The effect created by the instigation of LTCG on ELSS Schemes: 
A Case of India

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ABSTRACT

This paper analyzes the movement of Net Asset Value (NAV) of equity linked savings schemes (ELSS) due to the announcement of long term capital gain (LTCG) tax during the presentation of union budget 2018 in India. A short term event study is used to understand the impact of the stock market movement of the ELSS schemes and Cumulative average abnormal return on the investors, therefore the event window has been created to provide an explorative event study with both pre and post analysis. We examined the influence on a sample of 104 ELSS Schemes. The results reveal that the market sentiments are jeopardized and the ELSS scheme are showing adverse propensity towards the introduction of LTCG.

Keywords: ELSS schemes; long term capital gain tax; event study; net asset value; tax avoidance; tax effects; income tax

INTRODUCTION:

To invest in equity is the best way for an investor to create wealth in long run. An Equity linked savings scheme is a kind of equity mutual fund which contains the majority of corpus invested in equities and it allows the investor to trap this wealth in a proper way. The scheme is drafted underneath the guideline given by Securities and exchange board of India (SEBI) the rules for ELSS scheme were added in 2005. Such schemes, get largely effected by equity market movements. Money in ELSS schemes can be invested in two ways, first with Systematic investment plan (SIP) and second in lump sum form. There is a lockin period of 3 years for ELSS schemes, but it is ideal for an investor to invest for longterm in such scheme to earn handsome profits. It is a tax saving mutual fund and a person can claim deductions from his taxable income by investing in ELSS schemes under section 80C of Indian income tax act. As the equity mutual fund, an ELSS scheme has a dividend as well as growth options. These schemes are more advantageous than market returns in long run (Dr. S. Chandrakumarmangalam & Mr. P. Govindasamy, 2011) If we compare ELSS to other tax saving schemes in India (as can be seen in Table1) like Public provident fund; PPF which has a lockin period of 15 years, National Saving Schemes; NSC having a lockin period of 6 years and Bank fixed deposits have a lockin period of 5 years, ELSS scheme has minimum lockin period and give better investment returns (Srivastava, 2017).

The gains created by the trading of ELSS schemes (as shown in figure 1) were not taxed if they were sold after twelve months (period considered as longterm for equity taxation purpose in India) but the introduction of longterm capital gain; LTCG tax for securities and equitylinked schemes created an onus on holders of longermequity. The investment in ELSS schemes starts from Rupees500/ which makes it affordable for a small investor to plan for savings with a small amount. The profit coming from such investments if exceeds from Rupees one lakh will be taxable at the rate of 10 percent under longterm
capital gain tax, according to new announcement done by the Indian finance minister, Mr. Arun Jaitely in the budget announced on 1Feb 2018. The longerterm capital gain tax on equities was abolished in India in the year 2004 and has been reinforced now in 2018 after fourteen years. This change is being done as the stock markets in India are more stable in the current scenario and people are making a handsome profit from equity selling activity. This is letting a large corpus invested in such schemes going untaxed, in turn making a loss for the government.

This paper examines the immediate effect of such an event announcement on the ELSS schemes. This question is being considered both empirically and in theoretical position. The main idea is to find out the effect of shock induced in the stock market due to the announcement of a new tax and to capture its effects. In finance we to gauge many times the effect of an event announcement on the performance of security prices. To detect such financial movement event study analysis is one of the best methods. By using the data from the financial markets; the event study estimates the influence of event on the movement of stock price.

The utility of such a study can be reflected from the fact that given the saneness in the marketplace the reaction of an event is easily reflected in the share prices. So, the estimate of an events economic impression can be observed over a small-time period. The event study has its applicability in much area of accounting and finance, merger, stock splits, issue of new debt or equity and measuring announcements of the macroeconomic variable.

This study seeks to examine the impact of LTCG onequitylinked schemes by using event study methodology. Hence the study contributes to know the behavioural changes in the investment pattern of equity customer in Indian stock market. In this paper, the effort has been made to capture the effect of an event through short term event study.

The continuation of the study is organized as follows: In Section 2 discussion on capital gain tax and its relationship with ELSS schemes, in Section 3 illustrates the importance of using event study methodology for such impact analysis, Section 4 throws light on the calculation of an abnormal return, construction of hypothesis, giving statistical inferences about the results, and assembling observations, while section 5 concludes the study.

CAPITAL GAIN EFFECT ON ELSS SCHEME:

Capital gain is an earning that arises due to sale of an asset. As per the income tax law in India, any immovable property held before sale for minimum three years fall into the category of longerterm capital gains. For stocks, bonds and share if they are held for more than one year then they come into the category of longerterm capital gains. An investor if sells the share or stocks owned by him after one year then he is liable to pay LTCG tax. The union budget 2018-19 declared by finance Minister Mr. Arun Jately brought a change in the entities coming under LTCG. He added to impose a tax on longerterm gains arising from units of the equity oriented fund. So according to the new law, any longerterm capital gain arising after the sale of such assets and exceeding one lakh Rupees is liable to be taxed at the rate of ten percent without the benefit of inflation indexation. So, the equitylinked saving schemes will come under this tax regime which was exempted before this event announcement. The schemes which used to provide with a cushion to the investor due to its nature of three years lockin period from the shorterterm market correction and are only effected by the longerterm market corrections (Avenue, 2016) are now included under the pretext of taxation. ELSS schemes are selected to study the effect of equitylinked schemes because in such schemes eighty percent of the money is invested in equity whereas in other equitylinked schemes like mutual funds the proportion of money invested in the equity will vary from schemes to scheme and they will not be able to represent the real sample to the study.

An ELSS scheme is an openended mutual fund which means it is available for subscription and repurchase at any point in time. The investor can invest in the mutual fund at net assets value (NAV) which is provided on daily basis by the stock exchange. These ELSS schemes are very much useful for small investors who want to invest their money into mutual funds as these schemes allow the starting of investment for a very


small amount and good schemes also provide for higher returns (Dr. S. Chandrakumarmangalam & Mr. P. Govindasamy, 2011). The government of India introduced securities transaction tax; STT in 2004 on all securities listed in stock exchange (except commodity and currency) during the time of purchase or sale. Due to the introduction of LTCG tax in 2018, the investor must pay STT and LTCG both taxes making it a double tax system. Introduction of this double tax system will not only affect the Indian corporate and individual investors but such a system will also affect the Movement of foreign institutional investors; FII. These investors not only bring foreign capital but provide for the good amount of liquidity in the capital market. It is a matter of concern for such investors as they invest in huge amounts which will make them pay a large amount of tax. This has become one of the reasons for heavy selling activity from the FIIs in the Indian capital market in the month of February and March 2018. India has become the only emerging market where double taxation system; STT + LTCG is prevailing on the transaction of securities which may lead to changes in the direction of FII movement. The FIIs can move on the other emerging markets like Singapore where such kind of taxes do not exist. The only way to minimize the evasion from investors’ pockets is to plan the sales of the securities in such a manner that the taxable income does not exceed the limit of one lakh on an annual basis. This strategy may not work in case of FIIs (Patil, 2017). Applying capital gain tax on securities would affect the volatility of the stock market, making the investors cautious about any kind of investments that includes capital gains tax (Lo, 2015).

Amoako-adu, (1992,a) studied the effect of reduction done on the exemption limit of capital gain tax from $500000 in 1985 to $ 100000 in 1987 in Toronto stock exchange of Canada. This change in the exemption limit affected significantly the trading of stocks, giving high dividend yield and stock which would provide capital gain to the investors, as high dividend yield stocks means producing more capital gain leading to more tax. The results reflected in the research paper of (Amoako-adu, 1992,b) can be seen in perspective of the Indian stock market. In the Indian stock market the next day of announcement of the LTCG tax; 2Feb 2018 was a bad day for stocks as the Sensex (which is the indices of Bombay stock exchange) and Nifty (which is the indices for National stock exchange) slipped down by 4.95 percent and 4.85 percent respectively. (Stewart & Mackertich, research report 2018).

Already Retail investors participation in Indian stock market is only 4.45 percent of the total population (Wazal & Sharma, 2017), may be due to low financial understanding and literacy rate in India. The bank rates on deposits and real estate rates both are going down, in such a scenario LTCG tax will defeat the intention of the investor to invest in stock market. Introduction of capital gain tax can induce three types of investment behaviour. First, the investor will not be willing to sell an asset with large capital gain, secondly it may also effect the risktaking behaviour of the investor and thirdly the aftertax return will be less, these three behaviour may distort the saving behaviour of investors (Poterba, 1987). Jegadeesh & Titman, (1993) has found most securities show their highest rate of abnormal return in their initial two years so the investors would obviously try to cash upon such profit which will lead to taxation and in turn reducing the earnings created by selling of securities. Mutual fund investor always takes into consideration the aftertax return before making an investment decision (Johnson & Poterba, 2016) but as the ELSS schemes earnings were nontaxable. In such a scenario introduction of LTCG may defeat the emotions of an investor of ELSS schemes. Hegemann (2016) found that there is no optimal longterm exit period for investors to save upon their longterm tax but the investors try to hold the security for a longer duration, such that at least they could reach to the break-even at the exit time. JANG, (1994) did an event study analysis on tax reform act 1986 which took place in the United States. He found that different type of investors changed their pattern of investment according to their tax preferences. A tax law change may have a different meaning to different kind of investors. The initiation of LTCG will affect those coming under tax bracket. His study showed the movement of market sentiment towards high yielding stocks leading to increase in the gap between investment of high yield and low yield stock by a difference of twenty percent. A model on dividend tax capitalization (Harris & Kemsley, 1999) explains that the taxes on dividend income (capital gain taxes)

3 STT is a tax paid by an investor on the consideration paid or received during the transaction of shares.
affects the valuation weights assigned by an investor to the retained earnings, expected earnings and contributed equity. This model reveals the importance of capital gain taxes in judging the behavioural pattern of investor.

Such kind of preference of the investor toward high yield stocks must be because, the tax amount would cut down their profit pie from capital gains and to cover upon that pie they need to shift their investment pattern more towards the high yielding stock. Introduction of capital gain taxes gives remarkable jolt on the investor participation pattern in the stock market. Such taxes give a stimulus to the investor of bearing capital losses, defeating his feeling for the accomplishment of capital gains as holding the securities for longterm means bearing risk for longterm (DYL, 1977).

Lang & Shackelford, (2000) conducted an event study analysis in 1997 when the US government announced reduction in the rate of long term capital gain taxes. He found that the firms that were not paying dividends in that duration, their share prices increased more for a five day window in comparison to the firms which were paying dividends. The reduction in capital gain magnifies the investor’s interest in the stocks as the returns generated from the dividends are subject to capital gains. The returns generated from stocks are also subject to capital gains tax but that depends upon the wish of the investor that when he plans to sell the stocks, but the tax produced on dividend is not under the control of the investor.

The introduction of capital gain tax in Taiwan stock market as studied by Lo (2015) showed both short term and long term lockin effects when it is compared with Hong Kong stock exchange. The study was done after neutralizing the effect of international economic crises on Taiwan and Hong Kong stock exchange. The trading volume of Taiwan stock exchange showed a large amount of drop in comparison to Hong Kong stock exchange (where no capital gain tax was levied), which showed the negative effect created on securities by the introduction of the capital gain tax in Taiwan.

In India more and more, retail investors were attracted towards equity and arbitrage based mutual fund as such funds produce much corpus than debt or fixed return funds. But now LTCG tax has made the mind of investors in a dilemma, about which investment pattern to follow so that to create a greater possibility of saving the tax (Personal FN, research report 2018).

EVENT STUDY METHODOLOGY:

An event study methodology is used to as a statistical tool to ascertain if and when fresh information stimulates value change in stocks. This methodology of event study is given by Ball and Brown (1968) and Fama, Fisher, Jensen and Roll (1969) as mentioned in Brown & Warner, (1980a). They studied various methodologies for performing event study in which market model was proved useful. This method can be used to study the impact of merger and acquisition, accounting, corporate finance, and finance related events. Event studies consistently focus on the abnormal return around the date of the event (MacKinlay, 1997a). If the market is rational then the effect of the event is immediately reflected in the security prices giving a measure of events economic impact (MacKinlay, 1997b).

Market and risk adjusted return as defined by Brown and Warne (1980b) is used in this study. (Bowman, 1983) identified following steps in an event study:

- Locate the event to be studied
- Find the security price reaction
- Determine the excess return
- Tabulate the excess returns
- Examine the results

Importance of Event Study:

The event study gives perfect results when the data taken to test is large enough and the duration of public announcement is having a short time frame (Bhagat & Romano, 2001).

Krivin et al., (2003) found that abnormal size manoeuvre is related to the magnitude of the event positively while turn over is not related to the size of the announcement. As per him clean earning announcements should have a small window and as the size of the window increases there is greater possibility of the introduction of some noise due to the presence of other events in the market. As such, there is
always existence of noise in the calculation of every event window but without the understanding of the true length of the event window, it is impossible to perform the test.

One day event is considered in the test as short term event study gives more precise results (Ahern, 2009). Due to this reason, short term event study methodology is being used in this paper to examine the change in the performance of equity linked schemes due to the introduction of LTCG. Nonnormality of the data taken on a daily basis has no impact on the event study methodology (Brown & Warner, 1985). The Market model is used for the study as the market model goes in line with measuring the standard rate of return (Binder, 1998).

**EXPERIMENTAL DESIGN:**

**Sample construction:**
The study simulates 21 samples of 104 ELSS schemes. The list of ELSS schemes is taken from money control and daily NAV of these schemes of 10 days before the event day and 10 days after the event day are picked from the association of mutual fund in India; AMFI7. 1st February 2018 is defined as the day zero which is the day of the event when the announcement of LTCG tax is being done by the finance minister (Mr. Arun Jately) in the parliament of India in the year 2018. To study the impact of such an event, the event study analysis is used which is an archetypal empirical test in finance.

The event window is of 21 days i.e. 10 days prior to the announcement of the event and 10 days after the event including the event day making it a total of 21 days. The event Announcement day was represented as day zero. 1st February 2018 was a working day (share market was open), after the announcement of the tax in the Parliament the NAV prices of ELSS schemes must have started getting affected by the new.

The time series data used in the study is confined to major ELSS schemes and no other equity related data is taken into consideration. For each ELSS scheme, the daily NAV is collected over a period of 21 days, where the event period for the short term study is -10 to +10 days. Since stocks have elevated average capital gains (whether positive or negative) in comparison to bonds and so have higher capital gain yield, thus the introduction of long term capital gains for equity linked schemes in India may affect the behavioural pattern of investors.

For analysing this problem, we make the following assumption;

**Assumption:** The announcement of LTCG tax on 1 Feb 2018 affected the investor pattern in ELSS schemes leading to the reduction investment in equity linked schemes.

**Excess Return Measures:**
Evaluating the impact of the event requires the calculation of abnormal returns. The abnormal return is reckoned by finding out the difference between observed and expected return contemporaneously (MacKinlay, 1997). The expected return (or normal return) is the return which is calculated without the happening of the event (i.e. in a normal market scenario). However, the observed return is the value of NAV picked from the market indices. Thereafter ordinary least square; OLS is used as a compatible procedure for calculating α; intercept and β; slope parameters for every ELSS scheme. The dependent variable in the regression equation is the NAV value of the ELSS schemes and the event is taken as the independent variable which is a dummy variable. The value of dummy variable is taken as zero before the happening of the event and after the event date, the value of dummy variable is taken as one. The; intercept and β; slope of the equation are calculated by running the OLS regression available in data analysis tool pack of MS excel. Furthermore, these values were used in calculating the expected return. The expected returns calculated according to the market model of an event study. Market model is based on the supposition that there exists a constant and straight relationship among return of a market index and value of individual asset return8. Thereafter the expected return is calculated by the following formula:

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7The Association of Mutual Funds in India (AMFI) is dedicated to developing the Indian Mutual Fund Industry on professional, healthy and ethical lines and to enhance and maintain standards in all areas with a view to protecting and promoting the interests of mutual funds and their unit holders. AMFI, the association of SEBI registered mutual funds in India of all the registered Asset Management Companies, was incorporated on August 22, 1995, as a non-profit organisation. As of now, all the 42 Asset Management Companies that are registered with SEBI (securities and exchange board of India), are its members. Source: https://www.amfiindia.com/know-about-amfi Accessed: 18 April 2018

Equation 1:
\[ R_{it} = \alpha_i + \beta R_{mt} + \varepsilon_{it} \]
Expected error is taken as zero
In this equation, \( \alpha \) and \( \beta \) are estimated parameters as intercept and slope respectively. \( R_{it} \) is the expected NAV of ELSS scheme \( i \) at time \( t \) which is to be calculated. \( R_{mt} \) is the corresponding daily NAV the value for which is given on the website of the association of mutual fund in India; AMFI and \( \varepsilon_{it} \) is the error term.
For the calculation of expected return; \( R_{it} \) the estimated parameter \( \alpha \) is added to the multiplication of estimated parameter \( \beta \) and the value of the independent variable. This expected return is calculated for each day (for +10 to -10 event window) and for every ELSS scheme. The method and model of return generating are discussed by Brown & Warner in their paper “Measuring security price performance” (Brown & Warner, 1980c). After that the abnormal return; AR for each day for every ELSS scheme is calculated as per the following equation:
Equation 2:
\[ AR_{it} = R_{it} - R_{mt} \]
As per the above equation for calculating the abnormal return; \( AR_{it} \), market return is subtracted from the expected return. After the calculation of abnormal return, the cumulative abnormal return is calculated. The cumulative abnormal return; CAR is calculated to draw some inference due to the happening of the event. The cumulative return is calculated for every (104 schemes) ELSS scheme and for each day of the event window.
Equation 3:
\[ CAR_i(\tau_1, \tau_2) = \sum_{t=\tau_1}^{\tau_2} AR_{it} \]
Thereafter, the average of CAR for each day of the event is calculated through securities which are known as a cumulative average abnormal return (CAAR). It is considered for the calculation to see the effect of the event.
Equation 4:
\[ CAAR = \frac{1}{N} \sum_{i=1}^{N} CAR_i \]
Considering the above discussion, to know the impact on ELSS scheme after the announcement of the event, a hypothesis needs to be tested so that it will indicate the direction and magnitude of the effect of the event. Normally ELSS net asset value; NAV will move down from the news of such event which can be seen in the CAR results which are less than zero and are giving a negative indication. This negative magnitude tells that the investor’s feelings are hurt due to the introduction of the tax on equitylinked schemes. This Assessment came up due to testing the hypothesis that during the endurance of event window the abnormal returns were zero which is a null hypothesis; \( H_0 \) and the existence of abnormal return within the period of event window is the Alternate hypothesis; \( H_1 \). In this research, the alternate hypothesis is coming more appropriate because there is negative abnormal return in the event window. For testing the hypothesis paired twosample test was used which is denoted by the formula:
Equation 5:
\[ T_{CAAR} = \frac{CAAR_{it}}{\sigma(CAAR_{it}) / \sqrt{N}} \]
The following Table represents the results of the t test. The t statistics are coming significantly as the t value is 8.90 which is falling outside the critical region. So null hypothesis is rejected, and the alternate is accepted, that the introduction of LTCG tax is negatively affecting the sentiments of investor for equitylinked schemes.
Short-Term Effect:
It is apparent from the Table 1 that there has been an increase in the variance and means during the postannouncement interval vis-à-vis the preannouncement interval. (There appears substantial noise during the event that bounds the statistical significance of these results). The results are consistent with the fact that investors in equitylinked schemes do not embrace the announcement of such a change. The below Figure 3. Depicts that the CAAR of the equitylinked savings scheme was at a high before the announcement.
of LTCG tax but it dips during the announcement day and it sinks more and more as the market absorbs the information.

CONCLUSION:

The paper was oriented towards the investigation of impact created by the financial announcement; event on 104equitylinked savings schemes in India. The main reason for investment in ELSS apart from returns is, it is used as a tax saving schemes. These schemes provide an option for the investor to enter the diversified portfolio with a very small amount. Introduction of longterm capital gain tax for Equity linked schemes such as ELSS is unexpected for the investors. The schemes which are used in investment for saving the tax of the investor have now come under the pretext of the taxation if the sale proceeds of such scheme lead to a gain of more than one lakh of rupees. The results of the OLS regression shows that market has shown a steep dip into the investment pattern of ELSS scheme, exactly after the announcement of the LTCG tax for such schemes. The investors normally overreact to a bad news so it can be called as a high strength and a low weight news making the investor overreact (Barberis, Shleifer, and Vishny, 1997), in turn forcing the investors to take out their money from the market. The investor want to save upon their investment from the capital gain tax as some period of the year is grandfathered from the purview of tax i.e. before 31 January 2018. Thus, the inflow of ELSS schemes dropped from Rupees 1986 crore in January 2018 to rupees 1585 crore in February 2108. This result has forced investors to ponder upon their investments in ELSS schemes. According to a survey done by IIFL in November 2017, 47percent of investors invest in ELSS schemes to prevent income tax and for reaping good returns. Such a large investor base is affected by the introduction of LTCG tax on ELSS schemes. To save upon their tax the investor should focus on the frequency of transaction in stock market as it is going to cost for STT. The investor should also focus on the total profit created from the sale of ELSS schemes in one year because if it goes beyond one lakh rupees it will come under LTCG tax. If an ELSS scheme produces a profit out of sale of ELSS scheme then, the effective profit of an investor will be the profit after deducting the inflation rate. The new LTCG tax is not giving the profit of indexation also so, the investor need to plan properly about his investments entry and exit because at times the after paying LTCG tax the investor may be holding a loss position. The research is applicable to fund managers and investment advisors. Our results emphasize the need of finding out the pattern of investment, in medium and longterm leading to the saving of tax for Indian investors.

REFERENCES:


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Figure 1: Performance of ELSS schemes through different times

**Chart – Risks and Returns of ELSS across different time frames**

Notes: ELSS data represented by CRISIL–AMFI ELSS Fund performance index; volatility represented by standard deviation; returns are annualized calculated on a daily rolling basis since June 2001 (inception of CRISIL–AMFI ELSS Fund Performance Index) for all holding periods; data until December 29, 2017

Source: Monthly funds newsletter from CRISIL Research Volume – 81 January 2018

Figure 2: Time line of Event window day wise

Event Window (in days)

Fig. 2: Time Line for Event study (in days)

Figure 3: Graph showing CAAR of equity linked savings schemes

Movement of NAV in event window
Table 1: Comparison Of Various Saving Schemes

<table>
<thead>
<tr>
<th>Parameter</th>
<th>PPF</th>
<th>NSC</th>
<th>ELSS</th>
</tr>
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<tbody>
<tr>
<td>Tenure</td>
<td>15 years</td>
<td>5 years</td>
<td>3 years</td>
</tr>
<tr>
<td>Returns</td>
<td>8% (compounded annually)</td>
<td>% (compounded half yearly)</td>
<td>Linked to equity markets</td>
</tr>
<tr>
<td>Minimum Investments</td>
<td>500</td>
<td>100</td>
<td>500</td>
</tr>
<tr>
<td>Maximum Investment</td>
<td>1,50,000</td>
<td>No limit</td>
<td>No limit</td>
</tr>
<tr>
<td>Amount eligible for deduction under section 80 C</td>
<td>1,50,000</td>
<td>1,50,000</td>
<td>1,50,000</td>
</tr>
<tr>
<td>Taxation for Interest</td>
<td>Taxfree</td>
<td>Taxable</td>
<td>Dividends and longterm capital gain taxfree</td>
</tr>
<tr>
<td>Safety /Rating</td>
<td>Highest</td>
<td>Highest</td>
<td>High Risk</td>
</tr>
</tbody>
</table>

Source: Blog .fundsindia.com

Table 2: T-test Paired two Sample for means

<table>
<thead>
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<th></th>
<th>Variable 1</th>
<th>Variable 2</th>
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<tbody>
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<td>Mean</td>
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<td>-4.37043419</td>
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<tr>
<td>Variance</td>
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<td>0.984477266</td>
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<td>Pearson Correlation</td>
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<td>4.6474E-06</td>
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<tr>
<td>P(T&lt;=t) two-tail</td>
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<tr>
<td>t Critical two-tail</td>
<td>2.26215716</td>
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Source: Scholarshub.net