatlarını içeren günlük veriler kullanılmıştır. Gelişmekte olan ekonomileri temsil etmek üzere; Çin, Güney Kore, Brezilya ve Türkiye seçilirken, gelişmiş ekonomileri temsil etmek üzere ise; İtalya, Fransa, Almanya, İspanya ve İngiltere seçilmiştir. Tüm değişkenlerin logaritmaları alınmış ve ekonometrik uygulama kısmında vektör otoregresyon modeli kullanılmıştır. Çalışma sonunda, Covid-19 vaka sayısının döviz kurlarını etkilemediği, gelişmekte olan ekonomilerde hisse senetleri fiyatları üzerinde bir etkiye sahip olduğu tespit edilmiştir. Sonuç olarak, Gelişmekte olan ekonomilerin gelişmiş ekonomilere göre, pandemiden daha fazla etkilediği tespit edilmiştir.

Anahtar Kelimeler: Covid-19, Borsa, Döviz Kurları, Finansal Piyasalar.

Jel Kodları: B22, B26, D53, F31.

1. INTRODUCTION

First appeared in the Wuhan City of China, Covid-19 quickly transformed into a pandemic and thus a global medical crisis. Yet, the unstable nature of this pandemic has some consequences on macroeconomic scale due to its impact on global finance. Due to strict precaution policies, all financial activities varying from the service to manufacturing have almost ceased. The enforced lockdown procedures have a profound impact on finance in addition to sociological and psychological consequences.

During this pandemic, the most significant issue is the uncertainty and lack of knowledge. The decision makers do not know or have any data on when the pandemics will cease, and the life will go back to its normal state. Therefore, it is difficult to determine the steps to reverse the financial state of the countries back to pre-pandemic state. It has been questioned whether it shall ever be possible to build an economic structure with minimum contact so that the manufacturing process can be operated during the pandemic and we can sustain our lives as normal as possible.

The macro economic impacts of the pandemic vary from the rise of unemployment, fall in recruitment, distortion in income distribution, increase in inflation, discrepancies in foreign trade, loss of economic freedom to slowdown in economic growth. In order to provide a better analysis on its short term macroeconomic impacts, the currency value of US dollar as a

monetary reserve can be compared to other currencies and other values in stock indexes. Whether a country's currency is inclined to climb or fall against dollar index determines the purchase power within that country. Similarly, the advances in stock market projects how willingly the investors in that companies take risks. Therefore, it is possible to make projections on the long-term and short-term macroeconomic indicators of that country just by monitoring the short-term trends in national currency and market.

This study briefly mentions the macroeconomic impacts of the 1918 Great Spanish Flu through a literature analysis and then refers to the projections on the cost of Covid-19 pandemic and its macroeconomic impacts as mentioned in the studies conducted. In addition to financial expectations of Covid-19; the study also analyses the impact of Covid-19 on the monetary currencies of the developed and developing countries as well as financial markets by making use of econometrics. China, South Korea, Brazil, and Turkey are chosen to represent the developing world and Italy, France, Germany, Spain and England represent the developed world.

2. MACROECONOMIC IMPACT OF THE GREAT SPANISH FLU IN 1918

When the researche on previous pandemics are studied, it is understood that the pandemics have certain financial impacts. Yet, the most significant one is the loss of productive workforce due to illness and death. The influenza pandemic which peaked in Spain in 1918 and lasted until 1920 spread into 48 countries, causing the death of some 40 million people accounting for 2.1% of the population at that time. It had three stages in Spain back then. The first took place in the spring of 1918, the second in the fall of 1918 and the third in the winter of 1919.With some countries going through phase four, the pandemic lasted until 1920 and resulted in significant loss of life including such well-known figures as Max Weber, Franz Kafka, Friedrich Hayek and Walt Disney. The prominent macroeconomic impact of this pandemic revealed itself as a drop in GDP and expenditure (Barro et al., 2020:2-5). According to studies focusing on the impact of this pandemic on the US economy, the labour supply dropped in manufacturing in the long term and thus there was an increase in real wage. Due to the capital increase per labour, there was an increase in the income of labour force (Brainerd & Siegler, 2003). This created the pressure of inflation on the US economy. Another study claims that the pregnant women exposed to the pandemic gave birth to children with a lack of human skills, which lead to the formation of a class with less income. Since they had less education, their wages were 5-6% less (Almond, 2006). Since the pandemic had been influential on the labour market, the service and entertainment sectors experienced double-

digit losses. On the other hand, medicine and medical supplies doubled their income (Garrett, 2007).

3. THE COSTS AND MACROECONOMIC IMPACTS OF COVID-19 PANDEMIC

Although it is not currently possible to calculate the exact costs of the pandemic; it is possible to classify the apparent costs. Therefore, the costs of this pandemic shall be classified into two groups as direct costs and indirect costs. Whereas direct costs refer to the costs in medical sector; indirect costs refer to the economic consequences of the pandemics. The direct costs of the pandemic create pressure on the medical system and may pose a risk or lead to a decline in the medical system unless the pandemic is kept under control. Indirect costs refer to economic consequences resulting from the loss of business due to sickness and the enforced lockdown precautions to avoid the spread of the disease. This may eventually lead to a considerable inflation in the food sector due to lack of basic needs such as food. As the financial units fail to come to a rational conclusion; the world economy may suffer from a years-long recession (Demir, 2020:7-8). Therefore, it is of utmost importance to come up with global solutions since the pandemic does not pose an issue just for a single country but for the whole world. Nonetheless, there has not been any meeting to create a global solution to this global pandemic, yet. It is a must to hold a global conference to decrease the direct and indirect costs.

The macroeconomic impacts of the pandemic reveal itself as the demand shrinks. This shrinkage of supply has a direct negative influence on the sales level of the firms. The fall in the sales and the revenue have two consequences. First, there is the problem of debt discharging depending on the fall in the sales and the revenue, which increases the debt burden and leads to bankruptcy. Secondly, the supply chain gets distorted due to the fall in sales and the revenue (ULISA12, 2020). When there are no new orders and there is a state of uncertainty, new investments are postponed, and the investments naturally decline. Due to the decline in the investments, the use of input also plummets. The decrease in the workforce and capital demand leads to a shrinkage in factor markets and thus rise of unemployment and lack of recruitment. This causes a more profound shrinkage in the manufacturing and market supply chain. As a result, the income of economic agents also falls. This fall in income once more causes a shrinkage in the demands and creates a vicious cycle (Ozili & Arun, 2020).

The pandemic influences the global market by creating the problem of liquidity and currency pressure through financial markets. In developing markets, the problem of liquidity particularly derives from intense capital output, shrinkage in export, the fall in exported raw

materials and oil prices (ULISA12, 2020). The currencies of developing countries have lost significant value against US dollar and thus led to a drop in purchase power within the country. The countries with the greatest loss of value in their currencies are Brazil, Mexico, Russia, South Africa, and Turkey. It is seen that such service sectors as tourism, entertainment, culture, and arts have shrunk and the transportation sector had some significant damage all around the world. With the global shrinkage on manufacturing and shrinkage in the demand for energy; such sectors as automotive, industry and agriculture got significantly affected by the pandemics. However, it has been the service industry that has been affected by the pandemics most (CRS, 2020).

4. MACROECONOMIC PRECAUTIONS AGAINST COVID-19

The governments all around the world adopted macroeconomic policies as tools to overcome the issues resulting from the pandemic or at least to mitigate the effects. These two policies are known as the fiscal policy and the monetary policy. The expansionary fiscal policy encourages the increase in expenditure. Tax concessions are provided within this purpose. Direct income transfers are adopted to ensure that the expenditure for necessary consumption products can be financed by the household. Concessions for parafiscal payments are made and public receivables are postponed. Monetary policies offer expansionary financial opportunities. Increasing the printing and the demand for money are the most important ones (ULISA12, 2020). US Central Bank had fifty percent monetary expansion. It has been observed that all the countries had similar money expansion policies. The central banks in all countries have decreased the interest rates. And the sectors have been selectively chosen to be directly financed to prevent them from getting into desperate straits. There are also structural precautions applied. Flexible and controlled manufacturing models are tried to be developed. The sector has been directed to preserve digital manufacturing platforms. Working-at-home and flexible working hours have been encouraged through incentives (CRS, 2020).

Although the countries used similar financial policies to cope with the pandemic crisis; the weigh of political tools may vary from country to country. Financially strong countries such as China, the US, the UK, Germany, France, and Italy adopted monetary policies whereas financially fragile countries such as Turkey, Brazil, South Africa and Argentina preferred fiscal policies by getting themselves into debts. This shows that the countries differ from each other in terms of the impact of pandemics (Yorulmaz & Kaptan, 2020:25).

5. EXPECTATIONS FOR COVID-19 CRISIS

It is expected that the total expenditure shall eventually drop in all world economies. In the short-term, it is expected to see a fall in household consumption expenses, particularly in durable consumer goods. The drop in the service sector will be even more radical. The sectors such as construction, machinery, equipment, and stocks are expected to go through a significant fall. As for public spending, transfer expenses are expected to increase; investments are to fall, and public good expenses remain to be uncertain. In the meantime, the volume of foreign trade shall also go down. The import will particularly decline, which will eventually cause a decline in export business, as well (Yorulmaz & Kaptan, 2020:24).

It is expected to see a significant shrinkage in the world economy in 2020. China has been going through a financial shrinkage for the first time in the last 28 years. Yet, a V-shaped recovery is expected. Since accommodation, tourism, entertainment, and transportation are the ones influenced most by the pandemics; their recovery will take time. As to investments, the cancellation of orders and the lack of new orders have already led or will lead certain enterprises to go through a state of shrinkage. The pandemic can be encouraging some investments in the medical sector. Considering the relatively small impact of pandemics on the investments and the increase of the incentive efforts by the government; the investments are expected to have a minor-scale contribution to the GDP growth in 2020 (PWC China, 2020a).

A report issued in Austria foresees that the labour efficiency will fall due to illness; the labour demand will go down on global scale and that the capital efficiency will decline due to the distortions in supply chain. Public spending is expected to increase. Since the international transportation restrictions will continue to be applied; foreign trade will be limited (PWC Austria, 2020b).

IMF's global economic growth expectation has been declared as 3% shrinkage for 2020 and 5.8% growth for 2021. The shrinkage rate in 2020 are expected to be 6.1% on average for developed countries, 5.9% for the US, 7% for Germany, 7.2% for France, 8% for Spain, 6.5% for the UK and 9.1% for Italy. The shrinkage rate in 2020 are expected to be 1% on average for developing countries; 1.2% for South Korea, 5.3% for Brazil and 5% for Turkey whereas China is expected to grow 1.2% (IMF, 2020).

6. DATA AND EMPIRICAL FINDINGS

We used daily data involving COVID-19 cases, stock market close prices, exchange rate and WTI brent oil prices to investigating the impact of COVID-19 on financial markets for emerging and developed economies. Our data covers the period of 10 March 2020-9 May 2020 in terms of providing integrity. 10 March 2020 is the date when the coronavirus emerged in Turkey. Case number for coronavirus are obtained from World Health Organization (WHO) official website and daily stock market closing prices, exchange rates and oil prices at website of investing. We considered China, South Korea, Brazil and Turkey as developing economies and Italy, France, Germany, Spain and United Kingdom as developed economies. The reason why we selected these countries is that COVID-19 is common in so-called countries. In Table 1, related varibles are shown.

Table 1. The Variables and The Related Definitions

Variables	**Definitions**	**Variables**	**Definitions**
SSE	China Stock Exchange close prices	CNY	China Yuan/USD exchange rate
BOVESPA	Brazil Stock Exchange close prices	BRY	Brazil Real/USD exchange rate
KOSPI	South Korea Stock Exchange close prices	KRW	South Korean Won/USD exchange rate
BIST	Turkey Stock Exchange close prices	TL	Turkish Liras/USD exchange rate
FTSE MIB	Italy Stock Exchange close prices	EUR	Euro/USD exchange rate
CAC40	France Stock Exchange close prices	EUR	Euro/USD exchange rate
DAX30	Germany Stock Exchange close prices	EUR	Euro/USD exchange rate
LSE	United Kingdom Stock Exchange close prices	GBP	English Pound/USD exchange rate
OIL	WTI brent oil prices	COVID	The case number of COVID19

All variables used in the analysis was taken logarithm. Also, return series was generated for stock market close prices and exchange rates. In the econometric application part of the study, vector auto regression model will be used to investigating the impact of COVID19 on financial markets in both developing and developed economies. For this reason, Lee-Strazicich unit root test developed by Lee and Stratizch (2003), which allows two structural breaks, was used. The involving results are shown in Table 2:

Table 2. Lee-Strazicich Unit Root Test Results

Model A (Constant)							
Variables	**LM**	**Lag**	**Breaking Points**				
			D_{1t}		**D_{2t}**		**%5 Critical Value**
SSE	-4.2285**	2	19.3.2020		24.4.2020		-3.5630
BOVESPA	-8.0655**	0	18.3.2020		25.3.2020		-3.5630
KOSPI	-7.5979**	0	13.4.2020		29.4.2020		-3.5630
BIST	-8.9510**	0	19.3.2020		29.4.2020		-3.5630
FTSE MIB	-3.8483**	0	6.4.2020		15.4.2020		-3.5630
CAC40	-4.8419**	0	17.3.2020		23.3.2020		-3.5630
DAX30	-4.9468**	0	17.3.2020		10.4.2020		-3.5630
LSE	-6.1283**	0	17.3.2020		23.3.2020		-3.5630
CNY	-9.3189**	0	9.4.2020		4.5.2020		-3.5630
BRY	-6.6903**	0	18.3.2020		28.4.2020		-3.5630
KRW	-4.0465**	3	20.4.2020		4.5.2020		3.5630
TL	-4.6508**	3	31.3.2020		14.4.2020		-3.5630
EUR	-5.2629**	5	25.3.2020		15.4.2020		-3.5630
GBP	-5.3154**	5	25.3.2020		2.4.2020		-3.5630
OIL	-2.3573	0	21.4.2020		29.4.2020		-3.5630
ΔOIL	-6.5899**	0	2.4.2020		24.4.2020		-3.5630
Model C (Constant and Trend)							
Variables	**LM**	**Lag**	**Breaking Points**				
			D_{1t}	**DT_{1t}**	**D_{2t}**	**DT_{2t}**	**%5 Critical Value**
SSE	-6.6386**	2	20.3.2020	20.3.2020	26.3.2020	26.3.2020	-6.4080
BOVESPA	-11.5258**	0	25.3.2020	25.3.2020	28.4.2020	28.4.2020	-5.9170
KOSPI	-11.1252**	0	18.3.2020	18.3.2020	26.3.2020	26.3.2020	-6.1080
BIST	-11.2997**	0	17.3.2020	17.3.2020	28.4.2020	28.4.2020	-5.9170
FTSE MIB	-8.3205**	0	16.3.2020	16.3.2020	7.4.2020	7.4.2020	-6.3120
CAC40	-8.4699**	0	25.3.2020	25.3.2020	7.4.2020	7.4.20200	-6.3120

DAX30	-8.4501**	0	24.3.2020	24.3.2020	6.4.2020	6.4.2020	-6.3120
LSE	-9.5299**	0	16.3.2020	16.3.2020	24.3.2020	24.3.2020	-6.1080
CNY	-10.0929**	0	16.3.2020	16.3.2020	20.3.2020	20.3.2020	-6.1080
BRY	-7.8126**	0	3.4.2020	3.4.2020	24.4.2020	24.4.2020	-6.2880
KRW	-9.2819**	3	20.3.2020	20.3.2020	30.3.2020	30.3.2020	-6.1080
TL	-6.0839**	3	20.3.2020	20.3.2020	1.4.2020	1.4.2020	-6.1080
EUR	-6.9599**	5	23.3.2020	23.3.2020	10.4.2020	10.4.2020	-6.3120
GBP	-8.8437**	5	20.3.2020	20.3.2020	16.4.2020	16.4.2020	-6.1850
OIL	-3.8566	0	1.4.2020	1.4.2020	17.4.2020	17.4.2020	-6.2880
ΔOIL	-8.0709**	0	31.3.2020	31.3.2020	6.4.2020	6.4.2020	-6.2010

Note.** indicates %5 significance level. Critical values are obtained from "Minimum LM Unit Root Test with Two Structural Breaks, Revies of Economics and Statistics, 85(4): 1082-1089" by Lee and Strazicich (2003).

As investigated Lee-Strazicich unit root test results, the variables of the returns of stock exchanges (SSE, BOVESPA, KOSPI, BIST, FTSE MIB, CAC40, DAX30, LSE) and the returns of exchange rates (CNY, BRY, KRW, TL, EUR, GBP) and COVID are stationary at level while the variable of OIL become stationary by taking first differences. As considered structural break dates, it is seen that so-called dates coincide with March 2020, when the COVID19 started to be felt severely in Turkey and Europe. In these dates, critical increase in the number of mortality and case from COVID19, and this situation cause structural breaks in stock markets and exchange rates.

After the unit root analysis, we applied vector auto regression model (VAR) to examine the impact of COVID19 on stock markets and exchange rates in developing and developed countries. The models created within this scope as follows:

$$Y_t = \sum_{i=1}^{p} A_i Y_{t-i} + \sum_{i=1}^{q} B_i X_{t-i} + \varepsilon_t$$

$$Stock\ Markets_t = \sum_{i=1}^{p} A_i Stock\ Markets_{t-i} + \sum_{i=1}^{q} B_i COVID_{t-i} + \sum_{i=1}^{l} C_i Exchange\ Rates_{t-i} + \sum_{i=1}^{m} D_i OIL_{t-i} + \varepsilon_t$$

$$Exchange\ Rates_t = \sum_{i=1}^{p} A_i Stock\ Markets_{t-i} + \sum_{i=1}^{q} B_i COVID_{t-i} + \sum_{i=1}^{l} C_i Exchange\ Rates_{t-i} + \sum_{i=1}^{m} D_i OIL_{t-i} + \varepsilon_t$$

Firstly, optimal lag lengths related to VAR model for each countries were determined. Then, LM autocorrelation test and White heteroscedasticity test were applied for so-called models. The results are shown in Table 3. According to Table 3, it is seen that the models have not autocorrelation and heteroscedasticity problems.

Table 3. LM Autocorrelation Test and White Heteroscedasticity Test Results

Developing Countries				
	LM-Stat	Prob	White	Prob.
China	18.16057	0.3146	85.93050	0.3050
Brazil	17.48691	0.3548	100.3732	0.0777
South Korea	16.26696	0.4345	152.0316	0.6612
Turkey	12.25277	0.7264	88.74015	0.2359
Developed Countries				
	LM-Stat	Prob	White	Prob.
Italy	15.65182	0.4775	182.0940	0.1114
France	15.24667	0.5067	172.6426	0.2339
Germany	12.42189	0.7145	183.4225	0.0999
United Kingdom	18.91735	0.2730	248.6229	0.3375

In Table 4, Granger causality test results based on VAR model for each countries. According to the results, COVID19 is Granger causality of China Stock Exchange (SSE) and Turkey Stock Exchange (BIST) in developing countries, but not affecting stock markets in developed countries.

Table 4. Granger Causality Test Results

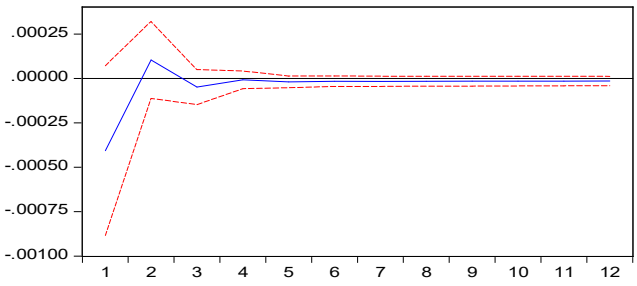
Developing Countries		
CNY	**Chi-sq**	**China**
COVID	1.155240	COVID19 is not Granger causality of China Yuan/USD exchange rate
SSE	0.463694	SSE is not Granger causality of China Yuan/USD exchange rate
SSE	**Chi-sq**	

COVID	5.701252***	COVID19 is Granger causality of SSE
CNY	0.032590	China Yuan/USD exchange rate is not Granger causality of SSE
BRY	**Chi-sq**	**Brazil**
COVID	0.179298	COVID19 is not Granger causality of Brazil Real/USD exchange rate
BOVESPA	0.326698	BOVESPA is not Granger causality of Brazil Real/USD exchange rate
BOVESPA	**Chi-sq**	
COVID	2.218115	COVID19 is not Granger causality of BOVESPA
BRY	7.834806***	Brazil Real/USD exchange rate is Granger causality of BOVESPA
KRW	**Chi-sq**	**South Korea**
COVID	0.319436	COVID19 is not Granger causality of Won/USD exchange rate
KOSPI	10.16833***	KOSPI is Granger causality of Won/USD exchange rate
KOSPI	**Chi-sq**	
COVID	2.544058	COVID19 is not Granger causality of KOSPI
KRW	5.298702*	Won/USD exchange rate is Granger causality of KOSPI
TL	**Chi-sq**	**Turkey**
COVID	1.216084	COVID19 is not Granger causality of TL/USD exchange rate
BIST	2.638497	BIST is not Granger causality of TL/USD exchange rate
BIST	**Chi-sq**	
COVID	5.913121***	COVID19 is Granger causality of BIST
TL	0.811322	TL/USD exchange rate is not Granger causality of BIST
		Developed Countries
EUR	**Chi-sq**	**Germany**
COVID	1.963009	COVID19 is not Granger causality of Euro/USD exchange rate
DAX30	14.11225***	DAX30 is Granger causality of Euro/USD exchange rate
DAX30	**Chi-sq**	
COVID	0.024898	COVID19 is not Granger causality of DAX30
EUR	3.251371	Euro/USD exchange rate is not Granger causality of DAX30
EUR	**Chi-sq**	**Italy**
COVID	0.759996	COVID19 is not Granger causality of Euro/USD exchange rate
FTSE MIB	7.857713***	FTSE MIB is Granger causality of Euro/USD exchange rate
FTSEMIB	**Chi-sq**	
COVID	0.529118	COVID19 is not Granger causality of FTSE MIB
EUR	6.156664***	Euro/USD exchange rate is Granger causality of FTSE MIB
EUR	**Chi-sq**	**France**
COVID	0.664004	COVID19 is not Granger causality of Euro/USD exchange rate
CAC40	15.71345***	CAC40 is Granger causality of Euro/USD exchange rate
CAC40	**Chi-sq**	
COVID	0.098844	COVID19 is not Granger causality of CAC40

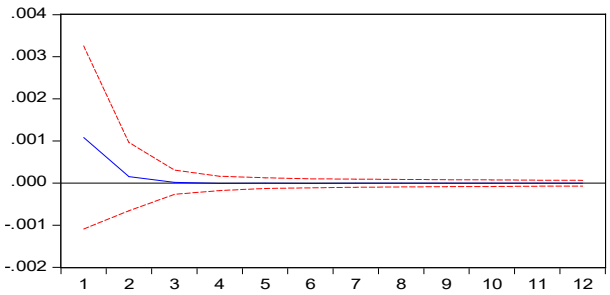
EUR	2.681273	Euro/USD exchange rate is not Granger causality of CAC40
GBP	**Chi-sq**	**United Kingdom**
COVID	5.729017	COVID19 is not Granger causality of English Pound/USD exchange rate
LSE	22.15411***	LSE is Granger causality of English Pound/USD exchange rate
LSE	**Chi-sq**	
COVID	0.368703	COVID19 is not Granger causality of LSE
GBP	3.120870	English Pound/USD exchange rate is not Granger causality of LSE

Figure 1. The Responses of Exchange Rates to COVID19

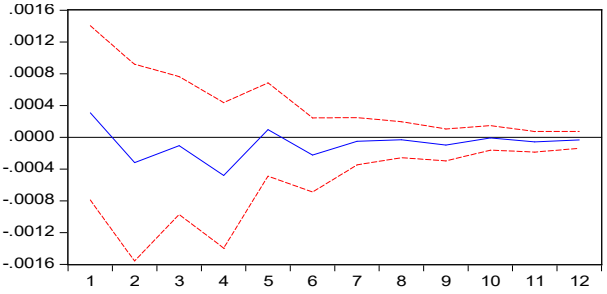
a) CNY



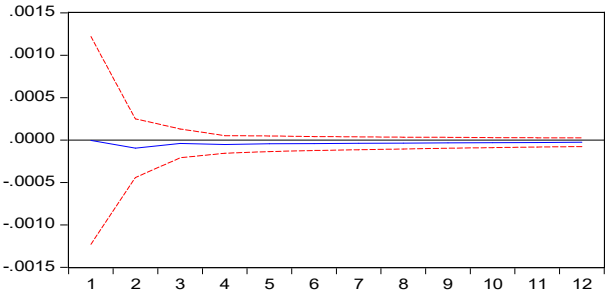
b) BRY



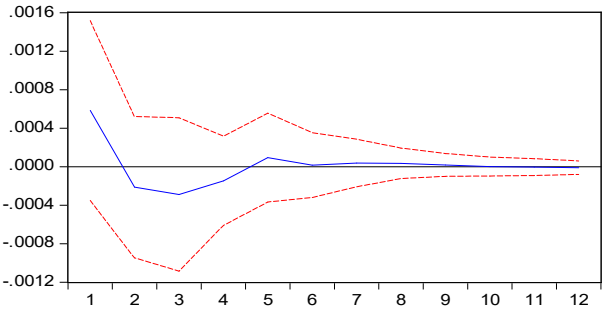
c) KRW



d) TL



e) EUR



f) GBP

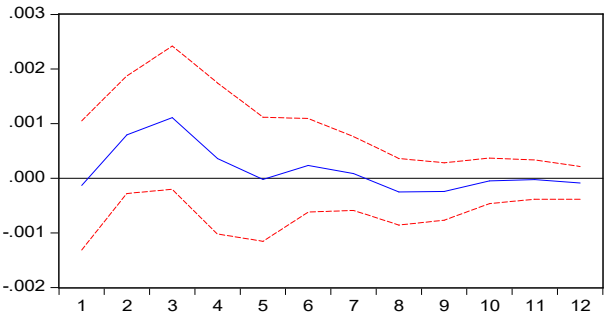
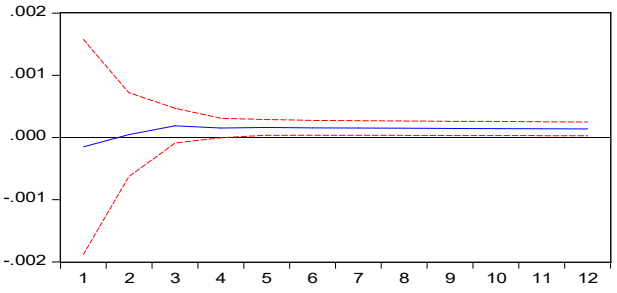
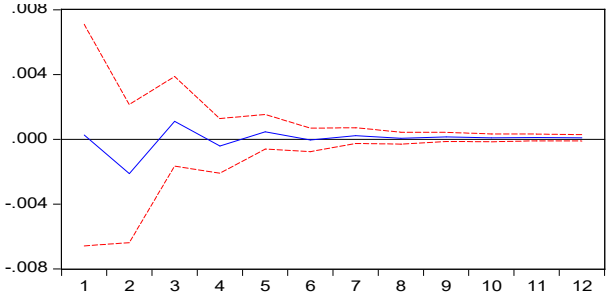


Figure 2. The Responses of Stock Markets to COVID19

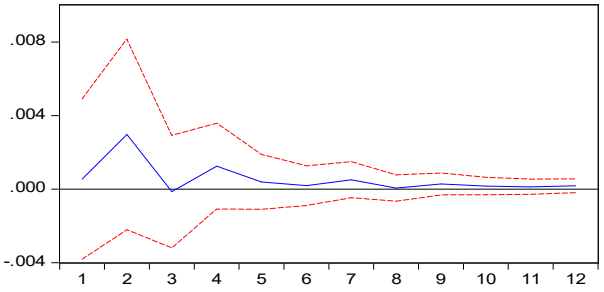
a) SSE



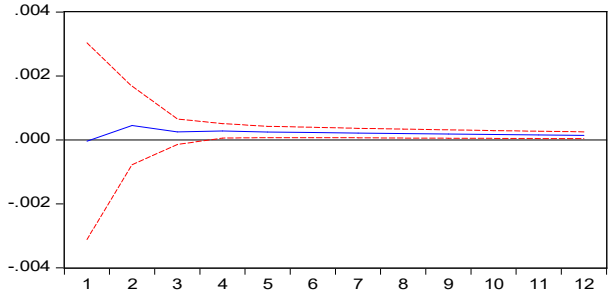
b) BOVESPA



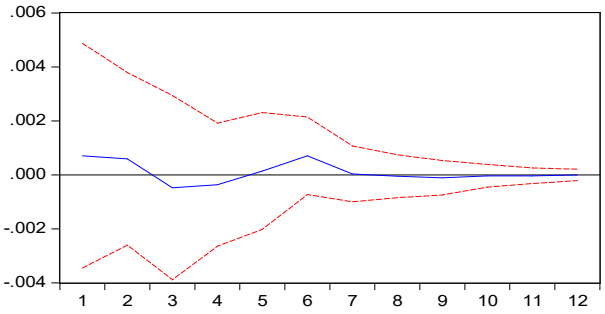
c) KOSPI



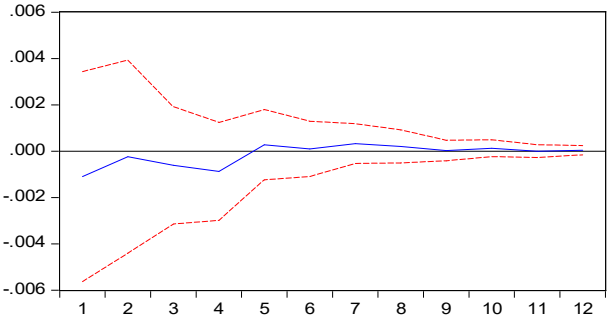
d) BIST



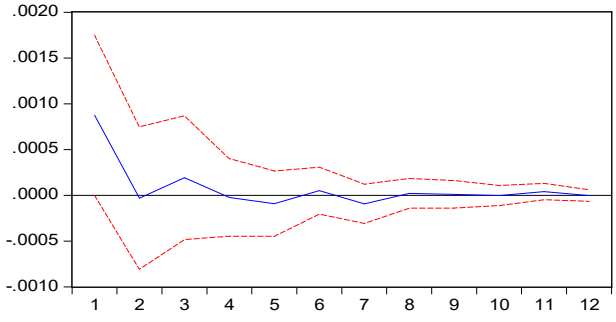
e) FTSE MIB



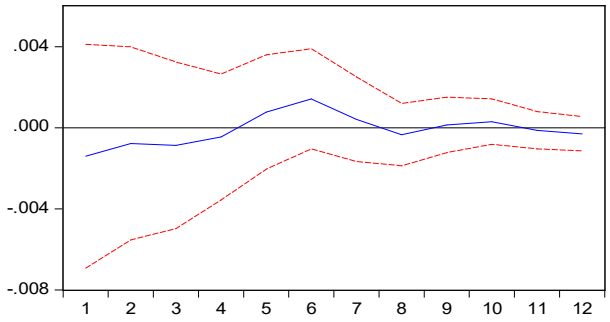
f) CAC40



g) DAX30



h) LSE



The impulse-response functions are exhibited in Figure 1 and Figure 2. Figure 1 indicates the responses of exchange rates to COVID19 and Figure 2 indicates the responses of stock

markets to COVID19. Considering in Figure 1, it is seen that one standard error shock in COVID19 have not significant effect on exchange rates, which are CNY, BRY, KRW, TL, EUR and GBP. Besides, Figure 2 shows that China Stock Exchange (SSE) and Turkey Stock Exchange (BIST) increase against one standard error shock in COVID19, but so-called impact is very low. Also, COVID19 is seen not to affect stock markets in other countries. These results reflect that investors are affected by appearance of death rather than the number of case. Regarding that investors in many countries don't abide by the efficient market hypothesis and turns towards the behavioural finance theories, investors can be stated psychologically not be impacted by the number of COVID19 case.

7. CONCLUSION

Despite the similarity in macroeconomic precautions and policies adopted by the countries around the world, the outcome and the feedback are observed to be quite different since the impact of the pandemic on the stock markets and national currencies has been different for each country. While the national currency of some countries lost more value; others lost less. While some countries had a more significant drop in stock indexes; some had relatively less. This distinction has been observed between developing and developed countries. The developing countries have a more fragile economic structure. On the other hand, developed countries have more advanced and stronger technological infrastructure, manufacturing systems, which makes them in a better state than the developing ones. Developing countries suffer more from external debt and they have a higher dependency on external sources, which makes their national currency weaker and their economy fragile. This fragility is what enhances the impact of pandemics on the economies of the developing world.

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Sources of Data

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