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Individual Investment Behavior: An Approach for Indian Securities Market

Ajay Singh[1], Dr. Rahul Sharma[2]
[1]Research Scholar, Jaypee Business School, Noida.
[2]Associate Professor, Jaypee Business School, Noida.

ABSTRACT

The study aims to focus on the Individual Investment Behavior for Indian Securities Market instruments. The instruments for investment available in Indian securities market being complex in nature requires a sound understanding and in-depth knowledge to channelize the decision making process for a favorable and return oriented instruments. This study review and analyze this decision making process of individual investors through data collected with the help of structured questionnaire filled by individual investors of Indian securities market interacted during National Stock Exchange seminar in Delhi. The study concludes by interpretation of certain significant factors hierarchy and relevance which plays a crucial role investors decision making process.

Keywords: Individual Investors, Decision Making, Securities Market, Investment Behavior

INTRODUCTION:

Investor behavior derives from psychological principles of decision making to explain why people buy or sell stocks. These factors will focus upon how investors interpret and act on information to make investment decisions. Investors commonly perform investment analysis by making use of fundamental analysis, technical analysis and judgment. Behavioral finance is defined by Shefrin, (2000) as "a rapidly growing area that deals with the influence of psychology on the behavior of financial practitioners" No matter how much an investor is well informed, has done research, studied deeply about the stock before investing, he also behaves irrationally with the fear of loss in the future. This irrational behavior arises out based on various significant and insignificant variables and factors which directly or indirectly influence the investor's decision making process. Individual investments behavior is concerned with choices about purchases of small amounts of securities for his or her own account (Nofsinger and Richard, 2002).

The research findings by Nagy and Obenberger, (1994) which examined factors influencing investor behavior, suggested that classical wealth – maximization criteria are important to investors, even though investors employ diverse criteria when choosing stocks. Research in behavioral finance has developed rapidly in recent years and provides evidence that investors' financial decisions are also affected by internal and external behavioral factors (Shefrin, 2000; Shleifer, 2000; Warneryd, 2001).In this research study the investment behavior of individual investors is analyzed to review the impact of various factors and dimensions which influence the investment pattern.

LITERATURE REVIEW:

Bhalla (1978) investigated the effects of sources of income and investment opportunities on the saving behavior of farm households in India. He used the survey data collected by National Council of Applied Economic Research (NCAER) during the three years starting from the year 1968-1969 and found that the propensity to save out of non-agricultural income was higher than the propensity to save out of agricultural income. The permanent income hypothesis (PIH) offers an explanation for this difference in propensity. He also found that investment opportunities increase saving, ceteris paribus, for the subsistence group of household and had a negative effect for the non-subsistence group.

Market over-or under reaction (DeBondt and Thaler, 1985), is the consequence of investors putting too much weight on recent news at the expense of other data. People show overconfidence. They tend to become more optimistic when the market goes up and more pessimistic when the market goes down. Hence, prices fall too much on bad environment.

Panickar (1992) studied the rural household saving and investment pattern in selected villages in Kerala and Tamilnadu. The study was conducted with the objective of looking into the levels of saving and the manner of its disposition and in-depth analysis of factors underlying the rates of saving. From the study, it was found that a high proportion of saving was absorbed in unproductive assets leading to a vicious cycle of low income saving.

Boyed et al. (1994) explored customer behavior in relation to the selection of a financial service provider. They examined customers' scores on selection criteria, such as reputation and friendliness, by taking into account the customers' demographic characteristics, for example, size of household, household income, age and gender of household head, and so on. The results revealed that factors such as reputation, interest charged on loans and interest paid for savings accounts were critical, while less important were friendliness of employees and the modern facilities.

Morrison and Roberts (1998) highlighted the significance of product channel interactions and the need to consider the degree of congruence between a product and a channel when evaluating the factors influencing the decision to adopt or use a channel for a purchase.

Black et al. (2002) examined customers' choice of financial services distribution channels. They showed that customer confidence, lifestyle factors, motivations and emotional responses influence the customer's choice, while product, channel and organizational factors such as image and reputation are also significant.

It has long been recognized that a source of judgment and decision biases, such as time, memory, and attention are limited, human information processing capacity is finite. Therefore, there is a need for imperfect decision-making procedures, or heuristics (Simon, 1955, Tversky and Kahneman, 1974) Hirshleifer (2001) argues that many or most familiar psychological biases can be viewed as outgrowths of heuristic simplification, self-deception, and emotion based judgments. Study done by Kent, Hirshleifer and Subrahmanyan (2001) had found the evidence for systematic cognitive errors made by investors and these biases affect prices.

THEORIES OF INVESTORS' BEHAVIOR:

Regret-Theory:

It deals with the emotional reaction people experience after realizing they've made an error in judgment. Faced with the prospect of selling a stock, investors become emotionally affected by the price at which they purchased the stock. So, they avoid selling it as a way to avoid the regret of having made a bad investment, as well as the embarrassment of reporting a loss. Regret theory can also hold true for investors who find a stock they had considered buying but did not went up in value. Some investors avoid the possibility of feeling this regret by following the conventional wisdom and buying only stocks that everyone else is buying, rationalizing their decision with "everyone else is doing it" (Pareto, 1997).

Theory of Mental Accounting:

It states that humans have a tendency to place particular events into mental compartments, and the difference between these compartments sometimes impacts our behavior more than the events themselves. An investing example of mental accounting is best illustrated by the hesitation to sell an investment that once had monstrous gains and now has a modest gain. During an economic boom and bull market, people get accustomed to healthy, albeit paper, gains. When the market correction deflates investor's net worth, they're more hesitant to sell at the smaller profit margin. They create mental compartments for the gains they once had, causing them to wait for the return of that gainful period (Thaler, 2001).

Prospect/Loss-Aversion-Theory:

It suggests that people express a different degree of emotion towards gains than towards losses.

Individuals are more stressed by prospective losses than they are happy from equal gains. An investment advisor won't necessarily get flooded with calls from her client when she's reported, say, a $500,000 gain in the client's portfolio. But, you can bet that phone will ring when it posts a $500,000 loss! A loss always appears larger than a gain of equal size - when it goes deep into our pockets, the value of money changes. Prospect theory also explains why investors hold onto losing stocks: people often take more risks to avoid losses than to realize gains. For this reason, investors willingly remain in a risky stock position, hoping the price will bounce back. Gamblers on a losing streak will behave in a similar fashion, doubling up bets in a bid to recoup what's already been lost. So, despite our rational desire to get a return for the risks we take, we tend to value something we own higher than the price we'd normally be prepared to pay for it. The loss-aversion theory points to another reason why investors might choose to hold their losers and sell their winners: they may believe that today's losers may soon outperform today's winners. Investors often make the mistake of chasing market action by investing in stocks or funds which garner the most attention. Research shows that money flows into high-performance mutual funds more rapidly than money flows out from funds that are underperforming (Kahneman and Tversky, 1979)

Over/Under Reacting Theory:

It says that investors get optimistic when the market goes up, assuming it will continue to do so. Conversely, investors become extremely pessimistic amid downturns. A consequence of anchoring, placing too much importance on recent events while ignoring historical data, is an over- or under-reaction to market events which results in prices falling too much on bad news and rise too much on good news. At the peak of optimism, investor greed moves stocks beyond their intrinsic value (Hong and Stein, 1999).

Theory of Overconfidence:

It says that people generally rate themselves as being above average in their abilities. They also overestimate the precision of their knowledge and their knowledge relative to others. Many investors believe they can consistently time the market. But in reality there's an overwhelming amount of evidence that proves otherwise. Overconfidence results in excess trades, with trading costs denting profits, (Tapia and Yermo, 2007).

OBJECTIVES OF THE STUDY:

- To identify the determinants of investment behavior and their relative importance in shaping the behavior of individual investors.
- To analyze the different aspects impacting the investors behavior for Indian securities market.

RESEARCH METHODOLOGY:

Research in the study is descriptive and causal in nature based on dependency of different variable on certain independent variables.

Primary data was collected from 60 respondents with help of structured questionnaire filled by individual investors of Indian Securities Market interacted during National Stock Exchange Investors meet organized in New Delhi.

Five point Likert scale was used to review the investors profile and determinants of investor behavior. With the help SPSS, spreadsheet and Analytic Hierarchy Process (AHP) data was analyzed and the relative importance of different behavioral traits of the investors in contributing overall investment behavior was analyzed. AHP is one of Multi Criteria decision making method that was originally developed by Prof. Thomas L. Saaty. In short, it is a method to derive ratio scales from paired comparisons. The study identified four broad dimensions of investor behavior that could have an impact on their investment decisions (Overconfidence, Investor Optimism, Investor Involvement) that were further divided into different factors and respondents were asked to rate each factor. On the basis of the overall responses of the investors and the ratings that they assign to the factors of the each dimension AHP determine the relative weights for each dimension of the investment behavior and priorities them in terms of their level of contribution in the formation of behavior of the investor.

ANALYSIS & INTERPRETATION:

The analysis was based on the data collected from respondents using questionnaire. The various demographic and economic factors regarding the respondents were as follows:

- **Gender ratio of respondents:** Of the total respondents, 65.64 % were males and 34.36 % were females.
- **Age distribution of respondents:** Age of respondents varied between 25 to 55years. It was aimed to include investors from all categories so that the pattern will get an equitable distribution. Majority of respondents were under 35-45 year age group (44.62%) followed by 45-55 year age group (38.21%). Investors less than 35 years of age group were 17.17%.
- **Occupational distribution of respondents:** The occupational distribution of respondents included Salaried individuals (46.41%), Government employed (33.08%), Private organizations (20.51%).
- **Education level of respondents:** The majority of investors are having a Bachelor's degree (42.56%) followed by Master's Degree (36.15%) and only (21.29%) below graduation respondents were there. Investment experience of respondents: From the analysis of investment experience of investors, it was found that majority of respondents have an experience of 5-10 years (51.02%), followed by investors, having an experience of less than 5 years (48.98%).

Analysis of Determinants of Investor Behavior:

1. Frequency Analysis of Overconfidence:

Question	S.D(1)	D(2)	N(3)	A(4)	S.A(5)	Total
I am confident of my ability to do better than others in picking stocks (Stock Picking Ability)	2	8	12	15	23	60
	3.30%	13.30%	20%	25%	38.30%	100%
I am fully responsible for the results of my investment Decisions. (Self-Control)	3	7	11	17	22	60
	5%	11.60%	18.30%	28.33%	36.66%	100%
I have complete knowledge of stock market (Market Knowledge)	7	6	8	15	24	60
	11.60%	10%	13.33%	25%	40%	100%

AHP Analysis of Overconfidence

Feature	Stock Picking Ability	Self-Control	Market Knowledge
Stock Picking Ability	1.00	4.00	2.00
Self-Control	0.25	1.00	0.50
Market Knowledge	0.50	2.00	1.00

Normalized Matrix for Overconfidence

Feature	Stock Picking Ability	Self-Control	Market Knowledge	Average
Stock Picking Ability	0.52	0.52	0.52	0.52
Self-Control	0.18	0.18	0.18	0.18
Market Knowledge	0.30	0.30	0.30	0.30
Total	1.0	1.0	1.0	1.0

The Analytical Hierarchical Process determined the relative weights of each factor of the dimension of Overconfidence. In the overall dimension of Overconfidence the most prominent factor was the Stock Picking Ability that result in successful investment, (approx. 52%) followed by Market knowledge with approximate weights of 30% and Self Control ability with 18% .

2. Frequency Analysis of Investor Optimism:

Question	S.D(1)	D(2)	N(3)	A(4)	S.A(5)	Total
I plan to increase my investment in the stock market in next 12 months (Increased Investments)	7	11	12	15	15	60
	11.60%	18.33%	20%	25%	25%	100%
The prices of stocks will increase in next 12 months (Price Increase Expectation	6	9	15	13	17	60
	10%	15%	25%	21.66%	28.33	100%
If the BSE index drops by < 3% tomorrow, I would suggest that it will recover most of its losses in a few days (Index Recovery)	7	10	13	17	13	60
	11.60%	16.66%	21.66%	28.33	21.66	100%

AHP Analysis of Optimism

Pair wise Comparison Matrix for Optimism

Feature	Increased Investments	Price Increase Expectation	Index Recovery
Increased Investments	1.00	0.22	0.50
Price Increase Expectation	3.00	1.00	2.00
Index Recovery	2.00	0.50	1.00

Normalized Matrix for Optimism

Feature	Increased Investments	Price Increase Expectation	Index Recovery	Average
Increased Investments	0.16	0.18	0.14	0.16
Price Increase Expectation	0.52	0.57	0.56	0.55
Index Recovery	0.32	0.25	0.30	0.29
Total	1.0	1..0	1.0	1.0

INTERPRETATION: The second determinant Investor Optimism was measured in terms of investor's outlook of the stock market. AHP analysis assigned the highest rank to the factor Price Increase Expectation (55%), followed by Recovery of the Index 29%. Only 16% of respondents are interested in Increasing Investments. On the whole the optimism among the investors is very low.

3. Frequency Analysis of Involvement:

Question	S.D(1)	D(2)	N(3)	A(4)	S.A(5)	Total
I am actively involved in trade activity (Trade Activity)	3	1	15	19	22	60
	5%	1.66%	25%	31.66%	36.66%	100
I make investment for making money quickly (Quick Money)	5	7	10	20	18	60
	8.33%	11.66%	16.66%	33.33%	30%	100

Analyzing responses it could be inferred that 63.33% of the respondents are involved in trade activity to make Quick Money.

AHP Analysis of Involvement

Pair wise Comparison Matrix for Involvement

Feature	Trade Activity	Quick Money
Trade Activity	1.00	2.00
Quick Money	0.50	1.00

Normalized Matrix for Involvement

Feature	Trade Activity	Quick Money	Average
Trade Activity	0.75	0.75	0.75
Quick Money	0.25	0.25	0.25
Total	1.00	1.00	1.00

Investors in stock trading two factors namely level of Trade Activity and motive towards making Quick Money were analyzed. On the basis of the responses of the investors AHP determined Trade Activity has the highest weights approximately 75% while the attitude of making Quick Money weights 25% approx.

FINDINGS:

In this paper the investment behavior of individual investor is analyzed in terms of three broad behavioral dimensions viz; Overconfidence, Investor involvement, Optimism which are measured in terms of different factors. From the analysis the key findings suggests that the role of overconfidence is highly crucial and important in comparison to other dimension such as investor's involvement and optimism. In this study overconfidence bias is measured in terms of four factors: self-control, market knowledge, stock selection ability and specific skills. It's clearly found that majority of investors believe that they have better stock picking ability than other investors. They also believe that they have complete knowledge of market particularly those investors who have many years of investment experience. They are found to be confident of their specific c skills that lead them to earn profits over their investments. When studied the level of optimism among investors in terms of their outlook of future of the stock market, we found that investors are not much optimistic about the future of market. It's found that some investors want to keep their investments in the stock markets only because the stock prices have declined and they do not want to sell their stocks at a loss. Very few showed willingness to increase their investments in the stock market in next 12 months because they do not believe that stock market will not scale up immediately. The dimension of investor involvement is measured in terms of their trade activity and tendency to make quick money. It was found that investors having short term profit seeking objectives are found to have greater level of involvement as compared to those with long term investment objectives as they have greater tendency to make quick money in short time periods.

CONCLUSION:

Investment behavior of individual investors relies heavily on various inputs for making a successful investment in securities market. The idea of investment is fully rational based on maximizing their utility and demonstrating perfect self-control is not realistic and the market inefficiency in the form of anomalies and irrational investor behavior has been observed more frequently during the past decades. The results obtained from the study suggest that the behavior of individual investors is irrational to a greater extent. Study revealed that individual investors have high level of involvement and overconfidence while they are not much optimistic about the future outlook of market and moreover they have an aversion to risk.

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Demonetization: Social and Economic Impact

Dr. Paras Jain
Director, Silicobyte Katni Degree College,
Dikshabhumi Campus, Adharkap Katni (M.P) -483501.

A B S T R A C T

The impact of demonetization was felt in the social, political and economic sector. This action worst affected the poor and the common people. It was a step of moving toward cash less economy. This step was taken to curb the black money to a great extent. Salaried class was not still able to withdraw their salaries from the banks and ATMs as a result of cash deficit. Govt. encouraged doing financial transactions using mobile and other electronic means. Present study is focused on finding of social and economic impacts of demonetization.

Keywords: Demonetization, Economic, Cashless

INTRODUCTION:

Demonetization refers to the financial step of the government to declare a currency unit invalid. Usually, this is followed by exchanging the old currency for new currency. Salaried people faced the issue on the opening day of the month with their salaries credited in the bank account but were able to withdraw only 2,000 rupees from the ATM machines. The impact was drastic with marriages facing severe issues with cash transactions. The impact on the health care sector was huge with hospitals refusing to accept the old currency. Several cases of death had been registered for not attending the patients due to demonetization. The impact on education sector was minimal and all universities and colleges have been instructed to enable online transactions in their website for the convenience of the students and parents. Road blockades and quarrels arouse with people waiting in long queues before the banks and ATM machines. People became restless spending an entire day to withdraw money. Several deaths have been registered as a result of waiting in long queue. Pensioners are worst affected with no special provisions made for senior citizens in banks.

This is one of the defining moments in India's economic development. These steps had been taken in the move towards cashless economy. A cashless economy with an audit trail and increased transparency would directly result in reduction of corruption, elimination black markets, accountability and better governance. A cashless society will enable sharing India's economic growth with the poor by ensuring that benefits from governmental programs flow to the recipients directly. When black money within India gets curbed, it will result in the overall economic development of the nation. This was revealed in the demonetization when terror financing and other sources of illegal financing was curbed. Considering the entire economy of India as a whole, aim of demonetization was to make most of the transactions to be done through the formal banking sector. This will increase the transparency with people and corporate paying tax properly.

OBJECTIVE OF STUDY

Finding of social impact of demonetization

Finding of economic impact of demonetization

HYPOTHESIS

1. There is no significant social impact of demonetization
2. There is no significant economic impact of demonetization

METHODOLOGY

Descriptive survey method was adopted for present study. 1000 persons of age 31-60 years were randomly selected for study. Among these persons govt. employee, private employee and business persons are included. They were classified according to occupation category and annual income. They were interviewed to find their views using a self-prepared questionnaire. Collected data was tabulated and analyzed using percentile as statistical tool.

FINDING AND ANALYSIS

Table 1: Social Impact of Demonetization

Category	No. of Persons %			
	Entrust on Indian Economy	Unavailability of Fund	Instability	Hurdles for Important Work
Private Service Persons	37	73	41	48
Govt. Service Persons	14	71	28	49
Business Persons	42	67	62	54

Table 2: Economic Impact of Demonetization

Category	No. of Persons %				
	Increase in cases of Declaration of Assets	Increase in No. of Tax Payee	Increase in Bank Transactions	Decrease in Financial Activities	Transparency in Economy Favored By
Private Service Persons	7	26	26	23	61
Govt. Service Persons	3	12	34	14	69
Business Persons	12	38	23	43	39

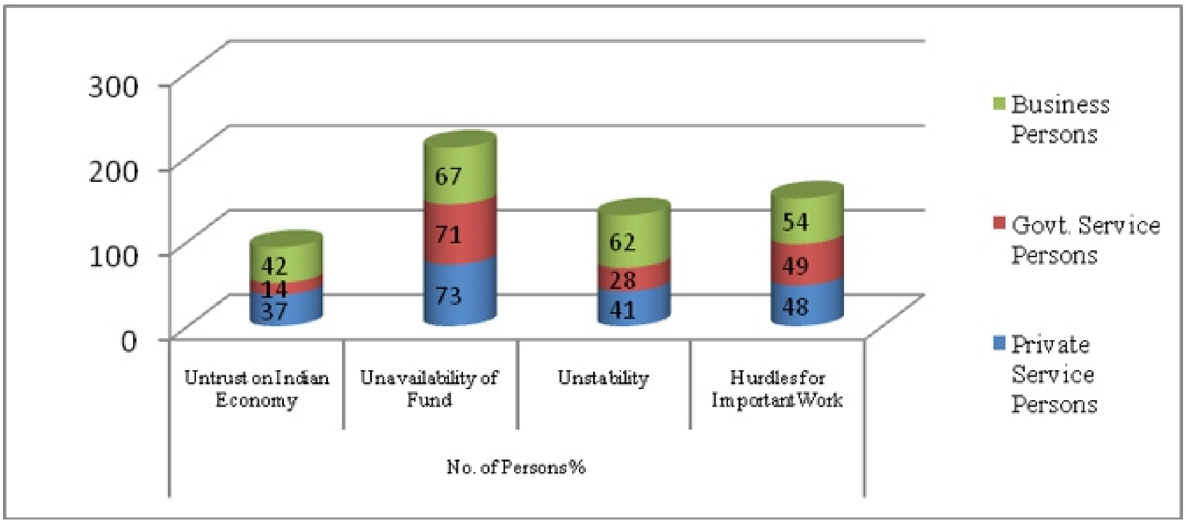

Chart 1: Social Impact of Demonetization

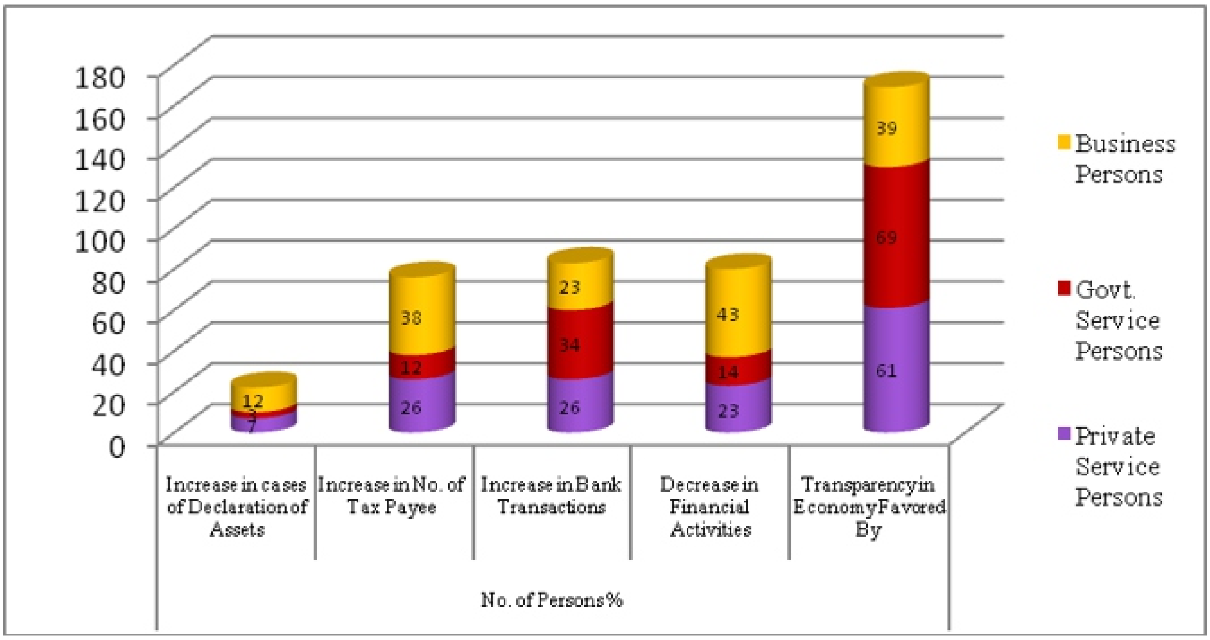

Chart 2: Economic Impact of Demonetization

Entrust on Indian economy have been found among 37% private service persons, 14% govt. service persons and 42% business persons. Unavailability of fund was arisen by 73% private service persons, 71% govt. service persons and 67% business persons. Instability was showed by 41% private service persons, 28% govt. service persons and 62% business persons. Demonetization as hurdle for important work was presented by 48% private service persons, 49% govt. service persons and 54% business persons. Hence hypothesis 1, there is no significant social impact of demonetization is rejected.

Increase in declaration of assets cases have been searched among private service persons 7%, govt. service persons 3% and business persons 12%. Increase in no. of tax payer found as 26% private service persons, 12% govt. service persons, 38% business persons. Increase in bank transactions have been observed among 26% private service persons, 34% govt. service persons and 23% business persons. Decrease in financial activities marked 23% for private service persons, 14% govt. service persons and

43% business persons. Transparency in economy favored by 61% private service persons, 69% govt. persons and 39% business persons. Thus hypothesis 2, there is no significant economic impact of demonetization is rejected.

CONCLUSION

Demonetization was viewed as a measure of sterilizing the money. Demonetization has caused great hassles among the public. This demonetization measure helped banks to recover some bad loans and improve their financial position. Prospects of transparent economy are visible. After facing so many social and financial problems now public expect a fair, corruption less and safe economy for nation.

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Impact of Foreign Direct Investment on Indian Export: An Analysis

Rajender S. Godara
Assistant Professor,
Department of Economics, CDLU, Sirsa (Haryana).

ABSTRACT

The international trade provides an opportunity to all countries to utilize their advantage in various lines of production. The economic development has taken place simultaneously with growth in international trade. The developing economies, having abundance in natural resources, face shortage of capital to exploit these resources. This shortage of capital can overcome through Foreign Direct Investment (FDI), which enables an economy to exploit her resources optimally and contribute to economic growth. Indian economy has shown fast growth since 1991, when economic reforms were initiated with the progressive opening of the economy to international trade and investment. Objective of the study is to analyze the trend and impact of FDI Inflow on export of India. The study is based upon secondary data. Correlation and regression analysis and ACGR has been used for the analysis of data. The study shows positive relation between export and FDI and positive impact of FDI on export. FDI is considered as an important means of promoting export of India.

I. INTRODUCTION:

The international trade provides an opportunity to all countries to utilize their advantage in various lines of production. The economic development has taken place simultaneously with growth in international trade. The developing economies, having abundance in natural resources, face shortage of capital to exploit these resources. This shortage of capital can overcome through Foreign Direct Investment (FDI), which enables an economy to exploit her resources optimally and contribute to economic growth. It further supplements domestic savings and smoothen inter- temporal consumption which could strengthen the growth process and foster employment generation in the recipient country. Hence, FDI boost aggregate demand and leads to an increase in aggregate output and income.

FDI has become a key component of national development strategies for all most all the countries over the Globe. FDI is considered to be an essential tool for jump-starting economic growth through its bolstering (support) of domestic capital, productivity and employment. So many literatures highlight the benefits and costs of FDI for the host country, especially a developing one. The arguments for the positive impacts of FDI center around three prevalent benefits that are important to a developing country namely inflow of physical capital, technology spillovers and employment. Inflow of physical capital in the form of FDI could also increase the rate of economic growth particularly for developing one, where capital is scare. The leakage of technology spillover from MNEs enables domestic firms to improve their productivity and that allows the host country to enhance its long-term economic development. The growth enhancing capability of FDI also depends on the selected mode of FDI. Greenfield FDI can result in an increase in the host country's stock of capital whereas the Brownfield FDI (M&A) can only result in positive externalities of technological spillover.

The developing countries are now shifting their priorities from import substitution towards structural adjustments via free market economies and increasing emphasis on FDI. FDI is now accepted as panacea for all types of scarcities of financial capital, technological know-how, efficient managerial techniques, organizational skill and access to market abroad. FDI is a source of creation of tangible and intangible assets, employment and wealth; these are highly beneficial to the host country's economic growth. FDI has also been viewed as a vehicle to economic growth, particularly in developing countries (Blomstrom, et al.1994; Balasubramanyam et al., 1996; Borensztein et al. 1998; De Mello, 1999).

FDI inflows can be a tool for bringing knowledge, managerial skills and capability, product design, quality characteristics, brand names, channels for international marketing of products, etc. and consequent integration into global production chains, which are the foundation of a successful exports strategy (BlomStrom, Kokko and Zejan, 1994; Borensztein, De Gregorio and Lee, 1998; De Mello, 1999; UNCTAD 1999; Lall, 2000; OECD 2002, Lipsey, 1999). For all these reasons, FDI is regarded as a vital instrument for economic development particularly for developing economies. FDI flows are usually preferred over other forms of external finance because they are non-debt creating, non-volatile and their returns depend on the performance of the projects financed by the investors. In this competitive world and speedy technological change, investor's complimentary and catalytic role can be very important.

II. REVIEW OF LITERATURE

Alguacil, M.T., (2002) in his study conclude that the involvement of foreign firms had a higher export propensity than local firms. It also suggests a type of FDI -led export growth linkage and thus the integration of India in the world economy is being fostered by the export orientation of foreign firms. Rob and Vettas, (2003) A MNC can serve the foreign demand by two modes or by a combination thereof. It can export its products or it can create productive capacity via FDI. The main benefit of FDI is that it allows for the lower marginal cost than exporting does. The disadvantage is that FDI is irreversible and hence entails the risk of creating under-utilized capacity in case the market turns out to be small. An internal solution may be the MNC both export and makes FDI under certain conditions. Zhang, K.H (2005) has tried to place proper emphasis on the role of FDI in the export promotion by studying the china's economy. He stated in his findings that China's export boom was accompanied by substantial inflows of foreign direct investment (FDI) and china brings the 32nd in 1978 to the 3rd largest exporting country in the world in 2004. Prasarma. N (2009) confirmed in his work that in a globalizing world, export success can serve as a measure for the competitiveness of a country's industries and lead to faster growth. In recent times, an optimistic view on the role of Foreign Direct Investment (FDI) on export performance in the host country has evolved. The present study is concerned with the impact of FDI on export in India.

Objectives of The Study

1. To find the relationship and trend of FDI inflow and export of India.
2. To analyze the impact of FDI on exports of India

Hypotheses of The Study

For these two objectives of the study, two null hypotheses have been formulated:

(1) There is no significant relationship between FDI and Exports

(2) There is not any significant impact of FDI on the exports.

Methodology

The study is based upon secondary data which have been collected mainly from the Handbook on Indian economy, Annual reports of RBI, Department of Industrial Policy and Promotion of India and various government institutions. In order to find the relationship between FDI and export correlation coefficient has been used. ACGR is calculated by using Semi log regression model. To access the impact of FDI on export growth in the Indian context, Double Log regression model has been used. The study cover the time period from 2004-05 to 2015-16. SPSS package is used for statistical results.

III. TRENDS OF FDI INFLOWS AND EXPORT OF INDIA

FDI has proved helpful to improve the productivity and efficiency of the economy through technology transfer in the form of the knowledge, technical and marketing skills organization and management systems. This helps the country to gives comparative advantage to promote exports. Data related to export, import, trade balance, GDP and FDI of India has been shown in table 1.

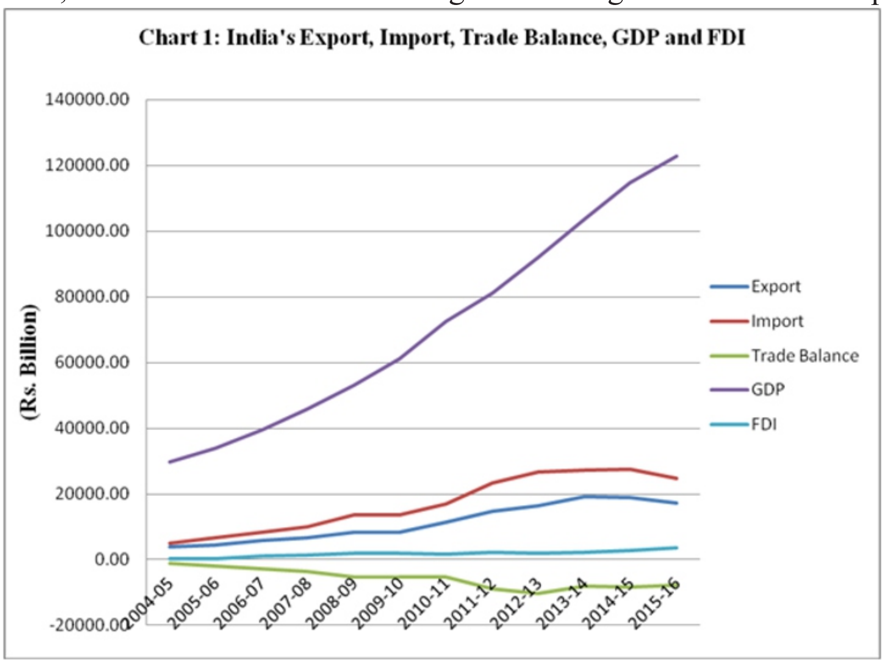
Table No. 1: India's Export, Import, Trade Balance, GDP and FDI (Rs. Billion)

Year	Export	Import	Trade Balance	GDP	FDI
2004-05	3753.40	5010.65	-1257.25	29714.64	272.34
2005-06	4564.18	6604.09	-2039.91	33905.03	397.30
2006-07	5717.79	8405.06	-2687.27	39532.76	1030.37
2007-08	6558.64	10123.12	-3564.48	45820.86	1398.37
2008-09	8407.55	13744.36	-5336.81	53035.67	1914.19
2009-10	8455.34	13637.36	-5182.02	61089.03	1796.42
2010-11	11429.22	16834.67	-5405.45	72488.60	1642.55
2011-12	14659.59	23454.63	-8795.04	81066.56	2200.00
2012-13	16343.18	26691.62	-10348.44	92100.23	1868.69
2013-14	19050.11	27154.34	-8104.23	103808.13	2185.95
2014-15	18964.45	27370.87	-8406.42	114724.09	2764.00
2015-16	17144.24	24859.27	-7715.03	122794.10	3641.46

Source: Handbook of Statistics on Indian Economy 2015-16

Data presented in table 1 shows that there is a increasing trend of export, import, GDP and FDI. Export of India increases from 3753.40 Billion Rs. to 17144.24 Billion Rs. from the time period 2004- 05 to 2015-16, with 19.1 percent ACGR (Annual compound growth rate). Similarly, GDP of India increases from 29714.64 billion Rs. to122794.10 billion Rs. from the time period 2004-05 to 2015-16, with 16.4 percent ACGR). However, FDI of India increases from 272.34 billion Rs. to 3641.46 billion Rs. from the time period 2004-05 to 2015-16, with 23.9 percent ACGR. Trends of India's export, import, trade balance, GDP and FDI have been shown in the chart 1 given below:

Chart 1 shows increasing trend of export, import, GDP and FDI of India during the time period 2004- 05 to 2015-16, whereas, trade balance shows decreasing trend during the above said time period.



IV: RESULT AND DISCUSSIONS

To examine the relationship of FDI with exports and growth, firstly Karl Pearson's correlation coefficient is computed between export and FDI, exports and GDP. The results are calculated by considering the values of FDI inflows and exports of India from the period 2004-05 to 2015-2016 and shown in table 2 and 3.

Table 2: Correlation between Export and FDI

Correlation coefficients			
		Export	**FDI**
Export	Pearson Correlation coefficient	**1**	**.863***
	Sig. (2-tailed)		**0.001**
FDI	Pearson Correlation coefficient	**.863***	**1**
	Sig. (2-tailed)	**0.001**	
* Correlation is significant at the 0.01 level (2-tailed)			

Table 3: Correlation between Export and GDP

Correlation coefficients			
		Export	**GDP**
Export	Pearson Correlation coefficient	**1**	**.992***
	Sig. (2-tailed)		**0**
GDP	Pearson Correlation coefficient	**.992***	**1**
	Sig. (2-tailed)	**0**	
* Correlation is significant at the 0.01 level (2-tailed)			

Since the correlation coefficients between the export and FDI variables are high, therefore, the null hypothesis is rejected at 0.01 percent level of significance. The results clearly indicate that there is significant relationship between FDI & exports (table: 2). Moreover correlation coefficients between the export and GDP is also high which indicate that there is significant relationship between exports and GDP (table: 3).

REGRESSION ANALYSIS

In order to understand the impact of export on FDI, Double Log regression modal has been used as shown

$$\text{Log EXP} = \alpha + \beta \text{ Log FDI} + u \qquad (1)$$

Where, α and β are coefficient to be estimated

EXP = Exports

FDI = Foreign Direct Investment

u = Disturbance term

Table: 4 Coefficients

Model	Coefficients		t
	β	Std. Error	
(Constant)	510.145	2193.819	0.233
FDI	6.428	1.255	5.120
Dependent Variable: EXPORT			

Table 5: Result of Regression (Export and FDI)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.863[a]	0.744	0.716	3034.55101	0.711
a. Predictors: (Constant), FDI					
b. Dependent Variable: EXPORT					

From the Model, it is found that β is statistically significant. The regression result confirms that FDI is an important factor for increase in exports of the country. It is observed from the results that elasticity coefficient between FDI and export is 6.428 which imply that 1% increase in FDI may cause 6.428% increase in exports. Hence, FDI positively influences exports. The coefficient of determination i.e., R2 shows that the model has a good fit as 74.4 % of exports is being explained by FDI.

CONCLUSION

FDI is considered as an important means of promoting export of the host countries. By training the local work force and upgrading the technical and managerial skills, it helps in raising the efficiency and productivity of the factors and hence competitive strength in the international market. In addition to this, by facilitating access to large international market, FDI makes a significant positive contribution to the host country's exports. The study clearly reveals that FDI not only acts as a vehicle for accelerating the pace exports but it is also an important variable that alters the level of GDP of the host country. FDI have a capability to balance the local developmental efforts by increasing the export competitiveness, creating employment opportunity and strengthening the skill base, enhancing technological capabilities (transfer, diffusion and generation of technology), and increasing financial resources for development. It can also help plug a country in the international trading system, as well as promote a more competitive business environment. In this observation, India should continue to take steps to ensure an enabling business environment to improve India's attractiveness as an investment destination. India has a potential to attract FDI inflows is vast, although poor infrastructure, excessive bureaucracy, labour market inefficiencies, and interdepartmental wrangling slow the pace of opening in many sectors. Therefore, it is suggestion to the policy makers of India that drastic steps must be taken to improve infrastructural facilities and increase labour efficiencies which can be seen as a restructuring tool to increase FDI inflows in India. It is also suggested that focus should not be on the absolute amount of gross FDI inflows, but also the on the type of FDI inflow as it is seen that FDI inflow in India is mostly concentrated through M&A. There is hardly any Greenfield Investments being taken place so far. Finally, India should consciously work towards attracting greater FDI into R&D as a means of strengthening the country's technological capacities. Policy makers of developing countries are looking at FDI as the major source of finances, but they keep in mind that FDI is not the only way out of fast growth and development. India needs to put in place a comprehensive developmental strategy which includes being open to trade and FDI.

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ICDS in Mewat: Gaps and Furtherance

Yamini
Assistant Professor,
Department of Economics Jesus and Mary College, University of Delhi.

ABSTRACT

It is often believed that the schemes in India are not sufficiently imparted on the grounds to the beneficiaries as they aim to bring in theory. This paper aims to looks at one of such scheme, ICDS, Integrated Child Development Services and analyse its functioning in retrospect to the abovementioned belief. The study was done in 15 anganwadi centres, central focus of the ICDS scheme of the villages spanning over 5 blocks of the district Mewat in Haryana. The study was conducted during June-July 2014 under the purview of S M Sehgal Foundation, Gurgaon. The results hence obtained are solely true to the data collected in the study. The study was made with the intention to look into the functioning of the Scheme and to bring out the loopholes to be further worked upon.

Keywords: Anganwadi, Mewat, ICDS

1. INTRODUCTION:

Malnutrition is currently one of the biggest challenges facing the modern India. The relationship between health and poverty is multifaceted and multidimensional. Determinants of child under nutrition are interlinked to situation of poverty and hunger along with factors such as poor access to health care, education, asymmetry in gender relationship. Amartya Sen has pointed out that actual under nutrition is higher in India as compared to South Africa. Under nutrition is considerably higher among the underprivileged social groups living in rural areas- in the drought prone pockets, in particular and in urban slums than among the more affluent classes and higher castes.[1]

Government of India proclaimed a National Policy on Children in 1974 declaring children as supremely important asset. Launched on 2nd October 1975, ICDS scheme represents one of the world's largest and most unique programmes for early childhood (0-6 years) development and it seeks to provide an integrated package of services in a convergent manner for the holistic development of the child. ICDS is a centrally sponsored scheme implemented through the state governments.

[1] AmartyaSen, Pratichi Child Report – A study on the delivery of ICDS in West Bengal.

1.1 Objectives of the Scheme

- improve the nutritional and health status of children in the age-group 0-6 years;
- reduce the incidence of mortality, morbidity, malnutrition and school dropout;
- achieve effective co-ordination of policy and implementation amongst the various departments to promote child development; and
- Enhance the capability of the mother to look after the normal health and nutritional needs of the child through proper nutrition and health education."[2]

The ICDS team comprises of Anganwadi workers, Anganwadi helpers, Supervisors, Child Development Project Officers (CDPOs) and District Programme Officers (DPOs). Besides, the medical officers, Auxiliary Nurse Midwife (ANM) and Accredited Social Health Activist (ASHA) form a team with the ICDS functionaries to achieve convergence of different services

2. METHODOLOGY:

Five blocks of Mewat district in Haryana were selected i.eTauru, Nuh, Nagina, Firozpur Jhirka and Punhana covering 15 Anganwadi centres. The study is largely based on the primary research and is both quantitative and qualitative in nature. Primary data were collected during the field visits with the help of structured questionnaire and observation methods. The target group included pregnant and lactating mothers, children within the age group of 3 to 6 years, Anganwadi workers/helpers and important villagers.

Focussed group discussions with the villagers were done to get more insight about the implementation of the scheme. Adequate attention has been paid to ensure that the participants for focused group hail from different strata of society.

3. FINDINGS FROM THE VILLAGES:

3.1. Infrastructure:

The infrastructure of the centers becomes one of the essential pre-requisites for the effective delivery of the services to beneficiaries under the ICDS scheme. 80% of the anganwadi centers visited had a pucca structure. It was also found that none of the centers visited had fan or sanitation facilities. Almost 87% of the centers had posters and charts and other study material but 40% were in bad conditions either torn or faded. Only 4 centers had the gas stove connection, rest were still working on the old style cooking system of Chula.

All 15 centers had the storage vessels but AWW workers find the trunk allotted to them to be scarce in space and hence has to but other storage vessels on their own. Also, the funds for cooking utensils has only been received in one of the 15 centers visited, rest have expended their own money.

66% of the centers had issues with water. The helper would have to carry water from long distances or from their homes to cook food. There is no water in these centers to be given to the beneficiaries. 6 out of 15 centers had leakage problems in times of rain. The construction of the center is so that the rain water would seep in and sometimes destroy the grains in some cases and in some cases the water would come through the windows as they are broken.

Also, in certain centers, because of the lack of locks and door in the center, there was a danger of theft of grains and hence has to be kept in some other place which posed problems transporting the grain every day to cook food.

3.2. Supplementary Nutrition:

One of the integral parts of a regular day at an Anganwadi Center is to provide supplementary nutrition. It was found from the survey that almost 90% of the AWCs had cooked food when we visited them but as per the findings from the villages it is seen that only 60% actually cook food every day. Although, it was noticed that there was no uniformity in the supply of basic food material to these centers, some of the centers get extra endowments from the government while some centers don't.

The ration allotted by the government is found to be irregular in 25% of the centers but overall this issue didn't seem to be a problem for the centers. Mostly centers are getting the ration in 3 months except for oil. On the other hand, all the 15 centers had issues with the money allotted for fuel and vegetables. Every center visited receives this money on yearly basis and even more than that in some of the cases. While the AWWs were aware of the day-wise menu of food, it was seen that only few stick to it.

3.3. Pre School Non Formal Education:

The AWW's are supposed to teach the alphabets, counting, recite poems, tell stories etc. it was although observed that this part of the scheme stays mostly untouched. Having said that, there were few AWW's who seemed to have taken an effort to teach kids in a creative way as one of them made stuffed toys in the shape of vegetables to teach their name to the kids. In almost 80% of the AWCs the mothers of the beneficiaries have given a negative reply in the respect of education in these centers. The AWCs also came out to be the centers of social and moral teachings but the impact of the same is a question.

3.4. Human Resource:

75% of the AWWs have said that they don't receive their wages on time and even when they receive it is not complete. There has been upgradation in the salaries from 2014 but the workers haven't yet received the updated salary except for one out of the 15 centers. Since, the salaries are often clubbed together and that too not in full amount, it creates a whole lot of confusion to the AWWs. On the grounds of the same excuse, around 35% of the workers do not know their exact salary amount.

The AWWs are given a training course before they are appointed and they are also given refresher course training. All the 15 workers who were questioned have received the training be it before or after joining the AWC. Almost 40% found it useful and has seen changes in their way of conduct after coming from the workshop while the 30% feel it was the same ,the rest don't remember the contents properly.

3.5. Regulatory Mechanism:

There needs to be a stringent regulation mechanism by the government and the community for effective implementation of any programme. The workers and villagers were asked about the frequency of visits made by the Child Development Project officers and supervsiors. The following findings are obtained from the 15 centers visited. Sarpanch has been majorly involved in visiting the centers as 7 out of 15 centers have seen their sarpanch coming more than 3 times in a month. Majority of the centers have seen CDPO coming to the centers only once a month and supervisor twice or thrice a month.

It was seen that the number of supervisors were lesser as compared to the number of villages they were handling making the system more tough to operate effectively.

The mother's committee that looks after the functioning of the AWC comprising of the beneficiaries was missing in these centers but some groups were present in only 25% of the centrers that hold meetings and come up with solutions in cases of problems in the functioning of the AWC.

4.RECOMMENDATIONS:

4.1. Increased Community Monitoring:

It has been observed that there is an impish behaviour by the villagers, not falling in the group of beneficiaries while collection of supplementary nutrition which often barges the actual beneficiaries from getting desired amount of food. The AWWs lack the authority to refuse them food because they face social misbehaviour and thefts and damages in the AWCs by the villagers if they refuse them the food. Hence, to avoid the cluttered situation and to make the scheme reach the real beneficiaries, a three step practice should be followed simultaneously.

1. There should be a small monitoring group (including members of panch and mothers of beneficiaries) authoritative in nature that should specifically look into this matter.
2. All the villagers and not just the beneficiaries should be mobilized and made aware about the scheme and its beneficiaries.
3.The goal of the scheme should be extended to feeding the mouths of the beneficiaries and not just distribution of food to them. This implies that the AWWs should practice feeding the beneficiaries in the AWCs; they shouldn't give the food to somebody related to the beneficiaries on excuses of taking the food home and feeding there. The beneficiaries should receive and eat the food right there in the AWCs.

4.2 Stricter and Regular Government Monitoring

It was also observed there were only 2 supervisors who were handling 2 blocks of Mewat which would mean a lot of villages and hence a lot of anganwadi centers. The system of regulatory mechanism hence gets bungled because from the practical aspect, these supervisors do not get enough time to look into the problem of all the anganwadi centers. Hence there is a need to employ and officiate more supervisors who can make the redressal system more pertinent.

Monthly visits only for infrastructural checks should be made by the government officials and desired supplies should approved in quickest possible way.

4.3 Monthly allocation of funds from the government:

Another distinct issue observed in these AWCs is the lacking incentives for the AWWs to work because of the late receipt of wages. Besides the wages, they don't even get money for fuel and vegetables on time. Most AWCs haven't received the rents since years. The funds for cooking vessels also have not been allotted. All the money for these expenses hence has to go from the worker's pockets. On the top of that when the workers don't receive their monthly wages; it leads to discouragement and hence breaks the very fortitude of successfully carrying out the services. All the incomes and funds should be supplied every month without any breaks.

4.4 Greater emphasis on Pre-School Non Formal Education:

Pre-School Non formal Education which is considered to be a significant service of the ICDS scheme was found to be almost absent in the Anganwadi centers. It was also found that few workers didn't have enough qualification and some just didn't have any incentive to teach the kids. Besides, the kids and their mothers themselves do not feel the need to get education. They only come to AWC for food, so there needs to be a stricter agenda for the centers to impart the non-formal education.

4.5 Comprehensive Training Programmes for AWWs:

The AWWs should be given a training course specifically to make them learn how to teach the kids. The training programmes should be more regular and refresher courses should be provided from time to time to make the workers stay in touch and updated. There can be annual incentivisation for the best AWW initiated by the government to make it competitive amongst them to work in their best level possible which in further aims to solve the issue of incentives as discussed earlier in the paper.

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Efficient Management of Working Capital in Steel Companies of India

CMA Rajni Bala[1], Dr. Manisha Gupta[2]
[1]Research Scholar, IKG PTU.
[2]Director, PIMT, Alour Khanna.

A B S T R A C T

Liquidity and profitability are the importance aspects in a business. Liquidity depends on the profitability of business activities and profitability is hard to achieve without satisfactory liquid resources. Both are closely inter-related. Working capital is the tepid blood passing through the arteries and veins of the business and sets it ticking. Working capital in a going concern is a gyratory fund, it consists of cash receipts form sales which are used to cover the cost of current operations. One hypotheses has been used in this study that is based on Chi-square test is to understand working capital direction and growth/efficiency. The statement of null hypothesis is, "The working capital indices of the sample units can be represented by the straight line trend based on the least square method. The acceptance of the said hypothesis would reveal that the working capital indices of the sample units cannot be represented by the straight line trend based on the least square method.

Keywords: Working Capital, Indian steel companies, Liquidity, Profitability, Trend Values

INTRODUCTION:

Working capital is the lifeblood of a business. Good working capital management can take a business towards success whereas inefficient working capital management can move the business to downfall. An optimum working capital management is expected to contribute positively to the creation of firm's value. Working capital is of crucial importance in case of capacity utilization and consumption of steels Working capital is the cash available for day to day operations of a business and meets its obligations. Good working capital management will secure a company's financial stature and help build its business. It is necessary for increasing earnings and makes it easier to get business loans and attract potential investors. The main aim of a working capital management plan is to balance current assets against liabilities. This helps companies maintain its planned expenses like salaries and short term financial obligations. If a company's current liabilities are more than its current assets, it signifies a negative working capital. Hiring a good accounts manager who knows various techniques will take care of working capital management in a business efficiently. In case of deficiency, the company can increase the working capital with proper management of outstanding incomes, its creditors and of the company's inventory or by getting a short term loan. The company's growth rate can be increased with cash by regulating its investment plans and by handling profit efficiently. It is important to having good working capital management in order to identify the right time to convert the company's current assets into cash. This is called the cash conversion period. Working capital management always ensures sufficient cash flow in a business. This allows companies to pay their liabilities without delay and more importantly protects them bankruptcy.

Therefore, working capital should neither too high nor too low. Excessive working capital indicates an accumulation of idle current assets (resources) which don't contribute in generating income (profit) for the firm during the operating period. On the other side, inadequate working capital harms the credit worthiness and the day to day activities of firms and this may lead to insolvency (bankruptcy).

Steel is vital to the development of any modern economy and is considered to be the backbone of the human civilization. It is a product of a large and technologically complex industry having strong forward and backward linkages in terms of material flow and income generation. All major industrial economies are characterized by the subsistence of a strong steel industry and the growth of many of these economies has been largely shaped by the strength of their steel industries in their initial stages of development.

At present, India is among the top producers of all the forms of steel in the world .Easy accessibility of low cost manpower and preferences of plentiful referrers make India completive in the global setup. India occupies 4TH rank in world's in the year 2012 in the crude steel production i.e. 77.6 million tons, while china is the world largest crude steel producer producing 716.5 million tons of crude steel. India per capita steel consumption is 56.9 kg as compared to world average consumption of 216.9 kg so this level of per capita consumption of steel is treated as one of the important indicators of socio-economic development and living standard of the people in any country because of large consumption of steels.
The future, selective steel producers in India is very high making it prone to increasing returns to scale and the consequent market structure. TISCO, public sector entities, POSCO, Jindal, Essar, and Arcelor-Mittal will be among the major players accounting for the bulk of the 100 plus million tonnes of production.

LITERATURE REVIEW

To propose and defend the research work, a number of research papers are analysed. Following are the excerpts from the different research work performed by number of academicians and researchers.

Nimalathasan Balasundaram (2003) stated the impact of working capital management on profitability and by reducing the number of day's inventory and accounts receivables one can increase the profitability.

Lazaridis et al (2006) investigated the relationship between profitability and working capital management in Athens Stock market Exchange (ASE) using a sample of 131 firms for the period from 2001 to 2004. Their findings showed that cash conversion cycle connected with gross profit margin negativity.

Raheman Abdul et al (2007) affirmed the effect of Working Capital Management on liquidity as well on profitability of the firm. They had taken a sample of 94 Pakistani firms which were listed on Karachi Stock Exchange for 6 years of period from 1999 – 2004, they had taken into consideration various variables of working capital management like the Average collection period, Inventory turnover in days, Average payment period, Cash conversion cycle and Current ratio on the Net operating profitability of Pakistani firms. Pearson's correlation and regression analysis were used for analysis. The results revealed that there was a study negative relationship between variables of the working capital management and profitability of the firm. They initiate that there was a significant negative relationship between liquidity and profitability. They also found that there was a positive relationship between size of the firm and its profitability. There was also a significant negative relationship between debt used by the firm and its profitability.

Nazir et al (2009). The sample consisted of 204 non-financial firms active in Karachi Stock Exchange (KSE) over the period from 1998 to 2005. Their result showed that the rate of assertiveness in working capital polices and financing measures were negatively associated with both profitability ratios including return on assets and Tobin's q. More aggressive policies should be followed in managing current liabilities.

Dănuleţiue Adina Elena (2010), the principle of this study was to analyze the efficiency of working capital management of companies from Alba County. The conclusion to the study was that there was a weak linear correlation between working capital management indicators and profitability rates.

Singh Karamjeet (2010) stated that working capital management should be well designed and it had a momentous contribution for firms' profitability so as to maintain the liquidity powers. The rationale of this study was to investigate the liaison between profitability and liquidity of firms. Therefore, the working capital should neither too high nor too low. Excessive working capital indicates a gathering of idle current assets (resources) which didn't contribute in generating income (profit) for the firm during the operating period. On the other side, inadequate working capital troubles the credit worthiness and the day to day activities of firms and this might lead to insolvency (bankruptcy).

Mumtaaz Adeel et al (2010) in the paper they analyzed how working capital management impact's the firm's performance in the market which was progressive in nature such as Karachi stock exchange. He took a sample of 22 firms of the chemical sector for 6 years i.e. from 2005-2010.He utilized diverse variables for the analysis of working capital management and firm performance. Various control variables were used in the study i.e. number of day's receivables, number of day's inventory and the Size, Leverage, Inventories, Equity, Sales, and GDP. The dependent variable that was used in the study to measure the performance was Return on Asset. The firm's profitability was greater affected by the size of the firm. The higher profit firms were not interested in managing working capital and firm performance. The result of the study concluded that there was a negative relationship between the working capital and firm performance. The relationship between the size and profitability was positive. If the size of the firm was increased or decreased then the profitability increased or decreased respectively and concluded that there was a negative relationship between the profitability and the debt utilized by firms that support to pecking order theory.

Tahmina Quayyum Sayeda (2011) in this paper she investigated how the profitability of corporations can be affected with working capital management efficiency as well as maintaining liquidity. Corporations enlisted with Dhaka Stock Exchange (cement industry) had been selected this covered a time period from year 2005 to 2009. The purpose of this paper was to explain the prerequisite of firms optimizing their level of working capital management and maintaining enough liquidity as it affects the profitability. The outcome of this study clearly showed a significant level of relationship between the profitability indices and various liquidity indices as well as working capital components. This study found a negative relationship between cash conversion cycle and profitability of the Firm.

2Alipour Mohammad, (2011) avowed that the vital measuring tool to evaluate the efficiency of working capital management was cash conversion cycle. After that multiple regression and Pearson's correlation was used to test the hypothesis. The outcome of the research showed that there was a significant relation between working capital management and profitability and working capital management had an enormous effect on the profitability of the companies and the managers could generate value for shareholders by means of decreasing receivable accounts and inventory.

Niresh J. Aloy (2012) declared that central element in determining the financial performance of an organization was working capital management. The conclusions divulge that, there was no significant relationship between cash conversion cycle and performance measures. The study also concluded that manufacturing firms in Sri Lanka should follow conservative working capital management policy.

Malik Zafar Ullah (2012) study showed that the impact of working capital management on firm's profitability in sugar industry of Pakistan for years 1999 to 2009. To analyze this, data of 19 sugar mills which are listed at Karachi Stock Exchange was used. The result showed that the Sales Growth, Current Ratio, No of Days Inventory and No of Days Accounts Payables are appreciably affecting the profitability of the firms while Sales, Gearing Ratio and No. of Days Account Receivables are of no consequence in the research.

Desai Hiral et al (2015) studied that one can only survive with efficient working capital. It is the life blood of any business. It is the challenging aspect of the financial management. The rationale behind the study was to investigate the impact of working capital management on profitability, liquidity & risk on the Dabur India & Maric. Various statistical tools like average, Spearman's coefficient of correlation and accounting technique such as ratio were used. Further it revealed that there was a negative relationship between liquidity and profitability and a positive relationship between profitability and risk.

OBJECTIVES OF STUDY

The purpose of the research is to discover answers of the following question through the application on scientific procedures. The main objective of the research is to understand the liquidity management of steel units as well the problems in liquidity management of these units. This broader objective is classified into:

- To know the tendency of raw material of the selected units.
- To know credit tendency of the selected units.

Period of Study

This study is based on secondary data taken from published annual reports of the sample units for the period from 2007-2016, various reports of Ministry of steel of India and relevant publications were taken into consideration. Most of the work is based on annual reports.

Data Collection and Analysis

Information used for the analysis of financial liquidity of steel industry of India is availed from the annual reports presented at the end of every accounting year. Annual accounting reports of the units under study are important. Thus, the research is particularly based on secondary data.

Analysis and Interpretation of Data

One hypotheses has been used in this study that is based on Chi-square test is to understand working capital direction and growth/efficiency. The statement of null hypothesis is, "The working capital indices of the sample units can be represented by the straight line trend based on the least square method". The acceptance of the said hypothesis would reveal that the working capital indices of the sample units cannot be represented by the straight line trend based on the least square method.

The table no.1 shows the arithmetical picture about Inventory turnover ratio, Inventory turnover ratio index and trend value of JSW Steel Ltd .from the period 2007-2016 i.e. ten years of research period. It also computes and gives the chi-square value, standard deviation and co-efficient of variation for the same. The Inventory turnover ratio comes out to be 6.9 for the base year and thereafter increases and then decreases for two years. So, after screening the above figures, it can be said that the Sales-Inventory ratio stays in a mixed trend. Then, Sales- Inventory turnover ratio index is supposed to 100 for the base year i.e.2007.Sales-Inventory turnover ratio index states the arithmetical information about the disparity in Sales-Inventory turnover ratio.

At this time, the calculated value of chi-square is 11.22. On the other hand, the critical value of chi-square is 15.5.Hence; the critical value is higher than the calculated value. It indicates that the null hypothesis is accepted and the alternative hypothesis is rejected. It means, "There is no significant difference in Inventory turnover ratio of the company". On the other hand, the standard deviation comes out to 11.14 while the coefficient of variation is 11.29. So, it can be stated that there is little deviation in the productive index.

Table 1: Inventory turnover ratio of JSW Steel Ltd

Year	ITR	INDEX	TREND VALUES	CHI SQUARE VALUE	STANDARD DEVIATION
2007	6.9	100	104.613	0.203	1.88
2008	6.98	101.15	103.283	0.044	6.36
2009	7.4	107.23	101.953	0.273	73.99
2010	6.63	96.07	100.623	0.206	6.54
2011	6.06	87.81	99.293	1.327	117.0
2012	8.1	117.36	97.963	3.840	350.88
2013	7.91	115.33	96.633	3.617	278.95
2014	5.87	85.04	95.303	1.105	184.63
2015	6.08	87.35	93.973	0.466	127.19
2016	6.14	88.94	92.643	0.148	93.85
TOTAL	68.07	986.28	986.28	11.22	1241.27
AVERAGE	6.807	98.628	98.628	1.122	124.127

Chi Squ: 11.22, SD: 11.14, CV: 11.29

The table no.2 shows the arithmetical picture about Inventory turnover ratio, Inventory turnover ratio index and trend value of Tata Steel Ltd .from the period 2007-2016 i.e. ten years of research period. It also computes and gives the chi-square value, standard deviation and co-efficient of variation for the same. The Inventory turnover ratio comes out to be 4.68 for the base year. So, after screening the above figures, it can be said that the Sales-Inventory ratio stays in a mixed trend. Then, Sales- Inventory turnover ratio index is supposed to 100 for the base year i.e.2007.Sales-Inventory turnover ratio index states the arithmetical information about the disparity in Sales-Inventory turnover ratio.

At this time, the calculated value of chi-square is 78.3. On the other hand, the critical value of chi-square is 15.5.Hence; the critical value is lower than the calculated value. It indicates that the null hypothesis is rejected and the alternative hypothesis is accepted. It means, "There is a significant difference in Inventory turnover ratio of the company". On the other hand, the standard deviation comes out to 26.01 while the coefficient of variation is 20.18. So, it can be stated that there is deviation in the productive index.

Table 2: Inventory turnover ratio of Tata Steel Ltd

Year	ITR	INDEX	TREND VALUES	CHI SQUARE VALUE	STANDARD DEVIATION
2007	4.68	100	104.227	0.17	834.45
2008	4.79	102.35	109.707	49.33	704.21
2009	5.29	113.03	115.187	0.04	251.44
2010	5.12	109.39	120.667	1.05	380.13
2011	5.25	112.16	126.147	1.55	279.79
2012	7.62	162.79	134.627	5.89	1149.41
2013	8.05	171.97	137.107	8.86	1856.14
2014	7.71	164.70	142.587	3.42	1282.57
2015	5.79	123.68	148.067	4.01	27.11
2016	6.03	128.80	153.547	3.98	0.007
TOTAL	60.33	1288.9	1288.87	78.3	6765.25
AVERAGE	6.033	128.89	128.887	7.83	676.52

Chi Squ: 78.3, SD: 26.01, CV: 20.18

The table no.3 shows the arithmetical picture about Inventory turnover ratio, Inventory turnover ratio index and trend value of JINDAL .from the period 2007-2016 i.e. ten years of research period. It also computes and gives the chi-square value, standard deviation and co-efficient of variation for the same. The inventory turnover ratio comes out to be 3.81 for the base year. So, after screening the above figures, it can be said that the Sales-Inventory ratio stays in a mixed trend. Then, Sales- Inventory turnover ratio index is supposed to 100 for the base year i.e. 2007.Sales-Inventory turnover ratio index states the arithmetical information about the disparity in Sales-Inventory turnover ratio.

At this time, the calculated value of chi-square is 640.99. On the other hand, the critical value of chi-square is 15.5.Hence; the critical value is lower than the calculated value. It indicates that the null hypothesis is rejected and the alternative hypothesis is accepted. It means, “There is a significant difference in Inventory turnover ratio of the company”. On the other hand, the standard deviation comes out to 11.80 while the coefficient of variation is 13.22. So, it can be stated that there is marginal deviation in the productive index.

Table 3: Inventory turnover ratio of SAIL

Year	ITR	INDEX	TREND VALUES	CHI SQUARE VALUE	STANDARD DEVIATION
2007	3.81	100	-45.69	-464.55	116.20
2008	4.15	108.92	-15.71	-988.71	388.09
2009	3.98	104.45	14.27	569.89	231.95
2010	3.18	83.45	44.25	34.72	33.29
2011	3.49	91.58	74.23	4.05	5.56
2012	3.37	88.43	104.21	2.38	0.62
2013	2.79	73.21	134.19	27.71	256.32
2014	3.45	90.52	164.17	3.30	1.69
2015	2.88	75.56	194.15	72.43	186.59
2016	2.9	76.08	224.13	97.79	172.65
TOTAL	34.0	892.2	892.2	640.99	1392.96
AVERAGE	3.40	89.22	89.22	64.099	139.296

Chi Squ: 640.99, SD: 11.80, CV: 13.22

The table no.4 shows the arithmetical picture about Inventory turnover ratio, Inventory turnover ratio index and trend value of JINDAL .from the period 2007-2016 i.e. ten years of research period. It also computes and gives the chi-square value, standard deviation and co-efficient of variation for the same. The inventory turnover ratio comes out to be 7.2 for the base year. So, after screening the above figures, it can be said that the Sales-Inventory ratio stays in a mixed trend. Then, Sales- Inventory turnover ratio index is supposed to 100 for the base year i.e.2007. Sales-Inventory turnover ratio index states the arithmetical information about the disparity in Sales-Inventory turnover ratio.

At this time, the calculated value of chi-square is 21.36. On the other hand, the critical value of chi-square is 15.5.Hence; the critical value is lower than the calculated value. It indicates that the null hypothesis is rejected and the alternative hypothesis is accepted. It means, “There is a significant difference in Inventory turnover ratio of the company”. On the other hand, the standard deviation comes out to 20.99 while the coefficient of variation is 25.47. So, it can be stated that there is a little deviation in the productive index.

Table 4: Inventory turnover ratio of JINDAL

Year	ITR	INDEX	TREND VALUES	CHI SQUARE VALUE	STANDARD DEVIATION
2007	7.2	100	113.59	1.62	309.58
2008	8.3	115.27	106.66	0.69	1080.10
2009	8.2	113.88	99.73	2.00	99.7
2010	6.8	94.37	92.8	0.02	143.16
2011	6.9	95.75	85.87	1.13	178.08
2012	4.37	60.64	78.94	4.24	473.71
2013	4.16	57.72	72.01	2.83	609.34
2014	4.15	57.58	65.08	0.86	616.28
2015	3.94	54.66	58.15	0.21	769.78
2016	5.13	71.16	51.22	7.76	126.45
TOTAL	59.15	824.05	824.05	21.36	4406.18
AVERAGE	5.915	82.405	82.405	2.136	440.618

Chi Squ: 21.36, SD: 20.99, CV: 25.47

The table no.5 shows the arithmetical picture about Inventory turnover ratio, Inventory turnover ratio index and trend value of STEEL EXCHANGE OF INDIA .from the period 2007-2016 i.e. ten years of research period. It also computes and gives the chi-square value, standard deviation and co- efficient of variation for the same. The inventory turnover ratio comes out to be 4.86 for the base year. So, after screening the above figures, it can be said that the Sales-Inventory ratio stays in a mixed trend. Then, Sales- Inventory turnover ratio index is supposed to 100 for the base year i.e.2007.Sales-Inventory turnover ratio index states the arithmetical information about the disparity in Sales-Inventory turnover ratio.

At this time, the calculated value of chi-square is 127.37. On the other hand, the critical value of chi-square is 15.5.Hence; the critical value is lower than the calculated value. It indicates that the null hypothesis is rejected and the alternative hypothesis is accepted. It means, “There is a significant difference in Inventory turnover ratio of the company”. On the other hand, the standard deviation comes out to 21.03 while the coefficient of variation is 35.86. So, it can be stated that there is deviation in the productive index.

Table 5: Inventory turnover ratio of STEEL EXCHANGE OF INDIA

Year	ITR	INDEX	TREND VALUES	CHI SQUARE VALUE	STANDARD DEVIATION
2007	4.86	100	71.3667	11.48	1711.33
2008	2.35	48.35	68.5367	5.94	105.71
2009	2.3	47.32	65.7067	5.14	127.95
2010	2.86	58.84	62.8767	0.25	0.04
2011	2.15	44.23	60.0467	4.16	207.40
2012	4.86	99.98	57.2167	31.96	1709.68
2013	2.35	48.34	54.3867	67.22	105.91
2014	2.14	44.02	51.5567	1.10	213.50
2015	2.3	47.31	48.727	0.04	128.18
2016	2.33	47.927	45.8967	0.08	114.59
TOTAL	28.5	586.32	586.317	127.37	4424.29
AVERAGE	2.85	58.632	58.6317	12.737	442.429

Chi Squ: 127.37, SD: 21.03, CV: 35.86

The table no.6 shows the arithmetical picture about Debtors Turnover ratio, Debtors turnover ratio index and trend value of JSW Steel Ltd .from the period 2007-2016 i.e. ten years of research period. It also computes and gives the chi-square value, standard deviation and co-efficient of variation for the same. The debtor turnover ratio comes out to be 0.95 for the base year and thereafter increases after three years and afterwards decreases after three years and then increases continuously. So, after screening the above figures, it can be said that the Sales-Debtors ratio stays in a mixed trend. Then, Sales- Debtors Turnover ratio index is supposed to 100 for the base year i.e.2007.Sales- Debtors turnover ratio index states the arithmetical information about the disparity in Sales-Debtors Turnover ratio.

At this time, the calculated value of chi-square is 168.86. On the other hand, the critical value of chi-square is 15.5.Hence; the critical value is lower than the calculated value. It indicates that the null hypothesis is rejected and the alternative hypothesis is accepted. It means, “There is a significant difference in Debtors turnover ratio of the company”. On the other hand, the standard deviation comes out to 31.63 while the coefficient of variation is 26.29. So, it can be stated that there is much difference in the productive index.

Table 6: Debtors turnover ratio of JSW Steel Ltd

Year	DTR	INDEX	TREND VALUES	CHI SQUARE VALUE	STANDARD DEVIATION
2007	0.95	100	105.088	0.24	412.00
2008	1.68	176.84	102.748	53.42	3196.99
2009	1.21	127.36	100.408	7.23	49.87
2010	1.62	170.51	98.068	53.51	2521.24
2011	0.76	79.99	95.728	2.58	1624.73
2012	0.79	83.14	93.388	1.12	1380.71
2013	0.92	96.82	91.048	0.36	551.21
2014	1.05	110.50	88.703	5.35	96.00
2015	1.27	133.65	86.368	25.88	160.52
2016	1.18	124.17	84.028	19.17	14.99
TOTAL	11.43	1203	945.575	168.86	10008.26
AVERAGE	1.143	120.3	94.55	16.886	1000.826

Chi Squ: 168.86, SD: 31.63, CV: 26.29

The table no.7 shows the arithmetical picture about Debtors Turnover ratio, Debtors turnover ratio index and trend value of Tata Steel Ltd .from the period 2007-2016 i.e. ten years of research period. It also computes and gives the chi-square value, standard deviation and co-efficient of variation for the same. The debtor turnover ratio comes out to be 0.62 for the base year and thereafter decreases after two years and afterwards increases in the year 2010 after two years it shows a declining trend and in the year

2013 the ratio is increased and afterwards it shows a declining trend. So, after screening the above figures, it can be said that the Sales-Debtors ratio stays in a mixed trend. Then, Sales- Debtors Turnover ratio index is supposed to 100 for the base year i.e.2007. Sales-Debtors turnover ratio index states the arithmetical information about the disparity in Sales-Debtors Turnover ratio.

At this time, the calculated value of chi-square is 3.6044. On the other hand, the critical value of chi-square is 15.5.Hence; the critical value is higher than the calculated value. It indicates that the null hypothesis is accepted and the alternative hypothesis is rejected. It means, "There is no significant difference in Debtors turnover ratio of the company". On the other hand, the standard deviation comes out to 14.149 while the coefficient of variation is 18.09. So, it can be stated that there is no such deviation in the productive index.

Table 7: Debtors turnover ratio of Tata Steel Ltd

Year	DTR	INDEX	TREND VALUES	CHI SQUARE VALUE	STANDARD DEVIATION
2007	0.62	100	98.544	0.02	475.06
2008	0.58	93.54	94.024	0.002	235.19
2009	0.52	83.86	89.504	0.35	31.99
2010	0.61	98.37	84.984	2.10	406.66
2011	0.45	72.56	80.464	0.7	31.85
2012	0.44	70.94	75.944	0.32	52.76
2013	0.46	74.16	71.424	0.10	16.35
2014	0.42	67.71	66.904	0.009	110.12
2015	0.39	62.87	62.384	0.003	235.13
2016	0.36	58.03	57.864	0.0004	406.99
TOTAL	4.85	782.04	782.04	3.6044	2002.1
AVERAGE	0.485	78.204	78.204	0.36044	200.21

Chi Squ: 3.6044, SD: 14.149, CV: 18.09

The table no.8 shows the arithmetical picture about Debtors Turnover ratio, Debtors turnover ratio index and trend value of JINDAL .from the period 2007-2016 i.e. ten years of research period. It also computes and gives the chi-square value, standard deviation and co-efficient of variation for the same. The debtor turnover ratio comes out to be 0.50 for the base year and thereafter increases after three years and afterwards decreases for two years and then increases in the year 2013 and then decreases in the year 2014 and then increases. So, after screening the above figures, it can be said that the Sales-Debtors ratio stays in a mixed trend. Then, Sales- Debtors Turnover ratio index is supposed to 100 for the base year i.e.2007.Sales-Debtors turnover ratio index states the arithmetical information about the disparity in Sales-Debtors Turnover ratio.

At this time, the calculated value of chi-square is 154.16. On the other hand, the critical value of chi-square is 15.5.Hence; the critical value is lower than the calculated value. It indicates that the null hypothesis is rejected and the alternative hypothesis is accepted. It means, "There is a significant difference in Debtors turnover ratio of the company”. On the other hand, the standard deviation comes out to 46.21 while the coefficient of variation is 43.67. So, it can be stated that there is deviation in the productive index.

Table 8: Debtors turnover ratio of SAIL

Year	DTR	INDEX	TREND VALUES	CHI SQUARE VALUE	STANDARD DEVIATION
2007	0.50	100	147.065	15.06	33.64
2008	0.60	120	137.895	2.32	201.64
2009	0.78	156	128.725	5.77	2520.04
2010	0.92	184	119.555	34.73	6115.24
2011	0.85	170	110.985	32.19	4121.64
2012	0.29	58	101.215	18.45	2284.84
2013	0.32	64	92.045	8.54	1747.24
2014	0.31	62	82.875	5.25	1918.44
2015	0.32	64	73.705	1.27	1747.24
2016	0.40	80	147.065	30.58	665.64
TOTAL	5.29	1058	1140.53	154.16	21355.6
AVERAGE	0.529	105.8	114.053	15.416	2135.56

Chi Squ: 154.16, SD: 46.21, CV: 43.67

The table no.9 shows the arithmetical picture about Debtors Turnover ratio, Debtors turnover ratio index and trend value of JINDAL .from the period 2007-2016 i.e. ten years of research period. It also computes and gives the chi-square value, standard deviation and co-efficient of variation for the same. The debtor turnover ratio comes out to be 2.93 for the base year and thereafter decreases for two years and increases in the year 2010 and thereafter decreases for two years and afterwards it shows a rising trend and then decreases in 2015 and thereafter increases in the year 2016. So, after screening the above figures, it can be said that the Sales-Debtors ratio stays in a mixed trend. Then, Sales- Debtors Turnover ratio index is supposed to 100 for the base year i.e.2007.Sales-Debtors turnover ratio index states the arithmetical information about the disparity in Sales-Debtors Turnover ratio.

At this time, the calculated value of chi-square is 194.241. On the other hand, the critical value of chi-square is 15.5.Hence; the critical value is lower than the calculated value. It indicates that the null hypothesis is rejected and the alternative hypothesis is accepted. It means, “There is a significant difference in Debtors turnover ratio of the company”. On the other hand, the standard deviation comes out to 21.92 while the coefficient of variation is 34.93. So, it can be stated that there is no much deviation in the productive index.

Table 9: Debtors turnover ratio of JINDAL

Year	DTR	INDEX	TREND VALUES	CHI SQUARE VALUE	STANDARD DEVIATION
2007	2.93	100	55.051	36.70	1387.86
2008	1.63	55.63	49.921	0.65	50.63
2009	1.56	53.24	48.211	0.52	90.36
2010	2.83	96.58	46.501	53.93	1144.73
2011	0.92	31.39	44.791	44.791	983.19
2012	0.86	29.34	43.081	4.38	1115.96
2013	1.92	65.50	41.371	14.07	7.58
2014	1.96	66.86	39.661	18.65	16.92
2015	1.85	63.10	37.951	16.66	0.12
2016	1.93	65.82	51.631	3.89	9.44
TOTAL	18.39	627.46	458.17	194.241	4806.79
AVERAGE	1.839	62.746	45.817	19.4241	480.679

Chi Squ: 194.241, SD: 21.92, CV: 34.94

The table no.10 shows the arithmetical picture about Debtors Turnover ratio, Debtors turnover ratio index and trend value of STEEL EXCHANGE OF INDIA .from the period 2007-2016 i.e. ten years of research period. It also computes and gives the chi-square value, standard deviation and co-efficient of variation for the same. The debtor turnover ratio comes out to be 6.86 and thereafter decreases in the year 2008 (5.82) and increases in the year 2009 and then again decreases in 2010 and then it shows a mixed trend.. Then, Sales- Debtors Turnover ratio index is supposed to 100 for the base year i.e.2007.Sales-Debtors turnover ratio index states the arithmetical information about the disparity in Sales-Debtors Turnover ratio.

At this time, the calculated value of chi-square is 152.85. On the other hand, the critical value of chi-square is 15.5.Hence; the critical value is lower than the calculated value. It indicates that the null hypothesis is rejected and the alternative hypothesis is accepted. It means, "There is a significant difference in Debtors turnover ratio of the company". On the other hand, the standard deviation comes out to 20.17 while the coefficient of variation is 21.72. So, it can be stated that there is no so much deviation in the productive index.

Table 10: Debtors turnover ratio of STEEL EXCHANGE OF INDIA

Year	DTR	INDEX	TREND VALUES	CHI SQUARE VALUE	STANDARD DEVIATION
2007	6.86	100	48.920	53.33	51.07
2008	5.82	84.83	58.684	11.64	64.36
2009	6.21	90.51	68.448	7.11	5.489
2010	3.86	56.25	78.212	6.16	1339.7
2011	9.25	134.79	87.976	24.91	1758.71
2012	7.87	114.68	97.74	2.93	476.41
2013	6.75	98.35	107.504	0.77	30.21
2014	5.29	77.07	117.268	13.77	249.10
2015	6.00	87.41	127.032	12.35	29.62
2016	5.81	84.64	136.796	19.88	67.45
TOTAL	63.72	928.53	928.58	152.85	4072.119
AVERAGE	6.372	92.853	92.858	15.285	407.2119

Chi Squ: 152.85, SD: 20.17, CV: 21.72

CONCLUSION

In this research paper, five steel companies had been selected to study the working capital management. To know about the tendency of raw material of the selected units Inventory Turnover Ratio has been used .To know credit tendency of the selected units Debtors turnover ratio has been used. One hypotheses has been used in this study that is based on Chi-square test is to understand working capital direction and growth/efficiency. The statement of null hypothesis is, “The working capital indices of the sample units can be represented by the straight line trend based on the least square method”. The acceptance of the said hypothesis would reveal that the working capital indices of the sample units cannot be represented by the straight line trend based on the least square method. In case of Inventory Turnover Ratio of JSW Steel, the calculated value of chi-square is 11.22.

On the other hand, the critical value of chi-square is 15.5.Hence; the critical value is higher than the calculated value. It indicates that the null hypothesis is accepted and the alternative hypothesis is rejected. It means, “There is no significant difference in Inventory turnover ratio of the company”. In case of Inventory Turnover Ratio of Tata Steel “There is a significant difference in Inventory turnover ratio of the company”. In case of Inventory Turnover Ratio of SAIL “There is a significant difference in Inventory turnover ratio of the company”. In case of Inventory Turnover Ratio of JINDAL “There is a significant difference in Inventory turnover ratio of the company”. In case of Inventory Turnover Ratio of STEEL EXCHANGE OF INDIA “There is a significant difference in Inventory turnover ratio of the company”. In case of Debtor Turnover Ratio of JSW Steel the calculated value of chi-square is 168.86. On the other hand, the critical value of chi-square is 15.5.Hence; the critical value is lower than the calculated value. It indicates that the null hypothesis is rejected and the alternative hypothesis is accepted. It means, “There is a significant difference in Debtors turnover ratio of the company”. In case of Debtor Turnover Ratio of Tata Steel “There is no significant difference in Inventory turnover ratio of the company”. In case of Debtor Turnover Ratio of SAIL “There is a significant difference in Inventory turnover ratio of the company”. In case of Debtor Turnover Ratio of JINDAL “There is a significant difference in Inventory turnover ratio of the company”. In case of Debtor Turnover Ratio of STEEL EXCHANGE OF INDIA “There is a significant difference in Inventory turnover ratio of the company.

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