
EXPLORING NOVEL APPROACH IN DETERMINING STOCK PERFORMANCE

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Abstract: *This study explores the impact of exports(EXP), foreign direct investment(FDI), foreign exchange reserves(FER), inflation(IF) and interest rate(IR) with the aid of Panel ARDL model with co-integration upon not only overall on all 35 sectors of Pakistan stock exchange but also on all firms of all sectors as well to overcome the deficiencies of conventional index base studies which provides only a cumulative picture of response of stock market with changing macroeconomic variables(MEV) which provides inadequate information to stakeholders for their decision making. To achieve this objective monthly data for the period of 2005-2020 in panel form were used and results indicates that current study has superiority over past studies as overall sector and firms from same sectors shows differing response to changes in value of MEV. This study has its applicability beyond geographical boundaries on developing economies.*

Keywords: *Developing Economies, Panel ARDL Model, Macro Economic Variables, Stock Market performance.*

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Introduction

The stock market is a collection of exchanges which provides platform for regular trading in form of issuance, buying and selling of shares of public limited companies. Stock Market is a major driving force of economic development and growth of any nation, but the investment in stock market is not only rewarding but risky too as endorsed by Rashid & Mehmood (2018) and Rossi & Gunardi (2018). Stock market is a platform which provides opportunities to investors for investments. Saeed (2012) in her study mentioned that every investor wants to get best return on their investments, for this purpose they seek opportunities and platform where they can invest their funds. In Pakistan like any other country the number of investors is increasing day by day in stock market. As per Pakistan Stock exchange official statistics for the first quarter of 2020 the overall investment in stock market is approx. 6733 billion PKR. This involves not only investment of thousands of investors but directly and indirectly multiple hundred thousand people are dependent upon the performance of these invested funds. Pakistan stock exchange shows variations in its index by multiple of hundreds to thousands within short period of time both upward and downwards. Like in first quarter of 2019 the overall investment in stock market was approx. 8050 billion PKR which drops to 6733 billion PKR in 2020 first quarter.

According to Jamaludin et al (2017) and Ong & Ng (2018), there is vast literature available which shows the significant role of macroeconomic variables in the performance of stock market. The changing dynamic financial environment demands investors to be more proactive rather than reactive to take necessary actions whenever any change in any factor which can impact their stock investment is expected.

These factors can be from external environment or can be from firm internal environment. Amongst many external Variables most important Variables as used by past studies by different researchers are Exchange rate (ER), Consumer Price Index (CPI), Interest rate (IR), Money Supply (MS), and Exports (EXP). Jareno & Negrut (2016) studied the impact of Gross Domestic Product (GDP), CPI, Industrial Production index (IPI), Interest Rate (IR), Unemployment rate (UR) on Stock Market. Results conclude that all these variables show statistically significant relationship which confirms that these macro-economic variables are important in determining stock market performance.

Rationale of Study:

In past numerous studies have been performed on PSX, but those studies were performed with their limited applicability and limited scope was covered whereas current study has not only wider applicability but also wider scope is covered in it, as it will cover whole PSX both sector wise and firm wise and also it will show the superiority of current approach by consider all sectors and all firms for exploring the impact of MEV on stock movement.

Problem Area

Although it is proven by past studies that Macro Economic Variables (MEV) has significant impact on performance of stock market, but at the same time it is also proven that these variables have shown different impact in different countries, in some countries these shown positive significant impact and in some countries these shown negative significant impact and in many cases these were proved to be insignificant. While studying their impact on stock performance in developing economies like Pakistan, Bangladesh, India etc it was found that the results of these variables were

quite resembled which endorse one thing that the behavior of these variables in developing economies are too much extent alike, but at the same time it was identified that in almost all cases to the best of researcher's knowledge the studies performed in Past was either on Stock Market Index (SMI) or on some specific sectors.

The problem or the deficiencies with these studies were while taking SMI as a proxy of overall stock market performance if results generalized then we cannot be rationally justifying this because if we take an example of Pakistan, we have KSE-30 Index, KSE-100 Index and KSE all index. KSE-30 or KSE-100 index only shows top 30 and top 100 firms so these top most firms have no comparison with small firms, likewise KSE-all index although includes all firms but it shows only cumulative response of whole stock market for the change in MEV and not the individual sector and firms from within that sector.

Research Gap

There exists a potential gap which needs to be addressed by exploring the response of not only all sectors of stock market but at the same time all firms from those sectors too, as just a sector behavior will not be sufficient because investors while developing portfolio make investments in different firms of different sectors and not in all firms of one sector or sectors, as there is a possibility that a sector response may be different from the firms from same sector and then there is also a possibility that the firms within same sector may respond in different ways as compared with other firms of same sector. There is also a misperception that all investors invest in blue chip stocks only, if we look at the overall monthly trading quantum of all firms we will find that significant minor portion is invested in other

than blue chip stocks too, so there is a need to know how overall sector and individual firm behaves within a sector with these changing MEV of economy.

Significance:

The financial structure and economic trends in developing economies are quite identical. This study PSX, stock exchange of a developing economy, and the outcome of this study is not only be applicable only on Pakistan but it can also be utilized by investors, researchers and Policy makers beyond the geographical boundaries of Pakistan especially in all developing countries all over the world, also with detailed results of this study the investors and policy makers now be in a better position to take decisions about portfolios, and policy formulation with known ongoing changes in MEV and expected future changes in MEV.

Objectives of Study

The following are the main and sub objectives of this study:

Main Objectives:

The main objective of this study is to find how MEV which includes, EXP, FDI, IR, IF and FER effects SMP in Pakistan.

Sub Objectives:

To find the impact of selected MEV on overall every Sector of PSX.

- 1- To find the impact of selected MEV on each firm of every sector of PSX
- 2- To confirm the superiority of current approach upon traditional index base approach

Theoretical Frame Work

Efficient Market Hypothesis(EMH). The basic idea underlying this hypothesis developed by Fama (1965,1970) was that asset prices immediately reflect all available information so that extra ordinary gains cannot

be earned regardless of the investment strategies whatsoever utilized. The EMH can be explained using the equation below;

$$\Omega_t^* = \Omega_t$$

left hand side represents a set of information relevant to stocks and right hand side is the set of information used to price assets and at time "t". The equivalence of these two sides implies that markets are efficient and the EMH is true. The implications of EMH are very much broad and are multidirectional. From the point of view of investor participants of stock market should not be able to generate an abnormal profit regardless of the information they may possess, on the other hand from point of view of economic an efficient SM will assist with the best allocation of available economic resources.

Arbitrage Pricing Theory (APT): According to Harcourt & Ejikeme (2017) one way of linking macroeconomic variables with stock market is with the aid of Arbitrage Pricing theory (Ross, 1976) which suggests that there exists a link between macro-economic variables and stock market performance which is reflected by market returns. The theoretical frame work of this study is based upon APT as used by Saeed (2012) as a theory of pricing of an asset and states that the return of any asset is a linear combination of non-diversifiable macroeconomic Variables. These Variables are actually the risk Variables and these Variables effects the returns of an asset. As per Kuwornu & Nantwi (2011) arbitrage pricing theory is an alternate that can be use to forecast the stock return. These returns can be anticipated through the linear effect of macro-economic variables upon stock market returns. Guns & Cukor (2007) uses APT model in their study on the returns of London Stock exchange for the

purpose of finding impact of macroeconomic variable on them. Selected macro-economic variables were risk premium (RP), IR, ER, MS, uncertainty in inflation, unforeseen sectoral dividend yield (DY), and a residual error for industry portfolio. They tested the validity of APT model and findings showed return of London stock exchange were dependent upon these macro-economic variables.

As per Amtiran et al (2017) arbitrage pricing theory is an explanation that rate of return is not dependent upon one factor rather it is influenced by many macro-economic Variables. The foundation of arbitrage pricing theory is the price of a security is driven by many macro-economic Variables. Later on researchers (Naik & Padhi, 2012; Attari et al, 2013, Haroon et al, 2013) proves many Variables in different economies which are significant in determining stock market performance. This arbitrage pricing theory can be use not only on single security return but can also be use in an aggregate stock market frame work. Mohammad et al (2012) applied arbitrage pricing theory in determination of stock market performance by taking Bullion price (BP), Gold Reserve (GR), ER, IPI, MS, & CPI", as independent variables and KSE-100 index as dependent variable and results found these variables as significant in determining stock market performance. Buyuksalvarci (2010) conducted his research on Istanbul stock exchange under the framework of Arbitrage pricing theory with "Foreign Exchange reserves (FER), IPI, OP, MS, GP and CPI" as independent macro-economic variables and stock index as

dependent variable. Results shows that "OP & ER" has negative impact on returns and

“MS” has positive impact on return whereas “CPI” does not have significant impact on stock returns. Macro- economic Variables that can potentially effect the returns of an asset have been identified by use of past literature.

Literature Review

James et al (1985) documented a negative relationship between inflation(I) and stock returns. They investigated the relationship among the stock returns, I, real activity and MS changes using a VARMA model. The results strongly support Geske & Rolls reversed causality model. Dutt & Gosh (1995) investigated the validity of fisher hypothesis for Canada by considering both fixed and floating exchange rate regime. By using Johansen-Juselius multivariate co integration methodology testing of weak form was performed while Phillip-Hansen fully modified ordinary least square technique were used for the strong form of hypothesis. The results show fisher hypothesis was soundly rejected. Domian et al. (1996) documented the relationship between “I” changes and stock returns. Their results suggest drop in interest rates were followed by twelve months of excess stock returns and while increase in interest rates have little effect.

Crowder (1997) studied the existing fisher equation research by extending it to the time series on Canadian inflation and nominal interest rate to test the validity of fisher hypothesis and related hypothesis. The evidence suggests a significant long run equilibrium between inflation and nominal interest rate in Canada but that relationship was not completely stable over the last three decades. Campbell& Shiller (1998) discussed for aggregate United States stock market data

for the period of 1871-1986.a long historical average of real earnings is a good predictor of the present value of future real dividends. This is true even when the information contained in stock prices taken in to account. Crowder& Wohar (1999) studied the impact of tax effects in the long run fisher relationship. The fisher effect fails to answer the question under consideration with most probable reasons of fiscal illusion, Tobin effect, different estimators and peso problems. Further results show the fisher effect estimates are always larger for taxable bond as compared with tax exempt bond suggesting that fiscal illusions and different estimators cannot account for the previous results. Nasseh et al (2000) supports the existence of significant long run relationship between international and domestic economic activity in six countries with share prices. Results shows the stock price level are significantly related to business surveys of manufacturing orders, industrial production, foreign stock prices and short and long term “IR”. Further variance decomposition method supports the strong explanatory powers of macroeconomic variables in stock prices forecast. Boyd et al (2001) studied the impact of inflation(IF) on financial sector performance. They discuss that growing literature describes mechanisms whereby even predictable increases in the rate of inflation interfere with the ability of financial sector to allocate resources effectively. The evidence indicates that there is a significant and economically important negative relationship between inflation and both equity market activity and banking sector development. Campbell& Vuolteenaho (2004) decomposes the S & P 500 dividend yields in to three components, first a rational forecast of long run real dividend growth, secondly the subjectively risk premium

and third residual mispricing attributed to the market forecast of dividend growth deviating from the rational forecast. Further consistent with the Modigliani-Cohn hypothesis they find that the level of "IF" explains approx. 80% of the time series variation in stock market mispricing.

Rapach et al (2005) examines the predictability of stock returns using macro-economic variables by taking 12 industrialized countries sample. Out of all macroeconomic variables "IR" were most consistent and reliable predictor of stock return across countries. Hondroyannis & Papapetrou (2006) studied the dynamic relationship between real stock returns and expected and unexpected inflation with the aid of Markov switching vector autoregressive model. This model has the advantage that it is able to capture the dependence structure of the series in terms of both mean and variance. With the aid of univariate and multivariate innovation decomposition were employed to separate inflation into two components i.e. expected and unexpected. Empirical evidence suggests that real stock returns are not related to expected and unexpected inflation and this results is independent of the method used to separate inflation into two components, results suggests that the stock market movements are regime dependent implying that the stock market performance is not predictable. Giorgio & Nistic (2007) studied monetary policy with respect to two country model where agents can invest their wealth in both bonds market and stock market. They showed that in order to attain price stability the central bank in both home and foreign country should grant a dedicated response to movements in stock prices driven by related productivity shocks. Hasan (2008) provided details in their study

about long run reliable relationship between share prices, price levels, and "IR" which could be interpreted as the long run determinants of stock returns. The findings also suggest a bidirectional relationship between stock returns and "IF".

Humpe et al (2009) examined the influence of macroeconomic variables on stock prices in United states and Japan. For modeling long term relationship between macro-economic variables and dependent variable co-integration analysis was applied. Results revealed for United States data was consistent with a single co-integration vector where Stock prices were positively related to both long term "IR" and "CPI" but "MS" was found insignificant. For Japan results revealed two co integrating vectors, out of which "IPI" has positive significant impact and "MS" has negative impact on share prices. In a study by

Hussainey & Ngoc (2009) it was shown that the price levels in the Vietnamese Stock market moves in the same direction in which "IPI" but the impact of short and long term "IR" has inverse impact on share prices. Diaz & Jareno (2009) studied the impact of inflationary news on daily stock prices. They studied positive and significant response of the stock return in case of negative news i.e. total "IF" higher than expected one and in recession and in case of negative "IF" surprises in non-economic recession. This behavior is consistent with the evolution of company dividend growth expectations and they further observed that the relationship between this theoretical component of the stock price and the expected "IF" to a larger extent seems to explain the observed behavior.

Rafay et al (2014) found causal relationship between Karachi stock exchange 100 index and "IR, CPI, ER, imports(IM) and export(EXP).

The results were found by using regression analysis and granger causality test which shows no causal relationship exists between "CPI,EXP" and kse-100 index, whereas a bi-directional relationship exists between kse-100 index and "IR". Ouma & Muriu (2014) investigated the impact of different macro-economic variables namely "MS,ER,IR,IR,CPI" on "stock return in the context of Kenya for the period of 2003-2013 and study revealed that "CPI & MS" has positive significant impact, "ER" has negative significant impact and "IR" has no impact upon stock market performance. The results were different from some of the past studies due to the difference of methodology employed by the researchers. Ciftar (2015) in his studied about stock returns and "IF" with respect to developing countries i.e. Mexico and south Africa using Markov-switching dynamic regression approach, this approach allows multiple structural breaks in the estimation and with its aid one can check regression co-efficient separately in recession and expansion periods. Variables used were real stock returns, expected and un-expected inflation and real GDP growth in estimation and the arima model was used for un-expected inflation. Results show the relationship between real stock returns and "IF" was negative only in recession period. Their findings suggest that the negative relationship puzzle in the empirical finance literature can be explained with the regime dependency effect. Berkiros & Uddin (2016) explored the impact of uncertainty on financial markets in the aftermath of financial crisis. In particular, they investigated the temporal dynamics of the dependence structure of stock, currency and oil markets in the US using nonparametric copula approach. Results evidenced an extreme trail

asymmetric interrelationship between the economic uncertainty and crude oil market. Ramli et al (2017) investigated determinants of stock return for five countries i.e. Brazil, Russia, China, India and south Africa. Purpose of the research was to establish relationship between macro-economic variables and stock market return which can be used to make nation's macro-economic policies. Results suggests "MS, ER, IR& TO" leads a strong relationship towards stock market return. They used earning per share(EPS), dividend per share(DPS), dividend yield(DY), book value of share(BVS), return on equity(ROE), leverage of firm(DE) and size of market capitalization (MC) as independent variable and stock prices as dependent variable. This study found that accounting information has relevance in explaining cause of stock price movement. Gautam (2017) in his study on firms listed at Nepal stock exchange examined firm's specific variables consisted of "PE, DE, MC, DY, growth of assets(ROA) and book to market value of assets (BMV) on stock price volatility and stock return. The results of this study shows a positive relationship between "MC, DE, DP, DY" with stock returns. It also reflects that if "DE, DY, DPO & MC" will be higher, then higher would be the stock returns. Likewise, it was also shown in this study that there exists a negative relationship between "PE, GOA& BMV" with stock returns. Avdalovic& Milenkovic (2017) investigated the impact of firm specific internal Variables on stock prices for the firms listed at Belgrade stock exchange." ROE, ROA, EPSPE, PBV, DE& company size(CS) was taken as independent variables and stock price of companies that compose belexline index. The results indicate that "ROA, CS, EPS, DE, PBV" provides a contribution as a significant

predictor of stock price. Song & Park (2019) analyzes the features of penny stocks and the benefits of including them in funds' portfolios. They showed that the penny stocks provide abnormal returns that were not explained by traditional factor models, the liquidity factors appear to account for the excess performance. They also found that the penny stocks can

serve as a powerful investment vehicle for expanding the efficient frontier of the conventional investment set and that by including them in fund portfolios improves a fund performance, and in last they found that penny stocks held more by funds provides excess returns even for a five factor model that includes a liquidity factor.

Variables

Tab.1

INDEPENDENT VARIABLES	MEASUREMENT	DEPENDENT VARIABLE
Inflation	Consumer Price Index	Month End Stock Prices
Interest Rate	Kibor	
Exports	Actual Exports	
Foreign Direct Investment	Actual foreign direct Investment	
Foreign exchange reserve	Actual Foreign exchange reserve	

Data & Model

Secondary data for both Independent and dependent variables were used for this research. For dependent variable month end stock prices were used for every firm for the last 15 years starting from 2005 to first quarter 2020. For independent variables the data was taken from the website of state bank of Pakistan. This data was transformed in to Panel form for every sector individually. For this study the Panel ARDL Model with co integration as suggested by Pesaran et al. (1999) was used. As this study is based upon both sector wise and firm wise explanation for that matter two different ARDL models were used, one for overall sector and other for each individual firm of same sector.

For Overall Sector:

$$\Delta SMR_{it} = \alpha_i + \alpha_1 \Delta EXP_{it} + \alpha_2 \Delta FDI_{it} + \alpha_3 \Delta FOREX_{it} + \alpha_4 \Delta IF_{it} + \alpha_5 \Delta IR_{it} + \gamma_i (SMR_{it-j} + \beta_1 EXP_{it-j} + \beta_2 FDI_{it-j} + \beta_3 FOREX_{it-j} + \beta_4 IF_{it-j} + \beta_5 IR_{it-j}) + \mu$$

For Individual Firm:

$$\Delta IDFP_{it} = \alpha_i + \alpha_1 \Delta EXP_{it} + \alpha_2 \Delta FDI_{it} + \alpha_3 \Delta$$

$$FOREX_{it} + \alpha_4 \Delta IF_{it} + \alpha_5 \Delta IR_{it} + \gamma_i (IDFP_{it-j} + \beta_1 EXP_{it-j} + \beta_2 FDI_{it-j} + \beta_3 FOREX_{it-j} + \beta_4 IF_{it-j} + \beta_5 IR_{it-j}) + \mu$$

Whereas $IDFP_1, \dots, IDFP_n$ and it shows individual firm of sector.

Results & Discussions

There are thirty-five sectors in Pakistan Stock Exchange. In these thirty-five sectors 541 firms are listed. Out of whole Population of 541 firm, 502 firms were selected. 39 firms were not selected as these firms does not fulfill minimum criteria of time span selected. Panel ARDL model was used to test the impact of independent variables on dependent variable. This relationship is tested for both short run and long run and for Overall sector wise and then within every sector for individual firm.

Sector Wise Results

Overall significant

Out of 35 Sectors FER was significant for 31 sectors in short run and 29 sectors in long run. IR was significant for 32 sectors in short run and 32 sectors in long run. IF was significant for 30

sectors in short run and 33 sectors in long run. EXP was significant for 33 sectors in short run and 31 sectors in long run. FDI was significant for 33 sectors in short run and 32

sectors in long run. The below mentioned table subdivided the results into short run and long significant for overall 35 sectors.

Tab.2

	Short Run	Long Run
FER	31	29
IR	32	32
IF	30	33
EXP	33	31
FDI	33	32

Short Run

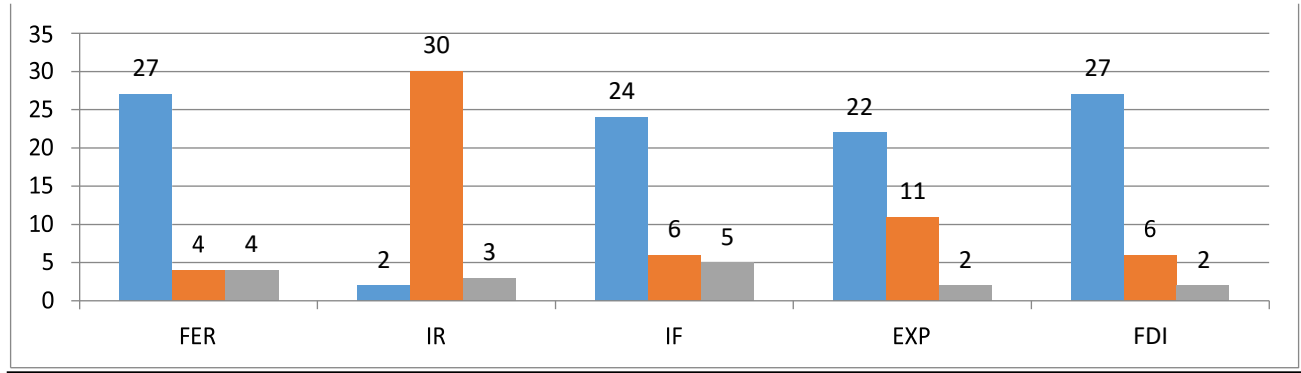
In short run (tab-3 & Graph-1) out of 35 sector FER was Positively significant for 27 sectors, negatively significant for 4 sectors and insignificant for 4 sectors. IR was Positively significant for 2 sectors, negatively significant for 30 sectors and insignificant for 3 sectors. IF was Positively significant for 24

sectors, negatively significant for 6 sectors and insignificant for 5 sectors. EXP was Positively significant for 22 sectors, negatively significant for 11 sectors and insignificant for 2 sectors. FDI was Positive significant for 27 sectors, negatively significant for 6 sectors and insignificant for 2 sectors.

Tab.3

	Positive Significant	Negative Significant	Insignificant	Total Sectors
FER	27	4	4	35
IR	2	30	3	35
IF	24	6	5	35
EXP	22	11	2	35
FDI	27	6	2	35

Grap.1



Long Run

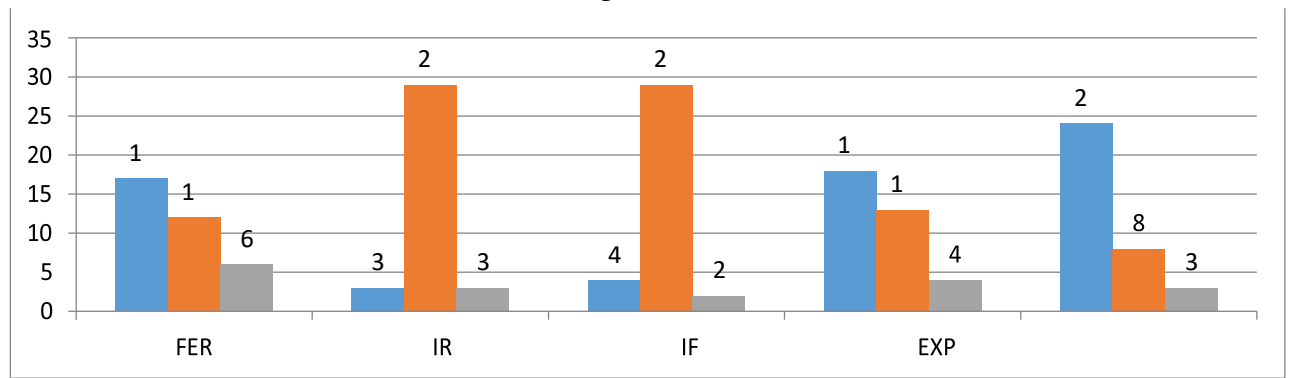
In Long run (tab-4 & Graph-2) out of 35 sector FER was Positively significant for 17 sectors, negatively significant for 12 sectors and insignificant for 6 sectors. IR was Positively significant for 3 sectors, negatively significant for 29 sectors and insignificant for 3 sectors. IF was Positively significant for 4 sectors, negatively significant for 29 sectors and insignificant for 2 sectors. EXP was Positively significant for 18 sectors, negatively significant for 13 sectors and insignificant for 4 sectors. FDI was Positively significant for 24 sectors, negatively significant for 8 sectors and insignificant for 3 sectors.

3 sectors. IF was Positively significant for 4 sectors, negative significant for 29 sectors and insignificant for 2 sectors. EXP was Positively significant for 18 sectors, negatively significant for 13 sectors and insignificant for 4 sectors. FDI was Positively significant for 24 sectors, negatively significant for 8 sectors and insignificant for 3 sectors.

Tab.4

	Positive Significant	Negative Significant	Insignificant	Total Sectors
FER	17	12	6	35
IR	3	29	3	35
IF	4	29	2	35
EXP	18	13	4	35
FDI	24	8	3	35

Grap.2



35 sectors there exists co-integration in 32 sectors amongst variables.

Tab.5

Overall Sector	Long Run
Significant	32
In-significant	3

Firm Wise Results

Overall Significant:

Out of 512 firms (tab.6) FER was significant for 309 firms in short run and 350 firms for long

run. IR was significant for 322 firms in short run and 444 firms for long run. IF was significant for 293 firms in short run and 372 firms for long run. EXP was significant for 258 firms in short run and 360 firms for long run. FDI was significant for 199 firms in short run and 211 firms for long run.

Tab.6

	Short Run	Long Run
FER	309	350
IR	322	444
IF	293	372
EXP	258	360
FDI	199	211

Short Run

In short run (tab.7 & Graph-3) out of 512 firms FER was Positively significant for 237 firms, negatively significant for 72 firms and insignificant for 203 firms. IR was Positively significant for 285 firms, negative significant for 37 firms and insignificant for 190 firms. IF was Positive significant for 225 firms,

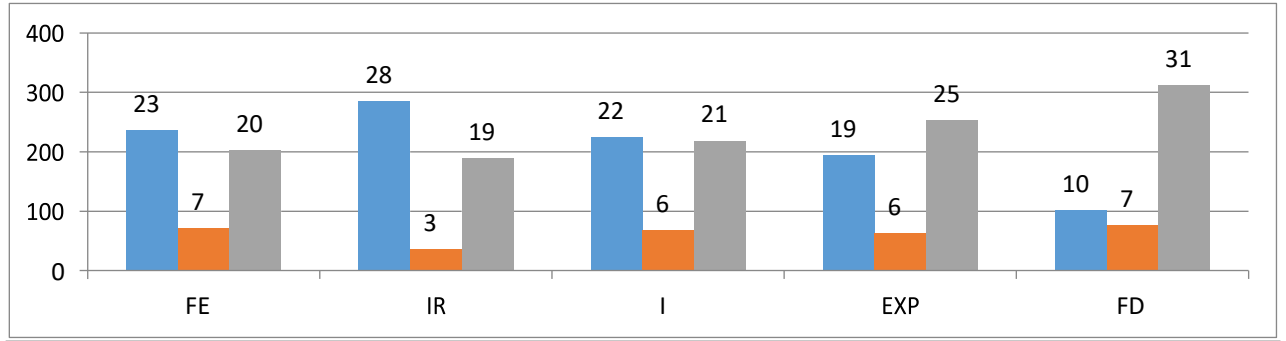
negative significant for 68 firms and insignificant for 219 firms. EXP was Positive significant for 195 firms, negative significant for 63 firms and insignificant for 254 firms. FDI was Positive significant for 102 firms, negative significant for 77 firms and insignificant for 313 firms.

Tab.7

	Positive Significant	Negative Significant	Insignificant	Total
FER	237	72	203	512
IR	285	37	190	512
IF	225	68	219	512
EXP	195	63	254	512

FDI	102	77	313	512
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Grap.3



Long Run

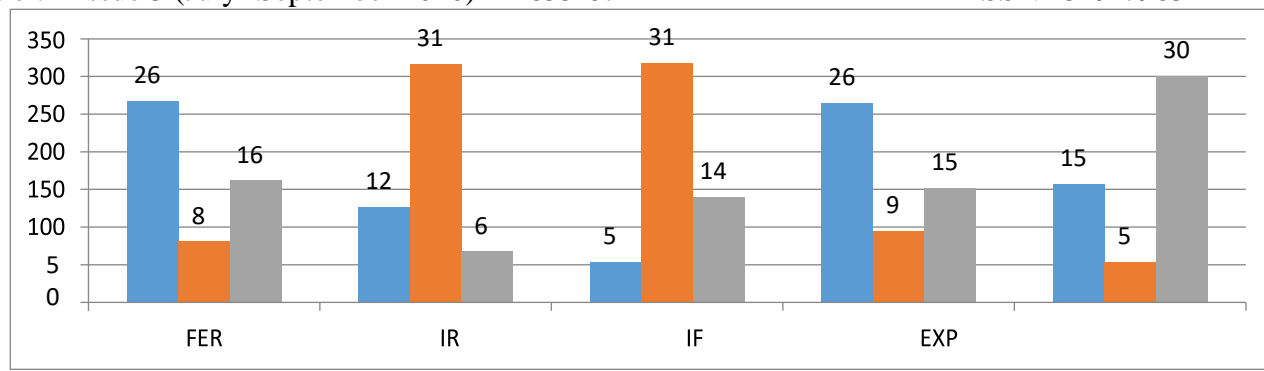
In long run (tab-8 grah-4) out of 512 firms FER was Positively significant for 268 firms, negatively significant for 81 firms and insignificant for 162 firms. IR was Positively significant for 127 firms, negatively significant for 317 firms and insignificant for 68 firms. IF was Positively significant for 54 firms, negatively significant for 318 firms and insignificant for 140 firms. EXP was Positively significant for 265 firms, negatively significant for 95 firms and insignificant for 152 firms. FDI was Positively significant for 157 firms, negatively significant for 54 firms and insignificant for 301 firms

68 firms. IF was Positively significant for 54 firms, negatively significant for 318 firms and insignificant for 140 firms. EXP was Positively significant for 265 firms, negatively significant for 95 firms and insignificant for 152 firms. FDI was Positively significant for 157 firms, negatively significant for 54 firms and insignificant for 301 firms

Tab.8

	Positive Significant	Negative Significant	Insignificant	Total Firms
FER	268	81	162	512
IR	127	317	68	512
IF	54	318	140	512
EXP	265	95	152	512
FDI	157	54	301	512

Grap.4



Co-Integration Results

The results for co-integration shows that out of

512 firms there exists co-integration in 397 firms amongst variables.

Tab.9

For Firms	Long Run
Significant	397
In-significant	115

Discussions:

The study was performed with the objectives to determine how significant is the role of selected MEV in determining the performance of stock market in developing economy to provide guideline by filling the gap in existing literature along with endorsement of current approach upon traditional index base approach. The results indicate that impact of MEV on overall sector was different as compared with the firms from same sectors and even while performing intra firm comparison it was found that many firms showed different response within same sector. This thing endorses the objective of the study that only traditional index base studies are not as good as current study as decision made by monitoring changing trend in index cannot be as good as the decision made by monitoring changes at both macro and micro level. These results are very much helpful for investors. While developing portfolio the first step is the selection of suitable sector which co-integrate with the economic environment variables. The second step is to select firms

from that sector. Once portfolio compiled it is of utmost significance for the portfolio manager to monitor changing economic environment as whenever any change begins in any economic indicator if that change has positive significant impact on the sector considered for portfolio and then on the firms selected from that sector then it is safe to retain investment in that sector and firms but if both moves in opposite direction then it is suggested to shift investment in other sectors or firms. This study provides firm wise information and this information will help investor to possibly protect investments when economic variables tends to move in either direction. Before this study the information available to investor with respect to impact of MEV was for overall sector wise, In case of developing economies if investor considers those studies then the main problem is in majority of cases overall sector impact was different and firm wise impact was different, if overall sector shows negative relation then within same sectors many firm showed positive relation with same MEV and if investor takes decision

based upon sector analysis only it will may give adverse outcome. Once our investor has comprehensive knowledge about every firm and every sector performance in the presence of changing MEV this will help them to design better portfolio.

The policy maker in any country plays vital role in economic development. The MEV used in this study provides baseline support for developing most supportive policies for different economic sectors. It is found in the results of this study that one economic variable has simultaneously positive and negative impact on different sectors. It has not shown identical impact for all sectors. So for those sectors on which it shows negative impact government must take corrective actions by developing supportive policies based upon sector analysis.

In future researchers can use this study to apply the model used in it and the results drawn from the study on other economies with more variables and expanded time frame.

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