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Emerging Economies and Causal Relationship of Economic Growth with Financial Market Development

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ABSTRACT

The study aims to test relationship existing between equity market expansion and economic prosperity along with how this relationship is influenced and controlled by COVID-19. The COVID-19 as control variable is the uniqueness of this study. A total of twenty-three countries which are a part of emerging countries according to MSCI Index are selected out of total twenty-five countries. The research is helpful to understand contrasting hypotheses generated as supply leading hypothesis, demand leading hypothesis, Bi-directional hypothesis and no relation hypothesis with the special context of COVID-19. The connection of the two variables: economic growth and stock market development has studied in many researches but with the controlling variable of COVID-19 along with the findings are unique features of this study and contributing valuable addition to existing literature. The data is collected from World Bank Database from 2001 to 2020 (n=460). We applied correlation analysis to address the multicollinearity issue. The stationary properties along with endogeneity issue have been tested through unit root ADF – fisher chi-square test and Penal GMM techniques applied. The results suggest that negative relationship exist among economic prosperity and COVID-19 but no relationship established between equity market development and economic growth.

Keywords: GDP, FDI, Exchange Rate, COVID-19.

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1. INTRODUCTION

Determining the factors that affects the economic prosperity of a country is important because it can be helpful for the countries to determine the sectors where countries should invest time and efforts. Successfully determine the causes of economic prosperity can really turn the world into a place where one would be able to live in a manner as humans deserve to live. Hence, there has been a debate that what causes the country to prosperous, and more powerful. Furthermore, this can be helpful for knowing that how and in which direction collective efforts should be made to made this place a better place for the human beings.

The causation and linkage between Financial Market Developments and economic growth has enormously been studied and debated among the economists due to the contrasting results generated by the studies of Enisan and Olufisayo (2009); Shan et. al (2002); Beck et. al (2004); and Abu Bader and Abu Qarn (2008); along with the contemporary work of Osakwe and Ananwude (2017); Qamruzzaman and Wei (2018); Pradhan et al. (2019); Samsi et al. (2019); Osaseri and Osamwonyi (2019); Malikhaydar (2020); Ezeibekwe (2021); Salisu et al. (2021) and Opoku et al. (2019), Aluko and Ibrahim (2020**)** but no work is done with the inclusion of Covid-19 and the changing dynamics. This study is aiming to explore the changes with the changing dynamics in COVID-19.

Mtar and Belazreg (2021); Basyariah et al. (2021); Rinosha and Mustafa (2021); Mugableh (2021), Chen and Jin (2020), Ibrahim and Acquah (2021), Asravor and Fonu (2020), Pradhan et al. (2020), Skintzi (2019) Guru and Yadav (2019) confirm that stock market development plays pivotal role in economic growth and enhance the speed of economic growth.

However, Asteriou and Spanos (2019) argued that financial development accelerates economic growth before financial crises but afterward it hinders after financial crises. Opoku et al. (2019) have studied economic growth with financial development concluded independence of two variables and accept the neutrality hypothesis which means that financial development and economic growth evolve independently. Alam et al. (2021) studied the linkage of different macroeconomic development indicators with carbon dioxide emission with the results concluding unidirectional flow of casualty from market capitalization towards carbon dioxide emission. Aluko and Ibrahim (2020) confirm financial development leading to economic growth with the mediation of institutional development.

2. AIM OF THE STUDY

Different studies and different researchers applied different techniques on the methodological framework to study the causation between the economic development and development of financial markets but the findings are still inconclusive and contrasting from study to study and country to country. This study aims to include the current wave of COVID-19 pandemic as control variable, which has created its global consequences for all type of economies. The study will test impact of COVID-19 empirically on the economic growth of emerging economies.

Research Question

Question 1: In order to achieve economic development, the development of financial markets really play an accelerator's role or not?

Question 2: Does economic development lead to financial market development or the financial market development lead to economic development. Are they work simultaneously or the two variables are independent?

Question 3: It will be helpful for policymakers to ascertain where they have to focus initially to accelerate the economic growth. How COVID-19 is affecting the relationship between economic growth and financial market development?

Question 4: What role COVID-19 is playing to the economies of emerging markets.

Hypothesis of the Study

H1: Financial market development positively affects economic growth.

H2: Economic growth positively affects financial market development.

H3: Economic growth and financial market development affect each other simultaneously.

H4: Economic growth and financial market development has no significant relationship.

Literature Review and Hypotheses Development

The dialectic theoretical discussion as well as empirical work to explore the causality among the GDP growth and development of financial markets is expanding. The understanding of causality between the two variables is pivotal for the successful economic policymaking. The wide discussion of the topic in economic and finance reflect the importance of the understanding between the two variables. The previous studies have contrasting results about casualty of financial market development and economic growth. Although most of the studies in the financial sector of the market based economies establish close link between economic growth and development of equity markets. Some of the previous studies are dialectically debated in the following paragraphs.

H1: Financial Market Development leading to Economic Growth (FDM → EG):

Yemelyanova (2021) examine the CEE countries and its financial and economic development for last few decades yet these countries are not categorized as developed economies in the MSCI classification. The researcher concluded that the financial system of these countries tend to be bank-oriented which is the main reason of CEE countries are still not included in developed category. The paper further conclude that development of stock market is key to success and CEE countries have to develop their stock markets. Another objective of the research was to find out the casualty between economic growth, banking sector development and development of stock markets. Furthermore, study suggest that both development of banking sector and development of stock market are necessary to attract FDI in CEE countries as well as economic growth. The African financial system is largely based in banks and is underdeveloped (Sare et al. 2019)

Qamruzzaman and Jianguo (2018) conclude financial market efficiency plays a vital role in economic growth, and specifically banking sector plays a very important role in it. An investor can diversify financial assets to mitigate risk and this diversification support investment in different areas of the market. The liberalization of diversification supports financial innovation and promotes economic growth. The researchers have applied ARDL approach to study selected variables and found substantial support in the long-term relationship of the variables. It is important to note that financial innovation reduces risk in investment and for diversification of investment portfolio.

Balcilar et al. (2018) explored in the African economies, the role of banking and insurance sector, its development and its contribution in economic growth of African countries. They applied the GMM technique on eleven African countries and found that the life insurance sector and banking sector are complementary and have a positive impact on the economic growth of African countries.

Pradhan et al. (2017) explored association between economic growth, financial development, foreign direct investment, and trade openness in nineteen European countries from 1988 to 2013. In this paper, they applied the VECM technique and results show that selected variables are linked with each other. Foreign direct investment flow increase in these countries with the help of trade openness and development of the financial market and opening of borders for each other country.

Coşkun (2017) studied capital markets and economic growth in a quarterly time period starting from 2006M1 to 2016M6 in Turkey and applied ARDL, Markow Switching Regression and Kalman Filter models. The results suggest long run cointegration between the development of capital market leading to economic growth.

Pradhan et al. (2014) discussed in their paper how the stock market, the banking sector is associated with economic growth. For this empirical study, they selected ASEAN countries from 1961 to 2012 and applied a panel model to check causalities. Results are mixed showing both unidirectional and bidirectional relations among the stock market, banking sector, and economic growth. It is observed that in ASEAN countries banking sector access should be encouraged in public which will help to boost the economy.

H2: Economic Growth leading to Financial Market development (E.G. → FMD):

Pan and Mishra (2018) explored the relationship of Chines financial market development and economic growth of China. The study of China's rapid economic growth and its relationship with financial market development is different from rest of the world. The study applies ARDL model. The findings support the causality of economic growth leading to development of financial markets. China is a special case where small industrial revolution took place which followed the expansion in exports leading to economic growth and that economic growth subsequently followed by development of financial markets in China.

Pal and Mittal (2011) investigate Indian stock market and major economic indicators and found that in this global era, a country's macroeconomic indicator impact on stock market. They selected interest rate, exchange rate, inflation and found long-term relation with economic growth. Some of the hypothesis accepted and few contradicted with other studies like inflation show impact on stock market and exchange rate only show impact on BSE.

H3: Bi-Directional relationship between Economic Growth and Financial Market development (E.G. ↔ FMD)

Yang (2019) constructed different methodology of study of casualty the two variables. The study applies World Bank standard of middle-income economies into two different categories. One is trapped middle income economies and another one is graduated middle income economies and compared them with the high income economies. The focus of the study is the how financial development participate in acceleration of economic growth. Mixing up different models and applying new measures of financial development, the findings of the study suggest that financial development contribute significantly to economic growth, the granger causality is confirmed between the equity market development and economic growth in the three type of groups. The study further confirms the reverse causality between economic growth accelerating development of financial markets in high income economies but don't exist in middle income economies while strong evidences of Granger causality and feedback between financial development and inflation is found only in trapped middle income economies.

Guru and Yadav (2019) explore the relationship of the two variables. For evaluating financial market, the variables of credit to deposit ration and domestic credit to private sector are applied in the study. The study concludes bi-directional relationship between the two variables. With the development of financial markets in BRIC countries economy grows while expansion in economy is augmenting the development of financial markets. Therefore, the policymakers in emerging economies have to simultaneously focus on the development of financial markets as well as economic growth.

Marques et al., (2013) empirically explored Portugal taking data from 1993 to 2011, though it's a small economy compared to other countries in terms of GDP and found a bidirectional relationship between stock market and economic growth, while banking sector does not show any relation with economic growth.

H4: No relationship between Economic Growth and Financial Market development (E.G. - FMD)

Opoku et al., (2019) revisited relationship between financial prosperity and economic growth in Africa. The research criticized the earlier work failing to answer the causality between the two variables in different time periods. The study applied quency-domain spectral causality technique which provide space to study causality across different times. The findings of the study are contrasting and provide evidences for financial market development causing the acceleration in economic growth, economic growth causing financial market development as well as bi-directional relationship. The researchers support to neutrality hypothesis and suggested independence of two variables.

3. METHODOLOGY

Conceptual Model

To understand the conceptual framework of this paper, the understanding of economic growth and its determinants like capital formation and development of financial markets, foreign direct investment and its role in capital formation, personal remittances and its role in capital formation, inflation in the country and its impact on capital formation, exchange rate and its contribution in economic growth are pivotal. Economic growth is the objective of the policymakers either working on fiscal policy or monitory policy. It is the objective for all the policy makers working in the economic teams of the country.

The biggest question which has been addressed earlier by many researchers with no single answer is that "Should The focus of policy makers remain on economic growth primarily or their focus should be on development of financial markets before focusing on economic growth but the objective is the same and that is "Accelerated Economic Growth"

The answer to this question vary in different researches. Some researchers like Pan and Mishra (2018); Pal & Mittal (2011) concluded that economic growth lead to financial market development, therefore the focus for policymakers must be economic development and financial markets will develop subsequently. While some of researchers Osaseri and Osamwonyi (2019); Bist (2018); Qamruzzaman and Jianguo (2018); Balcilar et al. (2018); Pradhan et al. (2017) concluded that development of financial markets is inevitable for the economic development, therefore the policymakers have to focus on the development of financial markets and economic development follow it. Some of the researchers like Opoku et al. (2019) concluded that simultaneous economic growth and financial market development is ideal for accelerated economic growth, therefore the focus of policy makers must be bidirectional development of both factors to accelerate the economic growth. Finally, some of the researchers like Opoku et al. (2019) conclude no relationship between the two and the policy makers make different policies for the development of financial markets and economic growth.

This study has included the COVID-19 as a dummy variable to find out its impact between the economic growth and financial market development. What is the impact of COVID-19 on the economic development of emerging markets as well as financial market development?

Data Sources and Sample Size

To test our hypothesis, we have taken a panel data of twenty-three countries namely Brazil, Chile, China, Pakistan, Colombia, Malaysia, Greece, Indonesia, Thailand, Turkey, Hungry, India, Korea, Mexico, Philippines, Peru, Poland, Qatar, Russia, South Africa, Saudi Arabia, Egypt and United Arab Emirates which are part of emerging economies out of twenty-five emerging economies of MSCI Index. **We used purposive sampling technique and left two countries of this group due to unavailability of data**. The data were collected from World Bank from 2001 to 2020. We used proxy of economic growth as growth of GDP as dependent variable while independent variables are market capitalization, Total value of shares traded in stock

market, the ratio of value of shares traded to market capitalization, foreign direct investment, trade openness, exchange rate, inflation and investment along with development of three different indexes representing development of financial markets. While dummy variable of COVID-19 has placed to capture the impact of the pandemic on the emerging economies.

The data were analyzed using Correlation analysis to address the multicollinearity issue. The stationary properties along with endogeneity issued have been tested through unit root ADF – fisher chi-square test and penal GMM techniques applied.

Measurement of Variables

Variables	**Abbreviation**	**Measures**	
Gross domestic product growth	GDPG	Real GDP growth.	
Initial Growth Rate		One year lagged growth rate	
Proxies of Equity market development			
Index 1	EMD1	Examined in section 3.3	
Index 1	EMD 2	Examined in section 3.3	
Index 1	EMD 3	Examined in section 3.3	
Market Capitalization	MAP	Market capitalization of listed shares	
Trade Value	TR	Value of shares traded on stock market	
Turnover Ratio	ToR	Ratio of value of shares traded to market capitalization	
Foreign Direct Investment	FDI	Foreign Direct Investment (current US$). Data is collected from the world bank database.	
Trade Openness		Sum of total exports and imports divided by GDP	
Inflation	INF	GDP deflator	
Exchange rate	EXR	Local currency verses USD.	
Investment	INV	Gross Fixed Capital Formation as a percentage of GDP.	**Table I**

Construction of Indexes:

First of all, we developed first index combining three variables that is market capitalization, trade value and turnover ratio. We take summation of these variables and remove mean value from it and divided by the standard deviation for all countries included in our sample data set for the sample period. It may be written as:

$$\text{Index1} = \sum \left((X_{it} - \bar{X}_i) / \sigma X_i \right)$$

(Equation 1)

Where X for the combined variable for a country

Xbar for mean value of this variable

St dev X for standard deviation of the variable

For Index No. 2 we computed average of three variables that is turnover ratio, market capitalization and trade value for each country, removed mean value from the variable and divided by the mean value of specific variable. In similar pattern we applied on all three variables and finally taken average of these variables.

$$\text{Index 2} = (X_{it} - \bar{X})/|\bar{X}|$$

(Equation 2)

Xit= Value of X variable of country i period t for example market capitalization, trade value and turnover proportion

Where X for the combined variable for a country

Xbar for mean value of this variable

To construct Index No.3 researcher use principle component analysis technique that change the original variables into smaller set of linear combination to reduce variance exist in the original set of variables. This will help us to manage multicollinearity issue (Pradhan et al., 2013)

$$\text{Index3} = \sum_{j=1}^{3} a_j \frac{X_{it}}{\sigma(X_i)}$$

(Equation 3)

Factor analysis using ith element derivative from factor analysis approach to control multicollinearity. Factor loading are obtained for twenty-six economies over the sample period. Furthermore, the value of X is obtained by putting the highest factor loading in place of aj.

aj =Highest factor loading value of each variable

Xit=value of X variable for example MAP, TRADE_VALUE and TURNOVER

S.d= standard deviation of particular variable

4. RESULTS AND DISCUSSION

Descriptive Statistics:

Table II shows the statistical outputs, means, standard deviation, skewness, kurtosis, Jarque-Bera of the emerging economies. The growth is averaging around 3.8 percent approximately which is very low but carrying the impact of COVID-19 as well. The financial market proxies like market capitalization, trade value and turnover are reflecting averages of 64.56, 36.46 and 61.33 respectively which is very healthy in the emerging economies.

To test the normality of the data series, we tested skewness and kurtosis by applying equation 4 and 5, furthermore, Jarque-Bera test is also applied. The results suggest that data is not normally distributed.

Table 2. Descriptive Statistics:

Variable	Mean	Std. Dev.	Skewness	Kurtosis	Jarque-Bera	Prob.	Obs.
GDPG	3.755	4.060	0.032	7.084	319.8	0.000	460
MAP	64.56	53.91	2.590	11.61	1935	0.000	460
Trade Value	36.46	46.71	3.357	19.51	6091	0.000	460
Turn over	61.33	62.427	2.330	10.24	1421	0.000	460
EMD1	-2E-06	2.226	0.532	3.560	27.72	0.000	460
EMD2	2E-06	1.428	2.251	18.35	4906	0.000	460
EMD3	-7E-06	4.278	2.616	24.88	9697	0.000	460
Investment	21.86	7.703	-0.147	5.063	83.26	0.000	460
Trade openness	72.40	39.77	1.322	4.149	159.3	0.000	460
Exchange rate	677.8	2290	4.376	22.00	8386	0.000	460
FDI	2.970	5.660	4.906	59.57	63177	0.000	460
Inflation	4.764	4.950	4.129	34.74	20617	0.000	460

Correlation Analysis:

The association of financial market development with the help of stock market proxies and economic development is captured by table III. The resulting matrix reflect low level of correlation between market capitalization, trade value and turnover along with economic growth. When observing the correlation of economic growth with the three indexes, the index I has positive but weak relationship with the economic growth while the other two indexes are showing negative relationship. The anomaly might be the impact of COVID-19 as economic growth decreased due to pandemic but financial markets kept operating virtually.

Table 3. Correlation Matrix.

	GDPG	MAP	TV	TOR	EMD1	EMD2	EMD3	INV	TO	EXR	FDI	INF
GDPG	1.00											
MAP	-0.02	1.00										
TV	0.09	0.33	1.00									
TOR	0.12	-0.14	0.64	1.00								
EMD1	0.07	0.25	0.42	0.29	1.00							
EMD2	-0.01	0.22	0.64	0.41	0.73	1.00						
EMD3	-0.07	0.17	0.56	0.37	0.55	0.87	1.00					
INV	0.12	-0.03	0.37	0.42	0.09	0.06	0.04	1.00				
TO	0.04	0.13	0.01	-0.12	0.01	0.00	0.01	-0.05	1.00			
EXR	0.04	-0.11	-0.11	-0.11	-0.01	0.00	0.00	0.21	-0.16	1.00		
FDI	0.03	-0.05	-0.06	-0.04	0.10	0.05	0.01	0.03	0.17	-0.04	1.00	
INF	0.05	-0.16	-0.08	0.16	-0.01	-0.03	-0.06	-0.05	-0.25	0.04	-0.01	1.00

Unit Root Test:

The researchers have encountered with numerous difficulties while applying unit root test along with cointegration hypothesis in penal data. The parameters are showing clear signs of unobserved heterogeneity. Table 4 consist of unit root test while applying fisher chi-square cross section augmented dickey fuller test. Majority of variables are stationary at level but few are stationary at first difference like exchange rate, trade openness and growth.

Penal Unit Root Test

Table 4. ADF Fisher Chi-square.

Variables	ADF-Fisher:	Chi-Square:	ADF-Choi:	Z-stat:	level of Integration:
Growth	252.336	(0.0000)**	-12.4115	(0.0000)**	I(1)
Map	74.2617	(0.0052)**	-3.12998	(0.0009)**	I(0)
Trade value	71.6135	(0.0092)**	-2.36625	(0.0090)**	I(0)
Turn over	62.9837	0.0487	-1.85473	(0.0318)*	I(0)
EMD 1	67.8682	(0.0196)**	-2.16431	(0.0152)**	I(0)
EMD 2	70.7323	(0.0110)**	-1.83605	(0.0332)*	I(0)
EMD 3	67.8682	(0.0196)**	-2.16431	(0.0152)**	I(0)
FDI	103.582	(0.0000)**	-4.95488	(0.0000)**	I(0)
ExR	256.369	(0.0000)**	-12.9755	(0.0000)**	I(1)
Openness	269.094	(0.0000)**	-12.7714	(0.0000)**	I(1)
Investment	227.170	(0.0000)**	-11.2581	(0.0000)**	I(0)
Inflation	120.568	(0.0000)**	-5.11600	(0.0000)**	I(0)

Penal GMM

The existence of endogeneity in penal data suggest the best suitable model is penal Generalized Method of Moments. The equation 6 is explaining the model to capture the financial market development through equity market development and growth.

$$\begin{aligned}\text{Growth}_{it} = \propto + \beta_1 \text{Growth}_{it-1} + \beta_2 \text{MAP}_{it} + \beta_3 \text{Trade Value}_{it} + \beta_4 Turnover_{it} + \beta_5 EMD1_{it} \\ + \beta_6 EMD2_{it} + \beta_7 EMD3_{it} + \beta_8 ExR_{it} + \beta_9 Trade\ Openness_{it} + \beta_{10} Investment_{it} \\ + \beta_{11} Inflation_{it} + \beta_{11} COVID19_{it} + \gamma_t + \varepsilon_{it}\end{aligned}$$

Where as

$\propto$ = country specific effect.

Υ = common period specific effects.

ε = error.

All remaining variables have been explained in the Table 1 and equation 1,2 and 3.

Table 5. Results.

Variable	Coefficient:	Std. Error:	t-Statistics:	Prob:
Growth (-1)	0.549299	0.043260	12.69776	0.0000***
Map	0.000615	0.003513	0.175156	0.8610
Trade value	0.004449	0.006124	0.726454	0.4679
Turn over	0.004002	0.003938	1.016386	0.3100
EMD 1	0.109338	0.106599	1.025700	0.3056
EMD 2	-0.293867	0.291156	-1.009312	0.3134
EMD 3	0.000373	0.073883	0.005051	0.9960
FDI	0.004720	0.027599	0.171004	0.8643
ExR	7.92E-05	7.22E-05	1.097596	0.2730
Openness	0.001838	0.004056	0.453101	0.6507
Investment	-0.006807	0.024261	-0.280551	0.7792
Inflation	-0.019964	0.033095	-0.603226	0.5467
Covid-19	-4.148394	0.517449	-8.017014	0.0000***

Note: *** indicate level of significance at 1%

The dynamic penal regression applied on 23 emerging economies data along with the construction of three indexes for their representation of stock market and analyzed them sequentially. The empirical findings suggest very little correlation of financial market indexes with error term which suggest no endogeneity prevailing in the model.

Dynamic Penal Regression One System GMM:

Table 7 contain the results of dynamic penal regression GMM. There are six specification models applied. GDP growth rate is dependent variable while financial market development proxies as well as other macroeconomic growth indicators as determinants of GDP growth. Starting from specification 1 to specification 3 are developed with the merger of market capitalization, value of trade and turnover ratio representing proxies of financial market development. All of the financial development indicators have contributed towards the economic growth over the twenty-three sampled emerging economies. The lag of GDP growth has contributed in the GDP growth positively and significantly in each and every specification model. The inference out of these results implies that the three indexes of financial market development contribute to the economic development which indicate that market capitalization, value of trade and turnover, if considered in insolation, contribute towards the economic growth. The logical deductions can be reasoned with lower cost of saving mobilization, ease of access to equity markets for firms and opportunities to invest lucrative sectors of economy. Various control variables have been applied in the regression including inflation, exchange rate, trade openness and FDI. The inclusion of a dummy variable of COVID-19 to the model is based on the global impact of pandemic. The results reflect the statistically significant and negative impact of pandemic across all the emerging economies.

Table 7. Dynamic Penal Regression One System GMM.

	Specification 1:	Specification 2:	Specification 3:	Specification 4:	Specification 5:	Specification 6:
GDPLAG	0.560**	0.5626**	0.5624***	0.5622***	0.5581**	0.5579**
EMD1	0.0405*					
EMD2		-0.0049*				
EMD3			-0.0036*			
MAP				0.000*		
TRADE VALUE					0.0033*	
TURNOVER						0.0037*
FDI	-0.002	-0.000242	-0.000275	0.000224	0.002112	0.00194
TRADE OPENNESS	0.001	0.001303	0.001305	0.001218	0.001318	0.00182
EXRATE	0.000	3.41E-05	3.41E-05	3.57E-05	4.81E-05	5.82E-05
INVESTMENT	0.017	0.018229	0.018258	0.018211	0.01004	0.00403
INFLATION	-0.013	-0.013345	-0.013454	-0.012365	-0.011798	-0.021363
COVID-19	-4.176***	-4.163***	-4.157***	-4.177***	-4.203***	-4.190***

Note: The t-statistics are reported in the brackets. ***, **, * indicate level of significance 1, 5 and 10% respectively

Table 8. Pairwise Dumitrescu Hurlin Penal Causality Test.

Null Hypothesis:	W-Stat.	Zbar-Stat	Prob.
MAP does not cause GDPG.	4.66538	3.88589	0.0001***
GDPG does not cause MAP.	2.53188	0.28404	0.7764
EMD1 does not cause GDPG.	2.46957	0.17884	0.8581
GDPG does not cause EMD1.	2.17613	-0.31655	0.7516
EMD2 does not cause GDPG.	2.89716	0.90072	0.3677
GDPG does not cause EMD2.	2.17254	-0.32261	0.7470
EMD3 does not cause GDPG.	2.46957	0.17884	0.8581
GDPG does not cause EMD3.	2.17613	-0.31655	0.7516
FDI does not cause GDPG.	3.50463	1.92626	0.0541
GDPG does not cause FDI.	3.43400	1.80703	0.0708
INF does not cause GDPG.	2.81768	0.76653	0.4434
GDPG does not cause INF.	2.90109	0.90735	0.3642
TO does not cause GDPG.	3.14160	1.31339	0.1891
GDPG does not cause TO.	2.90620	0.91598	0.3597
TOR does not cause GDPG.	3.79658	2.41915	0.0156***
GDPG does not cause TOR.	1.89631	-0.78896	0.4301
TV does not cause GDPG.	2.62805	0.44640	0.6553
GDPG does not cause TV.	1.86744	-0.83769	0.4022

Pairwise Dumitrescu Hurlin Penal Causility Tests:

In order to reach to the causal moment of the economic growth towards financial market development or vice versa, we have applied Chirstophe & Elena (2012) approach of pairwise causality as GMM does not provide us the direction of moment.

Table 8 represent the Dumitrescu and Hurlin (2012) test. The findings suggest that there is no causality between the economic growth and financial market development. It means that economic growth and financial market development do not cause each other in the emerging economies. The results validate the *Hypothesis 4* which deny significant relationship of economic growth and financial market development. Our findings validate the findings of Opoku et al. (2019)

5. DISCUSSION

It is a puzzle which is unresolved and the answer of the puzzle is shaping differently in variety of studies, from sample to sample, time to time and country to country. Some researchers like Pan and Mishra (2018); Pal and Mittal (2011) answered the puzzle confirming economic growth lead to financial market development, therefore the focus for policymakers must be economic development and financial markets will develop subsequently. While some of researchers Osaseri and Osamwonyi (2019); Bist (2018); Qamruzzaman and Jianguo (2018); Balcilar et al. (2018); Pradhan et al. (2017) anticipated that development of financial markets is inevitable for the economic development, therefore the policymakers have to focus on the development of financial markets and economic development follow it. Some of the researchers like Opoku et al. (2019) concluded that simultaneous economic growth and financial market development is ideal for accelerated economic growth, therefore the focus of policy makers must be bidirectional development of both factors to accelerate the economic growth. Finally, some of the researchers like Opoku et al. (2019) conclude no relationship between the two and the policy makers make different policies for each.

6. CONCLUSION

Our findings stand with Opoku et al. (2019) and Iqbal et al. (2017) for the emerging economies in the World. One of the plausible answer to the question is that financial markets were well developed and reaching to its optimum level in the sample period therefore, no relationship is captured between the two variables. In Pakistan's perspective, our findings confirm the results of Iqbal et al. (2017).

The results for dummy variable COVID-19 suggest the vulnerability of global economic system. The significant and negative impact of COVID-19 with only two years in the sample with pandemic infers that the economic development of 18 years prior to COVID-19 is unable to make the variable insignificant. The impact of COVID-19 on our lives is long lasting and future studies needs to incorporate its impact on our economic, social and cultural lives.

7. RECOMMENDATIONS

Results of the study suggests that economists usually draw wrong conclusions when they try to predict the economic development using the trends in the stock markets. In this regard, it can be suggested that there are multiple factors that causes the gains and losses in the stock markets. For instance, stocks are traded on the basis of perception and the perception of investors matters while determining the stock prices. Therefore, is suggested that economists should remain vigilant of other factors as well while determining the economic prosperity of the country.

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