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16. Exploring the causality between EVA and Stock Market Returns: Evidence from India

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Abstract:
The modern performance measure EVA gained significant importance since last 2 decades. The present study aims to examine the impact of EVA on Stock Market Returns and investigate the presence of causality. The pooled data related to 50 companies listed on Nifty 50 has been collected for the period 2003-2017. To examine the impact, Fixed Effect Model and Random Effect Model has been used and Wald Test is considered to evaluate the causality between EVA and Stock Market Returns. Fixed Effect Model was found to be appropriate model for the study and it showed a positive impact of EVA on Stock Market Returns. The study also found the evidence of bi-directional causality between EVA and Stock Market Returns.

Key Words: EVA, Stock Returns, FEM, REM, Wald Test

Introduction:
Economic Value Added is a foundation of ambitious finance due to its effectiveness towards creation of policy of raising wealth & value of shareholders and even it is an estimating tool of efficiency & performance of the firm. Its methodology exercised for the invention of prosperity along with owner’s capital of the corporation by framing ample of policies. This tool was coined by Stern Stewart & Co.

EVA applied for framing desires of the organizations, estimating performance, incentives formation, exchanging information among investors in addition to shareholders, superiors inspiration, funds allocation, corporate valuation and equities estimation. Garvey & Milbourn (2000) found out the association between EVA and stock return to have genuinely stable control to their value as an incentive contracting technique. These conclusions are definite and important for determining about the companies which has really followed Economic Value Added. In a simple words EVA estimating tool shows, the outcomes of shareholders wealth. If gain or yield
superior than cost it raises wealth whereas, if the gain or yield is lesser than cost, it leads to
decline of wealth. The present study examines the impact of EVA on Stock Market Returns and
investigates if there exists causality between the said variables

**Review of Literature:**

Garvey & Milbourn (2000) found out that the association between EVA and stock return is
genuinely stable to their value as an incentive contracting technique. Visaltanachoti, Luo & Yi
(2008) explained the analysis of EVA which grants very few initiations of stock return among 90
companies study witnessed linkage among traditional accounting and sector return. Also positive
association of EVA with sector returns has been identified. Ismail (2006) examined if the net
earnings after deduction of tax and net income performance is better measure than EVA. Study
highlighted that changes of Economic Value Added have relevantly less role in exploring stock
return. Study concluded that other variable must be included for evaluating the unnoticeable
changes stock returns. In another research study Ismail (2012) summarized that, the share of
EVA per unit capable to associate and had a meaningful association of stock return as compared
to accounting formal techniques for the firms of Bursa Malaysia. Taufik, Ismurbadi & Widiyanti
(2008) witnessed that the accounting approach and EVA has control over the yield on stock of
the banking companies of Jakarta Stock Exchange. For the estimation purpose Linear Regression
Multiple Model had been applied for proving effect this effect on stock return of the banking
companies. The results showed meaningful effect of these techniques on stock return. Similar
tools were used by Maditions, Sevic & Theriou (2009) to explore the ability of EVA and
Shareholder Value Added by considering accounting tools such as Earning per Share, Return on
Investment and Return on Equity of Athens Stock Exchange (ASE). Study noticed a strong
correlation of stock return with EPS and EVA. Whereas, EPS signified significant impact over
stock return. Singh & Mehta (2012) showed the ability of EVA for the generation of
shareholders wealth. The study identified that, Information Technology companies are most
probably interested in the creation of shareholders value. The study also scrutinizes the influence
and association among EVA and Traditional Techniques and found such an association.
Moreover, Nakhai & Hamid (2013) reviewed association among EVA, ROA and ROE with
MVA of Tehran Stock Exchange containing 87 non-banking financial companies. The Karl
Pearson Correlation Matrix and Regression Analysis were conducted for proving outcome. The
results show a strong association of EVA and ROE with MVA whereas else; there was no
significant correlation coefficient among ROA and MVA. In a research study of Parvaei &
Farhadi (2013) estimated the basic enforcement tools such as Residual Income, Net Income, Free
Cash Flow and Economic Value Added of the corporation to observe if Economic Value Added

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beneficial as compared to another enforcement tool. It determined EVA as a better tool for estimation of desires of corporation. Even it observed that EVA includes lower forecasting measure whereas, Free Cash Flow includes better forecasting measures as compare to other tools.

Research Design:

The present study aims to examine the impact of EVA on Stock Market Returns and investigate if there exists causality between the said variables. For the purpose of study, the data pertaining to EVA has been extracted from Bloomberg Terminal and the data relating to Stock Market Returns were extracted from BSE website. The data is secondary in nature. The pooled data belonging to 50 companies listed on Nifty 50 has been collected for the period 2003-2017.

The stock returns were computed using the formula Ln(Po/P1). Where, Po is the price at the end of the period and P1 signifies price at the beginning of the period. The required analyses have been performed by using statistical software E-Views and MS Excel. Unit root test has been applied to identify stationarity of data. To find out the impact, Fixed Effect Model and Random Effect Model has been used and Wald Test taken into consideration to examine the causality between EVA and Stock Market Returns.

Results and Discussion:

<table>
<thead>
<tr>
<th>Panel Unit Root Test</th>
<th>EVA</th>
<th>SENSEX</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Statistic</td>
<td>P-value</td>
</tr>
<tr>
<td>Levin, Lin &amp; Chu t*</td>
<td>-5.86</td>
<td>0.0000***</td>
</tr>
<tr>
<td>ADF - Fisher Chi-square</td>
<td>225.59</td>
<td>0.0000***</td>
</tr>
<tr>
<td>PP - Fisher Chi-square</td>
<td>259.71</td>
<td>0.0000***</td>
</tr>
</tbody>
</table>

Source: Compiled using E-views

The Panel unit root test of EVA and Stock Market Returns as depicted in Table 1 presents the stationary level of the data. For analyzing this, Levin, Lin & Chu t test, ADF – Fisher Chi-square and PP- Fisher Chi-square techniques has been adopted. In all techniques, the data probability with regards to EVA as well as Stock Market Return is less than 0.01 at 1% level of significance. Thus the data is stationary.

Impact of SENSEX on EVA and analysis showing Causality:

<table>
<thead>
<tr>
<th>Fixed Effect Model</th>
<th>Variable</th>
<th>Coefficient</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>C</td>
<td>15.43395</td>
<td>0.0000</td>
</tr>
<tr>
<td></td>
<td>SENSEX(-1)</td>
<td>-0.37448</td>
<td>0.0000***</td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>0.61807874</td>
<td>0.0000</td>
</tr>
<tr>
<td>EVA(-1)</td>
<td>0.551617521</td>
<td>0.0000***</td>
</tr>
<tr>
<td>EVA(-2)</td>
<td>-0.003414359</td>
<td>0.9342</td>
</tr>
<tr>
<td>SENSEX(-1)</td>
<td>0.010455708</td>
<td>0.2565</td>
</tr>
<tr>
<td>SENSEX(-2)</td>
<td>0.028475925</td>
<td>0.0024***</td>
</tr>
</tbody>
</table>

In the above Table 2, the fixed and random effect model has been applied to find the impact of EVA on Stock Market Returns by considering Stock Market Returns as a dependent variable. For identifying appropriate model, Hausman Test has been applied and it shows p-value less than 0.05 at 5% level of significance. Therefore Fixed Effect Model was found to be appropriate model and it shows a positive impact of EVA on Stock Market Returns.

To find the causation effect of EVA on Stock Market Returns, Wald Test has been applied. The p-value in case of Wald test is found to be less than 0.05 at 5% level of significance. Hence, there exists causality from EVA and Stock Returns.

**Impact of EVA on SENSEX and analysis showing Causality:**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-0.068397529</td>
<td>0.8385</td>
</tr>
<tr>
<td>EVA(-1)</td>
<td>0.695616588</td>
<td>0.0000***</td>
</tr>
<tr>
<td>EVA(-2)</td>
<td>0.108605778</td>
<td>0.0045***</td>
</tr>
<tr>
<td>SENSEX(-1)</td>
<td>-0.000642794</td>
<td>0.9432</td>
</tr>
<tr>
<td>SENSEX(-2)</td>
<td>0.01850544</td>
<td>0.0447**</td>
</tr>
</tbody>
</table>

Source: Computed using E-views

Note: ***Significant at 1% Level, **Significant at 5% Level, *Significant at 10% Level.
<table>
<thead>
<tr>
<th>Wald Test</th>
<th>Cross-section random Test Statistic</th>
<th>76.01848026</th>
<th>0.0000***</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value</td>
<td></td>
<td>P-value</td>
</tr>
<tr>
<td></td>
<td>F-statistic</td>
<td>4.646029858</td>
<td>0.0099***</td>
</tr>
<tr>
<td></td>
<td>Chi-square</td>
<td>9.292059715</td>
<td>0.0095***</td>
</tr>
</tbody>
</table>

Source: Computed using E-views

Note: ***Significant at 1% Level, **Significant at 5% Level.

In the above Table 3, the fixed and random effect model has been applied to find the impact of Stock Market Returns on EVA by considering EVA as a dependent variable. For identifying appropriate model Hausman Test has been applied and it shows p-value less than 0.01 at 1% level of significance. Hence Fixed Effect Model was found to be appropriate model and it shows a positive impact of Stock Market Return on EVA.

To find the causation effect of Stock Market Return on EVA, Wald Test has been applied. As per Wald Test, p-value is less than 0.01 at 1% level of significance and hence there exist causality from Stock Return to EVA.

Conclusion:

Economic Value Added is a foundation of ambitious finance due to its effectiveness towards creation of policy of raising wealth & value of shareholders and even it is an estimating tool of efficiency & performance of the firm. The present study aimed to examine the impact of EVA on Stock Market Returns and investigate if there exists causality between the said variables. The pooled data belonging to 50 companies listed on Nifty 50 has been collected for the period 2003-2017.

Unit root test had been applied to identify stationarity of data. To find out the impact, Fixed Effect Model and Random Effect Model had been used and Wald Test taken into consideration to examine the causality between EVA and Stock Market Returns and vice versa. Fixed Effect Model was found to be appropriate model for the study and it showed a positive impact of EVA on Stock Market Returns. The study also found the evidence of bi-directional causality between EVA and Stock Returns.

References:


