

## Linkages between Pakistan Equity Market and Developing Countries Stock Market

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**ABSTRACT :** The focal purpose of this study is to analyze and explore the linkages of Pakistan Stock Exchange with the equity market of developing countries (Bangladesh, Singapore, Turkey, China and India) by applying co-integration approach to capture the short-run and long-run analysis. Monthly based secondary data containing stock indices of these equity markets covering the period from Jan 2015 to June 2019 has been used. Analysis of study shows that Pakistan Stock Exchange is not linked with the equity markets of Bangladesh and Singapore while it is correlated with the equity markets of China, Turkey and India. Results also show that PSX has short run relationship with developing countries like China, India and Turkey. No linkage with selected equity markets offers the investors and fund managers to get the better investment benefits in PSX. Existence of linkages of PSX- with the equity market reveals that the investors and fund managers of these countries do not have better investment opportunities in PSX. This study will help the investors in searching such equity markets which have greater investment benefits because linkages of equity market determine the better investment places. Investors and policy makers can make efficient investment decisions by studying these analyses. This study provides awareness and guideline to decision makers including local and foreign investors, agencies, financial analysts and banks about investment opportunities in equity market of Pakistan.

**KEYWORDS:** Equity Market, Co-integration, Investment Decision

### I. INTRODUCTION

Pakistan is a developing economy and has a critical part in the global trade. His neighboring nations are China, India, Iran and Afghanistan. Today, world has develop worldwide township. Worldwide is leading the world in a new trend. Economic world is redesigning itself. Globalization has improved the trade link amongst the nations. Globalization is only of the main reason of stock marketplace relation. Globalization is create link among the financial markets, investors and police maker. Globalization played critical role in enhance the awareness in the study of linkages among economic markets. It rises the investment inflow at lesser rate for the emerging economy. Globalizations is greatest evident feature in economic marketplaces. Pakistani Sea ports are offering a path of trade for several nations. Vital sea docks of Pakistan are GAWADAR Baluchistan and Bin Qasim Karachi. Pakistan organizes tradeoff with almost all countries of the world. Main emerging tradeoff partners of Pakistan are China, Bangladesh, Singapore, India and Turkey. Pakistan is gorgeous in crop growing and key exports are consisted of agrarian yields. Major crop growing goods are exported by Pakistan such as rice and cotton.

Pakistan is a developing economy so it requirements funds for economic growth. Emerging economies are depend on the savings of other countries. Pakistan is a good-looking place for international investors for the reason that its economy is in early phases and has worthy potential of more earnings on investment. Overseas investment is done concluded overseas direct investment and overseas portfolio investment. Pakistan stock exchange (PXE) is provided that a place for investment to the countrywide and worldwide financiers. Financiers from all the tradeoff partners' nations finance in the stock marketplaces of Pakistan. Being a developing economy, financiers from all over the world alike to finance their capitals in Pakistani stock exchange in order to acquire greater profits and to like divergence profits. Associations of equity marketplaces offer benefits of marketplace segmentation to the financiers. Comfortable strategies and motivation packages by the management to overseas investors also invite the overseas investment. Financiers of all the tradeoff partners' nations transfer their money to Pakistani stock exchange for investment and well earnings. Pakistani economy requirements overseas capitals for its growth and attractive investment opportunity. Stock marketplace plays very important role on behalf of the consumption of moneys and transfer of funds. These marketplaces are investment companies. Stock markets encourage security culture in the nation.

Economic market integration are three elements. Stock marketplaces amalgamation may be countrywide, provincially and globally (Reddy, 2002). Internationalization, greater revenues, movement of funds regionalization and improvements of equipment have better the relations of stock marketplaces. Stock marketplace relations increase the national savings, funds and thus financial development (Mohan, 2005). There is greatly trend of co integration in the marketplaces of evolving nations. Associations of stock marketplaces are very vital aspect of investment decisions. Shareholders and strategy makers give very significance to the equity markets associations before taking investment decisions. Equity marketplaces link is the key reason of transfer of wealth through the border. It makes free movement of money for greater returns. Stock markets association decreases the chance of divergence profits and extents the financial disaster through the all associated markets. The purpose of this study is to know the dynamic links Pakistan stock exchange and equity markets of developing nations. These nations include Pakistan, Turkey, India, Singapore and Bangladesh. So financier of these nations can make well investment judgments by the consequences of this study. If these developing countries equity markets are not connected then diversification benefits can be obtained by shareholders. Many studies are conducted on the relationships of equity marketplaces on the other hand no study has been found on the links of Pakistan stock exchange by such nominated emerging nations which are tradeoff partners of Pakistan. Good base will provide through this study for the effective and sensible investment choices and will discover the presence of divergence chances to the national and international financiers, market analyzers, finance managers, and strategy makers.

### **Objectives of the Study**

Followings will be the aims of this study to:

- To examine the link between Pakistan Stock Exchange and developing country's equity markets.
- To examine which developing country's equity market have better investment opportunity for Pakistan.

## **II. SIGNIFICANCE OF THE STUDY**

Stock markets of any country have vital role for economic development by providing funds through national and international investors. Foreign investors like to invest their funds in stock market of developing countries like Pakistan stock exchange. Because of Pakistan stock exchange provide maximum return at minimum risk level as well as diversification benefits. Links between developing countries stock markets is the one of key factor, to be measured, before investing in these stock markets. But existence of uncertainty in stock market due to any factor reduces the chances of diversification benefits and it discourage the investors to invest in these markets. So, this study will provide a guideline for the investors to make efficient investment decisions. If there is no links between these developing nations then diversification benefits availed by investors of these countries. The result of this study will be beneficial for fund managers, policy maker, investors and financial institutions. So, this study is very important in global prospective. This type of study such as links between these selected developing countries have no conducted by earlier researchers.

**Review of Literature:** Several scholars worked on the relationships of stock marketplaces by taking diverse periods. The examination of this study discloses many results like presence and non-presence of link among the stock marketplaces. Jang and Sul (2002) observed the association of stock marketplaces established on the so-called Asian Monetary Marketplaces disaster through 1977. The facts was linked to post disaster, throughout disaster and afterward dated crisis of the Asian areas. Granger Causality and Co-integration tests were useful for the study. Consequences exposed nearby was no co-integration afore the disaster. There was increase in co-integration through the disaster period but afterwards the crisis there was solid co-integration amongst the stock marketplaces.

Alkulaib, Najan and Mashayekh (2009) examined lead/lag connection amongst the marketplaces of three areas North African countries, Gulf Regions countries and Middle East. Day-to-day base facts of stock returns were used since 1999 towards 2004. Test of normality, Granger causality test and unit root test implemented to exam the relation among these three areas nations. The outcomes displayed there was a connection amongst these three areas states and they have effect on every one other. These marketplaces are a better basis of investment because these marketplaces have a minor significance by progressive nations. Chung and Liu (1994) performed on the study to expression into the collective trends among equity marketplace rates of USA and five nations of Eastern Asia which are the best progressive states. Weekly base data were occupied ever since 1985 to 1992 containing of 2310 opinions of equity prices in native moneys. The consequences showing there was a stochastic measure amongst East Asia and US 5 states shares prices. The writer suggested for the further investigators that joint tendencies should be measured in changes of stock values. The linkage between Latin

American markets with the world market has been investigated in 2008. There was co-relation of stock markets among Brazil, Argentina, Colombia, and Chile, Venezuela and Mexico and other markets of the world. Monthly returns in US\$ for Latin countries and MSCI index was examined for this study. Engle model of DCC-GARCH, Co-integration test and VECM test were applied on the data to investigate the relationship of short and long run of the markets. The results founded that there is a correlation and raise in relations among these Latin countries and rest of the world countries. (Aroui, Bellalah& Nguyen, 2010).Janakiramana and Lamba (1998) describe the reading on the association of development and progressive marketplaces of Pacific-Basin area. The Advanced nations like New Zealand, USA, and Singapore, Australia, UK and Hong Kong and the progressive states like Thailand, Malaysia Indonesia, and were occupied for examining. Day-to-day figures was taken having marketplace returns in local money. This object presented that US marketplace was extra advanced and touching all other marketplaces excluding Indonesia. Consequences also exposed that altogether these marketplaces are locked with both other and have importance influence on every other.

Valandhani and Chancharat (2008) examined link regarding Thailand equity marketplace values and its trade nations. Periodic data was taken contains of stock marketplace price catalogs. They decided that there remained not at all long run link of stock marketplace prices between Thailand and its operation associates. In the short run reading, there remains a unidirectional and bidirectional affiliation of stock market prices amongst Thailand and particular its matter associates. Hoque (2007) examined link equity returns of USA and Bangladesh share market, India and Japan markets. The short and lengthy connections of Bangladesh by further countries were considered. The reading consequences presented there stayed rise association amongst the markets. They too decided that there existed relationships amongst Bangladesh and other market place.

Masih and Masih (1997) study the dynamic short and long run links amongst eight nationwide share price indices which involves main four settled market place (UK, Japan, Us and Germany) and four Asian developing markets (Hong Kong, Malaysia, Singapore and Thailand) tacking end of the daytime nationwide share price indexes since 1992 to 1997. The outcomes establish the confirmation for association among these eight market place Iqbal, Khalid and Rafiq (2011) create the dynamic association amongst the share market place of United Nation of America and developing marketplaces of Pakistan and India taking day-to-day records since 2003 towards 2009. The outcomes showed that not one co-integration was occurs midst equity markets of USA, India and Pakistan. However Granger Causality exams consequences presented the suggestion of unidirectional causality running after New York stock exchange (U.S.A) to Pakistan stock exchange (Pakistan) and Bombay stock exchange (India).

Hasan, Saleem and Abdullah (2008) discovered the connection among the South Asia market place and western nations. They considered on Pakistan Stock Exchange through the marketplaces of Italy, Japan, Canada, USA, France UK, Australia and Germany from the time when 2000-06. The outcomes discovered that Pakistan stock exchange has not at all co-integrated by these stock markets excluding Japan and France throughout 2000-06. However there remained solid long term association PSE with these nations during this dated. These forward-looking states are co-related with every other. They stated that benefits of group investments can be occupied by the shareholders of such advanced nations except France and Japan. Kasa (1992) establish the dynamic long run connection and mutual tendencies in the equity marketplaces of Japan, UK, Germany, USA and Canada, Germany. Month wise and quarterly base facts of these stock markets indices were collected since 1974-90. Co-integration and Unit root method was established by Kasa for investigation. The writer consequences discovered that the similar tendency in the Indices through this period. Collection of GNP facts as a proxy too displayed common tendencies.

Lamba (2005) discovered the influence of co-relation among South Asian States such as Sri Lanka, India and Pakistan, with advanced economy alike Japan and USA. The article too clarifies the things of 11 September extreme happenings at World Trade Centre of USA. Day-to-day base data of equity markets of these nations was composed since 1997 to 2003. VEC model and Multivariate co-integration was used to inspect the data. The outcomes exposed the short and long term association among South Asian states and advanced nations. Japan and United states of America market takes a great influence on Indian market place. Sri Lanka and Pakistan marketplaces are free from influence of Japan and United State of America Market. Aktan, Mandaci, Kopurlu and Ersener (2009) search liaison between the stock marketplaces of advanced nations and their relation with US share market. He used the Granger causality and Vector Auto regression (VAR) method to decide association of short term between share markets of BRICA. He too used the Impulse Response method to determine the presence of shock wave.

He applied the day-to-day data since Jan 2002 to Feb 2009. The decisions discover that US marketplace takes significance influence on BRICA market place. Brazil and Russia are the greatest joint markets although Argentina and China are the smallest combined markets. Subhani, Hasan, Mehar and Osman (2011) examined the reading of connection among unconnected share marketplaces of South Asia like Pakistan equity Market (Pakistan), Nepal Stock Exchange (Nepal), Dhaka Stock Exchange (Bangladesh) and Bombay Stock Exchange (India).

The daily base data was reserved of these four equity exchange NSE index, PSX-100, BSE Sensex, DSE Composite index and BSE index. Johansen integration remained examined for the dated counting 1995-2011. The writers determined that there is a link of share market of Pakistan equity marketplace with Dhaka share marketplace. However share price of Pakistan stock Exchange cannot have linked as from side to side share prices of further stock exchanges. Bhunia (2012) examines the relation of Indian share markets with particular noticeable South Asia share market place and too checked the impression whether Indian equity market is extra skilled than further main Asian share marketplaces. The records is reserved on day-to-day basis as beginning 2002 to 2011. The consequences describe that here is a long term and short period relationship among the specific markets. The short term period provides additional aids than long term to financiers. There is a massive opportunity for the shareholders to attain profits in not one in Indian marketplace however also in specific South Asian market place. Tan and Tse (2001) examined the association of East and South East Asian nations' funds market. The consequences express that Japan marketplace influence has passed the US market place and later and earlier crisis relation amongst these marketplaces have been inflamed. The writer suggest that national market has established more interdepend.

Mohammad (2012) examined prolonged path relationship between Pakistan share marketplace moreover specific advanced share markets. Weekly records is taken for this learning through 2000-2010. To examine the relationship among Pakistan market and advanced stock market place. The consequences exposed that Pakistani share market has sound link by USA stock market place. The impulse response values USA share market place is unbalanced as likened to further stock markets of world. Cha and Oh (2000) discover link having stock market in United State country and Japan then four developing distinctive share markets like Singapore, Korea, Hong Kong and Taiwan. The outcomes display that recognized markets and undeveloped market place of Asia relation rise after happening of disaster of stock market place later as October 1987. This learning explains diverse levels of influence. The learning suggested that Singapore and Hong Kong have easily financed in equity markets as opposite to Korea and Taiwan.

Shah, Husnain and Ali (2012) exams the correlation concerning Pakistan equity market and G Eight nations share market. The results show long term link does not happen between Pakistan and G, Eight states by Johansen and Julius approach. VECM mentions that the uncertainty lag period has been improved in the present period. There are shockwaves in Pakistan equity market due to its enlargement. Horvath and Petrovski (2013) determine the international stock market association among South Eastern Europe and West Europe. The outcomes discovered that the connection of South East European stock market place with the advanced market place is not shown. The western European marketplaces are more collective as likened to south eastern European marketplaces.

### **Hypotheses**

**H1:** The long-term and short-term link exists between Pakistan and Singapore equity markets.

**H2:** The long-term and short term link exist between Pakistan Equity Market and India equity market.

**H3:** The long-term and short term link exist between Pakistan Equity Market and China equity market.

**H4:** The long-term and short term link exist between Pakistan Equity Market and Bangladesh equity market.

**H5:** The long-term and short term link exist between Pakistan Equity Market and Turkey equity market.

### **III. DATA AND METHODOLOGY**

This research importance on linkage of Pakistan equitymarket with the equity markets of selected developing nations which are too tradeoff partner of Pakistan. The particular emerging native country nominated for studyare Turkey, India, China, Bangladesh and Singapore. Monthly average returns of shareindices of Pakistan Equity Market (PSX-100 index) and emerging statesare usedfor studyand data is attained from Yahoo finance/Bloomberg throughout the period stretched since January 2015 to June 2019. Followings methods are the applied in this analysis to discover the co-integration among different equity markets:

1. Unit root Approach
2. Vector Auto Regression (VAR Technique)
3. Johansen and Juselius Co integration Method
4. Pairwise Granger Causality method
5. Impulse Response
6. Variance Decomposition Analysis

**Empirical Results**

**Table 1: Descriptive Statistics**

	CHIN	IND	PAK	SINGA	TUR	BANG
Mean	6.878	8.891884	8.934913	2.235999	2.983680	2.165631
Median	6.882883	8.884743	8.910160	2.165210	2.967830	1.012340
Max	7.74618	9.87556	9.76367	1.963360	3.867279	2.061670
Mini	6.644286	8.783784	9.378853	2.152342	3.113343	5.216644
Std. Dev.	0.334133	0.346648	0.354478	0.231740	0.302274	2.974175

This table 1 shows the equityreturn of developing stock markets are including numerous statistical methods like median, standard deviation and mean, standard deviation. With judgment study displays that Pakistan Stock Exchange provide 8.9349 average return at the risk level 0.35. China, India, Turkey, Singapore and Bangladesh produce average return 6.78, 8.89, 2.98, 2.23 and 2.16 respectively. The descriptive outcomes evidence that Pakistan Stock Exchange displays that financiers develop greater return as matched to equity market of further developing countries.

**Table 2: Correlation Matrix**

	PAK	SIN	TUR	CHI	IND	BAN
PAK	1					
SIN	0.618	1				
TUR	0.607	0.955	1			
CHI	-0.476	0.456	0.317	1		
IND	0.917	0.987	0.921	0.116	1	
BAN	0.754	0.413	0.3813	0.517	0.523	1

Table 2 shows the outcomes of correlation matrix of developing equity markets with PSX. The consequence describes PSX is strongly connected with Bangladesh and India stock market. PSX is weak associated with

stock market of China. PSX is too significant related with Turkey and Singapore. Correlation examination is a weak methods and does not display lead and lag association. For well and accurate summary of the matter, we practice co-integration and granger causality exams for advance analysis.

**Table 3: VAR Test**

Lag	LogL	LR	FPE	AIC	SC	HQ
0	70.22546	NA	5.95e-08	-1.661209	-1.471177	-1.584692
1	398.7353	587.8966	1.35e-13	-9.93523	-8.756233*	-8.765469*
2	441.4160	41.5477	1.87e-13	-8.993679	-6.894469	-7.972231
3	501.1122	72.44713	1.69e-13	-9.96465	-5.5838134	-7.797584
4	531.0809	61.5689	1.59e-13	-9.87295	-4.927649	-7.674193
5	568.5293	67.97155*	1.30e-13	-9.94886	-3.986452	-7.697538
6	598.8955	53.53683	1.29e-13*	-10.76317*	-3.63458	-7.546381

LR: sequential modified LR test statistic (each test at 5% level)

FPE: Final prediction error

VAR method practices to pick the lag values. For this purpose, we chose AIC recognized 1971, SIC developed 1978 and HQ recognized 1989. On the bases of AIC statistics criteria, lag length is 6, it means previous 6 time's prices affect the present price.

**Table 4: Unit Root Test**

Countries	ADF-level	ADF-1st Diff.	PP-level	PP-1 <sup>st</sup> Diff.	Remarks
Pakistan	0.415281	-6.43173	0.368390	-6.873375	Stationary at 1 <sup>st</sup> Difference
China	-1.425325	-7.861142	-1.976523	-7.853468	Stationary at 1 <sup>st</sup> Difference
Singapore	-0.976674	-7.936538	-1.759042	-7.792341	Stationary at 1 <sup>st</sup> Difference
India	-0.6354118	-5.151394	-1.326677	-6.256712	Stationary at 1 <sup>st</sup> Difference
Bangladesh	-0.872244	-6.876391	-1.556789	-9.97235	Stationary at 1 <sup>st</sup> Difference
Turkey	-0.936187	-5.763375	-0.887653	-5.841365	Stationary at 1 <sup>st</sup> Difference



**Critical Values**

<b>1% level</b>	-3.426590	-3.438163	-3.446590	-3.448163
<b>5% level</b>	-2.768527	-2.711241	-2.658527	-2.811241

Unit root test used to check the stationery and non-stationery of data at level and fist difference. For this purpose, Dickey fuller and Philip Peron test is applied. This table display the result for the level and Fist difference. Philip Peron verify the result of Dickey fuller method. Philip Peron and Dickey fuller confirm time series follow co-integration method.

**Table 5: Multivariate Co-Integration Analysis Trace Statistics**

Hypothesized	Trace		0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.624399	129.0076	87.983455	0.0000
At most 1 *	0.396854	79.19125	70.76764	0.0344
At most 2	0.308371	39.87231	51.94745	0.0411
At most 3	0.215633	19.64519	32.83621	0.2333
At most 4	0.156230	9.86361	18.75593	0.2866
At most 5	0.052264	1.987513	4.932371	0.3490

Trace test indicates 3 cointegratingeqn(s) at the 0.05 level

**Table 6: Maximum Eigenvalue**

Hypothesized	Max-Eigen		0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.624399	49.12624	38.73854	0.0034
At most 1 *	0.396854	38.79112	29.66732	0.0084
At most 2	0.308371	19.86642	25.91652	0.0064
At most 3	0.215633	13.97473	19.63283	0.2912

At most 4	0.156230	7.75663	13.75632	0.2897
At most 5	0.052264	1.822433	2.962355	0.1923

Max-eigenvalue test indicates 3 cointegrating eqn(s) at the 0.05 level

The above Tables displays the results of multivariate co-integration examination of evolving nations of equity marketplace. These values express that three co-integration exist and it show that here are three mutual patterns create in our variable. Maximum Eigenvalue verify the consequences of Traces statistics.

**Table 7: Bivariate Co-Integration**

Hypothesized	Trace		0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
PAK*	0.115441	20.18763	14.83561	<b>0.0211</b>
INDIA	0.221356	0.542561	2.983277	0.4252
PAK	0.215422	14.56844	14.83561	<b>0.0411</b>
CHIN	0.03365	0.695545	2.983277	0.4042
PAK	0.115274	6.826451	14.83561	0.3216
SING	0.024256	0.752867	2.983277	0.2943
PAK	0.149633	11.73441	14.83561	0.2042
BAN	0.013745	0.393276	2.983277	0.5163
PAK	0.203275	13.96564	14.83561	<b>0.0221</b>
TUR	0.014536	0.224271	2.983277	0.5374

This table 7 displays the one by one relationships between variables. Pakistan stock exchange. Associated with three other developing countries stock markets. PSE has long term links with India, China and Turkey. PSE has no co-integrated with Singapore and Bangladesh. Investors of India, Turkey and China can not avail profits of investment opportunity in PSE. Investors of Bangladesh and Singapore equity markets having investment opportunity in PSE. Bivariate is more reliable than multivariate because of bivariate confirm the common pattern and check link one by one.

**Table 8: Granger Causality Test**

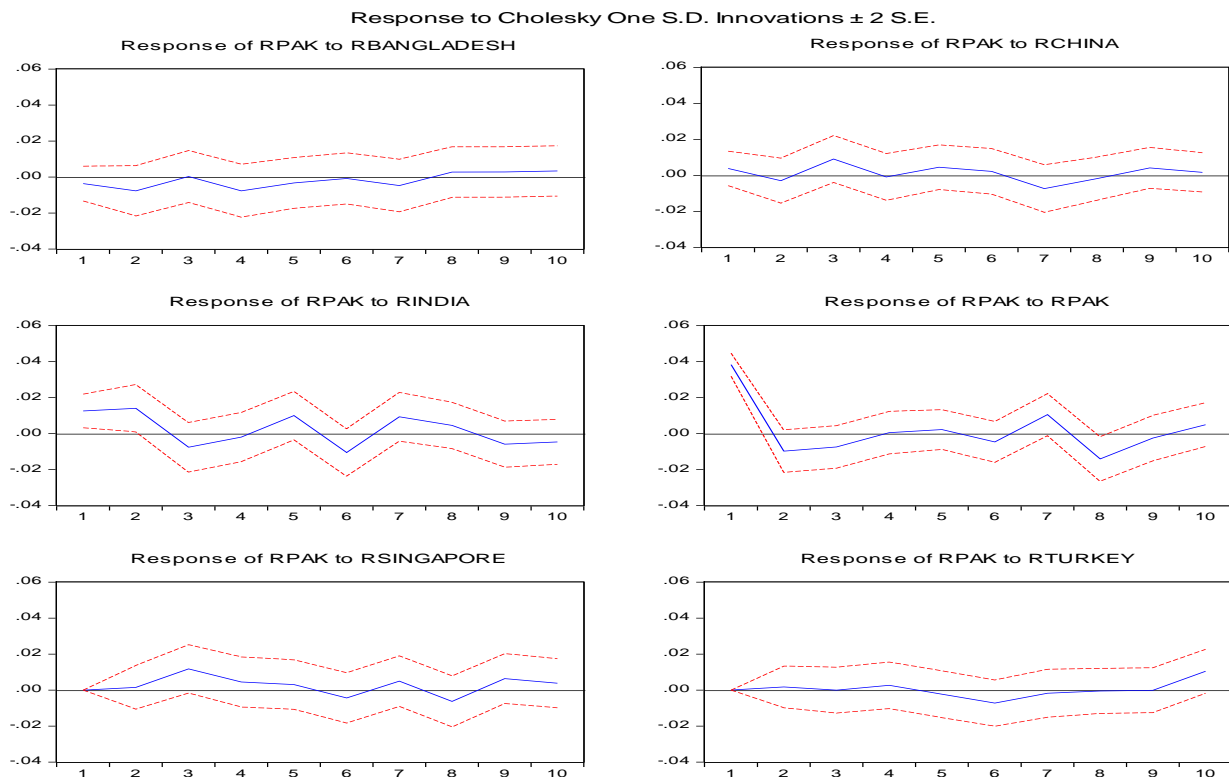
<b>Null Hypothesis:</b>	<b>Obs.</b>	<b>F-Statistic</b>	<b>Prob.</b>
<b>RPAK does not Granger Cause RTurkey</b>	69	2.83164	<b>0.0511</b>
RTurkey does not Granger Cause RPAK		0.88765	0.2474



RPAK does not Granger Cause RINDIA	69	2.75643	0.2345
<b>RINDIA does not Granger Cause RPAK</b>		<b>3.52561</b>	<b>0.0340</b>
RPAK does not Granger Cause RSINGAPORE	69	0.44643	0.5469
RSINGAPORE does not Granger Cause RPAK		0.53751	0.7613
RBANGLADESH does not Granger Cause RPAK	69	3.25467	0.1243
RPAK does not Granger Cause RBANGLADESH		0.87688	0.1236
<b>RChina does not Granger Cause RPAK</b>	69	<b>1.54477</b>	<b>0.0332</b>
RPAK does not Granger Cause RChina		1.11544	0.7542

The values of Granger causality method are presented in the above table which display that if two variables are linked then granger causality essential occur in at least one way. This test is used to exams the lead and lag relationships among developing countries equity markets. Pakistan stock exchange existsuni-directional link amongst stock market place of other nations like as Turkey, China and India. No lead lag links among stock markets like Pakistan, Bangladesh and Singapore.

Figure 1: Impulse Response



This graphs display the reaction of Pakistan stock exchange due to change in other equity markets.

**Table 9: Variance Decomposition Test**

Period	S.E.	RBANG	RCHIN	RIND	RPAK	RSIN	RTUR
1	21.23233	1.354266	1.566432	6.769532	90.12356	0.000000	0.000000
2	22.86244	1.432371	1.234620	14.74488	81.66410	1.226438	0.231645
3	23.22763	4.175380	3.611543	16.95744	71.64280	4.968765	0.350702
4	24.65342	4.984560	3.464677	17.86543	68.34296	5.863460	1.316321
5	23.12648	6.231473	5.564932	18.55754	62.75429	6.756033	1.644294
6	25.70843	5.986526	4.631894	23.87643	61.75431	5.986543	1.974327
7	26.53322	5.434976	4.865632	22.11274	59.56685	6.816301	1.371683
8	27.34654	6.411555	6.785631	20.64272	58.97645	7.632761	3.231783
9	28.12364	6.903643	5.754621	21.19752	58.44621	7.572641	2.372671
10	29.23385	6.554544	5.623744	22.48241	53.21166	8.537267	3.863275

This table 9 preset the outcomes of variance decomposition which describes that at one period 90.12 volatility is due to his own internal dynamic forces and in period two the volatility of Pakistan stock exchange is due to his personal dynamic is 81.66 remaining 18.34 volatility is due to further emerging equity market place.

#### IV. SUMMARY AND CONCLUSION

The findings of this study exposes that PSX-100 has links with the stock markets of three nations known as China, India and Turkey, despite there was not any association with the stock market place of Bangladesh and Singapore during the reserved period from January 2015 to June 2019. The outcomes of Descriptive statistics display that PSX is offering higher monthly returns i.e.8.93 at 0.35 risk level as matched to all further nominated developing stock markets. On the other side, developing states are providing small return at high level of risk as matched to Pakistan stock exchange. Correlation consequences presenting positive links of Pakistani stock market place with totally the nominated markets excluding China stock marketplaces. Correlation outcomes show strong association with the India stock market and Bangladesh stock market and positive link was establish with Turkey and Singapore stock market. Correlation examination is a weak method as it does not measured the cause and effect link however co-integration and Granger Causality examinations are more consistent. Unit root method is used to exams the stationary and non-stationary of data at 5% significance level. VAR test is used for fixing the lag value and for applying co-integration. The equity markets of India, China and Turkey have co-integration with Pakistan equity market. Links of all nominated equity markets have been checked with Pakistan equity market by co-integration. The results of co integration by applying trace statistics and 5% probability level display that PSX has co integration with 3 stock marketplace

of the selected emerging stock markets such as India, China and Turkey. Not any links was establish with the equity market of Singapore and Bangladesh by using the co integration.

Presence of no association with Singapore and Bangladesh is supportive the philosophy of portfolio investment set by Markowitz (1952). Pairwise Granger Causality is utilized to check the lead and lag association. The unidirectional consequences were find by using the Granger Causality method. We have too exams the instability by applying Variance Decomposition test and the outcomes display that 90.12% variance of PSX is due to its inside dynamics and 9.88% change is due to other nominated stock markets at the end of one periods. The consequences of variance decomposition test are too show graphically usage by applying impulse response method which display the reaction of PSX with the variation in the stock market place of particular emerging countries. Our conclusions display that financiers of Singapore and Bangladesh have superior investment opportunities in Pakistan stock exchange as matched to the other investors of evolving nominated equity markets.

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