Stock Market Development & Economic Growth in Pakistan (The Causal Linkage)

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Abstract
The trend of financial globalization has proved to be an improvement tool of measurement for each nation to restructure the domestic stock market for value exchanges, endorse economic growth by forming a compatibility of domestic exchange with international standards and compare the state of the economy to worldwide nations for how to achieve their financial goals. Same has been observed in this study by focusing on Pakistan stock market development that may provide us Causal linkage towards the economic growth of nation; particularly on KSE performance for Market capitalization, average daily value turnover, turnover ratio and a number of listed companies from the year 2000 to 2014. Literature suggested that KSE is at its highest of performance, leaving giant stock markets of developed nations far behind. Empirical analysis supported the hypothesis that stock market development has significant impact on economic growth as per regression results; whereby the both variables simultaneously affect each other as per correlation results and finally it promotes economic growth at the cost of establishing better or best organizational structure for stock market and strictness of operational policies in our findings to sustain the competency of operations in it for long-run economic outcomes.

Keywords: Market Capitalization (MC), Stock Market (SM), Stock Market Development (SMD), gross domestic product (GDP) and Economic Growth (EG).

Introduction
Stock market (SM) is an entity or a house of spooling the investment (generating and rolling) in the overall operational flow of an economy; thereby to purchase an asset for an amount, with the hope that it will generate return or income or appreciate in coming time (Reilly & Brown, 2011). The multidimensional consideration and assessment of financial management have remained almost inappropriate investment decision in stocks of the industry for better outcomes from its peers (Kharlamova, 2014). Knowing about what to invest, when to invest, how much to invest and where to invest is not a surprising question to the ends of financing authorities and investors but the ultimate purpose is to retain the development of market capitalization, whereby proper identification of good opportunities, searching for the better options and finally investing in the best one is the real cause of the development cost of an SM.

Economic growth (EG) is a factor to which we begin to measure the changed economic level or status in figures and numeric of economic values (primarily in base sectors like agriculture, manufacturing, commodity and services sector). It is a key numerical aspect of EG that is used to compare self-state of nation’s improvement to international economic standards and economies as well in its policy performance. This intern counts a good measure to place a normative foundation in pertaining to attract foreign direct investment and resident willing investors to
attain implicit move in development line. It tends to get better when EG figure is raised and tends to worsen when EG figures go down (Asheim, 2011). Thus the need is to measure aggregate accounting numerical for two variables that let us enable to obtain good relational aspect for understanding and optimizing the productive national outcomes in academic research.

The trend of financial globalization has proved itself to be an improvement tool of measurement for each of nation to restructure the domestic stock market for value exchange and endorse economic growth by making a compatibility of domestic exchange with international standards and compare the state of the economy to worldwide nations for how to achieve their financial goals. Referring to planning and implementing of continuously performing plans for economic growth in region, Pakistan has also been centric to much of economic, political and structural reforms and at all the investment circle maximization remained a key aspect of SMD in Pakistan from the year of 2000 to 2014; whereby the SM is highly encouraged for its highly agile characteristics to recent financial trades in attracting several domestic and foreign investors to bring their capital in the economy for fulfilling the financial needs of the country.

Pakistan SM was founded on August 14, 1947; whereby initially 68 years ago Karachi stock exchange (KSE) on the date of 18 September 1947 started its operations with a listing of just five companies having an accumulated paid-up capital of Rs. 37 million; and later Lahore stock exchange (LSE) in 1970 and Islamabad stock exchange (ISE) was put into existence for financial excellence in capital cities of the country to promote the business investments living at discrete locations in the nation. The biggest, most contributing and liquid SM in Pakistan is KSE that holds the Market capitalization of Rs. 7.33 trillion (US$72 billion approximately) on July 10, 2015; holding the ranks of 1st Best Performing SM of the world in 2002, 3rd in 2014, and listed in 10 best ones in 2015 by Bloomberg. It is one of oldest and largest stock exchange as per its market capitalization figures in South Asia and taken as a sample in this research.

KSE performance indicators have provided us following graphs for a time series of 15 years taken in the sample for SMD in Pakistan. Whereby on Y-axis (vertically) each of graph headings is cited in numbers (PKR. billions) and on X-axis (horizontally) years are shown. Graph-01 shows trend line based on accumulated figures (Appendix-01) which suggest that the overall financial operational excellence in KSE for boosting MC in specified time period is quite improved and aspiring as per the tolerance level and comparison to political instability and terrorism activities but showing a fact of declining for MC from 2007 to 2009 as per the government shift from autocratic leadership to democratic leadership and that prevailed severely for around continuous 3 years but it is quite minor and can be avoided; While Graph-02 holds number profile of listed companies on KSE for sample timeline showing continuous decline but with fact of maintaining the level of MC and fulfilling the financial and operational needs of economy.

Graph-03 displays a fluctuated line for just 3 years (as the values are not average) and later an hand information of average daily value traded on KSE is found to be stable at its good from 2002 till 2014; doing the same Graph-04 displays fluctuation for beginning 3 years of sample taken and the rest is completely in stationary form (refer Appendix-01 for clear understanding of facts and figures).
The implication relies on a sense that the conditional fluctuations are quite high tied to investment activities is KSE to flow upwards for short and downwards for long that highly affects the SM performance in Pakistan. But whatsoever the conditions have remained in 15 years, KSE has proved itself as its highest for its performance dimensions maintaining the stable turnover ratio from 2002 till now.

Iyke & Odhiambo (2015) worked on MC & ToR as independent and EG as dependent in Ghana; Switzer & Picard (2015) conducted research on SM liquidity and business cycles; Mahmood, Irfan, Iqbal, Kamran, & Ijaz (2014) worked on political events as independent and SMD as independent variable in Pakistan; Alam (2013) on terrorism in Pakistan and its impact on SMD; Shabbaz, Lean, & Kalim (2013) put forward on foreign direct investment (FDI) as independent and EG as dependent variable; Asongu (2012) highlighted some SM measures like MC, Value traded, turnover, and number of listed companies in some African countries; Nazir, Nawaz, & Gilani (2010) contributed on MC as independent and EG as dependent variable in Pakistan; Yartey (2008) had worked on determinants of SMD in emerging economies like income level, gross domestic investment (GDP), banking sector development and SM liquidity.

It is found from above researchers that researches had been conducted on SMD and EG in Pakistan but to the fact of our knowledge no work is put into action on the variables like turnover ratio, average daily value traded and a number of listed companies; that is why we initiate to this study. That would assist in finding the relationship of above stock-exchange related variables as independent & Gross domestic product (GDP) as dependent variables that lead towards EG particularly in the geography of Pakistan utilizing timeline of 2000-2014. Asongu (2012) is viewed as a base article, who worked in some African countries; we would measure implications of same variables in Pakistan that is yet not done.

Consideration towards unique variables in multiple studies provide us with rich orientation for differentiation in outcomes and their implications; based on the fact of least research found in geographic horizons of Pakistan for the inclined variables of SMD; and the integrating viewpoint of following researchers had let us be centric to focus on SMD related variables to enhance the research studies for forthcoming implications of growth.

Niblock, Heng, & Sloan (2014) inform that stock exchange operational efficiency determines the key optimistic and pessimistic associations towards the development of market initiatives of the investors. Moreover, it is a primary controlling apparatus for the improvement of economic observation and definition of multiple tasks for policy making and implementation; depending on
savvy political and market setting of the nation. Lee & Chou (2012) designate that SMD is an inducement for the economy that is highly integrated with economic progress and tends to be contributed by the increase in financial trading at a stock exchange; minimizing the mediating role of market instability over SM performance for economic progress. Andrianaivo & Yartey (2010) enforce that development of SM is an accumulation of appreciation in the value of liquidity of stock-market, national savings, sector progress and political-risk; which tends to improve the well-being of financial public organizations that surely contributes to economic development.

Hsieh & Nieh (2010) obtain that the progress of eleven different Asian economies has a significant concern to raise the equity market evolution. SM determinants like market setting and proper government-legal enforcement in products and services establish an efficient market system that infers to repay in the operational excellence of economy compatible with international standards. Yao & Luo (2009) derive an evidence from china and puts forward that SM is an intrinsic attribute of a nation that refers to economic psychology of investors for which a pattern of behavior is generated to define the time-based planning for economic progression and tends to response sharply towards variation of stock prices that contributes to economic boost-up and break-down. Frost, Gordon, & Hayes (2006) highlight the evidence based on the progress of fifty members taken as a sample from world-federation exchanges, that SM policy that is tied to the progress of applicable explanatory macroeconomic variables are highly related to incurring the sustainability of GDP.

**Literature Review**

Badr (2015) investigated the impact of SMD in boosting EG in developing countries. For this purpose data was collected from the time period of 2002 to 2013 by conducting the dickey fuller test & Johansson co-integration analysis; that indicates that not only the SMD but foreign direct investment has also a causal relationship in reshaping the EG.

Iyke & Odhiambo (2015) enquired the influence of SM performance in spurring EG; conducted the empirical evidence from Ghana over the period of 1991 to 2012. They used the ARDL procedure for testing the co-integration and causality. They found a causal flow both in the long run and short run from EG to market capitalization ratio and turnover ratio but for the value of shares traded ratio in the short run only.

Albu, Lupu, & Călin (2015) primarily focused on Eastern Europe SM to find out the relation in between financial asset instability and return in order to find out the differences for factors preserving in dynamics of developed nations suggested that SM performance variation is an outcome of national financial derivates function that is enclosed by risk factor towards the investment houses. Moreover, the contemporary financial practices in different nations in sample heavily focus on utility concepts of investment that may create low variation in returns and that is the reason there is changing relation for proposed variables.

Switzer & Picard (2015) investigated the relationship between SM liquidity and economic cycles. Their study aims that liquidity of an SM is a state whereby its efficiency of selling and purchasing has its root embossed in increasing the worth of stock so as to encounter with the fluctuation of stock price and change signals. The size of SM and economy implies to a significant relation corresponding to a condition that an order growth of the macroeconomic variables in a series may provide a basis for EG in the economic cycle. Stock prices, return on stock and trading volume (with market premium, credit spread, market volatility and T-Bill rate)
of stock for 65 years with high variance of 10 recession cycles is cited to prove empirically; concluding a weak relation in between liquidity of an SM in the determination of economic cycles for future perspectives.

Rizvi & Arshad (2014) began to look into Asian-East nations having higher capital inflows in order to derive a good suggestion for the else ones; focusing on the changing business phases and cycles of those nations it is found that overall efficiency of these nations in response to competing for growing nations is higher that triggers the SM performance in continuous improvement for the investors as per their business openness and investor-favoring policy. Thus, this is entailed to other nations to improve their policy standpoint for SMD to achieve EG.

Mahmood, Irfan, Iqbal, Kamran, & Ijaz (2014) explored the impact of political events on SM in Pakistan. The study examines the inherent relation in between political stability and SM KSE-100 index returns. The critical technique of event analysis and interpretation, highlighted from different studies in perspectives of the economics of Pakistan for sixteen years (1998-2013) concluded that going closer to an event happening, before or afterward a series of non-standardized returns are seen; thereby providing participative and non-participative investors for incorporating ongoing situation in their strategic planning section. Holding limitations of geographic line they highlighted to propose a significant bonding of political events towards KSE SM returns.

Shahbaz, Lean, & Kalim (2013) investigated role of FDI (foreign direct investment) on SMD in Pakistan, carrying data of around 22 years (1988-2009) found the appreciative role of FDI in Pakistan SMD, in consideration to continuously changing situation of politics, exchange rate, inflation and domestic savings as well, with help of OLS (Ordinary Least Square) multiple regression. It holds true in study that a sound financial system of literally organized and well managed SM provides a good financial health to economy in forming in-house and foreign attention for a long-term investment decision; same has been found in Karachi Stock Exchange (KSE) performance as it accounts for around 85% turnover of country’s SM rather than Lahore Stock Exchange (LSE) or Islamabad Stock Exchange (ISE). FDI is also a vigorous determinant of investment inflows subject to the condition of macroeconomic stability. Implications of research literature were compatible in favoring study dynamics and outcomes; thus a positive and significant influence of FDI was seen for the progress of Pakistan SM.

Alam (2013) analyzed the impact of terrorism on SMD; proposing that economic health of the nation depends on several discrete factors, for which it is measured in costs and benefits of development. Terrorism is one of pride-reducing (disrespect) factors to intentional and present investors for geographic horizons where it preserves. It is computed that the consequences of terrorist activities on financial modeling of an economy highly effects on its SM working efficiency. Terrorism does not show a substantial influence to SM exchanges for short timeline but it do hold for instituting a negative idea of investors to enter into that SM or survive there at the cost of continuous adjustment and loss; while the study limits the impact of same for other control economic variables like FDI, GDP growth, inflation else.

Asongu (2012) analyzed the government quality determinants like control on corruption, political stability, government effectiveness, rules & regulations, law & order and accountability in some African countries to SM performance dynamics of capitalization, value traded, turnover ratio & a number of listed companies. Results indicated a significant positive relationship between two proposed variables and suggested that developed government institutions give a
positive impact on SM performance with higher market capitalization, turnover ratio, the value of shares and increased number of listed companies.

Nazir, Nawaz, & Gilani (2010) explored the relationship between EG and SMD covering 23 years (1986-2008) data for SM performance and EG indicators in Pakistan. The force and interference of Industrial institutions, Government policy makers and even Central bank to the SM ongoing and future performance proves itself to be an eagle eye for economic betterment; same can be seen by the performance of good KSE indexing around Asian globe of SM. Despite having huge in-house and worldwide economic shocks, KSE maintained its state to be a backbone of EG thereby increasing number or mass of stock trading (or its value) in this timeline; empirically worth are the figures for GDP growth, Per capita income, FDI and other economic variables observed by regression and descriptive statistics for data. Moreover increasing the volume of stock trading in addition to enlarging the market capitalization would ultimately boost the nation towards EG.

Pilinkus & Boguslauskas (2009) analyzed the short-run relationship between SM prices and other macroeconomic variables in Lithuania. The timeline impulses of national issues are changing by the change in certain restricted economic variables; the study is widened in the scope of literature as it primarily brings around discrete macroeconomic variables based on different methodologies and timelines considered in a sample by different writers. Found in literature facts and proved by this study are some conspicuous relations for Money supply and GDP that has a positive influence towards SM prices determination; while rest of factors like (industrial production, interest rates, inflation, unemployment rate and exchange-rate fluctuations) are likely to behave in a negative relation towards SM prices determination in context of EG.

Chowdhury & Mavrotas (2006) examined the relationship between FDI and EG over the period of 1969 to 2000. The two-way growth inclination of an economy depends on how much FDI it obtains in fulfilling the right growth basic numerical for the economy; FDI as if seen by countryside holds a positive relation in EG and by firm-side, it holds a negative relation to the growth of the firm. FDI is a key determinant in adjusting the multi-dimensional financial shocks of market instability and strategic (considering at large) governance. The research builds a good relation for just specific three countries but fails to generalize the outcomes of gross FDI relation towards GDP growth for other nations as the authors are of the view that the outcomes have shown that they are being tied to certain economic conditions, policies and growth trends at all.

Nishat & Shaheen (2004) analyzed the relationship between macroeconomic factors and KSE index. The research notices a significant inverse relationship for KSE (Karachi-SM) index and the CPI (consumer price index) and an obvious affirmative relation exists in amid of the IPI (industrial-production index) and the KSE index in the timeline of 1973 onwards to 2004. It is completely based on long-run aspects and highlights of the economic and financial market curve booms and shocks proving in the results of a causal connection in between Economy and SM. Recorded values of variables like nominal stock index, inflation, industrial output and money with interest rate of Pakistan horizons have been taken in consideration in literature citation together with globalized variables of technological innovation, entrepreneurship, per capita output and cash flows in the development of the financial market.

Caporale, Howells, & Soliman (2004) examined the causal connection in SMD and EG; involving the concepts of financial openness, inference, savings and investment arguing about EG. Keeping an eye on seven developing economies taken in sample authors found that well-
performing SM can lead itself to a good predictor in fostering the EG in long-run aspects, as it accumulates to financing development for different sectors while improving their state of liquidity and investment in resource mobilization for the public. The research is a step ahead towards answering the following questions:

Do the stock market development and economic growth simultaneously affect each other?

Does the stock market development promote the economic growth?

1.3 Research Hypothesis

Stock market development has a significant impact on the economic growth.

2. Research Variables Description & Justification

2.1 Gross Domestic Product: It is the total value of the particular services provided and the goods produced in an economy within a fiscal year (Asongu, 2012). GDP is taken as a dependent variable in this research to have a measure for EG. As GDP refers to income accumulation of a nation that explains for the earning per resident of that country it would have a significant influence in determining the EG figures (Khorshidi, Rafiei, & Hoseini, 2010).

2.2 Market Capitalization: It is the total market value of the shares outstanding of the publically traded company. It is derived by multiplying the outstanding shares of a company by the current market price of one share. The measure of market capitalization will be the total outstanding shares and their market value; and is applicable by its dominance of financial formulation in promoting the EG (Shahbaz, Lean, & Kalim, 2013) & (Iyke & Odhiambo, 2015).

2.3 Average Daily Value Traded: The value is accumulated as dividing the total number of shares by the total operating days at stock exchange and provides the figures for average of daily value (in PKR. Billions) traded for the number of shares on stock exchange for the whole year that would help in predicting the of working around capital in GDP (Iyke & Odhiambo, 2015).

Table-01

<table>
<thead>
<tr>
<th>Variables</th>
<th>How to calculate</th>
<th>Who has measured in same way?</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP*</td>
<td>The value of all services &amp; good produced within a country in a particular time period</td>
<td>(Asongu, 2012)</td>
</tr>
<tr>
<td>Market Capitalization**</td>
<td>Value of listed shares</td>
<td>(Shahbaz, Lean, &amp; Kalim, 2013)</td>
</tr>
<tr>
<td>Average Daily Value Traded**</td>
<td>Total value of shares traded in a year/Number of operational days</td>
<td>(Khorshidi, Rafiei, &amp; Hoseini, 2010)</td>
</tr>
<tr>
<td>Turnover Ratio**</td>
<td>Value of total shares traded/MC</td>
<td>(Iyke &amp; Odhiambo, 2015)</td>
</tr>
<tr>
<td>Number of Listed Companies**</td>
<td>Simply taken from stock market</td>
<td>(Khorshidi, Rafiei, &amp; Hoseini, 2010)</td>
</tr>
</tbody>
</table>

* is indicating the dependent variable
** is indicating the independent variable

2.4 Number of Listed Companies**: Simply taken from stock market (Khorshidi, Rafiei, & Hoseini, 2010)
2.4 Turnover ratio: This ratio is calculated by dividing the value of total shares traded by the market capitalization; It provides the value that is traded in SM liquidity and can a good predictor of SMD towards formalization of EG (Iyke & Odhiambo, 2015) & (Khorshidi, Rafiei, & Hoseini, 2010).

2.5 Number of listed companies: This refers to the number of listed companies in KSE that tends to provide us with the strength and breadth of stock participants in determining the liquidity position of SM in the prediction of EG (Khorshidi, Rafiei, & Hoseini, 2010).

2.6 Research Model

![Research Model Diagram]

Stock Market Development
- Market Capitalization
- Average Daily Value Traded
- Turnover ratio
- Number of listed companies

Gross Domestic Product

Independent Variable(s)

Research Methodology

Data collection
Data has been collected from State bank of Pakistan (SBP), Ministry of finance, Karachi Stock Exchange (KSE) and World bank official website. The study will be limited up to only one stock exchange in Pakistan (i.e Karachi). Annual financial data is used to analyze the changes in the GDP because of market capitalization, the average value of shares traded, turnover ratio and the number of listed companies over the time. The study is based on the secondary data to find out the causality between the SMD and EG.

The proxies for the SMD are market capitalization (MC), average daily value traded (ADVT), turnover ratio (TOR) and the number of listed companies (NLC). While the proxy for the EG is GDP.

Statistical Technique
In this research work, the statistical technique regression is used to investigate the relationship between the variables. (Aduda, Masila, & Onsongo, 2012), (Garcia & Liu, 1999), (Khorshidi, Rafiei, & Hoseini, 2010) used the regression analysis in their studies to determine the relationship among the concerned variables.

Regression Analysis
The inclined variables are examined by using model of linear regression to observe association in between dependent and independent variable(s); \( R^2 \) prescribes a good measure to compare and evaluate the regressions in order to explain the relational state of dependent variable (Gujarat, 2004); where GDP stands for explained or dependent variable and some special featured factors of SMD have been taken in consideration by classifying the variables of MC, ADVT, TOR and NLC that represents explanatory or independent variables, so that a good stand for measurement
can be predicted in spite of inadequacy presence of data error term. Thus, linear regression model in standard form for this study arises as:

\[
\text{GDP} = \alpha + \text{MC}\beta_1 + \text{ADVT}\beta_2 + \text{TOR}\beta_3 + \text{NLC}\beta_4 + \mu
\]

Where;

- \text{GDP} = \text{Gross domestic product}
- \alpha = \text{The intercept parameter of equation for GDP growth}
- \text{MC}\beta_1 = \text{Coefficient of market capitalization}
- \text{ADVT}\beta_2 = \text{Coefficient of average daily value of shares traded}
- \text{TOR}\beta_3 = \text{Coefficient of turnover ratio}
- \text{NLC}\beta_4 = \text{Coefficient of number of listed companies}
- \mu = \text{Error term or residual of inadequacy}

\(\mu\) represents the random inadequacy as it provides a figure of rest of the term that is not counted in the inclined observation but does hold in predicting the consistent relationship. It is a fact and known that data inadequacy arises for different aspects thereby endorsing that the humans are unable to capture each and every influential factor that counts in economic prediction in the model for the dependent variable.

**Results and Discussion**

**Empirical Analysis**

The sample data as per appendix-01 is analyzed using IBM PASW Statistics 18, whereby the computations through correlations, statistical descriptive and regression are used in a sense to find out the relationship and direction of relationship in between proposed variables. The results are displayed in **table-02**.

The very first approach is finding out the values for Pearson correlation as we wanted to explore the level and strength of the relationship between inclined variables. A complete relation wise value is shown in **table-02** to the audience for identification of values obtained as per the technique used, but it would be taken more here to consider the values which are meaningful to this research model. We find the very first relation of \(\text{MC}\) towards \(\text{GDP}\) that shows a positive value of 87\% (P<0.005), interpreted in a sense that \(\text{MC}\) stands a key predictor to \(\text{GDP}\) composition as per its increase and decrease with high significance level; \(\text{ADVT}\) at second holds a negative relation of around 37\% (P>0.005) to \(\text{GDP}\) with a low significance level; at third \(\text{ToR}\) holds a negative relation of around 36\% (P>0.005) to \(\text{GDP}\) with low significance level; at fourth \(\text{NLC}\) holds a negative relation of 90\% (P<0.005) to \(\text{GDP}\) with the highest significance; interpreted in a sense that two subsequent variables of \(\text{ADVT}\) and \(\text{ToR}\) have differential relationship towards \(\text{GDP}\) formulation and accumulation in statistics for the sample taken in consideration for around 15 years while \(\text{MC}\) and \(\text{NLC}\) has good strength for their relational value to \(\text{GDP}\). Much of the clearance of interpretation lies in observing the level of significance for each relating variable to \(\text{GDP}\) in correlation values.

Descriptive statistics for each of the variable as per their 15 years data is provided to ensure the meaning of sample size that is N=15; its distribution (standard deviation) and average values (mean) for each of the variable. Let us analyze each at its separate in mean (average) and standard deviation (risk associated with it) respectively; \(\text{MC}\) holds good figures of 2645.76 and
1911.76 (PKR. Billions) interpreted in a sense of powerful standpoint for financial portfolio accumulation and correspondence to economic needs of the nation with an enhanced approach of risk associated with it; ADVT holds figures of 177.33 and 494.62; ToR holds figures of 0.477 and 1.45; NLC holds figures of 655 and 60.44; interpreted in a sense of involving the moderate level of mean and risk associated with it; finally the GDP holds significant numbers of 1.14 and 7.21 (PKR. Billions) interpreted in a sense of average GDP figures remained in each year more than PKR. 100 billion and risk associated remained at a level of 7% for its financial accumulation and operations in the economic sector.

Table-02
Correlations, Descriptive Statistics & Model Fitness.

Correlations (Pearson) and Sig. (2-tailed) in Parenthesis

<table>
<thead>
<tr>
<th></th>
<th>GDP (PKR. Billions)</th>
<th>Market Capitalization (PKR. Billions)</th>
<th>Average Daily Value Traded (PKR. Billions)</th>
<th>Turnover Ratio (PKR. Billions)</th>
<th>No. of Listed Companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP (PKR. Billions)</td>
<td>1.000</td>
<td>0.871</td>
<td>-0.370</td>
<td>-0.355</td>
<td>-0.903</td>
</tr>
<tr>
<td>Market Capitalization (PKR. Billions)</td>
<td>(0.000)</td>
<td>1.000</td>
<td>-0.426</td>
<td>-0.419</td>
<td>-0.885</td>
</tr>
<tr>
<td>Average Daily Value Traded (PKR. Billions)</td>
<td>(0.087)</td>
<td>(0.057)</td>
<td>1.000</td>
<td>0.999</td>
<td>0.564</td>
</tr>
<tr>
<td>Turnover Ratio (PKR. Billions)</td>
<td>(0.097)</td>
<td>(0.060)</td>
<td>(0.000)</td>
<td>(0.000)</td>
<td>(0.017)</td>
</tr>
<tr>
<td>No. of Listed Companies</td>
<td>(0.000)</td>
<td>(0.000)</td>
<td>(0.014)</td>
<td>(0.017)</td>
<td>------</td>
</tr>
</tbody>
</table>

Correlation is significant at 0.005.

Descriptive Statistics

<table>
<thead>
<tr>
<th>No of Observations</th>
<th>15</th>
</tr>
</thead>
</table>

Mean

2645.76  177.33  0.47753  655.067  1.14586E+13

Standard Deviation

1911.76  494.62  1.45423  60.4406  7.21475E+12

Model Fitness

<table>
<thead>
<tr>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Significance (ANOVA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.860</td>
<td>0.804</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Standardized Beta Coefficient

|                      | 0.279 | -0.110 | 0.282 | -0.749 |

| Sig. (Beta Coefficient) | (0.355) | (0.976) | (0.938) | (0.056) |

Model fitness obtained in response to applying the linear regression, which is a major concern to this research that either the model is fit or not; calculation for R square provided the figure of around 86%, which is a good and robust fitness of model but we need to concern more on adjusted R-square as our sample size is small and adjusted R-square is a good fit measure for robustness of model with having small data size. The figure for adjusted R-square obtained is around 80%, which is a competitive fitness as compared to R square value and is highly meaningful to provide us that the considered variables in a research study are of keen value and
significance. The significance level as per an analysis of variance reflects the value as Sig.= 0.000; this actually means that p < 0.005. It is interpreted in a sense of meaningful measure for an optimistic estimation of the model (Tabachnick & Fidell, 2007) and linear regression involvement in it towards hypothesis testing and true value consideration for the whole size of working years of KSE in Pakistan for SMD.

Standardised beta coefficient have significant positive value of around 28% (direct relation) for MC to GDP with p>0.05; Negative value of around 11% (indirect relation) of ADVT to GDP with p>0.05; Positive value of around 28% (direct relation) of ToR to GDP with p>0.05; and finally a negative value of around 75% (indirect relation) for NLC to GDP with p.=0.05. It can also be properly interpreted in a sense that beta values are practically used to test the model rather than theoretical testing; the Standardized value of beta indicate standard deviations number of scores for the dependent variable that would change in value if the value of one standard deviation unit is changed in the independent variable. We can analyze and understand comprehension of above values accumulated in this research for proposed variables that provide a unique contribution to GDP formation but with a low beta significance level; the differential effect towards the constant (dependent variable) by predictors (independent variables) might be because of sample competency and negligence of other factors related to SM.

Making a comparative testing of research hypothesis for SMD proxies we can predict out that SMD has a significant impact on formulation and composition of GDP figures that ultimately changes to predict the growth of a nation for its operations.

**Conclusion**

An extensive investigation of KSE working for its operations and SMD proxy’s empirical analysis has confirmed our expectations that the SM of Pakistan is at its highest worth of making the substantial contribution to EG figures (Caporale, Howells, & Soliman, 2004). Recent 15 years are outstanding at analyzing for their figures in Pakistan for SMD; MC has been accumulated in complete improved and enhanced numeric in its aggregate value for the publically participation of the shareholders, can be meaningful in a sense that domestic and foreign investors are completely motivated to provide their capital in stock pool to support the nation to raise its standards as per the growing needs of the worldwide nations to strengthen the living standard of nationwide population. Moreover MC of the firms is what here help the investment houses to settle their self on the risks and returns obtained in geography of Pakistan and choose the best predictor of meeting their level of risk and criteria of diversification; as it is most ambiguous here to invest in the stock pool, but based on the MC composition of a company either domestic or foreign, an investor can better define a decision either to invest or not and that decision will ultimately lead to having impact on EG.

The trend has been continuously changing to ensure the real-time liquidity (Switzer & Picard, 2015) needs of the firms in the stock exchange house, whereby the need is to ascertain the best possible options by the government for privation or nationalization investment in the sector. The values in trading house provide us the significance for multidimensional approach of focusing on different issues; referring correlation table we find that MC and NLC are completely significantly contributing factors to GDP; MC and NLC towards each other have high significant impact with an indirect relation; ADVT is significant to determine the ToR for having correlation value of 99.9%; it can also be helpful in a sense that ADVT on the KSE would have a higher impact on ToR as compared to other factors. It suggests that there holds a causal linkage in the
proxies for SMD and EG. The KSE governing must also be centric to themes of the relation of different factors to each other in order to clarify the best organization of funds resources.

One of the very good facts that we find in the study of KSE performance is the interest of each firm to shift it from debt borrowing to making an equity-based investment by shareholders. The foreign capital is in its robust form with an improved trend of brokerage activities as per the global market's exchange. 24/7 connectivity of KSE has provided the economy to trade more efficiently and effectively. The privatization of different publically owned sectors is supposed to improve their working competency by making alliances with foreign renowned investment firms of china at first and other nations at second. We may also observe the contemporary role of the banking sector for its healthy activities as they are now more centric to provide the portfolio-based services rather than just money-related services.

Focusing on EG context (appendix-01) of Pakistan for timeline of sample to better illustrate growth trend, we find a fact that despite bearing a different effect of discrete political pressures and ruling parties, nation is on roads of growth (Nazir, Nawaz, & Gilani, 2010) but it can be cited that growth is not on long-run basis it is going upward from 2001-2005, then declining and rising from 2010 to 2014 (Graph-05).

It is quite undistributed and can be growth predictor in short-run outcomes but can never be for the long run. The GDP is not a game of just one factor, it is an aggregate outcome of a number of factors and the same can be examined in the growth trend that the growth is an accumulated outcome of performing and non-performing sectors together for a nation. If we analyze the situation considered in this research we do suggest that SMD is a growth predictor keeping the fact in mind that the overstress outcomes of EG is due to other factors, not the SM performance (Khorsheed, Rafiee, & Hoseini, 2010) as it is quite improved, well organized and efficient. Note that a research in evidence of seven countries has found that a well-organized SM can, of course, foster EG in perspectives of long run (Caporale, Howells, & Soliman, 2004) and it is found that KSE is highly organized in its structure; It can also be observed through KSE operational excellence that it has bypassed 2661 stock markets (Kazmi, 2003) worldwide as per its risk factors involvement and continuously ambiguous political situations prevailing in the economy but with a keen sense of providing best outcomes or returns to shareholders. The share capital capacity is quite nice in KSE and capital market holds the interest of improvement each time.

No doubt SM prices in Pakistan are very much supportive in forming the future price perceptions of the stock that might benefit the investors and economic growth (Haque, Liu, & Fakhir-Un-Nisa, 2011). But yet a lot is still needed for the KSE success to provide its responsibility of resources mobilization and an appropriate portion of funds to each of the sector to promote competency and efficiency of that sector; as it is a foundation of capital accumulation that fulfills the economic demands of a sector. The need is to introduce analytics for a number of company listings and boosting their market capitalization so that most liquid type of stocks can be introduced for those firms and sector; that will surely help in preventing the nation of Pakistan from obtaining the debts from foreign houses and adopt their policies.
GDP growth figures in annual % which is highly fluctuated and must be taken into consideration to improve same to achieve long-term growth for the national financial goals. The policy makers at major should be optimistic in improving the economic state the nation towards Islamic welfare state so that the living standards may be raised that will ultimately bring about an increase in investment stock rather than focusing more on defense expenses. And at all implication relies on a sense of providing a lesson to other leadership for improving the economic cost of power shift in future here in Pakistan.

We propose that the hypothesis formed in this study holds true using regression analysis. Based on same it can also be asserted to answer the research questions that stock market development and economic growth simultaneously affect each other as per our correlation results and deep discussion on same and finally stock market development promotes economic growth at the cost of its better or best organizational structure and strictness of operational policies.

**Validation of Results**

The results of this study are consistent with positive outcomes of SM related variables to EG (Niblock, Heng, & Sloan, 2014) & (Lee & Chou, 2012) for positive market capitalization behavior to economic growth (Nazir, Nawaz, & Gilani, 2010) & (Caporale, Howells, & Soliman, 2004); to the positive findings of (Levine & Zervos, 1998) & argument of (Demirguc-Kunt & Levine, 1995) that the SMD can promote EG by a causal relation (Badr, 2015) in long run and short run for low developed nations (Ilye & Odhiambo, 2015) with a variation in SM related other factors in order to determine the financial derivate of different countries (Albu, Lupu, & Călin, 2015).

Moreover, the causal linkage of this study in negligence of some other variables do hold and has reflections that the stock value (Andrianaivo & Yartey, 2010) liquidity of SM, its size and capacity has an impact on EG (Switzer & Picard, 2015). SMD is an incentive for integration of SM variables to EG (Lee & Chou, 2012). Thus, the need is to improve the policy for SMD to achieve EG (Rizvi & Arshad, 2014) & (Frost, Gordon, & Hayes, 2006) with the consideration of political setting (Mahmood, Irfan, Iqbal, Kamran, & Ijaz, 2014), FDI (Shahbaz, Lean, & Kalim, 2013) & (Chowdhury & Mavrotas, 2006), terrorism (Alam, 2013), government quality determinants (Asongu, 2012), macroeconomic factors (Pilinkus & Boguslauskas, 2009), and consumer price index (Nishat & Shaheen, 2004).

**References**


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*http://www.casestudiesjournal.com*
## Appendix-01

### Table-03

Economic Figures for the dependent and independent variables

<table>
<thead>
<tr>
<th>Years</th>
<th>Market capitalization (PKR. Billions)</th>
<th>Average Daily Value Traded (PKR. Billions)</th>
<th>Turnover Ratio (PKR. Billions)</th>
<th>No. of Listed Companies</th>
<th>GDP (PKR. Billions)</th>
<th>GDP Growth (Annual %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>391.86</td>
<td>605.60*</td>
<td>1.54545</td>
<td>762</td>
<td>3.82611E+12</td>
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<td>339.25</td>
<td>1,877.80*</td>
<td>5.53517</td>
<td>747</td>
<td>4.20987E+12</td>
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<td>407.60</td>
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<td>0.00736</td>
<td>712</td>
<td>4.45265E+12</td>
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* The values are not **Average values** but the **Total value traded** for shares (as per data missing fields).