DEMONETISATION, CONSEQUENCES AND BENEFITS: A STUDY WITH REFERENCE TO BENGALURU URBAN

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ABSTRACT

The basic objective behind demonetization and GST is to check tax evasion. Demonetization plan brings larger part of economy under banking channels and GST is proposed to do the same through tracking all business transactions through GST Network (GSTN) system. GST checks also and cross black money. Small businessman will not be put to difficulties as they are going too exempted up to Rs. 20 lakhs (10 lakhs for northeastern states) as per the proposal of GST (Pratik Jain 2017). Further, any drop in State Government in the tax revenue is fully protected up to 5 years of GST implementation.

The pain or gain undergone by the people is not the issue but the issue is about nationality, arresting black money, check the fake currency and existing rampant corruption. The domination of black money so far not checked properly and its rampantness ruined our economy. The gains of demonetization not only limited to checking black money, corruption tax evasion but also to stop high quality value of counterfeit currency from our neighboring country and it is helpful in constructing a vibrant, strong and identifiable at the global level. The existing sources reveal that Rs. 4 to 5 lakh crore would not be deposited back as they would not deposit.

The trends emerging in business sector cannot be ignored and India's external policy has to be protected since opec certel is planning to cut production and push up oil prices. The slow rate of industrial growth, capital inflow, private investment etc. has to be looked and addressed properly through the best strategy including quick remonetisation.

KEYWORDS

GST, Remonetisation, Global Environment, Liberalisation, Reform, Transform, Corruption, Black Money, Benefits etc.

INTRODUCTION

The concept of demonetization is not new to India. The highest demonetization of currency for the first time was performed in 1946 and second during the year 1978. The main intention of such planning at present is "reform, perform and transform". The intention behind such a drastic step is to combat cheating, counter feinting, arresting black money and corruption. Embay Global Research is of the opinion that deceleration in demand and rising raw material cost are likely to impact margins for several factors. As per RBI report (RBI Report 2017), these trends are temporary. It may affect GDP rates and as per one estimate 1% hit in the GDP means a hit of Rs. 1.5 lakhs crores.

Since independence we have seen that no government made a strong effort to curb black money and corruption which are the two dangerous issues coming in the way of development of our economy. The decision of demonetization surgical strike was not taken quickly but with proper planning. People with huge black money who kept in the beds, carpets and safe boxes inside the homes are going to be taxed severely since they cannot keep currency in their chests as Income tax authorities on the availability of information may conduct raids and only option is to throw bundles of currencies into water. Despite certain short-term troubles, demonetization is certainly going to give a boost to the Indian economy in the end. India is certainly feel the better experience of "Acche Din" in the coming future. (Nisha Sharma).

OBJECTIVES OF STUDY

- To know the demographic profile influencing demonetization.
- To know the level of awareness of demonetization.
- To study respondents knowledge about benefits of demonetization.
- To study the awareness of consequences of demonetization.

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Hypotheses

- There exists no favourable demographic variables influencing demonetization.
- Respondents in the study area are aware of demonetization.
- Demonetization is not beneficial.
- Respondents in the study area are not aware of consequences of demonetization.

RESEARCH METHODOLOGY

Survey Depends Upon	Both Primary and Secondary Data.
Universe	Bangalore Urban.
Sample Size	500 Respondents from Different Strata.
Sampling Technique	Convenient Sampling Technique.
Data Collection	Tested Questionnaire.
Date of Commencement of Data Collection	December 25th 2016.
Date of Closure	January 15th 2017.
Quantitative Metrics Used	Chi-square, ANOVA, Likert Scale and Percentages.

REVIEW OF LITERATURE

Mohan Guruswamy (2017) studied that farmers and retailers selling perishables like fruits and vegetables have suffered huge losses on account of determining demand impacted by demonetization.

Ejaz Kaiser (2016) expressed that traders blamed in the Modigate, farmers cribbed that the Seth's here using the cash church as an excuse to beat down the prices.

Amit Mitra (2017) has blamed on the center's move to demonetize Rs. 500 and 1000. Further he expressed that there would be bigger destabilization in the form of demonetization.

Jitendra Singh (2017) has stated that it is too early to assess that impact of demonetization, the move raises long-term questions. He notes that rival political parties that have protested against demonetization could broaden their tactical agenda to harm or even derail the GST implementation.

Kartik Hosanagar (2017) said that any impact on economic activity and GDP will be temporary, and in the long term, benefits such as an increase in cashless activity will be more permanent.

SURVEY FINDINGS

Table-1 indicates the existence of favourable demographic factors. There are 70% males and remaining 30% are females. Age wise data reveals that 170 respondents or 34% belongs to the age group of 26-35 years who can understand the concept and express their opinions. 240 respondent belongs to the age group of 36-45 years is a testimony to speak clearly about benefits, consequences of demonetization. Occupation wise data reveals that 200 respondents are working in private sector and 95 respondents engaged in agriculture, and 80 respondents are working in government sector. There are 25 respondents involved in their own business, self-employed. There are 95 respondents still doing agriculture in the study area.

Table-1: Respondents Demographic Profile

Gender	Res.	%	Age in Years	Res.	%	Occupation	Res.	%
Males	350	70	18-25	50	10	Govt. Service	80	16
Females	150	30	26-35	170	34	Private Service	200	40
Total	500	100	36-45	240	48	Business	50	10
			46 & Above	40	08	Self-employed	25	05
			Total	500	100	Agriculture	95	19
						Homemaker	50	10
						Total	500	100

Sources: Questionnaire Data

Table-2 reveals data regarding other demographic profile of respondents. 24% of the respondents belongs to the income group of 50000-60000, 20% belongs to the income group of Rs. 40000-50000, and 18% belongs to income group of Rs. 30000 - 40000.

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Further 14% of the respondents belongs to either income group of Rs. 60000 - 70000 and Rs. 70,000 above. The table further reveals data about education of the sample respondents. Majority of respondents 150 or 30% educated up to degree, 80 respondents completed PG degree, 80 respondents engineering graduates, 40 up to SSLC, professional and industrial training certificate holders. Further, there are 80 respondents who have completed their PUC education, education wise data strongly supports the concept of demonetization, benefits and affects.

Table-2: Other Demographic profile of Respondents

Increase in Rs.	Number of Respondents	%	Education	Number of Respondents	%
Up to Rs. 20000	50	10	Up to 10th Standard	40	8
20000-30000	70	14	PUC	70	14
30000-40000	90	18	Degree	150	30
40000-50000	100	20	Post Graduation	80	16
50000-60000	120	24	Professionals (Auditors		
60000-70000	50	10	Cost accountants, Doctors etc.)	40	08
70000 and above	20	4	Engineering	80	16
			Industrial Training	40	08
Total	500	100	Total	500	100

Sources: Questionnaire Data

Table-3 indicates information on awareness of demonetization. Awareness of demonetization in the study area measured with variables or parameters varying from demonetization is not a new concept to it will not come in the way GST. Data reveals that 310 respondents out of 500 strongly agreed over the variables influencing awareness level. 150 respondents or 30% are aware of the stated variables or parameters influencing the awareness level of respondents. Further, 40 respondents or 8% disagree that the stated variables influences the awareness. Row wise data reveals that 100 respondents felt that demonetization is not a new concept, 132 said it leads to cashless plan, 80-said decrease in GDP is temporary, 80 express the ruckus created by demonetization temporary and 68 said it will not come in way of GST and no delay is caused. The chi-square quantitative metric accepts the null hypotheses (One tail).

Table-3: Awareness of Demonetization

Awareness Level	SA	A	DA	Total
Demonetization is not a new concept	70	30	06	106
It leads to cashless plan	90	42	10	142
Decrease in GDP is temporary	60	20	09	89
Ruckus is temporary	50	30	07	87
It will not come in the way of GST and cannot be a ground for delay in the implementation	40	28	08	76
Total	310	150	40	500

Sources: Questionnaire Data

Note: SA - Strongly Agree, A - Agree, DA - Disagree

Hypotheses

H_0: Respondents in the study area are aware of demonetization	Accept

Chi-square Table

Calculated value 7.6579, significance level 5%, d.f. (r-1) (c-1) = (5-1) (3-1) = 8, TV = 15.507.

Decision

The calculated value being 7.6579 lesser than the TV = 15.507 @ 5% level of significance with d.f. (r-1) (c-1) = (5-1) (3-1) = 8 accepts the null hypotheses.

Table-4 reveals data about respondent's knowledge about benefits of demonetization. These benefits derived from demonetization varies from checks black money to stops huge donations. 350 respondents forming 70% are highly aware of benefits, 120 are aware of benefits and only 30 respondents not aware of benefits from demonetization. ANOVA quantitative metric fails to accept

the null hypotheses and accepts the alternative. Therefore, it can be concluded here that the demonetization plan is beneficial in the study area.

Table-4: Respondents knowledge about benefits of Demonetization

Respondent's Knowledge of Benefits	HA	A	NA	Total
It acts Directly in Checking Black Money	90	40	8	138
It tackles Effectively Fake Currency	70	20	4	94
It stops Funding Terrorists	60	18	6	84
Stops Hawala	70	12	4	86
Stops Huge Donations	60	30	8	98
Total	350	120	30	500

Sources: Questionnaire Data
Note: HA - Highly Agree, A - Agree, NA - Not Agree

Hypotheses

H_0: Demonetization is not beneficial	Reject
H_1: Demonetization is beneficial	Accept

ANOVA Table

Source of Variation	SS	d.f.	ms	F-ratio	5% F-limit (From F-table)
Between the Sample	10893.3335	(3-1) = 2	10893.3335/2 =5446.6668	5446.6668/80 =68.0833	
Within the Sample	960.0000	(15-3) = 12	960/12 =80		F (2,21) =3.88
Total	11853.3335	(15-1) = 14			

Sources: Authors Compilation

ANOVA Analysis

The F calculated value being 68.0833 higher than the TV = 3.88@5% level of significance with d.f. V1 = 2 and V2 = 12 fails to accept null hypotheses and hence the alternative is accepted.

Table-5 indicates information about awareness of consequences of demonetization. Awareness of consequences of demonetization is measured through some tested parameters. These vary from shortage of money to the businessmen to fall in the demand. 320 respondents or 64% highly agreed over the variables leading to consequences, 140 or 28% are aware of the consequences and 40 respondents or 8% not aware of the consequences. It was revealed that during the time of data collection that the difficulties are temporary and beneficial in the future. With further liberalisation of cash withdrawal people may not feel difficult and many-expressed country's interest is more important. ANOVA statistical variability measurement tool fails to accept the null hypotheses and accepts the alternative.

Table-5: Awareness of consequences of Demonetization

Variable Consequence	HA	A	NA	Total
Shortage of Money to the Businessmen	70	35	12	117
Short term Inflation	60	28	6	94
Problem for Housewives	50	25	4	79
Curbs Funding Antisocial Elements like Smuggling, Terrorism, Espionage etc.,	80	30	8	118
Falling in the Demand (a) Consumer Goods, (B) Real Estate Property, (C) Automobiles etc.	60	22	10	92
Total	320	140	40	500

Sources: Questionnaire Data

Hypotheses

H_0: Respondents in the study are not aware of consequences	Reject
H_1: Respondents in the study are aware of consequences of demonetization	Accept

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ANOVA Table

Source of Variation	SS	d.f.	m.s.	F-ratio	5% F-limit (From F-table)
Between the Sample	8053.3335	(3-1) = 2	8053.3335/2 =4026.6668	4026.6668/ 54.8333 =73.4346	
Within the Sample	658.0000	(15-3) = 12	658/12 =54.8333		F (2,12) =3.88
Total	8711.3335	(15-1) = 14			

Sources: Authors Compilation

ANOVA Analysis

The F calculated value being 73.4346 higher than the TV = 3.88 @ 5% level of significance with d.f. V1 = 2 and V2 = 12 fails to accept null hypotheses and accepts the alternative, therefore it is concluded that respondents in the study area are aware of consequence of demonetization.

CONCLUSION

The gains are more in number that can be reaped in the long term than the short-term pain indecent by people. People hoard currencies in their houses for many reasons. The currencies should not be hoarded but should be allowed in the circulation. It is said that in the month of March 2017 furthermore liberalisation will be allowed relaxing the maximum limit to be withdrawn.

The business community, state and central government employees and public should prefer cashless transactions and hence the banks have a tremendous responsibility in the future. The top most priority of the government now should be fully remonetize otherwise growth and employment cannot restored. The danger of keeping huge volume of new currency notes, bureaucratic and political corruption are again posing some challenges that should be addressed effectively in order to reap the benefits in the long term at the cost of short term pain.

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CUSTOMER PERCEPTIONS ON PERSONAL FINANCE BY COMMERCIAL BANKS: A STUDY OF ANDHRA BANK AND HDFC BANK

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INTRODUCTION

The banking system is a vitally economic institution is deeply influenced by and in turn influences socio-political and economic changes in all modern sciences, whether capitalist or communist. Banking sector presently offers fund- based and free- based services such as merchant banking, personal financing, mutual fund services, factoring and forfeiting and the like. Its client groups include industrial enterprises and individuals from the society.

Personal finance refers to as all financial decisions and activities that a person could make and undertake. This could include budgeting household incomes and expenditures, savings, investments, mortgages, insurance and all other decisions that require money. The most important factor of personal finance management is financial planning, which should involve analyzing the financial position and setting of short-term and long-term goals.

Earning more money and spending less money is the basis of personal finance. Individuals may earn more money by starting a business, taking on additional jobs or investing. Spending less money can be done by deciding whether what is being purchased is truly worth the price being paid. For example, instead of purchasing coffee every day from a cafe, a person can buy bags of coffee at a grocery store and make the coffee at home for much less money. Paying off debt and establishing an emergency fund are also important parts of personal finance. Having at least six months' income set aside in case of a job loss, medical issue, car accident or other large expense helps a person pay cash for expenses rather than charging them and gaining more debt.

OBJECTIVES

The main objectives of the study are:

- To study different types of personal finance services offered by select commercial banks in Kadapa city.
- To examine the different profiles of the respondents in the study.
- To analyze the amount of loan and purpose of the loan taken by the select customers of the study.
- To elicit the satisfaction level of the customers with regard to personal loans/finance by the select commercial banks.

METHODOLOGY

Presently there are 25 commercial banks operating in Kadapa district, of which 15 are Public Sector Banks (PSBS) and the remaining 10 Private Sector Banks (PVTBs). Out of these public sector banks, Andhra bank is one of the lead banks in the district in providing the financial services to the customers. Andhra bank has 4 branches in the Kadapa town located one in 7 Roads junction, one in Mandi Bazaar, one in NGO colony and another one is at ITI circle. Among them 1 branch located at Mandi Bazaar and the main branch of HDFC located in Yerramukkapalli have been selected for the study.

Hence, the sample constitutes one branch of Andhra bank and one branch of HDFC bank operating in the jurisdiction of Kadapa city. Customers of these branches are the respondent group in the study to make comparative evaluation of the effectiveness of the personal finance schemes offered by banks.

The total number of customers served by selected Andhra bank is 2,585 and 1,125 in HDFC bank in the 5 years study period. From the total customers of two select banks, 100 customers are selected from each select bank branch as sample by adopting convenient sampling technique.

Period of the Study

The reference period of the study is five years period from 2010-11 to 2014-15.

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DATA ANALYSIS AND INTERPRETATION

Table-1: Age-Wise Classification

Age Group (In Years)	Andhra Bank (Public Sector Bank)	HDFC Bank (Private Sector Banks)	Total
Below 30	10 (10)	6 (6)	16 (8)
31 – 40	40 (40)	44 (44)	84 (42)
41 – 50	38 (38)	40 (40)	78 (39)
51 – 60	12 (12)	10 (10)	22 (11)
Total	100 (100)	100 (100)	200 (100)

Sources: Field Study

Note: () Represents percentage to the total.

Table-1 shows the age wise classification of sample respondents in select commercial banks in Kadapa city. Out of total 200 respondents, 8% belong to below 30 age group, 42% are 31–40 age group, 39% are 41–50 age group and the remaining 11% are 51-60 age group customers. The age wise data reveals that 31–40 age group customers are more with 42%t in select public and private banks when compared other age group.

Table-2: Education-Wise Classification

Education	Andhra Bank	HDFC Bank	Total
SSC	40 (40)	18 (18)	58 (29)
UG	44 (44)	62 (62)	106 (53)
PG	16 (16)	20 (20)	32 (18)
Total	100 (100)	100 (100)	200 (100)

Sources: Field Study

Note: () Represents percentage to the total.

Table-2 shows education wise classification of sample respondents in select commercial banks. It is evident that out of 100 customers, 29% of the customers belong to SSC, 53% of the sample respondents belong to Graduates, 18% belong to PG. The customers having graduation are more with 53% in select commercial banks when compared with other Group of Education.

Table-3: Occupation Wise Classification

Occupation	Andhra Bank	HDFC Bank	Total
Employee	36 (36)	38 (38)	74 (37)
Business	44 (44)	40 (40)	84 (42)
Agriculture	14 (14)	16 (16)	30 (15)
Other	6 (16)	6 (6)	12 (6)
Total	100 (100)	100 (100)	200 (100)

Sources: Field Study

Note: () Represents percentage to the total.

Table-3 provides occupation wise classification of sample respondents in select commercial banks. It is observed that, out of 100 sample customers of both select commercial banks, 37 are employed, 44 are business people 15 per cent are agriculture and 6 are other like students. It is clear that most of the customers are business people.

Table-4: Income Wise Classification

Monthly Income (In Rs.)	Andhra Bank	HDFC Bank	Total
Below 20,000	40 (40)	16 (16)	56 (28)
21,000 – 30,000	34 (34)	38 (38)	72 (36)
31,000 – 40,000	18 (18)	28 (28)	46 (23)
41,000 Above	8 (8)	18 (18)	26 (13)
Total	100 (100)	100 (100)	200 (100)

Sources: Field Study

Note: () Represents percentage to the total.

Table-4 provides income wise classification of samples respondents in select commercial banks. It is clear that out of 100 sample respondents 28 customers belong to less than 20,000 income group, 36 per cent are between 31,000 – 40,000 income group, 23 are 31,000 – 40,000 income group remaining 13 are above 41,000 income group in select commercial banks. Among all the customers, most of the customers belong to Rs.21000-30000 income group in the select banks.

Table-5: Social Status of the Customers

Social Status	Andhra Bank	HDFC Bank	Total
SC / ST	32 (32)	38 (38)	70 (35)
BC	42 (42)	40 (40)	82 (41)
OC	26 (26)	22 (22)	48 (24)
Total	100 (100)	100 (100)	200 (100)

Sources: Field Study

Note: () Represents percentage to the total.

Table-5 shows the social status wise classification of sample respondents in select commercial banks in Kadapa city out of total 100 respondents 35per cent belong to SC/ST, 41 per cent are BC and 24 are OC. Most of the customers belong to BC category with 41per cent in select commercial banks.

Table-6: Family Members Wise Classification

Number of Family Members	Andhra Bank	HDFC Bank	Total
0 – 2	6 (6)	6 (6)	12 (6)
3 – 4	22 (22)	38 (38)	64 (32)
5 – 6	48 (48)	38 (38)	82 (41)
Above 6	24 (24)	18 (18)	42 (21)
Total	100 (100)	100 (100)	200 (100)

Sources: Field Study

Note: () Represents percentage to the total.

Table-6 shows thee family member's wise classification of sample respondents in select commercial banks in Kadapa city. Out of 100 respondents 6 per cent have below 2 members in family, 32 per cent have 3 – 4 members in family, 41 per cent have 5 – 6 family members, 21 per cent have above six members in family.

Table-7: Purpose of Loan

Purpose of Loan	Andhra Bank	HDFC Bank	Total
Personal Loan	24 (24)	26 (26)	50 (25)
Business Loan	20 (20)	28 (28)	48 (24)
Home Loan	18 (18)	14 (14)	32 (16)
Vechli Loan	16 (16)	14 (14)	30 (15)
Agricultural Loan	18 (18)	12 (12)	30 (15)
Education Loan	4 (4)	6 (6)	10 (5)
Total	100 (100)	100 (100)	200 (100)

Sources: Field Study
Note: () Represents percentage to the total.

Table-7 shows the purpose of loan wise classification of sample respondents in select commercial bank in Kadapa city. Out of total 100 respondents, 25 per cent are taken loan for personal purpose, 15 per cent are taken vehicle purpose, 14 per cent are taken for agriculture and remaining 5 per cent are taken for education purpose.

Table-8: Amount of Loan

Amount of Loan Taken	Andhra Bank	HDFC Bank
Below – 1,00,000	18 (18)	10 (10)
1,00,001 – 2,00,00	26 (26)	20 (20)
2,00,001 – 3,00,000	12 (12)	20 (20)
3,00,001 – 4,00,000	10 (10)	16 (16)
4,00,001 – 5,00,000	14 (14)	14 (14)
5,00,000 – above	20 (20)	20 (20)
Total	100 (100)	100 (100)

Sources: Field Study
Note: () Represents percentage to the total.

Table-8 shows amount of loan wise classification of sample respondents in select commercial banks in Kadapa city. Out of total 100 respondents in Andhra Bank 26 Per cent of the customers have taken Rs. 1,00,001 to 2,00,000 loan amount and 10 Per cent are taken Rs.300001-400000 amount of loan because of lengthy procedures. Out of 100 respondents in HDFC Bank 40 Per cent are taken 100,001–2,00,000 and Rs. Above 500000 amount of loan because of simple procedures and short period taken in sanctioning loan to the customers.

Table-9: Repayment of Loan

Repayment Period	Andhra Bank	HDFC Bank
Below One Year	4 (4)	10 (10)
1 Above – 2 Below	66 (66)	28 (28)
2 Above – 3 Below	26 (26)	38 (38)
3 Above – 4 Below	4 (4)	24 (24)
Total	100 (100)	100 (100)

Sources: Field Study

Note: () Represents percentage to the total.

Table-9 shows repayment period of loan wise classification of sample respondent in select commercial banks in Kadapa city. Out of total 100 respondents in Andhra Bank 66 Percent of the customers are repaid within 2years of period. Out of 100 respondents in HDFC Bank 66 Percent of the customers repaid the loan within 3 years of the period.

Table-10: Satisfaction Level of the Customers

Satisfaction Level	Andhra Bank	HDFC Bank
Highly Satisfaction	24 (24)	20 (20)
Satisfied	44 (44)	56 (56)
Dissatisfaction	32 (32)	24 (24)
Total	100 (100)	100 (100)

Sources: Field Study

Note: () Represents percentage to the total.

Table-10 shows satisfaction level of consumer in select commercial banks in Kadapa city. Out of total 100 respondents in Andhra Bank 44 Percentage are satisfied and 56 percent are satisfied in HDFC. 32 per cent of the customers in Andhra Bank and 24 per cent of the customers in HDFC bank are dissatisfied. When compared with both banks, the dissatisfaction of Andhra bank customers are more compared with the HDFC bank as of the customer approach of the employees and lengthy procedures in Andhra bank.

Table-11: Problems Faced By Customers

Kinds of Problems	Andhra Bank	HDFC Bank
High Rate of Interest	6 (6)	40 (40)
Delay in Processing Loan	28 (28)	14 (14)
Securing Problem	18 (18)	16 (16)
Rules and Regulation	20 (20)	16 (16)
Insufficient Loan Amount	28 (28)	14 (14)
Total	100 (100)	100 (100)

Sources: Field Study

Note: () Represents percentage to the total.

Table-11 shows problems faced by customer's wise classification. Out of 100 respondent in Andhra Bank 28 Percentage are felt delay in processing of loan and insufficient loan amount. Out of 100 respondents in HDFC Bank 40 Percent are felt high rate of interest, 14 per cent are felt insufficient amount of loan.

FINDINGS OF STUDY

- Most of the customers with 31-40 age group are taken loan from the select customers.
- The customers having graduation are more with 53 per cent in select commercial banks.
- Most of the customers in the select banks are business men as of the banks are located in bazaar streets.
- Most of the customers (36 percent out of 100) belong to Rs. 21000-30000 Income group in the study.
- 41 percent of the customers belongs to 'BC' Category in the study area.
- 24 percent (out of 100 percent) of the customers are taken loan for the purpose of personal in Andhra bank and 28 percent are taken loan for business purpose in HDFC Bank.
- Most of the customers 26 per cent are taken loan for an amount of Rs 10000 -200000 in Andhra bank and Rs. 10000 – 300000 in HDFC bank.
- 92 percent of the customers are repaying the loan within 3 years in Andhra bank and HDFC bank.
- 44 percent of the customers are satisfied with Andhra bank in the study as of less interest rate and lengthy procedures in sanctioning of the loan.
- 56 percent of the customers are satisfied with the HDFC When compared with the Andhra bank because of simple procedures in sanctioning the loan.
- 28 percent of the Andhra bank customers felt that the bank delays in processing the loan and sanctioning insufficient loan of amount.
- 40 percent of the HDFC customers opinioned that the bank charges high rate of interest.

SUGGESTIONS FOR THE STUDY

- The banks shall increase the sanctioning amount from Rs 500,000 - Rs 10,00,000.
- The Andhra bank shall reduce the systems and procedures in sanctioning the loan.
- HDFC bank shall reduce the rate of interest on loan to attract the customer clientele.
- The HDFC bank shall increase more branches and different personal finance services in Kadapa city to improve the business.

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INDUSTRIAL RELATIONS FOR EMPLOYERS IN INDIA TO MEET THE CHALLENGES AND OPPORTUNITIES OF GLOBALIZATION

Dr. Y. Kesava Reddy[6]

INTRODUCTION

Recent years of 21st century has witnessed the fact that, Globalization is reality, which cannot be ignored at any point of time. Since no economy in the world has monopoly on human resources, technology and technical knowledge how, efforts are made to utilize the Global resources and to spread the same to the different parts of the World. Hence, universe embarked upon Globalization for India being the member of original contracting parties of the GATT, has implemented structural adjustment programs as (MOU) of W.T.O., IMF and World Bank. In such a New Economic Reform and Globalization era, the following areas are becoming the challenges to entrepreneurs:

- Procuring and Stabilization of Personals,
- Updating the Knowledge and Skills of Human Resources,
- Appropriate Advanced Technology,
- Suitable Markets,
- Competitive Advantage,
- Abundant Capital.

To meet the above challenges and to make them as opportunities the employers in India required more and suitable industrial relations. In the present paper, an attempt is made to analyse the challenges and opportunities, importance and significance of industrial relations in present and in the future.

Industrial relations has become one of the most delicate and complex problems of modern industrial society. Industrial progress is not possible without collaboration of labors and harmonious relationships. The term industrial relations have a broad as well as a narrow outlook. Originally, industrial relations were broadly defined to include the relationships and interactions between employers and employees. From this perspective, industrial relations cover all aspects of the employment relationship, including human resource management, employee relations, and union-management relations. Now its meaning has become more specific and restricted. The term-' industrial relations also refers to the cooperative a collaborative interaction between workers, labour unions, management and the state with a view to achieving excellence in productivity of the employees and the enterprise. Hence, industrial relations include the whole range of relations between workers, managers and the state, which seek to determine the conditions under which the work is performed and the objectives of the enterprise employees, the economy and the society are achieved.

GLOBALIZATION AND INDUSTRIAL RELATIONS

Globalization affects directly and indirectly on industrial relations systems and its actors. The European economy is a good example of illustrating the different effects of globalization on industrial relations. This is because, over the past years, Europe has had to deal with strong challenges stemming from globalization in the form of intensified competition, the transfer of investments, production relocation outside of Europe, job losses, unemployment and rapid structural changes. Europe's performance has diverged from that of its competitors in North America and Asia: In this regard, the productivity gap has widened and the investments in research and development (R&D) have been inadequate (Sapir, 2003; HM Treasury, 2005). Therefore, European labour markets are currently facing major challenges. On the one hand, high expectations exist related to the competitiveness of the European economy. Over the past 20 years, the process of globalization has accelerated as the internationalization of trade, services, communications, transportation and investments has increased. Under globalization, investments are easily made worldwide, and industries and services move from one country to another, thus restricting opportunities for permanent employment relationships to the benefit of economic performance.

Globalization is emphasizing the importance of IR to industrialization and economic development in the region. It is creating new challenges for, as well as highlighting old tensions among, governments and the social partners. It has also brought with it a number of strategic opportunities, if the parties can take advantage of them, to improve the prospects of enterprises and workers and to position the region for a period of continuing strong economic growth and development into the twenty-first century. Employers, as the force driving economic changes, and their organizations have to take the initiative to develop a reform agenda, which can deliver these benefits. This will require a strategy directed to improving employment relations and which seeks changes

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in attitudes and behavior in the workplace and addresses the key issues of skills development, compensation, work organization and flexibility, and cross-cultural management.

SIGNIFICANCE OF INDUSTRIAL RELATIONS TO MEET THE CHALLENGES OF GLOBALIZATION

- Achievement of higher efficiency and productivity of the enterprise and industry with active co-operation of the workers and their organizations.
- To identify areas of common interest of both the sides with reference to recruitment and training, health and safety improvement of working and living conditions, etc.
- To examine the growth of Trade union in India.
- To establish and improve the working/employment relationships with different groups within the enterprise to promote a social order that ultimately helps to usher in a new social system.
- Equitable distribution of the benefits derived from industry among the employees, the management, the shareholders, the consumers, the suppliers of raw materials and equipment and the society, i.e. to fulfill the social responsibilities of industry.
- To promote the attainment of the commonly held goals of a democratic society.

INDUSTRIAL RELATIONS IN FUTURE

Dr Amartya Sen and Dr Jean Dreze in the last line of their recently published book Indian Economic Development and Social Opportunity write: "The terms of debate must change." Now that the IR partners are in the vicious circle of Hobson's choice, change in the terms of debate is a foregone conclusion. This means that the future of IR in India will necessarily be one of change and not stagnation. If that is so, then what would be the direction towards which IR in India will be heading? Here, it is important to reiterate that when we talk of IR in future, we do not mean the presence or absence of conflict and cooperation. What will be attempted is to identify the change in the terms of debate for the IR partners. What will be the issues that will arrest the attention of the IR partners? This analysis is important because these issues will become the pivots on which the twin pillars of IR— cooperation and conflict—will revolve thus determining the course of IR in future.

CONCLUSION

We can say that certain forces- economic, social and political govern industrial relations in India. Industrial relations can change for the better only if there is a convincing change in the attitudes of employers and employees and they both take responsible and realistic interest in their mutual goals and requirements. The Government should play an active role for promoting industrial peace. It should make law for the compulsory recognition of a representative union in each industrial unit. It should intervene to settle disputes if the management and the workers are unable to settle their disputes. This will restore industrial harmony. Industrial relations in India do not fall into any known pure pattern - bipartitism, voluntarism, or tripartitism. They exhibit the characteristics of all the systems. Yet none can emphatically say that they are progressive and conducive to achieve the objectives of the industry and the economy. Each sector of the industry has endeavored to develop its own system of industrial relations. Often one gets the feeling and impression that industrial relations are determined by the exigencies and the need of the hour. Neither the managements nor the trade unions have any direction. The labour unions and the trade union movement is often an obstacle to the development of good industrial relations. The entire labour movement has been a direction less and purposeless affair. At its heart, it does not have the interests of the working class and of the industry. It is yet to develop a philosophy of its own based on a deep introspect ion. In addition, the government responsible to create a conducive environment for the development of good industrial relations is more interested in retaining a control on labour and industry and lacks a political will to change the existing institutions and procedures. The participation of workers in the management of the industrial unit should be encouraged by making effective use of works committees, joint consultation and other methods. The employers must recognize the right of collective bargaining of the trade unions. The management should sincerely implement the settlements reached with the trade unions and their organizations in developing democratic bipartite industrial relations leading to productivity and prosperity. This will require a strategy directed to improving employment relations and which seeks changes in attitudes and behavior in the workplace and addresses the key issues of skills development, compensation, work organization and flexibility, and cross-cultural management.

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RISK MANAGEMENT IN BANKING SECTOR:
AN OUTLOOK ON SOURCES AND MEASURES

Dr. P. Saritha[7]

INTRODUCTION

Banks play a positive role in economic development of a country as repositories of community's savings and as purveyors of credit. Indian banking has aided the economic development during the last sixty years in an effective way. The banking sector has shown remarkable responsiveness to the needs of planned economy. It has brought about a considerable progress in its efforts at deposit mobilization and has taken a number of measures in the recent past for accelerating the rate of growth of deposits. As a resource to this, the commercial banks opened a number of branches in urban, semi-urban and rural areas and have introduced a number of attractive schemes to foster economic development. The activities of commercial banking have grown in multi directional was as well as multi-dimensional manner. Banks have been playing a catalytic role in areas development, backward area development, extended assistance to rural development all along helping agriculture, industry, international trade in a significant manner. In a way, commercial banks have emerged as the key financial agencies for rapid economic development.

By pooling the savings together, banks can make available funds to specialized institutions, which finance different sectors of the economy, needing capital for various purposes, risks and durations. By contributing to government securities, bonds and debentures of term-lending institutions in the fields of agriculture, industries and now housing, banks are also providing these institutions with an access to the common pool of savings mobilized by them to that extent relieving them of the responsibility of directly approaching the saver. This intermediation role of banks is particularly important in the early stages of economic development and financial specialization.

TYPES OF RISKS IN BANKS

Banks in the process of financial intermediation are confronted with various kinds of financial and non-financial risks, such as:

Credit Risk: A potential that a bank borrower or counterparty will fail to meet its obligations in accordance with agreed terms. Credit risk is the possibility of losses associated with diminutions in the credit quality of borrowers or counterparties. It involves inability or unwillingness of a customer to meet commitments in relation to lending, trading, hedging, settlement and other financial transactions. Credit risk emanates from a bank's dealings with an individual, corporate bank, financial institution or state. Credit risk may take the following forms:

- Principal and/or interest may not be paid,
- Non-availability of funds, after crystallization of liability under guarantees/letter of credit,
- In treasury operations, the payments or series of payments due from the counterparties may not forthcoming,
- In securities trading settlement may not be effected,
- Either in cross-border exposure, the availability of foreign currency may cease or restrictions may be imposed by the sovereign country.

The management of credit risk includes measurement of risk through credit rating, risk estimates of loan losses, risk pricing on a scientific basis and controlling the risk through effective loan.

Market Risk: Risk arising from the adverse changes in the market variables such as interest rate in foreign exchange rate, equity price and the commodity price. Change in a market variable causes substantial changes in the income and economic value of the banks. Market risk may be liquidity risk, interest rate risk, foreign exchange risk and commodity price risk or equity price risk. Management of market risk is the major concerns of the top management of the banks. The Asset Liability Management Committee (ALCO) functions as the top operational unit for managing the Balance Sheet with the performance or risk parameters laid down by the board.

Liquidity Risk: It arises from funding of long-term assets by short-term liabilities, thereby making the liabilities subject to roll over or refinancing risk. Liquidity risk broadly, comprises of funding risk, time risk and call risk.

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Funding Risk: Funding risk is due to unanticipated withdrawals.

Call Risk: Due to crystallization of contingent liabilities and inability to undertake profitable business opportunities.

Interest Rate Risk: Deregulation of interest rates has exposed the banks to the adverse impact of interest rate risk. It is the risk where unexpected change in the market interest rate may affect the net interest income. The earnings of assets and cost of liabilities are closely related to market interest volatility. Interest rate risk may take the form of Gap or mismatch risk, basis risk, embedded option risk and the like.

Operational Risk: It involves break down of internal controls and corporate governance and can lead to financial loss through error, fraud or failure to perform in a timely manner or cause the interest of the bank to be compromised. Internal controls and internal audit system are used as the primary means to mitigate such risk. Operational risk management is an important feature of sound risk management practice in modern financial markets in view of phenomenal increase in the volume of transactions, high degree of structural changes and complex technological support systems. Operational risk has identified in internal fraud, external fraud, employment practices and workplace safety, clients, products and business practices, damage to physical assets and execution, delivery and process management and the like.

SOURCES OF RISK

There are variety of situations that give risk to risk. Such risk are:

Decision / Indecision: Taking or not taking a decision at the right time is generally the first cause of risk. Suppose a banker takes deposits and decides not to put money in statutory liquidity requirements the bank would be called upon to pay penal ties. Indecision in selling a Government Security when the market is upswing is also a risk as it causes loss of revenue. The risk of revenue loss is because of indecision.

Business Cycles / Seasonality: There are certain exposures that are affected by seasonality or business cycles. Lending to sugar industry in India discarding the fact the production of sugar is restricted to 6/7 months in a year, gives rise to risky situations.

Economic/Fiscal Changes: The government is economic and taxation policies are sources of risk. The levying of import duty on certain capital goods can escalate the funding cost and bank finance requirement. While the borrower is repaying capacity remains the same, such a situation enhances the exposure adding to the risk. The changes on Govt. policies can affect the cash inflow for the borrowing customer, thereby limiting his repayment capacity.

Market Preferences: Over the years, consumer demands and preferences particularly from the youth segment are changing substantially. The preference for a motorcycle over a scooter is an example or even Tata's Nano car over motorcycle. Hence, lending to scooter/motorcycle dealers or manufacturers have to be cautiously taken due to this market trend.

Potential Compulsions: A government may force the commercial banks to lend in areas where the rewards may not be proportional.

Changes in Regulations: The impact of change in regulations is similar to the changes in government policies. In developed countries like USA, there are certain anti-boycott laws prescribing restrictions. Compliance of a variety of regulations is also a source of risk.

Enhancement of risk due to the Competition: In order to remain competitive banks assumes risks for enhancing the increase. In the quest to achieve, better result there could be a tendency to assume risks highly unrelated to the returns.

Bigger use of Technology: Technology is both a solution and a cause of risk. The reflection of inaccurate values like those that dates / amounts / interest rates / hacking by cheaters can cause a huge risk. It is a part of operational risk, wherein technology itself becomes the source of risk.

Non-Availability of Timely Information's: In the absence of information support, banks do take decisions. The banks fix exposure limits per party or per industry. Exposure exceed these prudential limits in the absence of real time information, thereby multiplying the risk exposures.

INDICATORS OF RISK

Risks very rarely occur as ACCIDENTS. There are symptoms that indicate the possibility of risk. These indicators can be used to take pre-emptive actions. These actions may not eliminate the risks but they would at least facilitate to minimize their impact.

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Some of the indicators are:

- Lack of supervision of lending / investment activities.
- Failure to enforce the existing policies.
- Lack of code of conduct or failure to enforce existing code.
- Dominant figure allowed exerting influence without restraint.
- Lack of separation of duties.
- Lack of accountability.
- Lack of written policies and/or internal controls.
- Circumvention of established policies and/or controls.
- Excessive growth through subprime loans.
- Unwarranted concentrations.
- High rate and high-risk investments such as loans to builder for land acquisition but no buyers for flat subsequently.
- Lack of adequate credit analysis.
- Lack of proper mix in asset portfolio.
- Funds used for purposes other than the purpose recorded.

CAUSES OF RISK AND RISK MITIGATION IN BANKS

The factors that contribute to the volatility in the financial markets include the strong growth in the global economy expanding at more than 5% annually, mainly led by the emerging economies. In addition, the US markets have shown considerable growth even though the pace is being slowed down. The high growth in Brazil / Russia / India and China (BRIC) economies have largely offset the slowdown in the US economy. The recent high volatility in the global markets can be traced to the US subprime mortgage problem. This reflects the lack of proper risk evaluation strategies and procedures in place when the shift from a slow growth trajectory to a higher one takes place in a short. The high volatility witnessed in the international markets has disrupted the smooth sailing for the Indian markets and has induced volatility. A slowdown in the global markets will affect the exports from India, which will affect the credit offtake, as the slowdown in one sector will have a chain effect on the other sectors of the economy.

Credit Risk: The oldest of all financial risks in its simplest form refers to the possibility of the issuer of a debt instrument being unable to honour his interest payments and / or principal repayment obligations. However, in modern financial markets, it includes non-performance by a counterparty risk in the inter-bank market. These have necessitated prescribing maximum exposure limits for individual counterparties for fund and non-fund exposures.

Mitigation of Risk

- Better credit appraisal, careful analysis of cash flows of the business before investing.
- Investing only in rated instruments.
- Risk pricing.
- Credit enhancement through margin arrangements / escrow accounts etc.
- Guarantees/letters of credit form rated entities.
- Adequate financial and/or physical assets as security.
- Exposure limits by counterparty / industry / location / business groups / on and off-balance sheet.
- Diversification by industry / sector / location and so on.
- Exposure limits for individual bank counterparties for funded / non-funded assets.
- Reputation and image of counterparties.
- Collateralization of transactions through repos.

Liquidity Risk: An asset that cannot be converted into cash when needed is liquidity note, which is the normal characteristic of the vast majority of bonds. There is also the risk of scarcity of funds in the market. This could happen for example, when the RBI deliberately tightens liquidity, by increasing CRR, selling securities or forex. A third situation is when a bank's credit worthiness becomes suspect and there are no willing lenders, even though there is no liquidity shortage in the market.

Mitigation of Risk

- Increase the proportion of investments in liquid securities.
- Increase the proportion of investments in near maturity high quality instruments.
- Maintain credit rating / reputation and image.

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- Securitize loan portfolio of large as well as small borrowers.

Market Risk: It is a combination of both interest rate risk and event risk. Event risk is that an unexpected happening, which is extreme / sudden or dramatic terrorist attack / Tsumani floods / bomb blasts, which covered an all-round, fall in market prices. This can be mitigated by increasing the proportion of assets in risk free or high quality investments of short maturity. Interest rate risk affects both the assets and liabilities of a bank. The maturity gaps between assets and liabilities lead to the risk of a contraction of spreads, if interest rates fall and assets mature before liabilities or interest rates rise and liabilities mature before assets. Apart from interest rate risk originating from the disparity in the maturities of assets and liabilities, there is also BASIS RISK because interest rate determination may differ.

Mitigation of Market Risk

Mitigation of basis risk involves converting assets to fixed rate or converting liabilities to MIBOR-linked. Instruments used are interest rate swaps/futures and FRAs.

Interest Rate Risk: The prices of bonds are affected by changes in interest rates. When interest rates come down, their prices go up. The opposite happens when interest rates rise. The most price affected bonds in response to rate movements are those of long maturity indeed maturity and price changes are strongly positively correlated. Duration measures the price sensitivity of a bond to changes in interest rates. Increasing duration makes the bond portfolio more sensitive to interest rates while decreasing duration reduces it. As bond prices and interest rates are inversely related, if the bank expects interest rates to fall, subject to market liquidity, it will have to increase duration by buying long dated securities. Conversely, in anticipation of a rise in interest rates, the bank will lower duration by selling long dated securities.

TYPES OF RISKS MANAGEMENT IN BANKS

The banks are committed to a healthy credit culture that recognizes the need to ensure high asset quality. In this endeavor, improvement in the existing measures in the risk management process is receiving special attention. A major step in this direction is the introduction of the revised in-house Credit Risk Assessment (CRA) system, which captures financial risks as also other types of risks, such as industry risk in a borrowal account. The system has well stabilized and covers a major part of the bank's large commercial and industrial loan portfolio. In order to bring about uniformity in the risk assessment methodology, the CRA system has also been extended to high value accounts in the SSI and agricultural segments as well. The bank's credit portfolios are well diversified cutting across various industries with exposures in each category restricted to reasonable levels. Exposures to different industries are within limits set on the consideration of management of different risks and are kept under close monitoring.

Asset Liability Management

The Asset Liability Management (ALM) is a part of the overall risk management in domestic and international banking. It is implemented in India since April 1st 1999. It implies examination of all the assets and liabilities simultaneously on a continuous basis with a view to ensuring a proper balance funds mobilization and their deployment with respect to their maturity profiles, cost, yields and risk exposures and the like. It includes product pricing for deposits as well advances and the desired maturity profile of assets and liabilities. ALM is a hedging response to the risk in financial intermediation. It attempts to provide a degree of protection to the institution from intermediation risk and makes such as acceptable. It provides the necessary framework to define measure, monitor, modify and manage these risks. In a way, it is a form of insurance. The function of ALM can make it possible for an institution to take on positions that would have been considered too large in the absence of protection offered by ALM. With ALM in place, managers can see what their banks current market risk profiles are and evaluate the impact of alternative decisions on the future risk profiles. Thus, by evaluating each of these alternative decisions, management can choose the best course of action depending on the risk appetite of the bank while a multitude of factors influence business decision making apart from risk related information. ALM system facilitates it to take place in a more disciplined and informed framework with an eye on the risks the bank or the institution is exposed to managing the spread income and controlling the risks associated with generating the spread, is the crucial part of the ALM process for any bank.

In the normal course, banks are exposed to credit and market risks in view of the asset / liability transformation. With liberalization in global financial markets over the last decade, the risks associated with international bank's operations have become complex and large, requiring strategic management. Banks are now operating in a deregulated environment and are required to determine on their own, interest rates on deposits and advances in both domestic and foreign currencies on a dynamic basis. The management of banks has to base their business decisions on a dynamic and integrated risk management system and process, driven by corporate strategy. Banks are exposed to several major risks in the course of their business-credit risk, interest rate risk, foreign exchange risk, equity price risk, liquidity risk and operational risks. ALM addresses the issue of defining adequate structure of the Balance Sheet and the hedging programmes for liquidity and interest rate risks.

Benefits

- A tool for business decisions.
- Integrated approach to financial management requiring simultaneous decisions about the types of amount of financial assets and liabilities.
- Addresses the issue of defining adequate structure of Balance Sheet and the hedging programmes for liquidity and interest rate risks.
- International bank's operations become complex and large require strategic management.
- Intense competition for business needs good balance among spreads profitability and viability.

Forex Risk

The Forex market is probably the most consistently volatile of all financial markets while it offers enormous scope for making profits; the other side of the coin is the risk of big losses from unexpected swings in exchange rates. This necessitates an effective forex risk management system involving. **The following determines the forex risk:**

- Fixing exposure limits by currency and maturity,
- Open positions,
- Continuous market monitoring with reference to the bank's open positions,
- Gap risk,
- Counterparty risk,
- Settlement risk,
- Counter risk,
- Value at risk,
- Operational risk,
- Legal risk.

CREDIT RISK EXPOSURE MEASUREMENT

All forward and derivative contracts are valued at replacement cost. The RBI has suggested the Original Exposure Method or Current Exposure Method for the purpose. The latter contains in future credit exposure as well.

Credit Risk: In merchant transactions, credit risk is the responsibility of the branches from which the transactions originate. Branches have to credit appraise customers before putting through deals on their behalf.

Settlement Risk: It arises from time difference between trading zones, which may result in one of the parties to transactions having to settle ahead of the other party, i.e., debit and credit, are not synchronized.

Country Risk: It is the possibility that a country or bank in a country will not be able to honour obligations due to shortage of foreign exchange or political risk. **The RBI's principal norms with regard to country risk are as below**:

- Monitoring and management are necessary only for countries where the net funded exposure is 1 per cent of total assets.
- Country risk is part of counterparty risk.
- The bank must develop internal rating for country risk.
- The banks must use the ECGC's server category classification of country risk.
- Country exposure should be monitored weekly in the beginning and then real time. High-risk countries should be put on relative monitoring.
- Country portfolios should be subject to stress tests. The bank should have contingency plans and exit strategies to manage emergent situations, especially in high-risk category countries.
- Exposures of the bank's foreign branches to the host country must be included.

Exposures to the bank's foreign subsidiaries should be within the applicable country risk limits.

STEPS IN RISK MANAGEMENT IN BANKS

- Banks have an ALCO committee, which manages gap/interest rate/liquidity and currency risks of the treasury and non-treasury balance sheets.

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- The banks submit monthly statements to its Board of Directors and RBI on liquidity mismatches and interest rate sensitivity.
- Stop loss levels are fixed for both SLR and non-SLR securities.
- Bank undertakes concurrent audits of securities and funds management transactions. These reports are submitted to the Audit Committee of the Board every quarter.
- The investment committee reviews the investment portfolio every half-year, with emphasis on rating migration and portfolio quality.
- The treasury department is subject to periodic inspection.
- The function of front office / settlement back office / mid office and accounts are completely segregated.
- Deal slips and office memos containing approvals by competent authority back deals.
- The bank has to fully comply with all the RBI's guidelines / regulations and rules governing the investment portfolio.

METHODS / MEASURES FOR CONTROLLING RISKS IN BANKS

The various methods used for risk measurement are as follows:

GAP: The existence of different maturity profiles of a bank's assets and liabilities result in interest rate maturity gaps. Which exposes a bank to interest rate risk. This risk is also termed as the MISMATCH or repricing risk. This risk is measured as the difference between the amounts of assets maturing and that of the liabilities.

Basis: When the maturity profiles of the assets and the liabilities of a bank are matched, the bank could still carry interest rate risk arising due to basis risk. Basis risk refers to the risk of bank's assets and liabilities being prices on different basis.

Embedded Option: Even with well-matched final maturities, a bank face interest rate risk of all of its products carry embedded options such as put and call options.

Net Interest Position: The bank's net interest margin (NIM), i.e., net interest income divided by average earning assets, can vary not only with gaps and exercised options but also with variation in the bank's net interest position.

Yield Curve: Repricing mismatches can also expose a bank to changes in the slope and shape of the yield curve. Yield curve risk rises when unanticipated shifts of the yield curve have adverse effects on a bank's income or underlying economic value.

SUMMING UP

Competitive and regulatory pressures make it mandatory to have an organization with risk management framework in place. Banks that do not implement such a risk management framework may be unable to compete effectively in the market place. A global market place characterized by the communication of driven business or industry consolidation or deregulation and technology advances has heightened the level and nature of potential risks. The current environment demands sophisticated and comprehensive controls to quickly bring products to market. As a core competency, risk management empower organizations to control risk, but also measure performance more effectively, determine capital allocation and realize a variety of other business advantages. Thus, by being more proactive, an organization can gain competitive edge and even enhance its business reputation. Risk management in banks is more necessary as of institutional of prudential norms, increased competition, globalization, automation, contagion effect and transparency of transactions in banks.

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THE MODERN ROLE OF TECHNOLOGY IN BANKING SECTOR

Dr. Sogra Khatoon[8]

ABSTRACT

Technology is a boon to several industries in the postmodern world, and the banking industry is another one to benefit from the multi-dimensional efficiency levels of technology. Technology banks helps in the process of clarity, simplicity and efficiency in complex banking processes, also reaches out for something superior and a wider range of customers. Services provided through the means of computers, mobiles and other telecommunication mediums have also added upon the benefits and multitude of tasking for the banks. The importance of technology in the banking sector has made banking a very easy affair.

Reserve Bank of India's vision for 2020 is to open nearly 600 million new customers' accounts. The government should encourage the banks to adopt financial inclusion by means of financial assistance, financial literacy, advertisement, awareness program, etc. to achieve the aim of 11th plan of Inclusive Growth. The introductions of ATMs, internet banking and phone banking are all the outcomes of the technological modifications. he changes brought about by IT (Information Technology), new products, more sophisticated customers, changing cost structures, and enhanced competitive pressures have all combined to transform the structure of the banking industry. In addition, with further development of new technologies, the industry will likely continue to evolve.

Customers of banks have felt the positive impact of technological solutions implemented by banks. The customers of banks of today have a virtual menu of options as far as delivery channels are concerned and all these are the benefits of technology. With the most visible benefits happening in the areas of payments for retail transactions, a variety of cards, Automated Teller Machines, Electronic based funds transfers, Internet banking, Mobile banking are all some of the latest technology based payment solutions, which have gained large acceptance amongst the Indian banking public. With technological solutions rapidly evolving, more new products and services may soon become the order of the day. Though infrastructure and communication advancements remain an area of concern, in the rural areas, standards are being formulated to make banking a secure and pleasant experience and banks have bridged the divide caused by distances by offering 'Anywhere and Anytime banking'.

Banking has definitely improved from just being somewhere one had to rush every now and then to keep a tally of their accounts and to deposit and withdraw cash, to something, which is so easy and efficient that it does not at all seek for added attention. Electronic banking has also emerged as one of the most efficient delivery channel for the banking industry. Information technology of IT revolution has essentially changed the face of the world and the economic, financial and social status has taken a giant leap from what it used to be previously. The financial operations are very fast and reliable and that has eventually resulted into strengthening the banking sector. The main objective of this study is to review various papers on the how financial inclusion serves as a means of inclusive growth and to study the initiatives taken by Government and Reserve Bank of India for strengthening financial inclusion in the country. The study is based on secondary data collection.

KEYWORDS

Development, Modernization, Technology, Growth etc.

INTRODUCTION

The banking sector is the lifeline of any modern economy. It is one of the important financial pillars of the financial sector, which plays a vital role in the functioning of an economy. It is very important for economic development of a country that it is financing requirements of trade; industry and agriculture are met with higher degree of commitment and responsibility. Thus, the development of a country is integrally linked with the development of banking. In a modern economy, banks are to be considered not as dealers in money but as the leaders of development. They play an important role in the mobilization of deposits and disbursement of credit to various sectors of the economy. The banking system reflects the economic health of the country. The strength of an economy depends on the strength and efficiency of the financial system, which in turn depends on a sound and solvent banking system. A sound banking system efficiently mobilized savings in productive sectors and a solvent banking system ensures that the bank is capable of meeting its obligation to the depositors. In India, banks are playing a crucial role in socio-economic.

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In India, banks are playing a crucial role in socio-economic progress of the country after independence. The banking sector is dominant in India as it accounts for more than half the assets of the financial sector. Indian banks have been going through a fascinating phase through rapid changes brought about by financial sector reforms, which are being implemented in a phased manner. The current process of transformation should be viewed as an opportunity to convert Indian banking into a sound, strong and vibrant system capable of playing its role efficiently and effectively on their own without imposing any burden on government. After the liberalization of the Indian economy, the Government has announced a number of reform measures based on the recommendation of the Narasimhan Committee to make the banking sector economically viable and competitively strong.

TECHNOLOGY IN BANKING SECTOR

Technology has brought a complete paradigm shift in the functioning of banks and delivery of banking services. Gone are the days when every banking transaction required a visit to the bank branch. Today, most of the transactions can be done from the home and customers need not visit the bank branch for anything. Technology is no longer an enabler, but a business driver. The growth of the internet, mobiles and communication technology has added a different dimension to banking. The information technology (IT) available today is being leveraged in customer acquisitions, driving automation and process efficiency, delivering ease and efficiency to customers. The increased penetration and impact on the scale of business can be judged from metrics such as deposit and credit per account, which according to the RBI data was INR 6,412 and INR 20,757 in 1992 and INR 19,898 and INR 84,618 in 2000 - these metrics increased to INR 59,217 and INR 258,751 in 2009, respectively, approximately thrice the levels in 2000 and 10 times the levels in 1992. Many of the IT initiatives of banks started in the late 1990s or early 2000 with an emphasis on the adoption of core banking solutions (CBS), automation of branches and centralization of operations in the CBS. Over the last decade, most of the banks completed the transformation to technology-driven organizations. Moving from a manual, scale-constrained environment to a global presence with automated systems and processes, it is difficult to envisage the adverse scenario; the sector was in the era before the reforms, when a simple deposit or withdrawal of cash would require a day. ATMs, mobile banking and online bill payments facilities to vendors and utility service providers have almost obviated the need for customers to visit a branch. Branches are also transforming from operating as transaction processing points into relationship management hubs. The change has been very productive for banks bringing in an increase in productivity and operational efficiency to be more competitive. Better risk management due to centralization of information and real time availability of critical data for decision-making.

EMERGING TRENDS IN BANKING TECHNOLOGY

Use of Technology for Financial Inclusion

e-Cheque: An eCheque is a payment that you make directly from your bank account. You can only send an eCheque if your bank account is the only payment method attached to your bank account, and you do not have a credit or debit card as a back-up payment method. If you have a back-up payment method, you will not be able to send eCheques. Please note that eCheques are not instant payments. It usually takes between three and five working days for an eCheque to complete and the money to appear in the recipient's PayPal account. If you would like a faster way to pay using your bank account, we recommend using Instant Bank Transfer. To send instant bank transfers you need to have a verified bank account and a credit or debit card attached as a back-up payment method.

Real-time Gross Settlement Systems (RTGS) are specialist funds transfer systems where the transfer of money or securities[1] takes place from one bank to another on a "real time" and on a "gross" basis. Settlement in "real time" means a payment transaction is not subjected to any waiting period, with transactions being settled as soon as they are processed. "Gross settlement" means the transaction is settled on one-to-one basis without bundling or netting with any other transaction. "Settlement" means that once processed, payments are final and irrevocable.

Electronic Funds Transfer (EFT) is the electronic transfer of money from one bank account to another, either within a single financial institution or across multiple institutions, via computer-based systems, without the direct intervention of bank staff. A number of names knows EFT's. In the United States, they may be referred to as electronic checks or e-checks.

Point-of-Sale (POS) terminal is a computerized replacement for a cash register. Much more complex than the cash registers of even just a few years ago, the POS system can include the ability to record and track customer orders, process credit and debit cards, connect to other systems in a network, and manage inventory. Generally, a POS terminal has as its core a personal computer, which is provided with application-specific programs and I/O devices for the particular environment in which it will serve. A POS system for a restaurant, for example, is likely to have all menu items stored in a database that can be queried for information in a number of ways. POS terminals are used in most industries that have a point of sale such as a service desk, including restaurants, lodging, entertainment, and museums.

Automated Teller Machine (ATM) is an electronic banking outlet, which allows customers to complete basic transactions without the aid of a branch representative or teller. Anyone with a credit card or debit card can access most ATMs. The first ATM appeared in London in 1967, and in less than 50 years, ATMs spread around the globe, securing a presence in every major country and even tiny little island nations such as Kiribati and the Federated States of Micronesia.

Tele Banking: Telebanking is the process of handling bank accounts over the phone. It is also referred to as telephone banking. Banks, credit unions and credit card companies commonly offer this service. There are often fees associated with using this service. Telephone banking makes customer service and bank account information available to a patron 24 hours a day, 7 days a week with no interruptions due to holidays or weekends. This is a useful asset when traveling overseas or working hours that make traditional banking access difficult. This service often has nominal fees attached to it, especially as more financial institutions move toward self-service solutions that include mobile applications, paperless account maintenance and online banking opportunities. Fees and service options related to telebanking vary from one financial institution to the next and are not regulated by the FDIC.

Electronic Data Interchange (EDI) is the computer-to-computer exchange of business documents between companies. EDI replaces the faxing and mailing of paper documents. EDI documents use specific computer record formats that are based on widely accepted standards. However, each company will use the flexibility allowed by the standards in a unique way that fits their business needs. Used in a variety of industries, over 160,000 companies have made the switch to EDI to improve their efficiencies. Many of these companies require all of their partners to also use EDI.

Beside this, there are many changes, which took place in the banking sector and makes the top trends of 2016, which are as follows

Financial Technology is an umbrella term describing disruptive technologies in financial services. Fintech has transformed the way money is managed. It affects almost every financial activity, from banking to payments to wealth management. Startups are re-imagining financial services processes, while incumbent financial services firms are following suit with new products of their own. Established players and startups face very different challenges. Banks are investing more heavily in innovation; however, they have not yet fully diffused their innovation strategies throughout their organizations. Meanwhile, startups are trying to navigate the regulatory landscape. Banks will have to find a way to develop new platforms while overcoming legacy infrastructure; startups will have to find a way to scale out their business while facing increased regulations, higher costs, and larger infrastructures that will be more difficult to change and manage.

Cloud Computing can help financial institutions improve performance in a number of ways. 2.1. Cost Savings and Usage-based Billing With cloud computing, financial institutions can turn a large up-front capital expenditure into a smaller, ongoing operational cost. There is no need for heavy investments in new hardware and software. In addition, the unique nature of cloud computing allows financial institutions to choose the services required on a pay-as-you-go basis. 2.2. Business Continuity With cloud computing, the provider is responsible for managing the technology. Financial firms can gain a higher level of data protection, fault tolerance, and disaster recovery. Cloud computing also provides a high level of redundancy and back up at lower price than traditional managed solutions. 2.3. Business Agility and Focus The flexibility of cloud-based operating models lets financial institutions experience shorter development cycles for new products. This supports a faster and more efficient response to the needs of banking customers. Since the cloud is available on-demand, less infrastructure investments are required, saving initial set-up time. Cloud computing also allows new product development to move forward without capital investment. Cloud computing also allows businesses to move non-critical services to the cloud, including software patches, maintenance, and other computing issues. As a result, firms can focus more on the business of financial services, not IT. 2.4. Green IT Organizations can use cloud computing to transfer their services to a virtual environment that reduces the energy consumption and carbon footprint that comes from setting up a physical infrastructure. It also leads to more efficient utilization of computing power and less idle time.

Cyber Attacks against financial services institutions are becoming more frequent, more sophisticated, and more widespread. Although large-scale denial-of-services attacks against major financial institutions generate the most headlines, community and regional banks, credit unions, money transmitters, and third-party service providers (such as credit card and payment processors) have experienced attempted breaches in recent years. The rise in frequency and breadth of cyber-attacks can be attributed to a number of factors. Unfriendly nation-states breach systems to seek intelligence or intellectual property. Hacktivists aim to make political statements through systems disruptions. Organized crime groups, cyber gangs, and other criminals breach systems for monetary gain—i.e., to steal funds via account takeovers, ATM heists, and other mechanisms. As the cost of technology decreases, the barriers to entry for cyber-crime drop, making it easier and cheaper for criminals of all types to seek out new ways to perpetrate cyber fraud. A growing black market for breached data serves to encourage wrongdoers further. With this in mind, the New York State Department of Financial Services ("the Department"). The use of biometrics in banking is increasing because more consumers understand its potential as a predominant method of identifying themselves to access banking services such as branch banking, online banking, ATM networks, and mobile banking.

Biometrics in Banking?

Biometrics is the science of recognizing an individual based on their physical and behavioral traits such as a fingerprint, finger vein or palm vein pattern, or iris recognition. Biometric-based authentication systems are widely considered more reliable than personal identification number (PIN) or password systems for verifying individuals and ensuring they are who they say they are.

The sharp rise in sophisticated bank fraud and the increase in identity theft throughout banking systems has increased demand for a more secure method to identify customers that does not rely on something they have or something they know, but rather who they are. In addition, a significant increase in digital, online and mobile banking services has pushed secure customer authentication to the priority list for most banks and financial institutions. Traditional methods for customer authentication such as passwords, PINs, and tokens are now obsolete, easy to forge, and cannot protect consumer information from being compromised.

Distributed Ledger Technology, also known as block chain, has been gaining a lot of attention lately. This technology forms the underlying infrastructure of a cryptocurrency called Bitcoin.

One of the biggest threats to the banking sector today is technology. Whether it is coming from large technology firms such as Google Inc. (GOOG), Apple Inc. (AAPL), eBay Inc. (EBAY) or Amazon.com Inc. (AMZN), or from new financial technology (FinTech) start-ups, traditional banks are beginning to taking notice. One potential disrupter for the financial industry today comes from applications involving block chain technology - the tamper-proof system of distributed ledgers, which underlie cryptocurrencies such as Bitcoin. Large financial institutions, from investment banks to stock exchanges to central banks, are all beginning to work on their own block chain-based solutions in order to stay on top of this innovation.

Core Banking Solution: Bankers more often use this word and now-a-days postal officials are using it. CBS is an acronym of Core Banking Solutions. Again, one will wonder what the meaning of core is, core is also an acronym. It stands for *"Centralized On-line Real-time Exchange"*. Core Banking Solution (CBS) is networking of branches, which enables customers to operate their accounts, and avail banking services from any branch of the Bank on CBS network, regardless of where he maintains his account. The customer is no more the customer of a Branch. He becomes the Bank's Customer. Another interesting fact regarding CBS is that all CBS branches are inter-connected with each other. Therefore, Customers of CBS branches can avail various banking facilities from any other CBS branch located anywhere in the world.

Figure-1
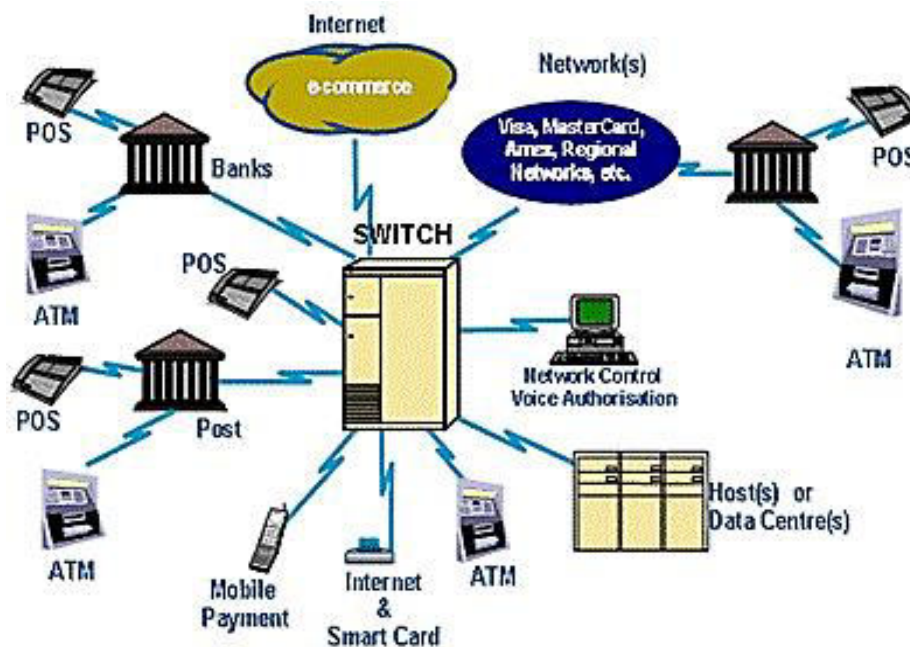
Sources: Authors Compilation

It offers invariably all information that a bank's customer would need if he/she visits a bank branch in person.

These are as herein follows:

- To make enquiries about the balance or debit or credit entries in the account.
- To obtain cash payment out of his account by tendering a cheque.
- To deposit a cheque for credit into his account.
- To deposit cash into the account.
- To deposit cheques / cash into account of some other person who has account in a CBS branch.
- To get statement of account.
- To transfer funds from his account to some other account – his own or of third party, provided both accounts are in CBS branches.
- To obtain Demand Drafts or Banker's Cheques from any branch on CBS – amount shall be online debited to his account.
- Customers can continue to use ATMs and other Delivery Channels, which are also interfaced with CBS platform.

Risk Management in Indian banks is a relatively newer practice, but has already shown to increase efficiency in governing of these banks as such procedures tend to increase the corporate governance of a financial institution. In times of volatility and fluctuations in the market, financial institutions need to prove their mettle by withstanding the market variations and achieve sustainability in terms of growth and well as have a stable share value. Hence, an essential component of risk management framework would be to mitigate all the risks and rewards of the products and service offered by the bank. Thus, the need for an efficient risk management framework is paramount in order to factor in internal and external risks.

The financial sector in various economies like that of India is undergoing a monumental change factoring into account world events such as the ongoing Banking Crisis across the globe. The 2007 – present recession in the United States has highlighted the need for banks to incorporate the concept of Risk Management into their regular procedures. The various aspects of increasing global competition to Indian Banks by Foreign banks, increasing Deregulation, introduction of innovative products, and financial instruments as well as innovation in delivery channels have highlighted the need for Indian Banks to be prepared in terms of risk management. [2]

FINANCIAL INCLUSION

Inclusive Growth: Role of Finance Sector There is supply side and demand side factors driving Inclusive Growth. Banks and other financial services play an important role from supply side by providing access to basic financial services to the poor and disadvantage social group. Access to financial products is constrained by several factors, which include lack of awareness about the financial products, unaffordable products, high transaction costs, and products, which are not convenient, inflexible, not customized, and of low quality. Apart from the supply side factors, demand side factors, such as lower income, lower asset holdings also have a significant bearing on inclusive growth. Owing to difficulties in accessing formal sources of credit, poor individuals, small, and microenterprises usually rely on their personal savings or internal sources to invest in health, education, housing, and entrepreneurial activities to make use of growth opportunities.4 Financial Inclusion promotes thrift and develops culture of saving. It also enables efficient payment mechanism. It is not possible to achieve financial stability, economic stability and inclusive growth without financial inclusion.

Strategies adopted by RBI strengthening financial inclusion in India, RBI has initiated several measures to achieve greater financial inclusion. Some of these steps are as follows:

- **No-Frill Accounts:** RBI asked banks to offer no-frills savings account, which enables excluded people to open a savings account. No-frills account requires no or negligible balance leading to lower costs both for the bank and individual.

- **Usage of Regional Language**: RBI asked banks to provide all the material related to opening accounts, disclosures etc., in the regional language.

- **Simple KYC Norms**: In order to ensure that persons belonging to low income group do not face difficulty in opening the bank account due to procedural hassles, the KYC procedure have been simplified.

- **Easy Credit Facilities**: RBI asked banks to consider introducing General-purpose Credit Card (GCC) facility up to Rs. 25,000/- at their rural and semi urban branches. GCC is in the nature of rotating credit entitling the holder to withdraw up to the limit sanctioned. The interest rate on the facility is entirely deregulated. Other rural intermediaries: Banks were permitted in January.

- **Other Rural Intermediaries**: Banks were permitted in January 2006, to use other rural organizations like Nongovernmental organizations, self-help groups, microfinance institutions etc., for furthering the cause of financial inclusion.

- **Simplified Branch Authorization:** To address the issue of uneven spread of bank branches, in December 2009, domestic scheduled commercial banks were permitted to freely open branches in tier III to tier VI centres with a population of less than 50,000 under general permission, subject to reporting.

There are some other changes in the banking sector, which changes the live of very individual because of demonetization there are lots which leads to change.

LATEST REFORMS

Prime Minister Narendra Modi as a part of a National Mission introduced Pradhan Mantri Jan-Dhan Yojana (PMJDY) for Financial Inclusion of the poorest of the poor in India, to ensure their access to financial services, namely, Banking / Savings & Deposit Accounts, Remittance, Credit, Insurance, Pension in an affordable manner. PMJDY has the following features when seen in relation to demonetization: An account can be opened in any bank branch or Business Correspondent (Bank Mitr) outlet with a 'Zero' balance.

A cashless economy is one in which all the transactions are done using cards or digital means. The circulation of physical currency is minimal. India continues to be driven by the use of cash; less than 5% of all payments happen electronically however the finance minister, in 2016 budget speech, talked about the idea of making India a cashless society, with the aim of curbing the flow of black money.

More and more use of such as Paytm and Mobikwik have the largest reach with presence in local shops as well. As a result, more and more users are migrating to digital wallets.

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GROWTH AND DEVELOPMENT OF SUGAR INDUSTRY IN RAYALASEEMA REGION IN THE STATE OF ANDHRA PRADESH

Dr. N. Venkatarathnam[9]

ABSTRACT

Sugarcane is an important commercial crop in the Rayalaseema region as well as in Andhra Pradesh. It is the chief and indispensable raw-material to sugar industry which is regarded as an agro-based industry in India. As Rayalaseema region is a backward region of Andhra Pradesh, a systematic geographical analysis on the frequency of drought conditions in the Rayalaseema region has been made in this part. The Rayalaseema region consists of four districts viz., Chittoor, Kadapa, Anantapur and Kadapa. Chittoor district in the region of Rayalaseema occupies the first place in respect of sugar industry. The climatic conditions and soils are highly suitable for area under sugarcane cultivation in Chittoor district. At present an extent of 22200 hectares brought area under sugarcane cultivation and production of sugarcane was 624385 metric tonnes and 73.17 per cent is recorded of yield tonnes per hectare.

The present paper seeks to evaluating the growth and development of sugar industry in Rayalaseema region in terms of Area under Sugarcane cultivation, number of sugar factories, break-up of sugar factories, utilization of sugarcane, break-up of sugarcane crushed by sugar factories, Production of Sugar and break-up of production of sugar during the period from 2004-05 to 2013-14.

KEYWORDS

Sugar Industry, Rayalaseema Region, Growth and Development, Area Under Sugarcane, Production of Sugar etc.

INTRODUCTION

As Rayalaseema region is a backward region of Andhra Pradesh, a systematic geographical analysis on the frequency of drought conditions in the Rayalaseema region has been made in this part. The Rayalaseema region consists of four districts viz., Chittoor, Kadapa, Anantapur and Kadapa. Chittoor district in the region of Rayalaseema occupies the first place in respect of sugar industry. The climatic conditions and soils are highly suitable for area under sugarcane cultivation in Chittoor district. At present, an extent of 22200 hectares brought area under sugarcane cultivation and production of sugarcane was 624385 metric tonnes and 73.17 per cent is recorded of yield tonnes per hectare.

ORIGIN

The physical and climatic conditions play an important role in the economic profile of the Rayalaseema region. The river Krishna and its chief tributary called Tungabhadra, along with other medium and minor rivers are providing drinking and irrigation facilities for the people of the region. The region has been rich in mineral resources viz. limestone, barytes, iron-ore, clays, quartz, manganese etc. The region has been receiving less amount of rainfall when compared to other regions of the State. For instance, during 1993-94 the average rainfall in the Rayalaseema was 772mm while it was 782mm in Telangana and 876mm in Coastal Andhra. The population of the region had been increasing by about 20 per cent every decade during the last thirty years. The total population (79.60 lakhs in 1971) rose to 96.25 lakhs in 1981 and further to 116.85 lakhs in 1991. On the other hand, the one noteworthy development is increase in urban population, mainly attributable to migration from rural areas to urban areas in search of livelihood and better employment facilities. To check this push factor, government should intervene to encourage establishment of industries in the rural areas of the region.

The total geographical area in the region is 6710000 hectares. Of the total area, the net area sown accounts for 41.36 per cent in 1993-94. The total area under food and non-food crops increased from 2993000 hectares in 1991-92 to 3030000 hectares in 1993-94. Hence,-there is a need to increase the area under cultivation in the region. The Kurnool-Cuddapah canal and the Tungabhadra project are the only two major irrigation projects in the region, which cover only small pockets in the districts of Kurnool and Cuddapah. In addition to these, there are some other medium and minor irrigation projects, which provide irrigation facilities in the region. The net area irrigated under different sources of irrigation was 5605000 hectares in 1991-92, which declined to 576000 hectares in 1993-94 due to uncertain and insufficient rainfall in the region. Most of the area irrigated comes under the cultivation of rice, which accounted for 42.05 per cent whereas the area irrigated under sugarcane forms only 4.06% in the region during the year 1991-92.

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HISTORICAL BACKGROUND

Rayalaseema was a part of the erstwhile Vijayanagarra Empire from 1336 to 1649 A.D. After 150 years, this region became a part in the State of the Nizam of Hyderabad. Nizam Alikhan, and the British, the districts of Cuddapah, Anantapur and Bellary and a part of Kurnool were ceded to the British by Nizam Ali Kahan[1]. The remaining part of the Kurnool district also came under the British control by 1830.

In November 1928, the first conference of the ceded districts was held at Nandyal in Kurnool district. After a great and good deal of deliberations, the name "Rayalaseema" which was suggested and proposed by Sri Chilukuru Narayan Rao was finally accepted for this region as a substitute to "the ceded districts[2].

The four districts of Rayalaseema region were in the Madras presidency until 1st October 1953 when they detached along with Coastal Andhra State; Rayalaseema region became a part of it and continued up to 31st October 1956. Since 1st November 1956 when Andhra Pradesh was formed by merging Andhra State with Telangana region, which was in Hyderabad State, Rayalaseema region has been continuing as part Andhra Pradesh so far.

The Rayalaseema region is one of the three natural sub-divisions of Andhra Pradesh. Moreover, it is the smallest region both in area and in population with four districts whereas coastal Andhra and Telangana comprise nine and ten districts respectively.

IMPORTANCE OF SUGAR INDUSTRY

Sugarcane is an important commercial crop in the Rayalaseema region as well as in Andhra Pradesh. It is the chief and indispensable raw material to sugar industry, which is regarded as an agro-based industry in India. The importance of the sugarcane in the region is explained as below:

- Sugarcane provides a good number of employment facilities both in the cultivation field and in the factory. As the crop, sugarcane, is remaining in the field for longer periods ranging from 10 to 14 months, it provides a whole-time employment to the agricultural unskilled labourers in a year.

- It has great importance in providing pulp, press mud, molasses, etc., to the ancillary industries such as paper industry and distilleries.

- There is no wonder to say that mechanization in agriculture starts with mechanization in sugarcane cultivation. It is here proved that the implementation of advanced technology in sugarcane cultivation is a means to follow such implementation in other crops such as cotton, rice, groundnut, Jawar etc., in order to develop the agricultural sector in the region.

- Sugarcane, indirectly, is also providing transport facilities to the cultivators mainly to the sugarcane growers in the region. With this, but sugarcane growers and the other crop cultivators will be benefitted a lot in the region.

- It is one of the agro-based industries, which provides both forward and backward linkages essential for exploitation. However, in India, only forward linkage from field to factory is well sustained by supply of raw material, sugarcane to sugar industry. The same importance is not exhibited in backward linkages in our State as is found either in Maharashtra State, with well-established marketing linkage, technology supply, modern transportation facilities etc. or in developed countries of Europe, America etc.

- As sugar industry is an agro-based industry, it is located mostly in the rural areas In order to get more sugarcane as a raw-material, sugar factories located in the rural areas maintain different types of benefit schemes to the sugarcane growers such as providing fertilizers, pesticides, high-yielding varieties of seeds, loan facilities etc., On the other hand, the sugar factory provides educational and medical facilities to the labourers those who work in the factory.

DISTRIBUTION OF SUGAR FACTORIES

Table-1 is given to show the sector-wise and district-wise number of sugar factories in Rayalaseema region by the end of 31st March 2014.

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Table-1: Sector-wise and District-wise Number of Sugar Factories in Rayalaseema Region

S. No.	Name of the District	Name of the Sector		Total
		Co-operative	Private	
1.	Chittoor	2	4	6
2.	Kadapa	1	-	1
3.	Kurnool	-	1	1
4.	Anantapur	-	-	-
	TOTAL	**3**	**5**	**8**

Sources: Assistant Commissioner of Sugar and Cane, Chittoor.

It is evident from the above table-1 that the Chittoor district is witnessed to operate the majority of the sugar factories in Rayalaseema region. The highest number of sugar factories are located in Chittoor District with (6 units) followed by Kadapa and Kurnool districts with one each. There is no any single factory in Anantapur district. There are 8 factories in Rayalaseema region. Out of these 8 factories, 3 are in co-operative and 5 are in private sector. There is a dire need to improve the number of sugar factories in other districts for development of sugar industry in the Rayalaseema region.

GROWTH AND DEVELOPMENT OF SUGAR INDUSTRY

The following techniques have been adopted for study to evaluating the growth and development of sugar industry in Rayalaseema region during the period from 2004-05 to 2013-14.

Area under Sugarcane Cultivation

Table-2 depicts the growth of sugar industry in Rayalaseema region in terms of area under cultivation, production of sugarcane and yield during the period from 2004-05 to 2013-14.

Table-2: Table shows the Sugarcane under Cultivation, Production and Yield in Rayalaseema Region

Year	Area under Cultivation (In Hectares)	Production of Sugarcane (In Metric Tonnes)	Yield (Tonnes per hectare)
2004-05	24138	2296441	95.13
2005-06	24540	2351815	95.83
2006-07	25106	2374726	94.58
2007-08	25169	2377765	94.47
2008-09	27193	2287176	84.10
2009-10	26525	2205527	83.14
2010-11	28405	2368550	83.38
2011-12	28106	2549973	90.72
2012-13	27243	1859532	68.25
2013-14	22200	1624385	73.17

Sources: Assistant Commissioner of Sugar and Cane, Chittoor.

From the table-2, it is observed that there are wide fluctuations in the area under cultivation. The area under cultivation had been increasing from 24138 hectares in 2004-05 to 28405 hectares in 2010-11 and after that, it showed the decreasing trend from 28106 hectares in 2011-12 to 22200 hectares in 2013-14. The production of sugarcane has drastically decreased from 2296441 MTs in 2004-05 to 1624385 MTs in 2013-14 with difficulties fluctuations during the study period. It is further noticed that the yield has gradually decreased from 95.13 tonnes per hectare in 2004-05 to 73.17 tonnes per hectare in 2013-14 with to and from fluctuations for the period from 2004-05 to 2013-14. It may be concluded that the sharp fall in the both area under cultivation and production of sugarcane are mainly due to adverse climatic conditions. There is an urgent need to remove the wide fluctuation and maintain stability in the area under cultivation in the region. Otherwise, the other spheres of the industry i.e. production of sugarcane and production of sugar would be adversely affected.

Number of Sugar Factories

The details of number of sugar factories in Rayalaseema region of Andhra Pradesh during the study period is provided in Table-3.

Table-3: Number of Sugar Factories in Rayalaseema Region

Year	Cooperative Sector	Private	Total	% of col. (2) to col.(4)
(1)	(2)	(3)	(4)	(5)
2004-05	3	5	8	37.5
2005-06	3	5	8	37.5
2006-07	3	5	8	37.5
2007-08	3	5	8	37.5
2008-09	3	5	8	37.5
2009-10	3	5	8	37.5
2010-11	3	5	8	37.5
2011-12	3	5	8	37.5
2012-13	3	5	8	37.5
2013-14	3	5	8	37.5

Sources: Assistant Commissioner of Sugar and Cane, Chittoor.

It is obvious that the above table-3 shows that there is no any fluctuations to operate the sugar factories in Rayalaseema Region during the period from 2004-05 to 2013-14. There are only 8 factories operating in Rayalaseema Region. Out of these 3 are under public and 5 are under private sector during the study period.

Break-up of Sugar Factories

Table-4 provides a vivid picture on the list of sugar factories with capacity TCD in Rayalaseema Region during the year 2013-14.

Table-4: List of Sugar Factories with Installed Capacity TCD in Rayalaseema Region during the Year 2013-14

S. No.	Name of the Sugar Factory	Installed Capacity (TCD)
	Co-operative Sector	
1.	Chittoor Co-operative Sugars Limited, Chittoor	1600
2.	Sri Venkateswara Co-operative Sugars Limited, Gajulamandyam	1500
3.	Kadap Co-operative Sugars Limited, Kadapa	1250
	Private Sector	
1.	Sudalagunta Sugars Limited, B. N. Kandriga	2500
2.	Prudential Sugar Corporation Limited, Nindra	2500
3.	KBD Sugars & Distilleries Limited, Punganur	2500
4.	Sagar Sugars & Products Limited, Nelavoy	2500
5.	Sree Rayalaseema sugar & Energin Limited, Nandyala	1250

Sources: Assistant Commissioner of Sugar and Cane, Chittoor.

It is obvious that the above table-4 gives that there are 3 factories operating in co-operative sector with various installed capacities. In co-operative sector one company has highest installed capacity i.e. Chittoor Co-operative Sugars Limited with 1600 TCD followed by Sri Venkateswara Co-op. Sugars Ltd., with 1500 TCD and Kadapa Co-operative Sugars Ltd., with 1250 TCD. It is also observed that there are 5 factories operating in private sector. Of these 4 factories established with 2500 capacity each one and Sre Rayalaseema Sugar & Energin Ltd., started with lowest capacity i.e. 1250 TCD.

Utilization of Sugarcane

Table-5 provides the information relating to sector-wise sugarcane crushed by sugar factories in Rayalaseema region during the period from 2004-05 to 2013-14.

Table-5: Sector-wise Sugarcane Crushed by Sugar Factories in Rayalaseema Region

(In Metric Tonnes)

Year	Co-operative	Private	Total	% of col (2) to col (4)
(1)	(2)	(3)	(4)	(5)
2004-05	732574	2054746	2787320	26.28
2005-06	728973	1922122	2651095	27.49
2006-07	721950	2986004	2807954	25.71
2007-08	545640	1594900	2140540	25.49

2008-09	218282	734788	953070	22.90
2009-10	246525	795003	1041528	23.67
2010-11	339547	1308285	1647832	20.61
2011-12	334081	1575524	1909605	17.49
2012-13	242683	1432815	1675498	14.48
2013-14	170554	1189480	1360034	12.54

Sources: Assistant Commissioner of Sugar and Cane, Chittoor.

It is apparent from the Table-5 that the cane crushed under co-operative sector has declined from 732574 MTs to 170554 MTs during the period from 2004-05 to 2013-14. In private sector also decreased from 1189480 MTs at the end of 2004-05 to 1189480 MTs in 2013-14 with wide fluctuations during the study period. Further, it may be observed the share of cane crushed under co-operative sector in the aggregate position has rapidly declined from 26.28 per cent in 2004-05 to 12.54 per cent in 2013-14 with wide variances during this period. It can be concluded that fluctuating trends has been registered many a time during the study period.

Break-up of Sugarcane Crushed by Sugar Factories

Table-6 discloses the information relating to factory-wise and sector-wise beak-up of sugarcane crushed by sugar factories in Rayalaseema region during the period from 2004-05 to 2013-14.

Table-6: Factory-wise and Sector-wise Production of Sugarcane Crushed by Sugar Factories in Rayalaseema Region

(In Metric Tonnes)

S. No.	Name of the Sugar Factory	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
	Co-Operative Sector										
1.	Sri Venkateswara Co-operative Sugars Limited,	223180	250153	275130	209728	126500	138169	198921	176674	142162	122861
2.	Chittor Co-operative Sugars Limited,	380564	363690	345184	258397	91782	108356	140626	157567	100521	47693
3.	Cuddapah Co-operative Sugars Limited,	128830	115130	101636	77515	NC	NC	NC	NC	NC	NC
	Total - A	**732574**	**728973**	**721950**	**545640**	**218282**	**246525**	**339547**	**334081**	**242683**	**170554**
	Private Sector										
1.	Sudalagunta Sugars Limited,	625520	631320	637680	518557	268403	314041	482012	564752	506542	453059
2.	Prudential Sugar Co-operation Limited,	510810	506877	508941	410879	228035	259220	357617	386689	327718	298952
3.	KBD Sugars & Distilleries Limited,	316961	340175	352865	226938	77326	93948	199392	166976	182948	76173
4.	Sree Rayalaseema Sugar & Energy (P) Limited,	185920	151700	160886	54092	55819	50288	64857	79649	8414	NC
5.	Sagar Sugars & Allied Products Limited,	415535	428580	425632	384434	105205	77506	204407	377458	407193	361296
	Total – B	**2054746**	**1922122**	**2086004**	**1594900**	**734788**	**795003**	**1308285**	**1575524**	**1432815**	**1189480**
	Grand Total (A+B)	**2787320**	**2651095**	**2807954**	**2140540**	**953070**	**1041528**	**1647832**	**1909605**	**1675498**	**1360034**

Note: NC – No Crushing
Sources: Assistant Commissioner of Sugar and Cane, Chittoor.

Production of Sugar

The production of sugar is an essential activity to meet the domestic consumption of sugar and it plays a unique role in daily life. The sector-wise production of sugar in Rayalaseema region during the period from 2004-05 to 2013-14 is presented in table–7.

Table-7: Sector-wise Sugar Production in Rayalaseema Region

(In Qtls.)

Year	Cooperative Sector	Private	Total	% of col. (2) to col. (4)
(1)	**(2)**	**(3)**	**(4)**	**(5)**
2004-05	650340	2141858	2792198	23.29
2005-06	639470	2084946	2724416	23.47
2006-07	623715	2082674	2706389	23.04
2007-08	506903	1548414	2055317	24.66
2008-09	204029	679942	883971	23.08

2009-10	202003	680890	882893	22.88
2010-11	308411	1197332	1505743	20.48
2011-12	305692	1436863	1742555	17.54
2012-13	219067	1291937	1511004	14.49
2013-14	146690	1098029	1244719	11.78

Sources: Assistant Commissioner of Sugar and Cane, Chittoor.

From the table-7, it is clearly inferred that production of sugar under co-operative sector which has rapidly decreased from 650340QTs in 2004-05 to 146690 QTs in 2013-14 with wide fluctuations during the study period. In private sector, which was, double fold decreased from 2141858 QTs in 2004-05 to 1098029 QTs in 2013-14. As far as the total production of sugar was recorded 2792198 QTs in 2004-05 and widely decreased 1244719 QTs at the end of the year 2013-14 with to and fro fluctuations during the study period. As a result, the co-operative sector share was recorded in 2004-05 at 23.29 per cent and slowly decreased with accounted 11.78 per cent in 2013-14 with difficulties variances during the study period. It can be concluded that the co-operative sector has been declining trend during the study period. Hence, there is an urgent need to improve the share of co-operative as well as private sectors. The production of sugar is depending on various factors like area under cultivation, production of sugarcane and cane crushed by factories. If increase the above factors, the production will be increased and vice versa.

Break-up of Production of Sugar

Factory-wise and sector-wise beak-up of production of sugar in Rayalaseema region during the period from 2004-05 to 2013-14 is given in table-8.

Table-8: Factory-wise and Sector-wise Production of Sugar in Rayalaseema Region

(In QTLs)

S. No.	Name of the Sugar Factory	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
	Co-operative Sector										
1.	Sri Venkateswara Co-operative Sugars Limited,	248930	243555	230180	193589	115403	110849	177696	161691	130417	112260
2.	Chittor Co-operative Sugars Limited,	325450	320985	319145	248223	88626	91154	130715	144001	88650	34430
3.	Cuddapah Co-operative Sugars Limited,	75960	74930	74390	65091	NC	NC	NC	NC	NC	NC
	Total - A	**650340**	**639470**	**623715**	**506903**	**204029**	**202003**	**308411**	**305692**	**219067**	**146690**
	Private Sector										
1.	Sudalagunta Sugars Limited,	682590	662901	637080	503972	248009	269962	435111	533804	471862	428443
2.	Prudential Sugar Co-operation Limited,	610287	555890	508120	380500	208723	217850	313290	346442	294097	270750
3.	KBD Sugars & Distilleries Limited,	325189	310215	352121	234113	74698	86685	203133	166978	171750	71326
4.	Sree Rayalaseema Sugar & Energy (P) Limited,	115632	135835	160323	50025	48338	40875	59153	66149	7738	NC
5.	Sagar Sugars & Allied Products Limited,	410160	420105	425030	379804	100174	65518	186645	323490	346490	327510
	Total – B	**2141858**	**2084946**	**2082674**	**1548414**	**679942**	**680890**	**1197332**	**1436863**	**1291937**	**1098029**
	Grand Total (A+B)	**2792198**	**2724416**	**2706389**	**2055317**	**883971**	**882893**	**1505743**	**1742555**	**1511004**	**1244719**

Note: NC – No Crushing

Sources: Figures compiled from the records of Assistant Commissioner of Sugar and Cane, Chittoor.

FINDINGS OF STUDY

- The sharp fall in the both area under cultivation and production of sugarcane are mainly due to adverse climatic conditions.

- The fluctuating trend has been registered many a time during the study period.

- The co-operative sector has been declining trend during the study period.

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SUGGESTIONS

- There is an urgent need to remove the wide fluctuation and maintain stability in the area under cultivation in the region. Otherwise, the other spheres of the industry i.e. production of sugarcane and production of sugar would be adversely affected.

- There is an urgent need to improve the share of co-operative as well as private sectors. The production of sugar is depending on various factors like area under cultivation, production of sugarcane and cane crushed by factories. If increase the above factors, the production will be increased and vice versa.

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FACTORS INFLUENCING THE SELECTION OF WASHING MACHINE IN CUDDALORE DISTRICT

Dr. S. Thirumaran[10]

ABSTRACT

The domestic market is currently flooded by washing machines manufactured in collaboration with foreign companies such as Whirl pool, General Electric of the USA, Bosch-Siemens of Germany, and Sharp and Sanyo of Japan. Among the indigenous brands, Videocon has emerged as a leader.

The middle class buyers are the main patrons of these machines. The traditional Dhobi is a loser in big cities but in small towns and villages he continues to monopolies the market. In this context the paper focused on factors influencing the selection of washing machines.

KEYWORDS

Washing Machine, Brands, Satisfaction etc.

INTRODUCTION

The electric motor has become an indispensable part of our day-to-day life. It is valued as our life breath. Suspicion may arise that people do not use any electric motors. Then how can an electric motor become our life breath? An attempt can be made to count the number of electrical instruments in our houses. Certainly, the fans that are available in all the rooms work only with motors. Electric fans, refrigerator, television sets, mixer grinder, washing machines, vacuum cleaners, motors cycles, cars, buses etc all run only with electric motors.

STATEMENT OF PROBLEM

Faculties of development rest on the development of our personality and creativity transgresses the limits of physical boundaries. In a country like India or in almost all the developed and less developed countries, we find increasing domination of corporate sector, which has been making ways for the development of corporate culture. We cannot deny the fact that the corporate culture substantially influences our life style.

The increasing disposable and discretionary incomes, growing sophistication in the process of transportation and communication, increasing temptation for western culture, mounting craze for professional education, increasing number of working ladies in almost all the sectors are some of the recent developments throwing a major impact on our life style.

In a country like India where we find western culture outwitting eastern or Indian culture, we expect new developments yet to take place in the socio-economic parlance. We do not find anything wrong in the development of corporate culture, provided the negative developments in the process are regulated.

OBJECTIVES OF STUDY

- To study the different brands of washing machine.
- To identify the factors influencing the selection of washing machine in the study area.
- To analysis the level of satisfaction on washing machine and problems faced by the respondents in the study area.
- To give suitable suggestions based on findings of the study.

METHODOLOGY

The present study aims at an analysis of the brand preference of washing machine in Cuddalore District. The study is mainly based on both primary and secondary data. The primary data were collected by using personal interview method. The secondary data is collected from books, articles in journals, magazines, circulars and files of companies.

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Sample Design

 Random sampling method is adopted for selection of sampling method. It was decided to have a sample size of 100 respondents.

DATA ANALYSIS

Age

Age is an important factor through which various social and economic factors are being measured. The aged people are more self-conscious than the youth. The following table reveals the age distribution of the sample respondents.

Table-1

Age group	Respondents
Less than 20 years	6
21 to 30 years	37
31 to 40 years	30
41 to 50 years	13
Above 51 years	14
Total	**100**

Sources: Primary Data

Age wise distribution of sample respondents is given in table 1. It shows that only six of the respondents belong to the age group of less than 20 years, 37 of the respondents belong to the age group between 21 to 30 years, 30 of the respondents belong to the age group between 31 to 40 years, 13 of the respondents belong to the age group between 41 to 50 years and the remaining 14 of the respondents belong to the category of over 51 years of age.

Gender

Gender is an important factor and it is being measured. The following table shows the sex distribution of the sample respondents.

Table-2

Age Group	Respondents
Male	40
Female	60
Total	**100**

Sources: Primary Data

Gender wise distribution of the sample respondents is given in table 2. It shows that only 40 of the respondents are males and 60 of the respondents are females.

Marital Statuses

Marital status is an important factor and it is being measured. The following table shows the distribution of sample respondents based on their marital status.

Table-3

Marital Status	Respondents
Married	65
Unmarried	35
Total	**100**

Sources: Primary Data

Marital status-wise distribution of the sample respondents is given in table 3. It shows that only 65 of the respondents are married, and 35 of the respondents belong to the un-married category.

Educational Qualifications

Educational qualification is an important factor and it is being measured. The following table indicates the distribution of sample respondents based on their educational qualification.

Table-4

Educational Qualification	Respondents
Below H.S.C	14
Graduates	61
Technical Diploma Holders	11
B.E.	11
Others	3
Total	**100**

Sources: Primary Data

Educational qualification distribution of the sample respondents is given in table 4. It shows that only 14 of the respondents belong to below H.S.C category, 61 of the respondents are Graduates, 11 of the respondents are Technical Diploma holders, 11 respondents are BE, and three of the respondents have other educational qualifications.

Occupational Statuses

Occupational status is an important factor and it is being measured. The following table shows the distribution of sample respondents based on their occupations.

Table-5

Occupational Status	Respondents
Office Goers	20
Businessmen	20
Professionals	29
Agriculturalists	4
Others	27
Total	**100**

Sources: Primary Data

Occupation status-wise distribution of the sample respondents is given in table 5. It shows that only 20 of the respondents are office goers, 20 of the respondents are businessmen, 29 of the respondents are professionals, 4 of the respondents are agriculturists, and 27 respondents have other occupation.

Monthly Incomes

Monthly Income is an important factor and it is being measured. The following table shows the distribution of sample respondents based on their monthly income.

Table-6

Monthly Income	Respondents
Below Rs. 5000	37
Rs. 5000 to 10,000	38
Rs 10,000 to 15,000	11
Above Rs 15,000	14
Total	**100**

Sources: Primary Data

Monthly Income-wise distribution of the sample respondents is given in table 6. It shows that only 37 of the respondents have worthily income below Rs.5000, 38 have monthly Income between Rs. 5000 to Rs.10, 000, 11 have monthly Income between Rs. 10,000 to Rs. 15000, and the remaining 14 of the respondents belong to over Rs. 15,000 category.

Savings from Monthly Income

Monthly savings is an important factor and it is being measured. The following table shows the distribution of sample respondents based on their savings.

Table-7

Savings from Monthly Income	Respondents
Below Rs. 1000	47
Rs. 1000 to 3000	26
Rs 3000 to 5000	14
Above Rs 5000	13
Total	**100**

Sources: Primary Data

The distribution of the sample respondents based on their monthly savings is given in table 7. It shows that only 47 of the respondents save below Rs. 1000, 26 of the respondents have savings between Rs. 1000 to Rs. 3000, 14 of the respondents belong to the category between Rs. 3000 to 5000 and the remaining 13 of the respondents belong to above Rs. 5000 category.

Brand Preference of Washing Machine

The brand of washing machine is an important factor and it is being measured. The following table shows the distribution of sample respondents based on the brand preference.

Table-8

Age Group	Respondents
Videocon	21
Samsung	17
BPL	8
Whirlpool	25
LG	19
Others	10
Total	**100**

Sources: Primary Data

The distribution of the sample respondents based on the brand of washing machines is given in table 8. It shows that 21 of the respondents prefer the Videocon brand 17 of the respondents prefer Samsung, 8 of the respondent prefer BPL, 25 of the respondents prefer Whirl pool, 19 of the respondents prefer LG and 10 of the respondents prefer the other brands of washing machines.

Types of Washing Machine and Brand Preference

The type of washing machine is important and it is being measured. The following table shows the distribution of the sample respondents based on the type of washing machines.

Table-9

Types of Washing Machines	Respondents
Single Tub	12
Semi Automatic	36
Fully Automatic	52
Total	**100**

Sources: Primary Data

The distribution of the respondents based on the type of washing machine is given in table 9. It shows that only 12 of the respondents prefer washing machines with single tub, 36 of the respondents prefer semi automatic type and the remaining 52 of the respondents prefer fully automatic type.

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Technology Preference of Washing Machine

Technology preference of washing machine is an important factor and it is being measured. The following table shows the distribution of the sample respondents based on their technology preference.

Table-10

Technology	Respondents
Top Loading	62
Front Loading	38
Total	**100**

Sources: Primary Data

The above table 10 shows that only 62 of the respondents prefer top loading washing machines and the remaining 38 of the respondents prefer front loading types.

Factors Influencing Preference of Washing Machine

The factors influencing preference of washing machine are being measured. The following table shows the distribution of sample respondents based on this factor.

Table-11

Factors	Respondents
Quality	50
Price	15
Advertisement	10
Performance	20
Service After Sale	5
Total	**100**

Sources: Primary Data

Factor-wise distribution of the sample respondents is given in table 11. It shows that only 50 of the respondents look for quality, 15 prefer price, 10 of the respondents fall for advertisements, 20 of the respondents prefer performance and the remaining 5 of the respondents prefer service after sales.

Satisfaction on Washing Machine

Satisfaction on one's washing machine is an important factor and it is being measured. The following table shows the distribution of the sample respondents based on their degree of satisfaction.

Table-12

Satisfaction Level	Respondents
Satisfied	71
Partly Satisfied	25
Dissatisfied	-
No Opinion	4
Total	**100**

Sources: Primary Data

The above table 12 shows that only 71 of the respondents are satisfied, 25 of the respondents belong to partly satisfied category and 4 of the other.

Problems faced by Respondents

In the marketing field, problems faced by consumers are numerous particularly in durable goods. The present study aims at finding out the problems faced by consumers of washing machine in the area of study. The following table shows the problems of respondents.

Table-13: Rank Order Analysis of Various Problems

S. No.	Popular Brands	Score Value	Rank
1.	Consumption of more Electricity	16	III
2.	Consumption of more water	15	IV
3.	High cost of repairing	11	V
4.	Non availability of spare parts	27	I
5.	High Price	21	II
6.	Other problems	10	VI

Sources: Primary Data

The above table shows that the non-availability of spare parts is the most important aspect and so it is ranked first. The consumers usually prefer goods for which spare parts are easily available. The high price, consumption of more electricity, consumption of more water, high cost of repairing and other problems connected to the washing machines are be ranked second, third, fourth, fifth and sixth respectively.

CONCLUSION

The people buy the products or services to satisfy their needs. Needs may be physiological like the necessity for food drink, sex, shelter etc or psychological on an individual view of himself and his relation to society. This means that our needs become wants and wants become demands.

From the study, it is concluded that irrespective of age, income, marital status, educational qualification and occupation, people are using washing machines. The respondents are using different types of washing machines. Importance is given more to the quality of the washing machine and majority of the respondents have satisfaction on the usage of their washing machine. Monthly income is influencing the brand preference. So, most of the respondents have satisfied on washing machines.

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EFFECT OF DETERMINANT OF CAPITAL STRUCTURE
ON FINANCIAL LEVERAGE: A STUDY ON SELECTED INDIAN FMCG COMPANIES

P. Lakshmi Narasa Reddy[11]

ABSTRACT

The aim of this paper is to find relationship between financial leverage and determinants of capital structure of five topmost companies of Indian FMCG Industry. Selected companies for the study include Pidilite Industries, Dabur India Ltd, Emami limited, Britannia Industries Limited, and Marico. The determinants have taken for the study includes liquidity, size, profitability, growth rate, and tangibility. The data collected for the study are of 5 years from 2011 to 2016. Multiple regression analysis and correlation analysis are used as statistical tools in this study.

The inter correlation matrix is formulated with reference to selected independent variables in order to detect the problem of multi-collinearity. There is an average support of explanatory variables or independent variables on dependent variable. The independent variables that are statistically significant in explaining the variation in dependent variable are profitability, growth rate, and liquidity at 5% level of significance. The results have been indicated by the calculated p values that are less than the 0.5 at 5% level of significance. The outcome may be useful for companies in their financing decisions.

KEYWORDS

Financial Leverage, Capital Structure, Profitability, Growth Rate, Liquidity etc.

INTRODUCTION

Success of any company depends on its s investment decision, financing decision and divided decision. Financing decision is very important decision of any company and is concerned with Capital structure, the mixture of a firm's debt and equity, is important because it costs company money to borrow. Capital structure also matters because of the different tax implications of debt vs. equity and the impact of corporate taxes on a firm's profitability. Firms must be prudent in their borrowing activities to avoid excessive risk and the possibility of financial distress or even bankruptcy. Hence determining appropriate capital structure for the company is a difficult task to a financial manager. In order to determine optimum capital structure the financial manager needs to consider several factors, some of them are size of the firm, stability of earnings, and degree of competition, stage of life cycle of the firm, cash flow ability of the firm, rate of corporate tax, capital market conditions, nature of investors, attitude of management, and so many.

The present studies find the determinants of capital structure in the selected FMCG companies India. There are various theories regarding capital structure but still it is one of the main unsolved issues. There are different factors, which determine the capital structure of the firm. The present study has taken five important determinants as independent variables, namely tangibility, profitability, growth rate, size, and liquidity. To summaries, it can be said that the present study revolves around the determinants of capital structure and the efforts have been made to conclude the major determinants, which influence the capital structure in the context of Indian FMCG industry.

IMPORTANT CAPITAL STRUCTURE THEORIES

Trade-Off Theory: The term trade-off theory is commonly used to describe a group of associated theories. In all these theories, a decision maker examines the different costs and advantages of alternative leverage plans. The tradeoff theory assumes that you can get benefits to leverage within a capital structure until the optimum capital structure is achieved. The theory acknowledges the tax advantage from interest payments. This theory mainly refers to the two concepts – cost of financial distress and agency costs. A major objective of the trade-off theory is to explain the fact that businesses generally are funded partially with debt and partially with equity.

Pecking Order Theory: According to pecking order theory (pecking order model), companies show a distinct preference for utilizing internal finance (as retained earnings or excess liquid assets) over external finance. If internal funds are insufficient to finance investment opportunities, a company might obtain external financing but it will choose among the various external finance sources in a manner as to minimize additional costs. This theory regards the market-to-book ratio as a way of measuring investment opportunities. This theory is made popular by Myers and Majluf as he claims that equity is a significantly less favored

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way to raise capital because when managers issue fresh equity, investors feel that managers think that the company is overvalued and managers are taking advantage of this over-valuation. Because of this, investors will place a reduced value to the new equity issuance.

Market Timing Theory: This theory of capital structure states that companies time their equity issues in a way that they issue fresh stock when the stock prices are overvalued, and buy back shares when they are undervalued. As a result, variations in stock prices influence firm's capital structures. Companies do not usually care whether they finance with debt or equity; they simply pick the type of financing which, at that point in time, appears to be more valued by financial markets.

Net Income Theory: According to this theory, the cost of debt is recognized as cheaper source of financing than equity capital. The more use of debt in the capital structure lowers the total cost of capital. Debt is less expensive source of financing because its interest is deductible from net profit before taxes. Following deduction of interest, a business has to pay reduced tax and therefore, it will reduce the weighted average cost of capital. The value of the business is higher in the case of lower overall cost of capital because of more use of leverage in the capital structure.

Net Operating Income Theory: According to this theory, the value of a company is not impacted by the alteration of debt in the capital structure. It assumes that the gain, which a company gets by infusion of debt, is negated by the rise in the required rate of return by the stockholders.

REVIEW OF LITERATURE

A short review of very few studies on this topic, which has engaged academicians, is as follows:

Saravanan and Gowri (2014) have done an empirical study on 'capital structure of selected companies in Indian automobile Industry; they conclude that tangibility, profitability, and size are among the variables consistent with our study that influence the capital structure of selected company.

Abor and Biekpe (2009) shows that short–term debt forms a comparatively high percentage of total debt of small and medium enterprises (SMEs) in Ghana. This suggests that long-term leverage represents about 5.74 percent of the capital of SMEs while short-term debt represents about 36.26 percent of total assets, underlining the significance of short-term debt throughout long-term debt in financing Ghanaian SMEs.

According to the Fauzi et al. (2013), the most of the firms located in New Zealand, financing was made by issuing debt securities, specifically short term financing due to the New Zealand firms generally, small and medium enterprises and the most of the New Zealand firms were in the primary sector. They emphasize that however, New Zealand is reflected a developed market, New Zealand's business characteristics vary from other developed countries, and hence may result in dissimilar funding alternatives.

Forte, Barros and Nakumura (2013) state that capital structure is very insistent in small and medium sized Brazilian enterprises. Certainly, lagged leverage is the appropriate interpreter of consequent leverage in whole regressions.

Sangeeta Mittal and Lavina Kumari (2015) have done research on "effect of determinants of capital structure on financial leverage: A Study of selected Indian automobile companies. They conclude that tangibility, profitability, growth rate, size and liquidity have influenced financial leverage of Indian automobiles.

OBJECTIVES OF STUDY

- To investigate the relationship between the capital structure and defined independent variables.
- To suggest few determinants which are of considerable attention for capital structure decision of FMCG sector.

RESEARCH METHODOLOGY

The study has been based on analytical in nature .This study attempted to examine the impact of selected independent variables on financial leverage. The present studies consider financial leverage as dependent variable. Statistical tools are used to analyze the data.

Data Description

The study has been based on secondary date only. The entire data has been collected from www.moneycontrol.com. The samples are also collected from top most FMCG companies in India. The financial data used in this study from 2011- to 2016.

SPECIFICATIONS OF THE MODEL

W=a+b1A1+b2A3+b4A4+b5A5

Where,

W = Financial leverage,
A1 = Tangibility,
A2 = Profitability,
A3 = Growth rate,
A4 = Size,
A5 = Liquidity,
A = Constant term of the model,
b's = Coefficient of the model.

Dependent Variable (W)

It is defined as the ratio of debt to equity. Only long-term liabilities are included in debt whereas net worth is included in equity. It is defined by:

Independent Variables

Tangibility (A1) = It is defined as the ratio of total fixed assets to total assets.
Profitability (A2) = It is defined in term of return on total assets on total assets. It is given by:
Profitability = Earnings before interest and tax /Total assets.
Growth rate (A3) = It is defined as a compound growth rate of total assets. It is given by:
Growth rate = Total assets at the end of the selected period/ Total assets at the beginning of the selected period.
Size (A) = It is defined as the logarithm of total assets of the firms.it is given by
Size = Log (Total Assets)
Liquidity (A5) = It is defined as ratio of current assets to current liabilities.

LIMITATIONS

- The present study focused on secondary data, which has its own limitations.
- This study has based on only single factor i.e. only on FMCG sector in India.
- This study is limited to a small sample size of Indian FMCG sector.

HYPOTHSIS OF STUDY

H0: There is no significant relation between the selected independent variables and financial leverage.
H1: There is a significant relation between the selected independent variables and financial.

DETECTION OF MULTI-COLLINEARITY

If any two variables are highly correlated than, this situation is termed as Multi-collinearity. In this situation, results of regression are not accurate. The independent variables, whose correlation value are greater than 0.80, would not be included in this present study. In order to find if there is a problem of multi-collinearity we take inter correlation matrix (table1) of independent variables and find that there is absence of multi-collinearity among independent variables.

Table-1: Inter Correlation Matrix for Independent Variables

	Tangibility	*Profitability*	*Growth*	*Size*	*Liquidity*
Tangibility	1				
Profitability	0.918433	1			
Growth	0.185329	-0.073578314	1		
Size	-0.65398	-0.739208247	-0.41745	1	
Liquidity	0.716059	0.484785719	0.279626	-0.18559	1

Sources: Authors Compilation

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ANALYSIS OF REGRESSION RESULTS

Regression summary report speaks about regression results. If you go through the above regression tables, one can identify the relationship between financial leverage and determents of capital structure, Debt equity ratio is regressed on determinants of capital structure. there is a presence of significant correlation with R=1 as per the regression summary output shown in table 2(a) R square is 1 which reveals variation in financial leverage is explained by the defined independent variables and rest due to some other variables.

Table-2 (A): Regression Summary Report

Regression Statistics	
Multiple R	1
R Square	1
Adjusted R Square	65535
Standard Error	0
Observations	4

Sources: Authors Compilation

Table-2 (B): Regression Summary Output - ANOVA

	d.f.	*SS*	*MS*	*F*	*Significance*
Regression	5	25.24677001	5.049354	7..641666	0.45164
Residual	0	0	65535		
Total	5	25.24677001			

Sources: Authors Compilation

Table-2 (C): Regression Summary output-Coefficient of Variables

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept	10.30512	0	65535	0.509368
Tangibility	26.09835	0	65535	0.409713
Profitability	1.2241	0	65535	0.184141
Growth rate	-2.37529	0	65535	0.874773
Size	-4.67638	0	65535	0.310246
Liquidity	6.475892	0	65535	0.479327

Sources: Authors Compilation

Table-3: Relationship

Independent Variables	Observed Relationship	Significance with P-value	In Significance with P-value
Tangibility	+	0.409713	
Profitability	+	0.184141	
Growth Rate	+	0.874773	
Size	+	0.310246	
Liquidity	+	0.479327	

Sources: Authors Compilation

Tangibility: The beta coefficients of tangibility are 26.0983 which show tangibility has a highly positive relation with null range. The relation is statistically significant. Though the hypothesis is not accepted but in this case tangibility does affected the capital structure of the selected companies.

Profitability: The coefficient associated with the profitability is met 1.2241, which is found to be positive. In other words, profitability has positive relation with in selected FMCG companies and relation is statistically not significant at 0.5 levels. Therefore, null hypothesis is accepted in this case. It can be stated that profitability has been considered as an important determinant of capital structure. The implication is that there should be an increase in debt level with the decease profitability.

Growth Rate: The relationship between growth rate and leverage has been found to be negative with beta coefficient of -2.375. In addition, the relationship is statistically significant at 0.5 levels. Null hypothesis is accepted. It implies that debt should decrease the increase in the growth rate of the company. Therefore, the growth rate can be considere3d as one of the factor in determining the capital structure for FMCG companies.

Size: The beta coefficient of size is -4.67638 which is negative and significant at 0.5 levels. Null hypothesis is not accepted. Hence, it can be said that size is an important factor in determining the capital structure for FMCG companies.

Liquidity: The beta coefficient of liquidity is 6.478592 which has a positive relationship with leverage although the relation is statistically significant at 0.5 levels. Therefore, it can be conclude that liquidity is an important factor, which influence the financial leverage of FMCG companies.

CONCLUSION

Here we can say that the independent variables that are statistically significant in explaining the variation in financial leverage are the intangibility, Profitability, Growth rate, and liquidity as indicated by the P Value that are less than the significance of 5%.The F –statistics is 7..641666 and P value is 0.874773 which shows the validity and significance of the model. R square is 1 which reveals that model explain 100% variation in leverage with help of present model. The independent variable, which has positive relation with leverage, is intangibility, profitability and liquidity negative relation with leverages are size and growth rate. The P value for all these variables is less than 0.05, which shows that all the above relations are significant at 0.05 levels. All the remaining variables included in the present study have turned out to be statistically insignificant for determining capital structure in FMCG Industry.

FUTURE RESEARCH

Future research may conduct on multiple factors, like banking, food beverages and construction etc., with more sample size to bring out the comprehensive and best results.

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EMPIRICAL ANALYSIS OF INDIAN EXPORT

Yogendra Singh Rajavat[12]

ABSTRACT

This paper investigates the Granger-causality between the Indian export and import of, Asia pacific, Europe and United States of America over the period 2000 to 2015. The findings imply that the -causality is bidirectional in majority of cases. In one-way causality, the pattern is not homogenous: export has higher effect on economic growth instead of import. The past few decades in Europe have been characterized by the integration of European economies. These developments are likely to affect not only the European economy, but the economies of several other countries that have ties with Europe. As the European Union's largest trading partner, the United States and Asia Pacific countries should be aware of how the changes going on in Europe are likely to affect the US economy. The purpose of this paper is to determine the effect of the import export relationship with Europe, Asia and America. Granger-causality method is used to analyze the data.

KEYWORDS

Granger-Causality, Asia Pacific, European Union, United States, Export, Import etc.

INTRODUCTION

Imports and exports are two important elements for trade balance of any country. In today's era Developing countries earns a major share of their Gross National Product from the export of agricultural, agric-related. The term import is derived from the conceptual meaning as the goods and services into the port of a country. The buyer of goods and services can be referred to an importer who is based in the country of import where the overseas-based seller is referred to as an exporter. Thus, an import is any good or service brought in from one country to another country in a well-planned manner for the purpose of trade that is brought in from another country for sale. In most of the Cases, outsider producers provide the goods or services those are imported to domestic consumers. This term export is derived from the conceptual meaning as to ship the goods and services out of the port of a country. The seller of such goods and services is referred to as an "exporter" who is based in the country of export whereas the overseas-based buyer is referred to as an "importer". In International Trade, "exports" refers to selling goods and services produced in the home country to other markets.

Export means taking out of India to a place outside India, as per Section 2 (18) or the Customs Act, 1962. Export goods as any goods which are to be taken out of India to a place outside India".

As such, exports mean physical exports of any goods. However, exports scope has been widened to include "services" exports. As such, it now includes goods and services.

The European Union (EU) is an economic and political union of 27 member states that are located primarily in Europe. The EU operates through a system of supranational independent institutions and intergovernmental negotiated decisions by the member states.

Asia-Pacific or Asia Pacific is the part of the world in or near the Western Pacific Ocean. The region varies in size depending on context, but it typically includes at least much of East Asia, Southeast Asia, and Oceania.

The United States of America commonly called the United States is a federal republic] consisting of fifty states and a federal district. The lower forty-eight contiguous states and the federal district of Washington, D.C. are in central North America between Canada and Mexico.

LITERATURE REVIEW

Konya and Singh (2008), by employing data for the period 1949-50 to 2004-05 found no evidences of co integrating relationship between India's exports and imports.

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Erbaykal and Karaca (2008) examined whether the foreign deficit of Turkey is sustainable and finds that although there is a co integration relationship between imports and exports, the slope coefficients obtained from the equations derived from exports and imports series is not equal to one. They conclude that it is doubtful that the foreign deficit of Turkey is sustainable. The foregoing discussion suggests that the existence of a co integration relationship between imports and exports is not enough to state clearly that the foreign deficit is sustainable.

Upender (2007) has shown that India's nominal exports and imports were co integrated by employing data for the period 1949-50 to 2004-05. He found that for 35 of the 50 countries there was evidence of co integration between exports and imports; and 31 of the 35 countries had a positive export coefficient.

Bernard et al. (2007) draw attention to the strong correlation (0.87) between industries with high shares of importing firms and those with high shares of exporters. They find that 79% of importers also export. Their descriptive analysis shows that both types of firms show many similarities in their performance measures. Both exporters and importers are more productive, larger, capital and skill intensive than firms that do not have any trading relationships with the rest of the world. However, they do not split firms into four separate groups to show how firms that perform both activities differ from the other group of firms2. Moreover, they do not analyze how firms in different trade groups differ in growth performances.

Herzer and Nowak-Lehmann (2006) have shown the existence of a co integrated relationship between exports and imports, which suggest that trade deficits are only short-term phenomenon therefore, sustainable in the long-term.

Narayan and Narayan (2005) investigate whether there is a long-run relationship between exports and imports for 22 least developed countries. They analyzed this issue using the bounds testing approach to co integration. They found that exports and imports are co integrated only for six out of the 22 countries, and the coefficient of exports is less than one.

Chandra (2002) found bidirectional causal relationship between export growth and GDP growth, which is short-run causal relation, as co integration between export growth and GDP growth, was not found. In case of Pakistan, Bahamani-Oskooee and Rhee (1997) empirically examined the link between exports and imports in the case of Australia. He found co integration among the variables and suggested that macroeconomic policies are efficient in the sample period because the co integration coefficient value is near one. The linkage between exports and economic growth is vital in view of many other researchers.

Riezman et al. (1996), the imports variable is an important variable in the causal relationship between exports and economic growth and the failure to include it in the test could lead to a biased conclusion – the role of imports is mainly intermediate inputs in exports. For an economy that depends on export promotion for its growth process, imports are important in restoring external imbalances to its sustainable steady-state path.

Husted (1992) studied quarterly US trade data between 1967 to 1989 and finds a long-run relationship between US export and imports pointing that its trade deficit has been a short run phenomenon.

Barro (1991) stated that the economy of the scale through the growth of exports, receiving this benefit over the longer period, a country must have to invest significant funds in research and development for serving the market with innovative products.

OBJECTIVE

- The primary objective of this paper is to study causality between Import and Export among India, EU, US and Asia pacific.

METHODOLOGY

The Study

The term import is derived from the conceptual meaning as the goods and services into the port of a country. The buyer of such goods and services is referred to an importer who is based in the country of import where the overseas-based seller is referred to as an exporter.

Term export is derived from the conceptual meaning as to ship the goods and services out of the port of a country.

The European Union (EU) is an economic and political union of 27 member states that are located primarily in Europe.

Asia-Pacific or Asia Pacific is the part of the world in or near the Western Pacific Ocean. The region varies in size depending on context, but it typically includes at least much of East Asia, Southeast Asia, and Oceania.

The United States of America commonly called the United States is a federal republic consisting of fifty states and a federal district. The lower forty-eight contiguous states and the federal district of Washington, D.C. are in central North America between Canada and Mexico.

Data Collection

Import and export data of India, United States, European Union, and Asia pacific was collected year wise for a period of 15 years from 2000 to 2015.

Data Analysis

The analysis was done on E views software. The Granger Causality Test was performed to find the cause and effect relationship between the variables.

RESULT AND ANALYSIS

Table-1: Pair wise Granger Causality Tests

Null Hypothesis	Observations	F-Statistic	Probability
EAP_IMP does not Granger Cause INDIA_EXP	16	0.64289	0.54443
INDIA_EXP does not Granger Cause EAP_IMP		0.26828	0.76955
EU_IMP does not Granger Cause INDIA_EXP	17	0.07485	0.92831
INDIA_EXP does not Granger Cause EU_IMP		0.03535	0.96536
USA_IMP does not Granger Cause INDIA_EXP	16	0.75736	0.49186
INDIA_EXP does not Granger Cause USA_IMP		0.95628	0.41409

Sources: Authors Compilation

H$_O$ 1.1 EAP_IMP does not Granger Cause INDIA_EXP
Hypothesis is not rejected. Since the probability value is 54% in table no. 1, which is greater than 5 percent, hence the hypothesis is not rejected.

H$_O$ 1.2 INDIA_EXP does not Granger Cause EAP_IMP
Hypothesis is not rejected. Since the probability value is 76% in table-1, which is greater than 5 percent, hence the hypothesis is not rejected.

H$_O$ 2.1 EU_IMP does not Granger Cause INDIA_EXP
Hypothesis is not rejected. Since the probability value is 92% in table-1, which is greater than 5 percent, hence the hypothesis is not rejected.

H$_O$ 2.2 INDIA_EXP does not Granger Cause EU_IMP

Hypothesis is not rejected. Since the probability value is 96% in table-1, which is greater than 5 percent, hence the hypothesis is not rejected.

H$_O$ 3.1 USA_IMP does not Granger Cause INDIA_EXP
Hypothesis is not rejected. Since the probability value is 49% in table-1, which is greater than 5 percent, hence the hypothesis is not rejected.

H$_O$ 3.2 INDIA_EXP does not Granger Cause USA_IMP
Hypothesis is not rejected. Since the probability value is 41% in table-1, which is greater than 5 percent, hence the hypothesis is not rejected.

CONCLUSION

The granger causality test is used to study the cause and effect relationship between India Export and import of EU, US and Asia Pacific. From Granger causality test it can be reveal that EU, US and Asia pacific do not affect Indian Export. Result also reveals that India does not affect the Import of EU, US and Asia pacific. **These results are in conformity with the results generated by Narayan and Narayan (2005).**

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TREND OF INDUSTRIAL GROWTH IN INDIA SINCE 1951

Chandrika Soni[13]

ABSTRACT

Industrial sector plays an important role in achieving a higher rate of economic growth for a country. The main objective of this study is to analyze the average annual growth rate as well as the trend of Indian industry during the period 1951-2014 by using Semi Log Linear Regression Model and Semi Log Non-Linear Regression Model. It is found that during 1991-95, the growth rate is highest i.e. almost 8.12%. Further, it was also stated that during 1991-2014 the growth rate was higher as compared to the period 1970-1990. Conclusion of the study is that since 1990's, the trend pattern of Industrial sector is higher as well as showing an accelerating trend that is due to the success of New Economic Policy.

KEYWORDS

Industry, Semi Log Linear, Semi Log Non-linear Regression etc.

INTRODUCTION

The economic development of any country is mainly dependent on the overall development of core sectors. There are three important core sectors in an economy: agriculture, industry, and services. These sectors are the most important for a country's development in terms of employment opportunities, product diversification and inter- linkages among other nations.

Industrial sector plays an important role in achieving a higher rate of economic growth for a country. After independence there was significant changes observed in industry both in its structure as well as in trend / pattern, which was mainly due to changes in the Industrial policy. In the early 1950s to 1980s protectionist, trade and industrial policies guided the growth of Industries, which effected the growth of the economy in general and industry in particular. The restricted policies were replaced by a more liberal industrial and trade policy regime through the adaptation of New Economic Policy in 1991. New Economic policy has made tremendous effects on the industrial sector in terms of competitive business environment and technological up-gradation that lead to higher growth rate.

The Economic survey (1990-91) stated that "the initiative taken in the past few years to reform the overall industrial policy regime to make it more conducive to the promotion of technological up gradation, cost-efficiency, competitiveness, freedom of investment, maximization of capacity utilization and influence the export. "According to Economic Survey (1991-92), "a major policy reform, substantially deregulating the industrial sector and liberalizing foreign investment and technology imports, has been the most significant development during 1991-92. The new package of industrial policy initiatives abandons industrial licensing in all industries except those reserved for the public sector, for the SSI sector and those under compulsory licensing subject to minimum local conditions. Restrictions on investment by MRTP and FERA companies have been removed".

There are various policy measures, which are being adopted by the government time to time for creating a better environment for industrial growth. Few initiatives are Make in India, Ease of Doing Business, Startup India, Digital India, and Smart Cities, etc. These initiatives would help in achieving sustainable as well as a higher economic growth for the country.

OBJECTIVES

- To analyze the average annual growth rate as well as the trend of Indian industry during the period 1951-2014.

HYPOTHESIS

In order to achieve above objective, the hypothesis of this paper is:

- The average annual growth rate as well as the trends of Industry is same among different five yearly periods from 1951-2010.
- The average annual growth of Industry has been higher during pre-reform (1970-1990) as compared to the post reform period (1991-2014).

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LITERATURE REVIEW

Majumdar's (1996) study was to examine the impact of economic liberalisation on the productivity trends of Indian Industry from the period 1950-51 to 1992-93 and for the three sub periods. Productivity is measured using a linear-programming based technique called Data Envelopment Analysis (DEA). The study concluded that Indian industry has reached its highest efficiency throughout the 1990s, thus it seems that the reforms are yielding desired result.

Neogi & Ghosh (1998) tries to analyze the impact of liberalisation on the performance of selected Indian industries with firm level data during 1989 to 1994. It was concluded that productivity growth and efficiency level has not improved as per the expectation during the post-reform period and even the distribution of efficiency is skewed. The limitation of the study is that the time was not long enough to reach any conclusion.

Tandon & Eswara Reddy (2013) tries to study the emerging trends of Indian Textile Industry. Further, the study stated that globalization has had a positive impact on textile exports of India. The study concluded that textiles industry and its Labour relations are undergoing profound changes. The producers control over the product market has increased. There is a need to improve credit schemes, welfare schemes, compensation policies and skill development of workers. The Government and the industry need to collaborate and establish an action plan, which can remove the barriers and increase the contribution of textiles in the GDP. It would leads towards the sustainable growth in the textile industry.

Soni & Nath (2017) tries to observe the trends of Indian agriculture by using Semi log linear regression during the period of 1970-2014. The study concluded that the growth rate is highest during the period 1980-1989 (i.e. almost above 4%). After 1990, the average annual growth rate is declining. Indian government has to take drastic reforms in Agriculture policy to achieve higher food production.

DATA SOURCE AND METHODOLOGY

The study relies on secondary data compiled from various published sources. Data were collected from the Hand Book of Statistics on Indian Economy (2014-15) published by Reserve Bank of India. The data covers the period from 1951 to 2010 at constant price with 2004-05 as the base year. Average Annual growth rates have been calculated by Semi log linear regression model. In this paper, we have tried to focus on the performance as well as trends of Industry since 1951 to 2010.

Average annual growth rate gives the overall scenario of trends and performance of Industry. It is one of the important tools used to find out the average annual growth rate of Industry and provide sufficient information of Industry's growth performance in different times. The trends of Industry growth rate for the different periods are analyzed by using the semi-logarithmic linear equation for each period. The semi-logarithmic linear model is:

$$ln(Industry_t) = \alpha + \beta t + U_t$$

In the above equation, the dependent variable is in natural log and α, and β are the parameter and t is time. The parameter β provides the information about the average annual growth of Industry in the specific times.

The growth performance of an Industry is whether accelerating or decelerating with time is one of the significant issues among policy makers, academicians, researcher, etc. In this purpose, the semi-logarithmic non-linear equation is being applied. The semi-logarithmic non-linear model is:

$$ln(Industry_t) = \alpha + \beta t + \gamma t^2 + U_t$$

In the above equation, the dependent variable is in natural log and α, β, and γ are the parameter. The coefficient β shows the average annual growth trend and the parameter γ gives the information about rate of acceleration or deceleration in the average growth. If the sign of parameter γ is positive then it is accelerate the growth and if the sign of parameter is, negative then it decelerate the growth.

EMPIRICAL RESULTS AND INTERPRETATION

This section is divided into two broad sub sections. First section was mainly on the average annual growth of Industry and other section was on the growth trends pattern (i.e., acceleration or deceleration) for the period 1951-2014.

Average Annual Growth: This section of the work mainly provides the idea about the average annual growth of Indian Industry for the period 1951-2010. Table 1 given below provides the idea about the average annual growth rate of the entire period which

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is sub divided into twelve five yearly subsections (1951-55, 1956-60, 1961-65, 1966-70, 1971-75, 1976-80, 1981-85, 1986-90, 1991-95, 1996-00, 2001-05, 2006-10).

Table-1: Average Annual Growth for Industry at Factor Cost in India: Regression Results (1951-2010)

Year	Constant	Slope (t)	Durbin Watson
1951-55	10.31887*** (818.8012)	0.058313*** (15.34654)	1.861479
1956-60	10.61304*** (604.9128)	0.061044*** (11.53970)	1.459805
1961-65	10.96401*** (515.1353)	0.064799*** (10.09759)	1.522752
1966-70	11.21655*** (442.6752)	0.049114*** (6.428713)	2.600637
1971-75	11.45161*** (3900.978)	0.037861*** (42.77500)	2.665547
1976-80	11.70370*** (290.3381)	0.039527** (3.252169)	1.959472
1981-85	11.91296*** (795.7836)	0.055042*** (12.19449)	2.190981
1986-90	12.16249*** (941.0356)	0.075299*** (19.32286)	2.627476
1991-95	12.41683*** (361.1990)	0.081199*** (7.834023)	1.443089
1996-00	12.87129*** (887.8494)	0.041576*** (9.511604)	1.402584
2001-05	13.04045*** (1400.828)	0.067842*** (24.17043)	1.673436
2006-10	13.43508*** (864.0540)	0.074607*** (15.91398)	2.875487

Note: ***Significant at the 1% level; **significant at the 5% level
Figures in parenthesis mention the 't' test value
Sources: Handbook of Statistics on the Indian Economy (2014-15) by Reserve Bank of India

From Table-1, the regression results of Industry shows the growth performances during the period 1970-2010, which is, subdivided into twelve sub sections (five yearly segments). The time coefficient is statistically significant at 1% level of significance in the all segments except for the period of 1976-1980, which is significant at 5% level.

Table-2: Average Annual Growth for Industry at Factor Cost in India (%)

Year	Average Annual Growth (in Percent)
1951-55	5.83
1956-60	6.10
1961-65	6.48
1966-70	4.91
1971-75	3.79
1976-80	3.95
1981-85	5.50
1986-90	7.53
1991-95	8.12
1996-00	4.16
2001-05	6.78
2006-10	7.46

Sources: Handbook of Statistics on the Indian Economy (2014-15) by Reserve Bank of India

Above table-2, depicts the average annual growth (in percentage) for the twelve five yearly sub period (1951-55, 1956-60, 1961-65, 1966-70, 1971-75, 1976-80, 1981-85, 1986-90, 1991-95, 1996-00, 2001-05, 2006-10) for which the average annual growth rates are 5.83, 6.10, 6.48, 4.91, 3.79, 3.95, 5.50, 7.53, 8.12, 4.16, 6.78 and 7.46 respectively. It is also clear from the table that

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during 1991-95, the growth rate is highest i.e. almost 8.12% during the Economic reform period and the credit for this goes to the success of the Economic reforms policy.

In order to further analyze average annual growth rates the period 1970-2014 has been divided into 3 broad segments: pre 1991 period (1970-1990), post period (1991-2014) and overall time period (1970-2014).

Table-3: Average Annual Growth for Industry at factor cost in India:
Regression Results (1970-1990; 1991-2014; 1970-2014)

Year	Constant	Slope (t)	Durbin Watson
1970-1990	11.95*** (772.65)	0.054*** (43.49)	0.75
1991-2014	13.05*** (712.62)	0.066*** (51.71)	0.41
1970-2014	11.87*** (680.48)	0.060*** (90.62)	0.27

Note: ***Significant at the 1% level; **significant at the 5% level
Figures in parenthesis mention the 't' test value
Sources: Handbook of Statistics on the Indian Economy (2014-15) by Reserve Bank of India

From Table-3, the regression results of Industry shows the growth performances from the period 1970-2014 which is subdivided into three segments. The time coefficient is statistically significant at 1% level of significance in the all segments.

Table-4: Average Annual Growth for Industry at factor cost in India (%)

Year	Average Annual Growth (in percent)
1970-1990	5.40
1991-2014	6.60
1970-2014	6.00

Sources: Handbook of Statistics on the Indian Economy (2014-15) by Reserve Bank of India

Above table 4, depicts that the average annual growth rate (in percentage) for the sub periods (1970-1990, 1991-2014 and 1970-2014) are 5.40, 6.60 and 6.00% respectively. The average annual growth (in percentage) for the entire period is 6.00%. It is being clear from above that during the period of 1991-2014, the growth rate was higher as compared to the period 1970-1990 and the credit for this goes to the success of the Economic reforms policy.

Growth Trend with Acceleration or Deceleration: This section will mainly discuss the growth rate and the patterns of the growth trend with acceleration or deceleration of an Industry for the period 1951-2010. Table 4 depicts that the growth trends of Industry and its pattern whether it is accelerating or decelerating for the period 1951-2010.

Table-5: Regression Results of Industry at Factor Cost in India: Trends with Acceleration / Deceleration (1951-2010)

Year	Intercept	Slope t	Slope t²	Acceleration / Deceleration
1951-55	10.35288*** (673.8177)	0.029161 (2.490492)	0.004859 (2.537768)	Acceleration
1956-60	10.66594*** (1112.030)	0.015703 (2.148307)	0.007557** (6.322766)	Acceleration
1961-65	10.90215*** (603.1156)	0.117823* (8.553159)	-0.008837* (-3.923315)	Deceleration
1966-70	11.23439*** (181.8159)	0.033820 (0.718220)	0.002549 (0.331052)	Acceleration
1971-75	11.44975*** (1591.253)	0.039458** (7.195848)	-0.000266 (-0.296880)	Deceleration
1976-80	11.60670*** (183.2777)	0.122665 (2.541728)	-0.013856 (-1.755868)	Deceleration
1981-85	11.88311*** (414.8700)	0.080623* (3.693579)	-0.004264 (-1.194522)	Deceleration
1986-90	12.16102***	0.076559*	-0.000210	Deceleration

	(375.9411)	(3.105668)	(-0.052093)	
1991-95	12.52260*** (1601.565)	-0.009461 (-1.587790)	0.015110*** (15.50812)	Acceleration
1996-00	12.91589*** (3816.185)	0.003351 (1.299421)	0.006371*** (15.10554)	Acceleration
2001-05	13.06495*** (1070.484)	0.046837** (5.035759)	0.003501 (2.301893)	Acceleration
2006-10	13.45428*** (376.8932)	0.058152 (2.137604)	0.002743 (0.616548)	Acceleration

Sources: Authors Compilation

In the table-5, it shows the regression results of Industry during the period 1951-2014. The t^2 coefficient is statistically significant at 1% level of significance during the period 1991-2000, but statistically significant at 5% level of significance during the period 1956-1965. After 1991 the trends of Industrial growth is accelerating but before 1991it was fluctuating.

Table-6: Regression Results of Industry at factor cost in India:
Trends with Acceleration / Deceleration (1970-1990, 1991-2014, 1970-2014)

Year	Intercept	Slope t	Slope t^2	Acceleration /Deceleration
1970-1990	12.01*** (710.08)	0.037*** (10.52)	0.0007*** (4.74)	Acceleration
1991-2014	13.09*** (486.06)	0.056*** (11.29)	0.0004**	Acceleration
1970-2014	11.98*** (744.42)	0.046*** (28.51)	0.0003*** (8.85)	Acceleration

Sources: Authors Compilation

From Table: 6, the regression results of Industry shows the trends of growth performances from the period 1970-2014 which is subdivided into three segments. The t^2 coefficient is statistically significant at 1% level of significance during the period 1970-2014 and 1970-1990 but statistically significant at 5% level of significance during the 1991-2014. However, if we look the trends of Industrial growth it is accelerating, as the sign of t^2 coefficient is positive during the entire three broad segment.

CONCLUSION

The performance of the Industrial sector changes from time to time due to various policies being adopted by the government. During the Second five-year plan, the share of industrial sector in total plan outlay increased sharply and it was close to 20 percent. During 1980s the average annual growth of Industry is performing better, as Government of India has made a numerous number of changes in their policy to achieve the higher growth but it could not be sustained and remain fluctuating. The finding of this paper supports that during 1991-95, the growth rate is highest i.e. almost 8.12%. Further, it was also found that during 1991-2014 the growth rate was higher as compared to the period 1970-1990. Conclusion of the study is that since 1990 is the trend pattern of Industrial sector is higher as well as showing an accelerating trend that is due to the success of New Economic Policy.

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AN ECONOMIC AND STRUCTURAL TRANSITION OF AUTOMOBILE INDUSTRIES OF INDIA

Ankita Sajjan[14] Dr. Bimal Jaiswal[15]

ABSTRACT
Indian automobile industry has symbolized a new journey since economic reforms of 1991. With the advent of de-licensing and opportunities opening up in the sector, the sector has seen vast changes in terms of structure and performance. The automobile industry of India has emerged as one of the largest markets in the world. Statistically, the automobile sector of India is sixth largest producer in the world and accounts for 7.1 per cent of the country's GDP. In year 2016(April-January), the sector has seen 18.36 per cent of growth in exports of Commercial Vehicles over the year 2015. In addition to this, the various schemes of government viz. 'Make in India' is expected to make the sector a leader of two wheeler and four wheeler market by the year 2020. Under 'Make in India' initiative the government is aiming to make automobiles manufacturing as the main driver of the scheme as passenger vehicles market is estimated to get triple to 9.4 million units by 2026, highlighted in the Auto Mission Plan (AMP) 2016-26. As the sector has been seen as the most dynamic and growing sector, which is facing set back in the recent years and a temporary disruption due to demonetization, the present study attempts to analyze the structure and performance of the sector over the period. The study attempts to analyze the present market structure of the Indian automobile industry and estimate the economic performance of the sector. The indicators used in the study for the purpose of analysis consisted of Annual Growth rate, export, Production in the sector and total domestic vehicle sales, which concludes that the sector has seen a positive trend in terms of economic performances and there have been sea changes in the market structure of the sector, giving opportunity of further growth in the near future.

KEYWORDS
Automobile Sector, Economic Performance, Market Structure, Growth Rate etc.

INTRODUCTION

Being a symbol of technical marvel by human kind, the Automobile sector of India has emerged as a 'sunrise sector' in the economy. The growth of an economy is dependent on its key industrial sectors, and automobile sector has come up as an important sector of an Indian economy. According to the **IBEF Report (2016),** FDI in Automobile Industry of India is revamping globally, which will cater to increase in the demand and ultimately will bring the competitive advantage to set-up export-oriented hubs in India. Demonetization on the other hand, is temporarily disrupting the automobile industry, as per the report of **ICRA (2016);** demonetization has put a break on the purchase of commercial vehicles leading to a sharp decline in sales. The report by **Velury Vijay Bhasker (2013)** represents that Indian Automobile Industry is globally one of the largest industries and a key sector of the Economy, which is significantly affecting the employment level of the economy, positively. In the recent decades, especially after the economic reforms of 1991, the automobile industry in India has proved to be one of the strongest drivers of the economic growth. According to the report of **KPMG (Becker, 2013)**, the Indian automobile sector is pushing up to start an exciting phase of growth in the economy. In order to study the emerging trends of the developing countries, one needs to have an understanding of the automobile industry, in countries like India **(Choudhary and Goyal, 1997)**. The de-licensing of industries has affected largely upon the automobile sector of India by making it a potential market. The increasing number of foreign companies in the Indian automobile market, leading to an increase in the FDI, is working towards increase in the sectors efficiency too.

In the present era, India is emerging as one of the world's fastest growing passenger car markets, home for the largest motor cycle manufacturer and second largest in terms of two-wheeler manufacturer and fifth in terms of commercial vehicle manufacturer. Emerging as an export hub to feed the global world demand, Global and Indian manufacturers are focusing towards developing more innovative products, technological advancement and supply chains. Top auto multinational companies (MNCs) like Toyota, Hyundai and Suzuki rank their production of Indian facilities on top of their global pecking order.

Now, the present study attempts to study the market structure of automobile sector of India over a decade to determine the present scenario and market share of the industry. Apart from this, the performance indicators viz. growth, sales, production and export

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contribution of the sector has also been assessed statistically to determine the performance trend of the sector. The section II and III of the paper thus deals with the market structure of the automobile industry and the performance analysis of the automobile sector of India. Further, suggesting the future policies and scope of the sector, the study concludes with the structural and performance analysis of sector, over the period.

MARKET STRUCTURE OF THE AUTOMOBILE INDUSTRY OF INDIA

India is a home of 40 million vibrant automobile vehicles. It is one of the highest growing markets in the world recording a growth of sales of passenger vehicles by 7.24 percent in 2016(April-March) over the last year. It is seeing an upward trend from the past but has also seen a sudden downward trend in the year 2013-14 and also in the November 2016. Although the year 2016 is expected to see a temporarily disruption due to demonetization and it is believed to sustain an upward trend in the coming future. After 2013-14, the industry has sustained its growth thus, it is predicted that there will be an increase in the Indian people's affordability towards vehicles in the near future. The per capita ratio of car in India (expressed in cars per 1,000 populations) is currently among the lowest in the world's top 10 auto markets. Combining the increasing affordability of cars with the twin phenomena of low car penetration and rising incomes, is contributing towards an increase in India's automobile demand.

Undoubtedly, India has emerged as one of the key global markets in automotive industry, both, in terms of consumption and as well as production base especially in last few years, it has been a base for global manufacturers. The industry is considered to be at the crossroads with global mergers and relocation of production centers in the developing economies. The entire top brands of industry viz. a) Skoda, b) Audi, c) BMW, d) Nissan, e) VW, f) Renault, g) GM, h) Ford, i) Honda, j) Suzuki, k) Hyundai, l) MAN, and m) Daimler.

All are present and manufacturing/assembling locally in India. The Indian Automobile industry can be segmented based on its characteristics as represented under:

Market Characteristics and Segmentation of Automobile Industry of India

Auto market of India can be segmented into four distinct products, as represented below in figure-1.

Figure-1: Auto Market Segments
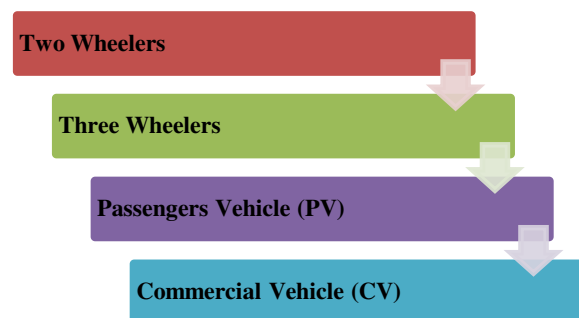
Sources: Authors Compilation

Demographically and economically, India's automotive industry is well positioned for growth, servicing both domestic demand and, increasingly, export opportunities. A predicted increase in India's working-age population is likely to help stimulate the burgeoning market for private vehicles. Rising prosperity, easier access to finance and increasing affordability is expected to see four-wheelers gaining volumes, although two wheelers will remain the primary choice for the majority of purchasers, buoyed by greater appetite from rural areas, the youth market and women. Domestically, some consolidation or alliances might be expected, driven by the need for access to better technology, manufacturing facilities, service and distribution networks. The components sector is in a strong position to cash-in on India's cost-effectiveness, profitability and globally recognized engineering capabilities. As the benefits of collaborations become more apparent, super-specialists may emerge in which the automobile is treated as a system, with each specialist focusing on a sub-system, akin to the IT industry. Though this approach is radical, it could prove an important step in reducing complexity and investment requirements, while promoting standardization and meeting customer demands. Manufacturers are already planning for the future: early advocates of technological and distribution alliances have yielded generally positive results, enabling domestic OEMs to access global technology and experience, and permitting them to grow their ranges with fewer financial risks. This exciting outlook for the industry is set against a backdrop of two potentially game-changing transportation trends – the gradual legislative move towards greener, gas-based public transport vehicles, and a greater requirement for urban mass mobility schemes to service rapidly expanding cities.

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Domestic Market Share of Automobile Industry

The domestic market share of automobile sector represents the market share of the all the segments of the industry. In 2015-16, as represented in the table 1, the market share structure has seen a growth in the two-wheeler segment capturing 80% total of the market share of the domestic market. It has shown a big share of two wheelers followed by the passenger vehicles standing up at second position with 14% of the market. Preceding these two segments, Commercial Vehicle and three wheelers have recorded the equal share of market i.e. 3% of total market share (Table 1).

Table-1: Domestic Market Share of Automobile Industry (2015-16)

Domestic Market Share for 2015-16	
Passenger Vehicles	14%
Commercial Vehicles	3%
Three Wheelers	3%
Two Wheelers	80%
Grand Total	**100%**

Sources: http://www.siamindia.com

The market share over the past year trend has not seen much difference as 81% of market share was of two wheelers followed by 13% market share of passengers vehicle which is now 80% and 14%. Apart from this, nothing has changed, however the Government of India has taken various initiatives bringing a structural change towards the industry. The foreign investment in the automobile sector has been encouraged by allowing 100 per cent FDI under the automatic route. The industry is now the main driver of 'Make in India' initiative, the eco-friendly cars are in promotion in the country i.e. CNG based vehicle, electric vehicle and hybrid vehicle, 5 per cent ethanol blending in petrol is also mandatory now. The government has also formulated a Scheme under the National Electric Mobility Mission 2020, for Faster Adoption and Manufacturing of Electric and Hybrid Vehicles in India. The Automobile Mission Plan (AMP) designed by the government is also in complete action now to boost the industry.

Studying the market share and segments of automobile industry of India, and government's step towards the sector, we can now understand that the automobile sector has seen a structural change over the time. The industry has become more organized with a highest share of two-wheeler segment of the four segments of the sector opening up various avenues for future under the government's schemes and policies.

PERFORMANCE ANALYSIS OF THE AUTOMOBILE SECTOR OF INDIA

Indian automobile industry, as per the analysis of confederation of the India industry, is the largest three-wheeler market and second largest two-wheeler market in the world. In terms of its other two-segment viz. passenger Vehicle and Commercial vehicle, it is standing at Tenth and Fifth position. The year 2013-2014 has however seen a setback otherwise; the industry is recorded to be running smoothly over a decade. The reason for the decline of industry was found to be High inflation, soaring interest rates, rising fuel prices and economic slowdown.

Year 2016 has witnessed a good year for the industry except the last two months of the year, temporarily disrupting the industry due to cash crunch, which is scratching down the sales and lead to decline of the industry. The CAGR, however, in terms of production has been recorded with a rising trend of 9.4 per cent over the year 2016. It has been projected that the two-wheeler production will rise from 18.5 million in FY15 to 34 million by FY20. Furthermore, the passenger vehicle production is expected to increase from 2 million in FY15 to 10 million in FY20. As per the statistical record, automobile exports have grown at a CAGR of 14.65 per cent during 2010-15 and 18.36 per cent in terms of exports of commercial vehicles, in the year 2016(April-January) over 2015(April-January). All the four segments of sector viz. Three Wheelers, Two Wheelers, Passenger Vehicles and Commercial Vehicles, grew by 18.69 per cent, 16.60 per cent, 6.89 per cent and 13.77 per cent CAGR during the year 2010-15. As the present paper aims to analyze the performance of the sector, the following indicators have been taken into its ambit viz. total production of automobiles in India, Gross Turnover of the automobile manufacturers, Exports, Domestic Sales and Growth rate, in order to adjudge the performance of automobile sector of India.

Production

The automobile industry has seen a wide change in its production level, showing an upward trend over the period of 2009-2015, as determined from the table 2. In the comparative analysis of the year 2016 with 2015, it has been recorded that there is a total production of 2,39,60,409 units' vehicles including passenger vehicles, commercial vehicles, three wheelers and two wheelers in the year 2016 against 2,33,58,047 units in the year 2015, registering a total growth of 2.58 per cent over the last year, which was

8.68 per cent in the year 2015 over 2014. The two-wheeler segment of all the four has shown the highest production followed by the passenger vehicles production.

Table-2: Total Production of Automobiles in India

Category	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Passenger Vehicles	29,82,772	31,46,069	32,31,058	30,87,973	32,21,419	34,13,859
Commercial Vehicles	7,60,735	9,29,136	8,32,649	6,99,035	6,98,298	7,82,814
Three Wheelers	7,99,553	8,79,289	8,39,748	8,30,108	9,49,019	9,33,950
Two Wheelers	1,33,49,349	1,54,27,532	1,57,44,156	1,68,83,049	1,84,89,311	1,88,29,786
Grand Total	**1,78,92,409**	**2,03,82,026**	**2,06,47,611**	**2,15,00,165**	**2,33,58,047**	**2,39,60,409**

Sources: http://www.siamindia.com

The total production of automobiles in India over a decade i.e. since 2005 has shown a tremendous growth with 18.8 million units as recorded in the year 2016 against 18.5 million units in the year 2015, in the segment of two wheelers. The passenger vehicle and commercial vehicle production has increased just by 0.2 million and 0.1 million unit over the last year, whereas the three-wheeler production seems to be stagnant over last year.

Graph-1: Total Production of Automobiles in India (Million Units)
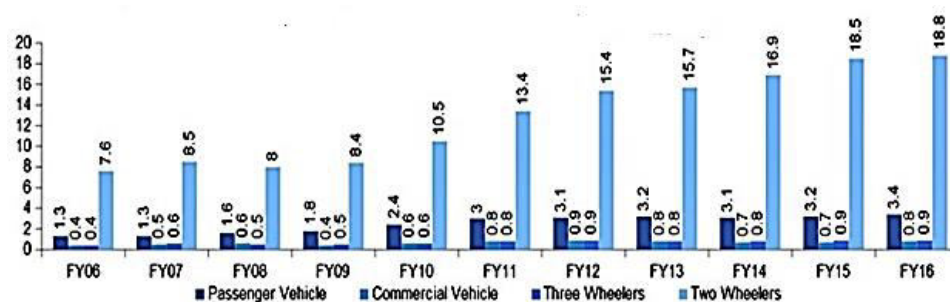
Sources: Siam India

The statistical record of the production level has shown that the performance of sector in terms of domestic production has shown an upward trend, indicating a postive performance of the sector, however it was quite slight change in the year 2016 over' 2015, but has seen a significant change over a decade (graph 2).

Turnover

As turnover of a sector has been considered as an important factor to determine the performance of an industry, this section deals with it. The statistical record of Gross turnover of the automobile manufacturers of India, in terms of USD Million, have shown an increasing trend as depicted in graph-3 as well as in the table 3 below, converting at the spot rate of USD.

Table-3: Gross Turnover of the Automobile Manufacturers in India (in USD Million)

	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
	43,296	58,583	66,264	67,607	55,212	58,909
(USD Conversion Rate)	47	46	47	50	60	61

Sources: http://www.siamindia.com

The year 2012-13 recorded the turnover of 67,607 USD Million that was 1343 USD million more than the previous year. However in year 2014-15, i.e. 58909 USD million, over the year 2013-14, there is a very slight rise recording as 55,212 USD Million. In addition, from 2012-13 over 2013-14, it has clearly shown the economic disruption and its effect on the automobile industry by recording a declining trend; which has not yet been met in the present year as well. The graph 3 represents only a downfall in the gross turnover from 2007-08 to 2008-09, whereas in the rest of the year there has been seen an increasing trend until 2012-13, which again has seen a downfall, reviving now in the year 2015-16. The gross turnover has shown a tremendous growth from 36.612 USD million in the year 2007-08 to 67.607 USD Million in the year 2012-13, which depicts a positive performance of the automobile sector of India.

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Domestic Sales – Units and Growth

The sales record of a sector can be said to be another performance indicator, representing the health of the sector, which has been taken here statistically in order to analyze the performance of the Automobile industry of India. The sales of Passenger Vehicles as presented in the table 4, has grown by 7.24 per cent in the year 2016 against the year 2015 and by 3.90 percent in year 2015 over the year 2014. Whereas, the Commercial Vehicles segment has registered a growth of 11.50 per cent in the year 2016 over 2015, which has seen de-growth of (-) 2.83 percent in 2015 as compared to last year. The three Wheelers segment sales, on the other hand grew by 1.02 per cent in 2016, which was 10.80 percent grown over 2014 in the year 2015. Preceded by three-wheeler market, two Wheelers segment registered a sales growth of 3 per cent in 2016 and 8.09 percent in 2015 over the last year. Since 2009-10 the sector has shown a tremendous growth, showing an increasing trend only in two wheeler segment, whereas the passenger vehicle, commercial vehicles and three wheelers have seen a fluctuating trend over the year i.e. from 2009-10 to 2014-15.

Table-4: Automobile Domestic Sales in India

Category	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Passenger Vehicles	25,01,542	26,29,839	26,65,015	25,03,509	26,01,236	27,89,678
Commercial Vehicles	6,84,905	8,09,499	7,93,211	6,32,851	6,14,948	6,85,704
Three Wheelers	5,26,024	5,13,281	5,38,290	4,80,085	5,32,626	5,38,092
Two Wheelers	1,17,68,910	1,34,09,150	1,37,97,185	1,48,06,778	1,59,75,561	1,64,55,911
Grand Total	**1,54,81,381**	**1,73,61,769**	**1,77,93,701**	**1,84,23,223**	**1,97,24,371**	**2,04,69,385**

Sources: http://www.siamindia.com

The Domestic vehicle sales of Indian Automobile industry have recorded a growth at CAGR of 9.6% over a decade i.e. from FY05 to FY15. During FY13-FY15, domestic sales recorded a growth at a CAGR of just 4.4%, which was mainly driven by 7.2% YoY growth in FY15 (Graph 2).

Graph-2: Growth Rate of Automobile Industry (FY 2005- FY 2015)
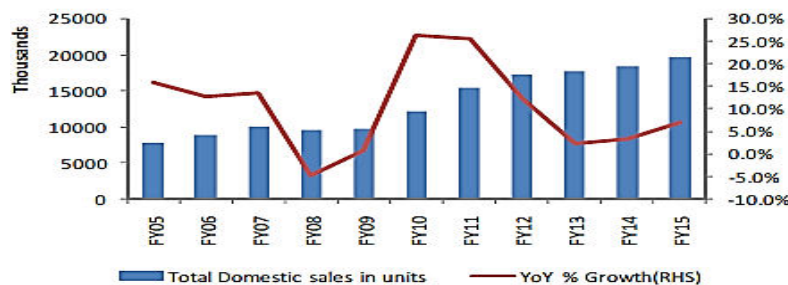
Sources: Bloomberg

The trend line in the graph 4 represents that there has been an upward movement in the year 2010-11 which fell down since FY11, representing the year on year percentage growth. Although the total domestic sales in units has seen an upward movement but year on year growth rate was quite disappointing in the few years, but is reviving at present. Thus representing a mix result, the performance in terms of sales and growth of sector can be said to be good but not excellent.

Exports

Export of automobile sector plays a vital role in the growth and performance of an industry. In the year 2016, the automobile export has recorded a growth just by 1.89 per cent which was 14.89 percent grown in the year 2015 over the last year i.e. year 2015 and 2014. The overall export growth has however made it very clear that the industry has seen a positive export trend but the growth is not very much positive in 2016 as was expected. Segmenting the entire sector, the export proportion of two-wheeler recorded just a minimal growth of 0.96 per cent in the year 2016 over year 2015, which has seen a tremendous growth of 17.93 per cent in the year 2015 over 2014. Followed by this, the three wheelers, seen a negative growth by -0.775 per cent in 2016, which was again a positive 15.44 percent in the year 2015. Out of all the four segments, the export of Commercial Vehicles has seen a tremendous growth of 16.96 per cent in the year 2016(4.42 per cent in the year 2015) and Passenger Vehicles grew just by 5.23 per cent (11.33 per cent in 2015), respectively during the year 2016 as against the year 2015. Similar to the sales record, the exports trend has also seen an increasing trend since 2010-11 only in case of passenger vehicles segment, rest of the three segments has a fluctuating trend. (Table 5).

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Table-5: Automobile Exports Trend

Category	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Passenger Vehicles	4,44,326	5,08,783	5,59,414	5,96,142	6,21,341	6,53,889
Commercial Vehicles	74,043	92,258	80,027	77,050	86,939	1,01,689
Three Wheelers	2,69,968	3,61,753	3,03,088	3,53,392	4,07,600	4,04,441
Two Wheelers	15,31,619	19,75,111	19,56,378	20,84,000	24,57,466	24,81,193
Grand Total	**23,19,956**	**29,37,905**	**28,98,907**	**31,10,584**	**35,73,346**	**36,41,212**

Sources: http://www.siamindia.com

Looking at the graph-3 below, it can be interpreted that while exports have seen a growth at a CAGR of 18.9% in FY2015, post the three consecutive years of strong double-digit growth during FY2010-FY2012, the industry was struggling to reach even at a low double-digit growth rate.

Graph-3: Exports Trends Over the year of FY05-FY15

Sources: http://www.siamindia.com

Apart from an increasing trend of exports, except in the FY12-13, the YOY trend line has shown a downfall in the FY13, which shoot up suddenly in the Year 2014 and 2015, presenting a growth in the recent years. The Export trend thus can be said to be also giving a mix picture of the performance of the sector inclusive of the fluctuations over a decade (FY05-FY15). The Performance indicators of the industry have shown a rising trend over the years. In the recent years, production, turnover, growth, domestic sales and as well as the exports of the industry have felt some rising trend but it was minimal over a past year. The statistical record of the sector presented an upward trend of the industry to significantly prove that the automobile sector is showing an upward performance trend in the present era accumulating fluctuations in the past. The two-wheeler segment of all, has presented a tremendous performance over the years, whereas the rest of the segment has seen some fluctuations in the past. Thus, the overall performance of the automobile sector can be said to represent a positive trend over a decade.

SUMMARY AND CONCLUSION

The automobile industry of India is one of the largest growing markets in the world experiencing a growing trend in the present era. The market and performance analysis done in the present study represents somewhat positive trend of the sector, as analyzed statistically. Of all the segments of the automobile Industry, the two wheelers segment has accounted a largest share of the market in terms of production, sales, growth and exports in FY 2016, although with temporarily disruption due to demonetization. Whereas the other three segments has seen some fluctuations but has represented a rising trend in the year 2016. The current scheme of the government 'Make in India' aims to develop India as a global manufacturing hub, which seems to be fulfilled by the automobile industries of India. Being an important contributing sector to the economy, it affects the unemployment level, GDP and other economic indicators of the country as well. As the market structure of sector has seen a dynamic change over the period with a largest share of contribution of two wheelers segment in the sector, the market has grown and changed significantly over the years, for the automobile industry.

The performance analysis of the sector, over the period, has presented it well that there has been seen an upward trend in the performance indicators, as significantly proven from the statistical records of the industry. Showing a positive trend, the industry gives the future scope of growth suggesting an increase in the four-wheeler segment to capture the market broadly and to increase the FDI in the sector. Cash crunch since November has undoubtedly made the industry to decline their manufacturing and production level, as there is a fall in sales due to heavy dependency on cash transaction, but it is expected to be temporary. The policies related to the sector thus requires few modifications in terms of investment, digitalization and R&D (Research and Development) so as to meet out with the problem of fuel crisis, skill, technology and other related factors arising in the economy.

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As the sector presents a good opportunity for the investors, a consistency in the policies should also be build up at company level to attract more and more investors and grow in this growing economy of India. The Increasing sales and exports of Indian automobile industry will bring many opportunities for the market players, if utilized significantly, hence there is a need to focus on the automobile industry, which will ultimately lead to a growth of the economy as a whole.

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ANALYSIS OF OPENNESS, EXPORT PATTERN AND INTRA: INDUSTRY TRADE IN SOUTH ASIAN COUNTRIES

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ABSTRACT

In the past two decades, India has emerged as one of the fastest growing major economy among the developing economies of the world. International trade has resulted into increased national income and employment and also the living standard of people of India, where the role of exports have been indispensable in generating investible surplus and financing imports by earning foreign exchange. In order to check the validity of the statement, present study intended to evaluate the performance of South Asian Countries in three phases. Using Growth rate and other statistical techniques data was analyzed in three phases. Accordingly, openness, intra trade patter of select countries was assessed through using Grubel and Brulhart models. Finally, suggestions were offered to improve the intra industry pattern in South Asian countries.

KEYWORDS

Growth Rate, Openness, Revealed Comparative Advantage, Grubel Lloyd, Brulhart Index etc.

INTRODUCTION

The role of exports has been widely recognized as an important instrument for country's economic development process. Exports growth builds import capacity and industries engaged in exports production have the high intensity to absorb surplus of labor force of developing country like India which thereby leads to the creation of employment and increase in income which leads to rise in savings which is transferred into investment in physical and human capital, and thus in the rate of economic growth. Until Third Five Year Plan the major thrust of Government of India was on pursuing an inward oriented import substitution policy, however it entailed higher domestic resource cost and increased dependency of the country on the industrialist world. Over time, therefore, the stress on import-substitution was gradually diluted and emphasis began to be placed on exports. With this various policy incentives in order to encourage exports was introduced in foreign trade policies. The most effective means encouraging outward orientation is to lower tariffs on imports so that the anti-export bias, in both policies and mind-sets is corrected.

The economic reforms of 1990s with focus on liberalization have enabled increased integration of the Indian Economy with the rest of the world. Further, the creation of WTO had provided an export friendly environment and wider scope of access to new markets through greater liberalisation in international trade rules. The World Trade Organisation (WTO) is the successor of GATT and came into existence on January 1, 1995 with the objective to enforce an open, equitable, non-discriminatory and rule based multilateral trading system. India is the founder member of the WTO and various provision and agreements under WTO have certainly affected India's export trade. Some study has shown India has been benefited from the new trade regime under WTO especially in absolute terms while others exhibit there has been little benefit to India. The creation of WTO had significant impact on India's foreign trade policy and apart from reduction in tariff barriers, all quantitative restrictions imposed by India on its imports and exports have been removed. The high export growth and improved share of India in world merchandise and service exports was made possible due to greater orientation in international market brought about by WTO and of course due to the export promotion measures adopted by the Government of India.

Around 20% of the world population is in South Asia but accounts for less than 2 percent of the world GDP and about 1.25 percent of world trade. Until the 1990, this region was one of the least integrated regions of the world because of inward looking trade policies. Countries of the region until 1990 adopted import substitution policies, restrictive trade, and industrial policies. The 1990s however saw a significant change. Since 1990s, all countries of this region embarked on Structural Adjustment Programs (SAP). South Asian economies are now more open than they have ever been. In addition, all South Asian countries are members of the World Trade Organization (WTO).

Indian services exports has been rising importance globally and especially in case of business and software services. India's share in world export of services has constantly improved and had reached to 3.23 per cent in 2011 with 8th rank in world exports. UK and USA remained the top destination for Indian services export. India's export of services has grown at faster pace than merchandise exports under WTO regime.

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Markets of Indian exports diversified from exclusive reliance on the developed market economies to other developing countries. Export of many commodities like rice, spices, tea, gems and jewellery, textile products, few chemical products and leather products etc. and services like software, computer and information and communication services has exhibited competitiveness in the international market.

The major challenge the Indian export sector is facing is to enhance its productivity, share and competitiveness in an increasingly integrated global environment. The creation of WTO has culminated multilateralism and free trade regime through removal and reduction of trade barriers, which has posed both challenges and opportunities for Indian exports. So realizing the overwhelming importance of WTO and its role in India's exports, it was felt imperative to study and analyze India's export performance under WTO regime and suggest some policy measures which is conducive to India's export growth. Therefore, the present throw light on intra trade performance of SAARC countries over period of fifteen years.

REVIEW OF LITERATURE

Lewis (1978) adds that the engine of growth should be technological change with international trade serving as lubricating oil not as fuel. Rodriguez et al., (1999) observed open trade policies in the sense of lower tariff and non-tariff barriers to trade significantly associated with economic growth.

Jha Prem Shankar (1994) studied the WTO gains. He noted that the role of WTO would also depend on how effectively it can intervene in disputes involving the more powerful economies. There are doubts on this score as the world's major economies have often treated the multilateral system as an extension of bilateral agreement that they have first worked out among themselves. One hopes that these economies will now accept the supremacy of the WTO and not resort to unilateral pressures against poor nations.

Kathuria (1996) examined the impact of recent policy changes on India's exports with special reference to export incentives during pre and post reforms periods.

Joshi and Little (1996) described various dimensions of India's economic reforms as whole. Various reforms of trade controls and reforms of tariff and protection during 1991-2001 have been analyzed in fuller detail. Withdrawal of various quantitative restrictions, reduction of tariff protection, and introduction of special export promotion scheme has been highlighted as major reforms on trade front.

Porter (1994) and Prasad (1997) assessed India's competitiveness in export of garments in the MFA phase out and post MFA phase out periods and observe that India's garment sector is one of the sectors where India have a competitive advantage and has a wider scope of export expansion in post MFA phase out period.

Mehta (1997) has analyzed the impact of India's trade reforms on external trade by using the Cordon's measures of Effective Rate of Protection. The study concluded that the liberalization process has enhanced the importance of international trade in our domestic economy and the share of trade in GDP has increased to 24 per cent in 1995-96[13].

Ghemawat and Patibandla (1999) examined export performance of Indian diamond, garments, and software industries and quantified the impact of economic reform on competitiveness of these three exports. The authors argued that economic reform had enhanced India's competitiveness in the labour and skill-intensive industries; helped to reduce the dependence of competitive industries on inefficient domestic suppliers and infrastructure[14].

Bhattachariya et al (2000) analyzed India's export performance in the post liberalization era. The analyses showed that India's exports have shifted more towards value added product categories and the demand for knowledge and capital intensive product is more than labour intensive product[15].

Sharan and Mukerjee (2001) found that foreign trade reforms no doubt has brought about favourable terms of trade and export diversification has been achieved in terms of commodities and countries but trade deficit too has increased thereby making development process vulnerable.

Panagariya (2002) observes that it is the power of the WTO rules that protects smaller nations from unilateral trade sanctions by the rich and powerful nations[18].

Kathuria et al., (2003) introduced the economics of MFA and used available empirical evidence to examine the impact of the MFA on exports of textile and clothing, focusing particularly on India. A review of the basic economics of the MFA shows the discriminatory character of the arrangement.

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Chand (2004) has investigated India's agro export performance and competitiveness in changed international scenario. He found policy of reducing controls over exports and exchange rate adjustments boosted growth of farm exports. Study concluded that despite several odds such as TBT-SPS issues and domestic infrastructural bottlenecks, in the new international trade environment India performed much better in exporting horticultural, livestock, and processed products whose demand is more elastic.

After analyzing the above studies, researcher came to know that, several studies have been undertaken to know the impact of WTO and implications on trade, services. However, very few studies focus on the openness and export pattern of intra trade between South Asian countries. Hence, the researcher prompts to take up the study on Analysis of Openness, Export Pattern and Intra – Industry Trade in South Asian Countries.

MAJOR OBJECTIVES OF STUDY

- To analyze the openness of South Asian economics from 1991 to 2005.
- To trace export growth rate of South Asian countries.
- To measure Export pattern and its impact on South Asian countries.
- To foster the Intra industry trade pattern in these economics.

METHODOLOGY OF STUDY

In order to analyze the performance Openness, Intra- Industry trade in South Asian Countries, following methodology has been adopted.

The present study was based on secondary source information. In the first instance respective countries data on exports and imports were extracted from World Integrated Trade Solution (WITS). Accordingly, data was analyzed on three phases, 1991-1995, 1996-2000, 2001-2005using popular statistical parameters Average, and Growth rates. Then, Openness, Export pattern of select countries was computed using above parameters. Grubel-Lloyd and Brulhart Index Models were identified to analyze the intra-industry trade and marginal intra-industry trade. In the last step, suggestions were offered to improve the intra and marginal industry trade.

RESULTS AND ANALYSIS

Openness

Openness correlates significantly with accelerated economic growth. This relationship holds whether "Openness" is terms of trade policy, or policy out comes (for example, the ratio trade (export plus import) to GDP. As seen in increasing levels of globalization during the 1990s, export –led provided a key strategic thrust to the South Asian region.

Table-1: Showing the Openness (Average Annual Trade % of GDP)

Country	1991-1995	1996-2000	2001-2005	Country	1991-1995	1996-2000	2001-2005
Maldives	170	167	165	Bangladesh	22	31	36
Srilanka	75	81	80	India	30	24	34
Bhutan	76	80	76	Pakistan	36	34	32
Nepal	47	58	47				

Sources: Authors Compilation

Maldives at the top, its trade is more than what they produce. It is more dependent upon the world community for imports that is why it has larger trade GDP ratio. Bangladesh & India's openness has been increasing. Though India's share is less as compare to the other nations, but in the absolute terms, it is many times greater than other nations.

Table-2: Showing the Average Annual Growth – Rate of Export (%)

Country	1991-1995	1996-2000	2001-2005	Country	1991-1995	1996-2000	2001-2005
India	15.5	8.7	22	Bhutan	-1.04	N.A	N.A
Bangladesh	19.6	13.3	16.3	Nepal	17.3	13.3	N.A
Pakistan	8.8	-0.6	14.1	Maldives	N.A	34.6	-14.9
Srilanka	8.8	4.5	14				

Sources: Authors Compilation
Note: N.A. = Not Available

From the above table, it is clear that, India annual export growth rate is highest among the South Asian countries. Bangladesh Average annual growth rate of export was high in the period 1991-1995 but it declined in the next two periods. Pakistan in the first had period growth rate, in the second period it shown negative growth rate in the last period there is increased growth rate. Nepal's case it decreased in period 1996-2000. Even though Maldives had growth rate, Maldives have shown negative growth rate because of its political and economic instability. Performance of Sri Lanka is magnificent, as it has nearly doubled.

The below table throw light on all the commodities and products grouped under the 2-digit level of World Integrated Trade Solution (WITS) and it refers to the each South Asian Countries and world. In this analysis, we find that Bangladesh greater growth rate in exporting of the Animal & vegetable oils & fats. Maldives has tremendous growth rate in the export of the crude material. India has exhibited better results in the export of the minerals and fuels etc. Pakistan is keenly diversified its exports composition, exporting the Food and live animals. Sri Lanka shown negative growth in the many SITC products.

Table-3: Showing the Growth Rate of Products (%)

Country	SITC	Product	1990-1995	1996-2000	2001-2005
Bangladesh	0	Food & Live Animals	74.11	4.75	14.79
	1	Beverage & Tobacco	-61.59	8.39	57.98
	2	Crude Material (Except Fuels)	16.35	-1.11	35.33
	3	Mineral Fuels, Lubricants	0.81	3.23	57.96
	4	Animal & Vegetable Oils & Fats	58.65	-	80.73
	5	Chemicals	33.21	-8.07	33.50
	6	Manufactured Classified by Material	9.96	-2.14	11.83
	7	Machinery & Transport Equipment's	-1.34	27.74	41.18
	8	Miscellaneous Manufactured Articles	23.97	17.08	16.35
	9	Commodities & Transactions Not Classified According to Kind	N.A.	N.A.	6.75
India	0	Food & Live Animals	193.53	-23.07	11.158
	1	Beverage & Tobacco	-8.59	-2.93	15.42
	2	Crude Material (Except Fuels)	-2.93	-4.97	46.79
	3	Mineral Fuels, Lubricants	3.13	12.22	53.47
	4	Animal & Vegetable Oils & Fats	44.09	8.55	18.52
	5	Chemicals	15.98	9.56	26.43
	6	Manufactured Classified by Material	15.91	8.56	19.87
	7	Machinery & Transport Equipment's	15.53	4.81	31.38
	8	Miscellaneous Manufactured Articles	15.08	10.45	18.60
	9	Commodities & Transactions Not Classified According to Kind	57.91	34.05	28.13
Maldives	0	Food & Live Animals	N.A.	-6.84	24.24
	2	Crude Material (Except Fuels)	N.A.	-8.04	218.259
	5	Chemicals	N.A.	-17.11	N.A.
	8	Miscellaneous Manufactured Articles	N.A.	34.71	-25.87
Nepal	0	Food & Live Animals	-8.80	29.86	N.A.
	1	Beverage & Tobacco	N.A.	115.26	N.A.
	2	Crude Material (Except Fuels)	-4.80	-17.23	N.A.
	3	Mineral Fuels, Lubricants	N.A.	N.A.	N.A.
	4	Animal & Vegetable Oils & Fats	N.A.	156.66	N.A.
	5	Chemicals	2.70	86.03	N.A.
	6	Manufactured Classified by Material	13.71	2.71	N.A.
	7	Machinery & Transport Equipment's	565.17	64.04	N.A.
	8	Miscellaneous Manufactured Articles	24.34	18.74	N.A.
Pakistan	0	Food & Live Animal	N.A.	4.57	82.83
	1	Beverage & Tobacco	N.A.	34.26	38.51
	2	Crude Material (Except Fuels)	N.A.	-17.80	16.32
	3	Mineral Fuels, Lubricants	N.A.	13.33	35.25
	4	Animal & Vegetable Oils & Fats	N.A.	581.01	68.25
	5	Chemicals	N.A.	19.51	30.87
	6	Manufactured Classified by Material	N.A.	-2.78	12.62
	7	Machinery & Transport Equipment's	N.A.	10.83	42.26

	8	Miscellaneous Manufactured Articles	N.A.	2.34	13.98
	9	Commodities & Transactions Not Classified According to Kind	N.A.	-1.83	-6.38
Srilanka	0	Food & Live Animal	N.A.	N.A.	5.71
	1	Beverage & Tobacco	N.A.	N.A.	-13.23
	2	Crude Material (Except Fuels)	N.A.	N.A.	20.22
	3	Mineral Fuels, Lubricants	N.A.	N.A.	33.19
	4	Animal & Vegetable Oils & Fats	N.A.	N.A.	-33.94
	5	Chemicals	N.A.	N.A.	13.10
	6	Manufactured Classified By Material	N.A.	N.A.	15.42
	7	Machinery & Transport Equipment's	N.A.	N.A.	29.40
	8	Miscellaneous Manufactured Articles	N.A.	N.A.	-43.57
	9	Commodities & Transactions Not Classified According to Kind	N.A.	N.A.	-43.57
World	0	Food & Live Animal	7.5	22.56	11.74
	1	Beverage & Tobacco	6.96	-38.03	10.16
	2	Crude Material (Except Fuels)	8.31	-1.48	22.97
	3	Mineral Fuels, Lubricants	0.18	11.73	22.+7
	4	Animal & Vegetable Oils & Fats	18.23	-5.39	50.65
	5	Chemicals	11.16	4.03	-25.84
	6	Manufactured Classified by Material	9.60	1.20	15.43
	7	Machinery & Transport Equipment's	10.69	6.02	13.01
	8	Miscellaneous Manufactured Articles	8.72	3.81	13.35
	9	Commodities & Transactions not Classified According to Kind	0.60	-8.24	11.45

Sources: Authors Compilation

Table-4: Growth Rate of Manufacturing Commodities Exports (%)

Country	1990-1995	1996-2000	2001-2005
Bangladesh	19.5	13.3	16.3
India	15.6	8.7	28.3
Pakistan	6.6	-0.6	81
World	**10.2**	**4.5**	**14**

Sources: Authors Compilation

The above table analyze the manufacturing commodities (SITC 5-8, 5-Chemicals, 6-manufactures classified by material, 7-Machinery & transport equipment's, 8-red articles) export growth rate of major South Asian countries to the world. Bangladesh and India's growth rate is higher than the world. India occupied the first place.

Table-5: Share of Manufacturing Commodities Exports (%)

Country	1990-1995	1996-2000	2001-2005
Bangladesh	77.54	79.35	91.32
India	78.99	79.88	81.93
Pakistan	56.28	68.45	74.57
World	**72.85**	**72.15**	**72.36**

Sources: Authors Compilation

The above table refers to the share of manufacturing Export in Total (%). Bangladesh has the highest share of manufacturing commodities exports among the South Asian countries, that is 91.32 in 2005, remaining 8.68 is the share of other commodities. India has lower share in the manufacturing commodities as compare to among these above nations.

Table-6: Showing Composition of Manufacturing Export among South Asian Nations

Nation	Year	Chemicals	Manufactured Materials	Machinery	Miscellaneous
Bangladesh	1990	1	34	1	41.6
	2005	2	11	2	76.4
India	1990	12.2	33.1	11	16.6
	2005	8.27	37.96	7.49	18.64
Pakistan	1990	0.5	53.2	1	24.3
	2005	3.1	47.2	2	29.8
Srilanka	1990	2	14	3	37.7
	2005	1.4	17.7	4.5	51

Sources: Authors Compilation

In the above table, we find that Bangladesh has the highest miscellaneous products composition. Pakistan has the largest share in manufactured products / Srilanka has 51 percent of composition of miscellaneous products compare to the other products.

RCA (Revealed Comparative Advantage)

It is a measure, which measures whether a nation has comparative advantages in a particular product or not at a particular time.

$$RCA_{cit} = \frac{X_{cit}/\Sigma X_{cit}}{X_{wit}/\Sigma X_{wit}}$$

In the above formula, X denotes Export, subscripts C is the country, I is the particular product, T is the time, ΣX_{cit} refers the sum of the exports of nation c. X_{cit} is the export of product I by the world, ΣX_{wit} is the sum of the export of the world. If RCA>1, then that country has comparative in that product, If RCA <1, then that country has not comparative in that product.

In the current paper, I have used it to see in which all products; the South Asian countries have RCA. The results are as follows. It is the Indian's RCA, which it denotes that, it has diversified RCA as compare to the other South Asian nations.

Table-7

SITC	Product	1990	2005
83	Travel Goods, Handbags & Similar	2.85	6.45
28	Metalliferous Ores & Metal Scrap	3.87	3.78
66	Non-Metallic Mineral Manufactures	7.05	3.77
08	Feed.-Stuff For Animals Excl. Unmil	3.94	3.55
27	Crude Fertilizers and Crude Mineral	2.69	3.39
61	Leather, Lthr. Manufs., NES & Dress	10.28	3.06
26	Textile Fibres,	4.16	2.91
07	Coffee, Tea, Cocoa, Spices & Manufa.	8.29	2.29
29	Crude Animal and Vegetable Material	2.76	2.20
04	Cereals and Cereal Preparations	1.15	2.18
03	Fish and Fish Preparations	2.97	2.15
84	Clothing	4.22	1.63
53	Dyeing, Tanning and Colouring Mater	2.04	1.63
05	Fruit and Vegetable	1.49	1.35
22	Oil-Seeds, Oil Nuts and Oil Kernels	1.47	1.34
85	Footwear	1.15	1.29
12	Tobacco and Tobacco Manufactures	1.53	1.17
65	Textile Yarn, Fabrics, Made-Up Product	3.59	1.12
54	Medicinal and Pharmaceutical Product	2.15	1.01

Sources: Authors Compilation

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Table-8: RCA of Bangladesh

Bangladesh			1990	2005
SITC	Product		RCA	RCA
84	Clothing		12.07	25.73
61	Leather, Lthr. Manufs., Nes & Dress		25.24	8.30
03	Fish And Fish Preparations		10.80	6.04
26	Textile Fibres, Not Manufactured A		9.64	5.15
07	Fertilizers, Manufactured		2.66	4.27

Sources: Authors Compilation

Bangladesh has the highest RCA in the exports of the clothing, its value is 25.73

Table-9: Revealed Comparative Advantage Values of Pakistan

SITC	Product	1990	2005
65	Textile Yarn, Fabrics, Made- Up Product	13.59	18.61
04	Cereals and Cereal Preparations	3.12	9.04
84	Clothing	5.73	7.86
61	Leather, Lthr. Manufs., Nes & Dress	12.25	6.91
26	Textile Fibres, Not Manufactured A	12.93	4.07
06	Sugar, Sugar Preparations and Honey	2.30	2.61
94	Animals, Nes, Incl. Zoo Animals, Do	2.10	1.46
03	Fish and Fish Preparations	1.92	1.30
29	Crude Animal and Vegetable Material	2.58	1.04

Sources: Authors Compilation

Pakistan has relative revealed comparative advantage in export of the Textile yarn, fabrics etc., in both years 1990 and 2005.

Intra Industry Trade

Intra Industry trade refers to the simultaneous presence of exports and imports of the products of given industry. The question of intra industry Trade assumes great significance for developing countries in the context of their trade liberalization. Here products grouped under four digits consider as an industry.

In this study, the intensity of IIT is measured by the well-known Grubel Lloyd (1975) index.

$$GL_i = \frac{[(Xi+Mi)] - |Xi-Mi|]}{(Xi+Mi)}$$

Where GL_i is the index of IIT in an industry$_i$ and X_i are respectively, the value of exports and imports in the industry$_i$. The value of GL_i ranges from 0 to 100. If there is no IIT (that is, one of X_i or M_i is zero) GL_i takes the value 0. If all trade is IIT (that is $X_i = M_i$), GL_i takes the value 100. Grubel Lloyd (1975) also suggested the following formula, which is a weighted average.

$$GL_i = \frac{\Sigma [(X_i+M_i) - |X_i-M_i|]}{\Sigma[(Mimi)]} \times 100$$

Table-10: Details of Intra Industry Trade of South Asian Countries

Country	Product	1990	1995	2000	2005
	Primary Goods	1.7	0.9	1.5	4.6
Bangladesh	Manufacturing	2.81	7.57	5.33	7.50
	Total	**2.43**	**6.02**	**4.61**	**6.85**
	Primary Goods	-	-	-	8.8
Bhutan	Manufacturing	-	-	-	11.8
	Total	**-**	**-**	**-**	**10.8**
	Primary Goods	6.6	10.7	7.1	8.1

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India	Manufacturing	34.9	32.1	44.4	46.2
	Total	**26.16**	**26.39**	**32.01**	**33.5**
	Primary Goods	-	1.4	2.6	2.1
Maldives	Manufacturing	-	1.1	3.5	3.3
	Total	**-**	**1.3**	**3.1**	**2.9**
	Primary Goods	13.6	5.6	7.5	9.2
Nepal	Manufacturing	3.4	4.1	4.5	10
	Total	**6.3**	**4.7**	**5.2**	**10**
	Primary Goods	6.71	9.8	9.3	10.7
Pakistan	Manufacturing	4.1	4	7.1	16.5
	Total	**5.0**	**5.7**	**7.8**	**15**
	Primary Goods	6.0	-	-	10.7
Srilanka	Manufacturing	13.2	-	-	16.5
	Total	**10.6**	**-**	**-**	**15**

Sources: Authors Compilation

From the above it is crystal clear that the, present study provided estimates of all the South Asian countries IIT in different sections (of which there are ten) at four digit level for three periods - 1991-95, 1996- 2000 and 2005, It is evident that the recorded levels of IIT in all sections of commodities and in overall trade are considerably higher for 2001-2005 than in 1991-1995. The over level of IIT shows a consistent increase. IIT is greater in manufacturing goods of these countries.

Below table, throw light on intra industry trade within the manufacturing goods of major South Asian countries for two periods 1990-2005. By this table, we found that India has greater IIT in all the manufacturing products. Bangladesh has shown considerable increase in manufacturing products and chemicals. India has shown consistent increase in these products.

Pakistan has shown considerable increase in chemical and manufacturing materials but there is consistent increase in other two products. Srilanka has shown double increase in the product chemicals from 6.1% in 1990 to 12.5% in 2005. In other products, it shows slow progress. Overall IIT is higher in manufacturing products.

Table-11: Intra Industry Trade of Manufacturing Products of South Asian Countries

Nation	Year	Chemical	Manufacturing Material	Machinery	Miscellaneous
Bangladesh	1990	6.60	1.63	3.63	3.8
	2005	18.9	14.1	4.2	3.3
India	1990	27.5	48.3	33.7	7.7
	2005	50.8	63.1	36.6	18.7
Pakistan	1990	3.7	2.73	5	7.1
	2005	17.5	8.16	7.1	11.3
Srilanka	1990	6.1	21	11.8	7
	2005	12.5	23.1	17.2	9.6

Sources: Authors Compilation

Marginal IIT (Intra Industry Trade)

As the GLi refers to the pattern of trade in one year, it is often referred as a static measure of IIT. Some authors have developed marginal IIT indices to measure the share of IIT in the change in trade flows between any two year were taken into consideration. One such index (Bi), suggested by Brulhart (1994), is a transposition of the GLi formula to first differenced trade flows. In the following formula, Δ is the difference operator. The value of Bi, like the Grubel-Lloyd grouped index, varies from 0 to 100: the closer the value to 100, the greater the share of IIT in the change in trade flows between the two year under consideration. In this study, I have used the trade-weighted average of Bi to measure the marginal IIT. Here we consider that the products grouped under the 4-digit level of Standard International trade classification (SITC) constitutes an industry i.

Brulhart (1994) index

$$B_i = \frac{[(|\Delta X_i| + |\Delta M_i|) - |\Delta X_i - \Delta M_i|]}{(|\Delta X_i| + |\Delta M_i|)} \times 100$$

Sector and total for three periods 1991-1995. 1996-2000 and 2001-2005. In this table, we found that change in trade flow is higher in manufacturing sector. Srilanka has greater share in primary sector flows among the South Asian countries. India has greater

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trade flows in manufacturing as well as total. India has 42.54% changes in trade flows in the manufacturing sector in the period 2001-2005. Change in trade flows in less in South Asian countries except India. There is another table 10 of which refer to the marginal IIT within manufacturing sector of South Asian countries Bangladesh has shown decrease in Marginal IIT for manufacture materials and miscellaneous in second and third period. India has greater share of change in trade flows 61.50% in the manufactured material among all the South Asian countries. Maldives and Nepal shown least change in trade flows, in the second period Pakistan had less share it increases in the period 2001-2005 in the manufacturing sector. Srilanka has shown increases in all the manufacturing products in 2001-2005 compare to 1991-1995.

Table-12: Marginal IIT of South Asian Countries in the Primary Sector, Manufacturing

Nations	Products	1990-1995	1995-2000	2000-2005
Bangladesh	Primary	2.06	2.26	4.04
	Manufacturing	8.17	5.74	6.00
	Total	**6.86**	**4.96**	**5.62**
Bhutan	Primary	-	-	8.8
	Manufacturing	-	-	11.80
	Total	**-**	**-**	**10.87**
India	Primary	11.01	2.89	5.42
	Manufacturing	21.44	28.69	42.54
	Total	**18.80**	**18.35**	**30.03**
Maldives	Primary	-	2.84	0.52
	Manufacturing	-	1.77	4.48
	Total	**-**	**2.23**	**3.19**
Nepal	Primary	6.01	5.6	7.58
	Manufacturing	2.76	5.20	4.54
	Total	**3.74**	**4.70**	**5.22**
Pakistan	Primary	2.09	4.62	6.30
	Manufacturing	3.4	2.28	10.14
	Total	**2.96**	**3.23**	**8.91**
Srilanka	Primary	6.08	-	14.99
	Manufacturing	13.25	-	16.48
	Total	**10.55**	**-**	**10.70**

Sources: Authors Compilation

Table-13: Marginal IIT within Manufacturing Sector

Country	Product	1990-1995	1995-2000	2000-2005
Bangladesh	Chemicals	1.79	3.26	14.33
	Manufactures Classified by Materials	8.33	4.94	11.17
	Machinery & Transport Equipment's	3.78	7.50	4.49
	Miscellaneous	11.94	6.11	2.29
Bhutan	Chemicals	-	-	7.71
	Manufactures Classified by Materials	-	-	17.02
	Machinery & Transport Equipment's	-	-	4.86
	Miscellaneous	-	-	9.98
India	Chemicals	24.93	18.22	47.74
	Manufactures Classified by Materials	17.56	40.10	61.50
	Machinery & Transport Equipment's	25.51	18.95	31.52
	Miscellaneous	19.74	25.57	18.27
Maldives	Chemicals	0.40	0.12	0.75
	Manufactures Classified by Materials	0	0	1.45
	Machinery & Transport Equipment's	0	0	5.50
	Miscellaneous	5.72	4.95	6.86
Nepal	Chemicals	3.34	8.31	10.89
	Manufactures Classified by Materials	1.35	3.20	1.48
	Machinery & Transport Equipment's	0.73	1.49	1.01
	Miscellaneous	8.76	9.48	7.76

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Pakistan	Chemicals	5.76	2.43	18.17
	Manufactures Classified by Materials	1.98	2.19	6.89
	Machinery & Transport Equipment's	1.78	1.56	7.76
	Miscellaneous	7.81	3.94	15.45
Srilanka	Chemicals	6.07	0	12.50
	Manufactures Classified by Materials	20.89	0	23.17
	Machinery & Transport Equipment's	11.83	0	17.23
	Miscellaneous	6.93	0	9.63

Sources: Authors Compilation

Following Limitations were identified for the present study

- Even though South Asian Countries trade affects several factors, but in the present study intended to analyze its performance only in intra trade performance of nations. Therefore, results are subjective in nature.
- The present study intends to evaluate only intra trade performance, openness, which may not able to evaluate the overall trade performance of select nation. Hence, researcher may not able to comment on the overall performance of South Asian Countries.
- Due to paucity of time and lack of availability of data, the proposed study evaluates the performance over a period of 15 years in three phases, which may not able to trace the overall impact intra trade practices in South Asian Nations.

Following are the General Suggestions of the Present Study

- Many times, it is observed that increased domestic demand also limits exports of the country so effort should be made to control domestic demand, however it is not a viable method as is against social welfare so progressive effort should be made by the government to increase production level that would generate sufficient export surplus.
- India also suffers from infrastructure bottlenecks, which hinder its export growth, and many times creates undue delays in fulfilling her trade commitments. Rapid growth in a globalized environment requires well-functioning infrastructure, especially electricity, road and rail connectivity, air transport, efficient ports, and logistics management including modern storage and warehousing facilities. However, the government has made significant effort in overcoming it but still it is inadequate. The government should encourage increased private participation through privilege of augmented incentives.
- Entering into regional trade agreements has turned out to be the one of the more viable alternative for developing countries like India to expand their market access. So effort should be made to evaluate the impact of various existing trade agreements of which India is part of and accordingly it should enter into further agreements.
- Maintaining exchange rate stability is another important area where the government needs attention and as constant fluctuations in the exchange especially the over-valuation of Indian rupee vis-à-vis major trading currencies (as measured by appreciation of the real effective exchange rate – REER of the rupee) has not been conducive for increased export efforts.

CONCLUSION

South Asian Countries have shown better export growth performance since 2000 to 2005. Indian export structure is more diversified as compare to the rest of the members of the South Asian Countries. Bangladesh is on top in share of manufacturing exports. India has more intra industry trade. South Asian Countries have less intra industry trade as compare to the other parts of the world.

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PERFORMANCE EVALUATION OF EQUITY LINKED SAVING SCHEME MUTUAL FUNDS IN INDIA

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ABSTRACT

Mutual Funds have become a most popular and easy way for investors to participate in financial markets at low-cost fashion, while muting risk characteristics by spreading the investment across different types of securities. Mutual fund can be classified in to various types of schemes based on investment objectives. One of the important types of mutual fund is equity linked saving scheme. Government of India in the year 1992 implemented the Equity Linked Savings Scheme (ELSS). As ELSS invests in the share market, it has to face the fluctuation of share market. The price of shares changes with the changing market condition. It can go up and slide down as well. This scheme is designed to give investor an opportunity to save the income tax of up to Rs 1.5 lakh under Section 80C, and offers the twin-advantage of capital appreciation and tax benefits with a lock-in period of three years. Here in this study, an attempt is made by the researchers to analyze the performance of various ELSS funds in India. The entire study is based on secondary data. The ELSS of top 10 AMC in the year 2016 have been taken as the sample of the study.

KEYWORDS

Fama's Ratio, Mutual funds, Sharpe Ratio, Treynor's Ratio etc.

INTRODUCTION

Mutual fund schemes provide new opportunities for investors. Mutual fund Industry was introduced in 1963 in India with the formation of Unit Trust of India. During the last few years, many extraordinary and rapid changes have been seen in the Mutual fund industry. Therefore, due to the changed environment it becomes important to investigate the mutual fund performance. Mutual Funds have become a widely popular and effective way for investors to participate in financial markets in an easy, low-cost fashion, while muting risk characteristics by spreading the investment across different types of securities. Mutual funds offer many benefits like; growth in the capital, income in the form of dividend or interest, risk diversification, professional portfolio management etc.

Mutual fund can be classified in to various types of schemes based on investment objectives. One of the important types of mutual fund is Equity Linked Saving Scheme. The Govt. of India in the year 1992 introduced the Equity Linked Savings Scheme (ELSS) mutual funds. Mutual fund is invests principally in stocks. It can be actively or passively managed. Equity funds are also known as stock funds. Stock mutual funds are principally categorized according to company size, the investment style of the holdings in the portfolio and geography. During the last few years, many extraordinary and rapid changes have been seen in the Mutual fund industry. Currently there are over 6000 mutual fund schemes in the mutual fund market. The performance of mutual funds varies from time to time due to various internal and external factors. Therefore, due to the changed environment it becomes important to investigate the mutual fund performance. Thus, an attempt is made here to analyze the performance of top 10 ELSS schemes of AMCs in India.

LITERATURE REVIEW

Krishna Kumar Kadambat et, al. (2015) made research on the title "Investment Performance of Equity Linked Savings Schemes (ELSS) of Indian Mutual Funds". They have concluded that an average, only 35% of the ELSS funds could outperform Diversified Funds and 56% of ELSS funds outperformed the Benchmark Indexes, by providing a higher risk adjusted return for a unit of total risk undertaken.

Ajay Mittal (2015) made research on the title "Comparative study of ELSS of Public Sector and Private Sector of Mutual Fund Industry in India". They have concluded that study is to compare the ELSS scheme of both sector and that has analysed the market timing abilities of fund managers of ELSS. Good and bad news affects price movement, the beta showing the presence of risk as compared to market return was high. The tax saving mutual fund industry grew at a rate of annual 67% during 2006 to 2015 while mutual fund industry grew at a rate of 50% annually.

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Namita Srivastava (2014) made research on the title "Performance indicators of Equity linked saving schemes in India". They have concluded that Sample ELSS Fund's are able to provide better return than any return on risk free securities but unable to outperform the benchmark portfolio in terms of average return.

Rajpurohit, S. (2014) made research on the title "A Comparative Study of Performance of Top 5 Mutual Funds in India". They concluded that volatility of equity is a relatively short-term phenomenon, equity investments are extremely likely to give strong positive returns in the end exceeding three to five years.

Binod Kumar Singh (2012) made research on the title "A study on investors' attitude towards mutual funds as an investment option". They have concluded that most of the respondents having lack of awareness about the various function of mutual funds. Moreover, as far as the demographic factors are concerned, gender, income and level of education have significantly influence the investor's attitude towards mutual funds.

OBJECTIVES OF STUDY

The main objective of the study was to evaluate the performance of top 10 ELSS schemes in India. The specific objectives are:

- To measure risk-return characteristics of Equity Linked Saving Scheme Fund.
- To evaluate the performance of ELSS schemes by using various portfolio evaluation techniques.

HYPOTHESES

- **H₁:** There is no significant difference in the performance of ELSS schemes over the study period.
- **H₂:** There is no significant difference between the performances of different ELSS Schemes under study.

SCOPE OF STUDY

The study deals with evaluation of the performance of Top 10 ELSS schemes in India, because of their AUM. The study period is five years from 1st January 2012 to 30th December 2016. Only ELSS growth funds have been covered in the study.

METHODOLOGY OF STUDY

The entire study is based on the secondary data, procured and extracted from mutual fund websites, mutual fund data providers and stock exchange website. The NSE Nifty is used as a benchmark for the market. The data pertains to a 5-year period from 1st January 2012 to 30th December 2016. Returns have been calculated after adjusting the NAVs for "dividends and bonus", if any.

For analyzing the market performance of the selected Schemes and to, different statistical tools and financial models are used. They are mean Standard Deviation, Alpha, Beta Coefficient, Sharpe Index, Treynor Index and Jensen Alpha, Fama's Ratio. The sample size is Top 10 ELSS schemes in India in terms of their AUM. Judgmental Sampling technique is used to select the sample.

Daily Return of Fund

The daily return is calculated by using the NAVs of the funds under study. The model used for this purpose is:

$$R_{Pt} = \frac{NAV_t - NAV_{t-1}}{NAV_{t-1}} \text{ X } 100$$

Where, R_{Pt} is the return from a fund at time t, NAV_t and NAV_{t-1} are net assets values for time period t and t-1 respectively.

Average Return of Fund

Average return of the fund is calculated with the following equation:

$$R_p = \sum_{t=1}^{n} R_{pt}/n$$

Where, n is the time of the study.

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Daily Index Return

Daily market return is calculated as follows:

$$R_{mt} = \frac{P_t - P_{t-1}}{P_{t-1}} \times 100$$

Where, P is the market price.

Average Index Return

The average market return is calculated by using the following equation:

$$R_m = \sum_{t=1}^{n} R_{mt}/n$$

Compound Annual Growth Rate (CAGR)

It is a useful measure of growth over multiple times.

$$CAGR = (EV / BV)^{1/n} - 1$$

EV = Investment's ending value,
BV = Investment's beginning value,
n = Number of periods (months, years, etc.)

Sharpe's Reward to Variability Ratio

$$SR_p = \frac{R_p - R_f}{\sigma_p}$$

Where, SR_p is the Sharpe's Ratio for the portfolio, R_p is the mean return of the portfolio, R_f is the risk free rate of return and σ_p is the standard deviation of the fund returns

Treynor's Reward to Volatility Ratio

$$TR_p = \frac{R_p - R_f}{\beta_p}$$

Where, TR_p is the Treynor's Ratio for the portfolio, R_p is the mean return of the portfolio, R_f is the risk free rate of return and β_p is the sensitivity of the fund returns to index returns.

Jensen's Ratio

$$JR_p = R_p - [R_f + \beta_p(R_m - R_f)]$$

Where, JR_p is the Jensen's Ratio for the portfolio, R_p is the mean return of the portfolio, R_f is the risk free rate of return, R_m is the market returns and β_p is the sensitivity of the fund returns to index returns.

Fama's Ratio

$$FR_p = R_p - [R_f + (\sigma_p/\sigma_m)(R_m - R_f)]$$

Where, FR_p is the Fama's Ratio for portfolio, R_p is the mean return of the portfolio, R_f is the risk free rate of return σ_p is the standard deviation of the fund returns and σ_m is the standard deviation of the market returns.

RESULTS AND DISCUSSION

Table-1: Actual Returns of Top 10 Equity Linked Savings Schemes of AMC

Schemes	Type	AUM (crore)	Actual (Absolute) Returns %							
			01-Dec-16 30-12-16	03-Oct-16 30-12-16	01-Jul-16 30-12-16	01-Jan-16 30-12-16	01-Jan-15 30-12-16	01-Jan-14 30-12-16	01-Jan-13 30-12-16	02-Jan-12 30-12-16
Axis Long Term Equity Fund	Growth	10486.56	-2.4	-9.9	-3.5	-1.2	5.4	75.8	103.8	175
Reliance Tax Saver (ELSS) Fund	Growth	5882.19	-1.6	-6.8	1.1	3.7	0.7	84.9	90.7	180
HDFC Tax Saver Fund	Growth	5268.34	-1.8	-4.2	4.5	6.8	0.6	57.4	64.1	109.9
SBI Magnum Tax Gain Scheme 93	Growth	4748.25	-1.2	-8.3	-0.7	1.5	5.2	57.2	66.9	126
ICICI Prudential Long Term Equity Fund	Growth	3549.73	-1.1	-7.2	-0.4	3.6	8.2	63.2	79	147
Franklin India Taxshield	Growth	2368.54	-1.3	-7.3	-2.1	4.1	8.7	70.7	80.5	135.2
Birla Sun Life Tax Relief 96	Growth	2357.71	0.7	-8.0	0.01	3.1	12.9	74.9	88.9	159.9
L&T Tax Advantage Fund	Growth	1752.8	-1.2	-6.3	1.4	7.4	11	60.8	71	119.3
Sundaram TaxSaver	Growth	1314.48	-1.1	-8.6	-0.2	6.3	10.2	60.5	61.6	118.7
HDFC Long Term Advantage Fund	Growth	1219.14	-0.4	-4.3	4.7	12.5	10.2	59.2	75.4	127.6

Sources: http://www.moneycontrol.com/india/mutualfunds/mutualfundreturns/12/36/returns

Table 1 shows the performance of ELSS schemes under study during the short term to long-term duration. Birla Sun Life Tax Relief 96 is the only ELSS fund has shown positive returns during the last one-month period, during the last three months period; none of the funds has shown positive returns.

During the last six months period; HDFC Long Term Advantage Fund, L&T Tax Advantage Fund, Birla Sun Life Tax Relief 96, HDFC TaxSaver Fund, Reliance Tax Saver (ELSS) Fund have shown positive returns and HDFC Long Term Advantage Fund have earned the highest returns.

During the last one year period, except Axis Long Term Equity Fund, all other funds have shown the positive returns and HDFC Long Term Advantage Fund have earned the highest returns. During the last 2 years period, Birla Sun Life Tax Relief 96 has earned highest (12.9%) returns and Reliance Tax Saver (ELSS) Fund has earned the lowest returns.

Reliance Tax Saver (ELSS) Fund has earned highest (84.9%) returns during the last three years period, Axis Long Term Equity Fund has shown highest returns (103.8%) during the last four years period and Reliance Tax Saver (ELSS) Fund has earned highest returns (180%) during the last five years period.

Table-2: CAGR of NAV's of the ELSS Schemes under Study

Name of the ELSS Scheme	CAGR (%) of Past				
	1 year	2 years	3 years	4 years	5 years
Axis Long Term Equity Fund	-0.694	2.936	20.756	19.681	21.882
Reliance Tax Saver (ELSS) Fund	4.243	0.596	22.801	17.654	22.868
HDFC Taxsaver Fund	7.567	0.426	16.396	13.460	15.987
SBI Magnum Tax Gain Scheme 93	2.099	2.649	16.262	13.884	17.714
ICICI Prudential Long Term Equity Fund (Tax Saving)	4.700	4.125	17.811	15.848	19.818
Franklin India Taxshield	4.722	4.385	19.580	16.067	18.655
Birla Sun Life Tax Relief 96	3.384	6.245	20.383	17.455	21.048
L&T Tax Advantage (G)	8.128	5.483	17.219	14.529	17.008
Sundaram Taxsaver	6.839	4.963	17.092	12.951	16.938
HDFC Long Term Advantage Fund	13.016	5.025	16.860	15.357	17.878

Sources: Authors Compilation

The CAGR of various ELSS funds are presented in Table 2. The CAGR of past one year is highest with HDFC Long Term Advantage Fund (13.016%) followed by L&T Tax Advantage (G) (8.128%), HDFC Taxsaver Fund (G) (7.567%). Axis Long Term Equity Fund has the negative CAR for the past one year. Two years CAGR is highest for Birla Sun Life Tax Relief 96 (6.245%) and HDFC Taxsaver Fund has the lowest (0.426%) CAGR. Long run CAGR of all the funds is in double digits and in

the long run, the best funds found based on CAGR are Axis Long Term Equity Fund, Reliance Tax Saver (ELSS) Fund and Birla Sun Life Tax Relief 96. These funds have grown an average of 18-19% per year in the long run.

Table-3: Ranking of Funds using Sharpe and Treynor's Ratio (Data of one year from 1-1-2016 to 31-12-2016)

Schemes	Type	Sharpe Ratio	Rank	Treynor Ratio	Rank
Axis Long Term Equity Fund	Growth	-8.85	10	-9.38	10
Reliance Tax Saver (ELSS) Fund	Growth	-2.52	6	-2.84	5
HDFC Taxsaver Fund	Growth	0.04	3	0.05	3
SBI Magnum Tax Gain Scheme 93	Growth	-5.34	9	-5.57	9
ICICI Prudential Long Term Equity Fund (Tax Saving)	Growth	-3.56	8	-3.95	7
Franklin India Taxshield	Growth	-2.96	7	-3.00	6
Birla Sun Life Tax Relief 96	Growth	-1.54	5	-4.92	8
L&T Tax Advantage (G)	Growth	0.62	2	0.65	2
Sundaram Taxsaver	Growth	-0.40	4	-0.44	4
HDFC Long Term Advantage Fund	Growth	5.86	1	6.29	1

Sources: Authors Compilation

Table 3 shows the ranks given to all the funds under study based on Treynor and Sharpe Ratio. HDFC Long Term Advantage Fund obtains the first rank under both the techniques, L&T Tax Advantage Fund obtains the second rank, HDFC Taxsaver Fund obtains the third rank and it is followed by Sundaram Taxsaver. Axis Long Term Equity Fund is the least performer according to both the techniques.

Table-4: Ranking of Funds using Jensen Ratio and Fama Ratio
(based on the data of one year from 1-1-2016 to 31-12-2016)

Schemes	Type	Jensen ratio	Rank	Fama Ratio	Rank
Axis Long Term Equity Fund	Growth	-3.22	10	-2.83	10
Reliance Tax Saver (ELSS) Fund	Growth	2.95	5	3.89	6
HDFC Taxsaver Fund	Growth	5.91	3	6.43	4
SBI Magnum Tax Gain Scheme 93	Growth	-0.004	9	0.29	9
ICICI Prudential Long Term Equity Fund (Tax Saving)	Growth	1.27	7	1.78	8
Franklin India Taxshield	Growth	2.30	6	2.47	7
Birla Sun Life Tax Relief 96	Growth	0.52	8	10.21	2
L&T Tax Advantage (G)	Growth	6.25	2	6.63	3
Sundaram Taxsaver	Growth	5.19	4	5.64	5
HDFC Long Term Advantage Fund	Growth	10.78	1	11.11	1

Sources: Authors Compilation

Table 4 shows the ranks given to all the funds under study based on Jenson's measure and Fama's measure. HDFC Long Term Advantage Fund obtains the first rank under both the techniques. L&T Tax Advantage Fund obtains the second rank, HDFC Taxsaver Fund obtains the third rank and it is followed by Sundaram Taxsaver under Jenson's ratio. Under Fama's measure, Birla Sun Life Tax Relief 96 obtains the second rank, L&T Tax Advantage Fund obtains the third rank, HDFC Taxsaver Fund obtains the fourth rank. Even under these two techniques, Axis Long Term Equity Fund is the least performer.

Table-5: Results of One Way ANOVA test for Testing the first Hypothesis

Source of Variation	SS	d.f.	MS	F	P-value	F crit
Between Groups	22628.89	4	5657.221	36.77939	1.2E-13	2.578739
Within Groups	6921.674	45	153.815			
Total	29550.56	49				

Sources: Authors Compilation

Table 5 shows the results of One-way ANOVA test conducted for testing the hypothesis that "There is no significance difference in the performance of ELSS schemes over the study period". It is found in the result that the calculated F value (36.77939) is higher than critical value and therefore the null hypothesis is rejected.

Table-6: Results of Kruskal-Wallis Test for Testing the first Hypothesis

KRUSKAL-WALLIS	
Particulars	**Value**
H	37.35
Degree of Freedom	4
Alpha	0.05
P Value	1.52569E-07
Significance	Yes

Sources: Authors Compilation

As a Non-Parametric test, the researchers have conducted the H test to test the hypothesis that there is no significant difference in the performance of the funds under study and the same is presented in Table 6. The calculated H value (37.35) is much higher than the critical value (9.488) at 5% level of significance and therefore the hypothesis is rejected.

Table-7: Results of One Way ANOVA test for Testing the Second Hypothesis

Source of Variation	*SS*	*d.f.*	*MS*	*F*	*P-value*	*F crit*
Between Groups	118.1084	9	13.12316	0.033369	0.999995	2.124029
Within Groups	15730.84	40	393.2711			
Total	15848.95	49				

Sources: Authors Compilation

Table-8: Results of Kruskal-Wallis Test for Testing the Second Hypothesis

KRUSKAL-WALLIS	
Particulars	**Value**
H	1.003765
Degree of Freedom	9
Alpha	0.05
P Value	0.60539
Significance	Yes

Sources: Authors Compilation

Table-7 and 8 presents the results of One Way ANOVA test and Kruskal-Wallis test conducted to test the hypothesis that there is no significant difference between the performances of different ELSS Schemes under study. In both the tests, the test statistic lies in the acceptance region and therefore the hypothesis need to be accepted.

CONCLUSION

There are many options available to the investors to reduce their tax burden. However, among the various options available, Equity Linked Savings Schemes are one of the best options available. These ELSS schemes will offer multiple benefits to the investors like, dividend benefits, capital gain advantages, tax benefits, and benefits from stock splits and bonus shares etc. In the current researcher, we have analyzed the performance of top ELSS schemes based on their AUM. The result of the study shows that the returns in the short run for most of the funds are negative. When we look into the long run performance, five years returns of all the funds are more than hundred percent returns. On an average in the end, most of the funds have earned a return more than fifty percent. However, from the past one year the performance of the ELSS schemes is poor. The CAGR of various ELSS funds are presented in Table 2. The CAGR of HDFC Long Term Advantage Fund (13.016%) and L&T Tax Advantage (G) (8.128%) are during one-year period. CAGR of two years period is in single digit for all the funds. In the long run, CAGR of all the funds is in double digits and in the long run, the best funds found are Axis Long Term Equity Fund, Reliance Tax Saver (ELSS) Fund and Birla Sun Life Tax Relief 96. These funds have grown an average of 18-19% per year in the long run.

Based on one-year data the ELSS schemes under study are evaluated by using all the four techniques of portfolio evaluation. The results show that HDFC Long Term Advantage Fund is best fund according to all the techniques and the other best funds are; L&T Tax Advantage Fund obtains the second rank, HDFC Taxsaver Fund etc. Axis Long Term Equity Fund is the least performer.

The results of the hypotheses tested shows that there is significant difference in the performance of the funds over the study period and there is no significant difference in the performance of different funds under study.

To conclude, the ELSS mutual funds are one of the best investment avenues. They offer multiple benefits. Compare to rest of the mutual funds, ELSSs will offer additional advantages in the form of tax benefits. However, one of the limitations of the ELSSs is the lock in period of three years. Thus, when an investor invests in ELSS, he has to select those funds, which have performed better in the long run. As per the study, the funds, which have performed better in the end, are Axis Long Term Equity Fund, Reliance Tax Saver (ELSS) Fund and Birla Sun Life Tax Relief 96.

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IMPACT OF DEMONETISATION ON INDIAN STOCK MARKET

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ABSTRACT

In a historic decision, Government of India stopped the circulation of all Rs.500 and Rs.1000 currency notes from the midnight of 8th November. While on one hand, it has been hailed as a daring assault on the hoarders and traders of black money; on the other hand, it is criticized as a step causing enormous trouble for the common Indian population. In the announcement, Modi declared that use of all Rs. 500 and Rs.1,000 banknotes of the Mahatma Gandhi Series would be invalid after midnight of that day, and announced the issuance of new Rs.500 and Rs.2,000 banknotes of the Mahatma Gandhi New Series in exchange for the old banknotes. In the present research, the author has attempted to study the impact of the same on Indian stock market with reference to stocks traded in BSE. The author has chosen 20 industries randomly from BSE industry list and from each industry; top 10 companies are taken on judgmental sampling basis. The T test on abnormal returns and paired comparison T test shows that the demonetization has had no impact on the stock returns, but the T test on CAR shows that the event had an impact in the short run but not in the end.

KEYWORDS

Abnormal Returns, Cumulative Abnormal Returns, Demonetization, Stock Market etc.

INTRODUCTION

Demonetization is an economic term which is used to mean the 'scrapping' of old currency notes and stripping them off their status of legal tender, usually when a new currency note or currency is being introduced in the economy of the country. This is a standard practice followed by all major economies of the world for different reasons. For instance, when the 'Euro' was introduced as the common currency of the European Union, the participating countries had effectively followed a 'demonetization' drive of their respective currencies by fixing exchange rates for the old currency to the newly introduced Euro. Indian Rupee has been demonetized various times as well. The Rs. 10,000 notes were demonetized once in January 1946 and then again in January 1978. Recently, the Rs. 500 and Rs. 1000 notes were demonetized in a surprise move on November 8, 2016.

The government claimed that the demonetization was an effort to stop counterfeiting of the current banknotes allegedly used for funding terrorism, as well as a crackdown on black money in the country. The move was also described as an effort to reduce corruption, the use of drugs, and smuggling. However, in the days following the demonetization, banks and ATMs across the country faced severe cash shortages, with severe detrimental effects on a number of small businesses, agriculture, and transportation. People seeking to exchange their notes had to stand in lengthy queues, and several deaths were linked to the inconveniences caused due to the rush to exchange cash. In addition, following the announcement, the BSE SENSEX and NIFTY 50 stock indices crashed for the next two days. The current research is aimed at finding the reaction of Indian stock market for currency demonetization.

OBJECTIVES OF STUDY

The primary objective of the research is to investigate the reaction of the stock market for demonetization of Indian higher denomination currencies. The specific objectives are:

- To study the impact of demonetization on stock returns of different industries in short run, medium run and long run.
- To make a comparison between the returns of stock during the pre-announcement days, post announcement days and on the date of announcement.

HYPOTHESES

- **Null Hypothesis 1:** There are no abnormal returns around the announcement of demonetization.
- **Null Hypothesis 2:** The Cumulative abnormal returns for various event windows are zero.
- **Null Hypothesis 3:** There is no significant difference between the mean abnormal returns during the pre and post demonetization period.

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SCOPE OF STUDY

The current study is an attempt to identify the impact of demonetization on Indian stock market. The study is conducted for various event windows like 11, 15, 31, 41, 91 and 101. The estimation window is 250 pre - event window working days. The study is restricted to BSE listed top 10 companies of each industry under study.

METHODOLOGY

The entire data is derived from secondary sources. The various secondary sources used are books, newspapers and websites. The author has chosen 20 industries randomly from BSE industry list and from each industry; top 10 companies are taken on judgmental sampling basis.

TECHNIQUES OF ANALYSIS

Daily returns for each sample company has been computed for the estimation period and for the event period as:

$$R_i = Log\left(\frac{P_1}{P_0}\right)$$

Where, P_1 = Closing price of the security and P_0 is the opening price of the security.

$$R_m = Log\left(\frac{MP_1}{MP_0}\right)$$

MP_1 = Closing market price of the Sensex and MP_0 is the opening market price of the Sensex

In the next step, the market model has been utilized to calculate the expected returns on the stock.

Daily Expected Return

$$E(R_{it}) = \alpha + \beta \times R_m + \varepsilon_t$$

In the Equation **E(R)** is the expected return of a particular company on day t,

α and **β** are calculated as follows

$$\beta = \frac{n \sum xy - \sum x \times \sum y}{n \sum x^2 - \sum(x^2)}$$

$$\alpha = \overline{y} - \beta\overline{x}$$

$\overline{R}\,(\overline{m})$ = Return on the market

Then the abnormal return on day t is calculated as;

Abnormal Returns

Daily abnormal return on a particular day *t* is the excess of the actual return on the day t over the expected return on that day.

$$AR = R_{it} - E(R_{it})$$

Where, R_{it} is the actual daily return for the share of a company i at time t, and $E(R_{it})$ is the expected return on the same day.

The maximum event window period is 101 day. In this, the day of Demonetization announcement is designated as 0. Trading days prior to the announcement are numbered event days -1, -2 and so on. The event days following the announcement are numbered +1, +2 and so on.

Cumulative Average Abnormal Return

Cumulative Average Abnormal Return (CAAR) for the event period was computed as the sum of the AAR.

Cumulative Average Abnormal Return (CAAR) = Σ AAR

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T test for Abnormal Returns for Each Day

$$\text{T statistic} = \frac{AR_t}{SE}$$

AR_t = Abnormal Returns for the day t and SE is Standard Deviation based on estimation window.

Paired Comparison T test

The paired t test provides a hypothesis test of the difference between population means for a pair of random samples whose differences are approximately normally distributed.

$$\text{The test statistic is calculated as: } \frac{\bar{d}}{\sqrt{s^2/n}}$$

Where d bar is the mean difference, s² is the sample variance, n is the sample size and t is a Student t quantile with n-1 degrees of freedom.

T test for Cumulative Abnormal Returns

$$T_{CAR} = CAR_l/S_{CAR}$$

$$S_{CAR}^2 = L_2\, S_{AR}^2$$

$$S_{AR} = SD\ of\ abnormal\ returns\ in\ the\ estimation\ window$$

Wilcoxon Signed Rank Test

$$z_{Wilcoxon_{signed\ rank}} = \frac{w_s - \dfrac{n(n+1)}{4}}{\sqrt{\dfrac{n(n+1)(2n+1)}{24}}}$$

LIMITATIONS OF THE STUDY

- The study is based on the assumption that demonetization is the only determinant of the stock price during the study period.
- This study is restricted only to BSE listed companies.
- Time available for the study was very limited and thus an in depth study could not be made.

RESULTS AND DISCUSSION

Table-1 shows the mean abnormal returns of pre and post demonetization period. In the private banking sector, the post announcement abnormal returns for all the event windows are lower than the pre announcement abnormal returns. In the **Public sector banks** except for 15-day window all other event windows have shown higher mean abnormal returns during the post event window. In the **IT** industry, only medium and long-term windows have shown higher mean abnormal returns during the post event window period. In the **Breweries industry,** only 31 and 41 event windows have shown higher abnormal returns during the post event period. Under **Domestic appliances** only for 91-day event window, post abnormal mean return is heavier than the pre announcement mean abnormal returns. In the **Chemical industry** higher post mean abnormal returns is found only for long run event windows. In the **Tea and coffee** higher post mean abnormal returns is found only for long run event windows. Under **Electrical industry** 31,91 and 101 event windows have more mean abnormal returns during the post event period. In the **Food processing industry** 41,91,101 event windows have shown higher mean abnormal returns during the post event period. **Consumer goods industry, Trading companies, Pharmaceutical companies, Transportation companies, Telecom companies, Steel companies and financial companies** have shown higher mean post abnormal returns for all event windows. Rest of the industries like **Automobile, Tyre** (except 41) and **Ceramics companies** have shown lower mean abnormal returns during the post announcement period.

Table-2 shows the standard deviations of abnormal returns for various event windows. Higher standard deviations of abnormal returns for post event period are found for the following industries: Private banks, Public banks, Cement, IT, Automobiles, Breweries, Consumer goods, Domestic goods, Trading companies, Pharmaceuticals, Tyre, Transport and logistics, Telecom, Steel companies, Ceramics and granites, Chemicals, Tea and coffee, Electricals, Finance and Food Processing companies. In the IT industry, higher variation in abnormal returns is found for short-term event windows.

Table-1: Pre and Post Mean Average Abnormal Returns

Sector	Period	Event Windows					
		11	**15**	**31**	**41**	**91**	**101**
Private Banks	Pre	-0.2102	-0.07519	0.11886	0.012708	0.01202	0.01802
	Post	-0.81856	-0.60805	-0.44441	-0.43725	-0.09163	-0.05776
Public Banks	Pre	-0.65408	-0.42367	-0.17031	-0.191334	-0.01948	0.00062
	Post	-0.63293	-0.55221	-0.09056	-0.127746	0.00426	0.02222
Cement	Pre	-0.54454	-0.20879	-0.14238	-0.00758	-0.01157	0.05726
	Post	-2.50612	-2.15191	-0.77896	-0.69988	-0.38645	-0.33031
IT	Pre	0.21092	0.12370	0.11941	0.037292	-0.06607	-0.0949
	Post	0.060411	0.056936	0.30461	0.167848	0.20688	0.19626
Automobiles	Pre	-0.40682	-0.09029	-0.05877	-0.00349	0.08971	0.123077
	Post	-1.06138	-0.83104	-0.37397	-0.32308	-0.0463	-0.04311
Breweries	Pre	-1.11794	-0.79773	-0.5151	-0.53643	0.124493	0.147073
	Post	-1.52213	-1.42229	-0.04789	-0.28112	-0.19239	-0.1159
Consumer Goods	Pre	-0.74987	-0.8875	-0.3939	-0.42187	0.045298	0.070526
	Post	-0.72932	-0.48615	0.32350	0.195684	0.145598	0.14556
Domestic Appliances	Pre	-0.79997	-0.4749	-0.17206	-0.05653	-0.14647	-0.05834
	Post	-2.00548	-1.55309	-0.77375	-0.43797	-0.08412	-0.06302
Trading Companies	Pre	0.105164	-0.23069	-0.11919	-0.2383	0.215731	0.24813
	Post	0.539778	0.443612	0.38452	0.21826	0.24936	0.241065
Pharmaceutical	Pre	-1.38491	-0.87834	-0.35661	-0.30907	-0.13314	-0.11425
	Post	-0.13211	0.185652	0.28580	0.162629	0.063791	0.088997
Tyre	Pre	-0.21175	-0.10256	-0.22092	-0.37085	0.179717	0.263043
	Post	-0.82964	-0.83313	-0.3876	-0.32039	-0.10249	-0.11629
Transport and Logistics	Pre	-0.86496	-0.43065	-0.1651	-0.14584	-0.10577	-0.09694
	Post	-0.16454	-0.30367	-0.05982	-0.19247	-0.04457	-0.02618
Telecom	Pre	-0.54617	-0.53638	-0.11205	-0.16548	-0.00344	-0.03756
	Post	-0.1853	-0.1574	0.24720	0.243669	0.225245	0.205532
Steel Industry	Pre	-0.76718	-0.53425	0.06992	0.24643	0.067681	0.0513
	Post	0.611788	0.355359	0.41886	0.266694	0.21487	0.209248
Ceramics and Granites	Pre	-1.20141	-0.77231	-0.54533	-0.68078	-0.21807	-0.23121
	Post	-1.20141	-2.06096	-0.92393	-0.89479	-0.37461	-0.31417
Chemicals	Pre	-0.9736	-0.60891	-0.20973	-0.25651	-0.10223	-0.07424
	Post	-0.80437	-0.75816	-0.36087	-0.2983	-0.01741	0.010637
Tea and Coffee	Pre	-0.69247	-0.216	-0.07259	-0.08492	0.022749	-0.00973
	Post	-0.98758	-1.03565	-0.28509	-0.12184	0.166189	0.192406
Electricals	Pre	-0.21046	0.084023	0.17348	0.171149	0.029294	0.022137
	Post	-0.21211	-0.22206	0.20169	0.085713	0.151176	0.129376
Finance	Pre	-0.96946	-0.72509	-0.374	-0.38822	-0.15075	-0.12619
	Post	-0.50152	-0.31037	0.01225	-0.14627	-0.09282	-0.06946
Food Processing	Pre	-0.57528	-0.28857	-0.18592	-0.22362	-0.17137	-0.13143
	Post	-0.96074	-0.68249	-0.27187	-0.20717	-0.05101	-0.00661

Sources: Authors Compilation

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Table-2: Pre and Post Standard Deviation of Abnormal Returns

Sector	Period	Event Windows					
		11	15	31	41	91	101
Private Banks	Pre	0.33138	0.500613	0.608953	0.627067	0.85972	0.826546
	Post	3.186214	2.62638	2.044721	1.788654	1.341379	1.285299
Public Banks	Pre	0.815912	0.775791	0.644088	0.620371	0.909907	0.872809
	Post	2.983458	2.46563	1.962931	1.700946	1.229049	1.170364
Cement	Pre	0.712398	0.831642	0.880784	0.921097	1.010094	1.041934
	Post	4.190109	3.624676	2.965989	2.591963	1.937352	1.858305
IT	Pre	1.243347*	1.039353*	0.818507	0.759855	0.649949	0.682003
	Post	0.896267	0.741983	1.106209	0.993794	0.819742	0.802882
Automobiles	Pre	0.573322	0.800879	0.864835	0.834805	1.000584	0.982901
	Post	3.664156	3.021506	2.376768	2.094562	1.607784	1.531702
Breweries	Pre	1.529816	1.364454	1.104626	1.063075	1.960054	1.88041
	Post	3.709039	3.065632	3.831253	3.347618	2.355428	2.261885
Consumer Goods	Pre	1.504583	1.251328	1.03728	1.167658	1.415375	1.385531
	Post	5.390214	4.435228	3.170181	2.754188	1.96695	1.874285
Domestic Appliances	Pre	0.969399	1.030242	0.946246	1.030383	1.363262	1.335127
	Post	3.509704	2.977698	2.432473	2.269522	1.777251	1.696799
Trading Companies	Pre	0.759724	0.85763	0.769918	0.848881	0.961563	0.950303
	Post	1.038296	0.87828	0.903961	0.872191	1.376216	1.361322
Pharmaceutical	Pre	1.275885	1.360947	1.164778	1.058231	1.012316	1.012409
	Post	3.559536	2.959339	2.16357	1.895698	1.407879	1.33825
Tyre	Pre	1.74889	1.480428	1.156669	1.154597	1.536812	1.527666
	Post	3.630981	2.991717	2.471819	2.142442	1.707511	1.641049
Transport and Logistics	Pre	1.355606	1.353129	1.00158	0.918881	1.295442	1.249648
	Post	4.033001	3.307133	2.525417	2.194272	1.583098	1.50424
Telecom	Pre	1.075229	0.908678	1.03934	0.980143	1.322564	1.279374
	Post	2.793441	2.431348	1.959374	1.699539	1.449974	1.424799
Steel Industry	Pre	1.416173	1.25941	1.199356	1.283707	1.457484	1.396085
	Post	3.589787	2.979281	2.255155	1.988839	1.625338	1.567306
Ceramics and Granites	Pre	1.279543	1.325268	0.982966	1.033806	1.716522	1.629255
	Post	3.438257	2.927226	2.718705	2.367741	1.783276	1.746923
Chemicals	Pre	0.741075	0.870326	0.909664	0.826392	1.232958	1.198513
	Post	3.768486	3.11722	2.42209	2.100796	1.558099	1.483463
Tea and Coffee	Pre	1.212255	1.289374	1.040273	0.978667	1.16866	1.131138
	Post	2.5886	2.199217	1.859105	1.636164	1.243275	1.207811
Electricals	Pre	1.000772	0.961625	1.01292	1.030505	1.17209	1.12944
	Post	4.39941	3.612557	2.955056	2.565408	1.865824	1.779722
Finance	Pre	0.421371	0.541043	0.712969	0.67089	0.960644	0.917608
	Post	2.770485	2.285553	1.805374	1.594468	1.207126	1.163016
Food Processing	Pre	0.783407	0.806271	0.605223	0.711349	0.962357	0.928484
	Post	2.094463	1.774922	1.497427	1.311239	1.053193	1.038168

Sources: Authors Compilation

Testing of Hypotheses: The following part of the study deals with testing of the hypotheses framed in the study.

Null Hypothesis 1: There are no abnormal returns around the announcement of demonetization.

Table-3: T Test Results of Abnormal Returns around the Demonetization of Indian Currencies (Level of significance 5%)

DAY	AAR	CAAR	T-VALUE	DAY	AAR	CAAR	T-VALUE
-20	-0.47123	-0.47123	-0.50783	0	-0.28954	-2.84447	-0.31203
-19	-0.00275	-0.47397	-0.00296	1	0.002929	-2.84155	0.003156
-18	0.484482	0.010508	0.522116	2	-2.01201	-4.85356	-2.16831*
-17	-0.45221	-0.44171	-0.48734	3	-0.69268	-5.54624	-0.74649
-16	-0.75487	-1.19658	-0.81351	4	-0.52124	-6.06748	-0.56173

-15	0.981702	-0.21487	1.057961	5	-0.04739	-6.11487	-0.05108
-14	0.048155	-0.16672	0.051896	6	0.054385	-6.06048	0.05861
-13	1.289831	1.123111	1.390025	7	0.250333	-5.81015	0.269779
-12	1.371203	2.494315	1.477718	8	-0.55538	-6.36554	-0.59853
-11	0.694339	3.188654	0.748275	9	-0.11729	-6.48283	-0.1264
-10	0.979517	4.168171	1.055606	10	-0.31187	-6.7947	-0.33609
-9	0.217608	4.385778	0.234511	11	0.014753	-6.77994	0.015899
-8	-3.07523	1.310552	-3.31411*	12	0.002217	-6.77773	0.002389
-7	0.265155	1.575707	0.285753	13	0.135575	-6.64215	0.146106
-6	-0.966	0.609703	-1.04104	14	0.33452	-6.30763	0.360506
-5	-1.24496	-0.63525	-1.34166	15	0.908529	-5.3991	0.979104
-4	-4.04735	-4.68261	-4.36175*	16	-0.55741	-5.95651	-0.60071
-3	-2.20871	-6.89132	-2.38028*	17	0.638262	-5.31825	0.687843
-2	0.525691	-6.36562	0.566527	18	-1.00663	-6.32488	-1.08482
-1	3.81069	-2.55493	4.106703*	19	-0.10174	-6.42662	-0.10964
0	-0.28954	-2.84447	-0.31203	20	-0.24456	-6.67117	-0.26355

Sources: Authors Compilation

Note: *indicates significant at 5% level of significance

Table-3, T test is conducted at 5% level of significance to test the significance of abnormal returns around the Demonetization event for a 41-day event window. The AAR is the average of abnormal returns of all the 200 companies under study. It is found in the table that only for day -8,-4,-3, -1 & +2, significant abnormal returns are found but for the remaining days the abnormal returns are insignificant. Since majority of the T values are insignificant, we can conclude that the Demonetization has had no significant impact on the performance of the stock market.

Null Hypothesis 2: The Cumulative abnormal returns for various event windows are zero.

To test the significance of cumulative abnormal returns, the researcher has used the T test. The results are shown in below table.

Table-4: Cumulative Average Abnormal Returns and T-Values for Various Event Windows

Sector	Period	Event Windows					
		11	15	31	41	91	101
Private Banks	CAAR	-5.02	-4.66	-4.76	-8.36	-3.46	-1.86
	T-VALUE	-1.44	-1.15	-0.81	-1.25	-0.35	-0.18
Public Banks	CAAR	-6.72	-3.94	-0.06	-1.70	1.20	1.80
	T-VALUE	2.19*	-1.10	-0.01	-0.29	0.14	0.19
Cement	CAAR	-15.66	-16.93	-14.23	-14.55	-18.32	-14.06
	T-VALUE	-4.35*	-4.03*	-2.35*	-2.09*	-1.77	-1.29
IT	CAAR	2.14	2.05	7.14	4.88	7.12	5.85
	T-VALUE	0.85	0.69	1.68	1.00	0.98	0.76
Automobiles	CAAR	-6.41	-5.51	-5.56	-5.60	2.89	4.93
	T-VALUE	-18.57*	-13.69*	-9.60*	-8.40*	2.91*	4.72*
Breweries	CAAR	-13.70	-16.04	-8.95	-16.85	-3.56	1.06
	T-VALUE	-3.07*	-3.08*	-1.19*	-1.96*	-0.28	0.08
Consumer Goods	CAAR	-8.65	-10.87	-2.31	-5.78	7.33	9.55
	T-VALUE	-1.89	-2.04*	-0.30	-0.66	0.56	0.69
Domestic Appliances	CAAR	-13.39	-13.55	-13.55	-9.25	-9.73	-5.43
	T-VALUE	-2.61*	-2.27*	-1.58	-0.94	-0.66	-0.35
Trading Companies	CAAR	2.40	0.67	3.16	-1.23	20.10	23.64
	T-VALUE	0.42	0.10	0.33	-0.11	1.23	1.38
Pharmaceutical	CAAR	-8.92	-6.18	-2.40	-4.26	-4.45	-2.60
	T-VALUE	-2.74*	-1.63	-0.44	-0.68	-0.48	-0.26
Tyre	CAAR	-3.76	-5.10	-7.68	-12.38	4.92	8.79
	T-VALUE	-1.03	-1.20	-1.25	-1.76	0.47	0.79
Transport and Logistics	CAAR	-5.31	-5.30	-3.53	-6.93	-6.93	-6.32
	T-VALUE	-0.90	-0.77	-0.36	-0.61	-0.41	-0.36

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Telecom	CAAR	-4.21	-5.41	1.48	1.01	9.43	7.85
	T-VALUE	-0.89	-0.97	0.18	0.11	0.69	0.55
Steel Industry	CAAR	-0.31	-0.79	7.80	10.73	13.18	13.49
	T-VALUE	-0.06	-0.13	0.92	1.10	0.91	0.88
Ceramics and Granites	CAAR	-20.15	-21.60	-23.81	-33.28	-28.44	-29.04
	T-VALUE	-4.54*	-4.17*	-3.20*	-3.89*	-2.23*	-2.16*
Chemicals	CAAR	-9.72	-10.40	-9.39	-11.93	-6.22	-4.02
	T-VALUE	-2.76*	-2.53*	-1.59*	-1.75*	-0.61	-0.38
Tea and Coffee	CAAR	-9.44	-9.80	-6.41	-5.18	7.46	8.09
	T-VALUE	-2.24*	-1.99*	-0.91	-0.64	0.62	0.63
Electricals	CAAR	-1.73	-1.73	4.86	4.37	7.36	6.81
	T-VALUE	-0.32	-0.32	0.62	0.48	0.55	0.48
Finance	CAAR	-7.26	-7.15	-5.33	-10.59	-10.86	-9.69
	T-VALUE	-2.02*	-1.70	-0.88	-1.52	-1.05	-0.89
Food Processing	CAAR	-7.78	-6.89	-6.96	-8.71	-10.10	-7.00
	T-VALUE	-1.99*	-1.51	-1.06	-1.16	-0.90	-0.59

Sources: Authors Compilation

Table 4 shows the CAAR and the T statistic for various event windows under study. Among **private sector banks**, **IT industry, trading companies, Tyre industry, Transport and logistic, Electrical, Food processing** and **steel industry,** no significant cumulative abnormal returns are found for any of the event windows. **Automobile** and **Ceramics** industry have shown significant abnormal returns for all the event windows. For **Public Sector Banks, Pharmaceutical Industry, Finance Industry and Food Processing industry,** only for 11-day window significant cumulative abnormal return is found. **Consumer Goods** industry, Tea, **and Coffee industry** have shown significant abnormal returns during short-term event windows. **Cement industry** and **Breweries industry** has shown significant cumulative abnormal returns for all the short term and medium term event windows.

Null Hypothesis 3: There is no significant difference between the mean abnormal returns during the pre and post demonetization period.

To test the above hypothesis the researcher has used the following statistical tools:

- Paired comparison T test.
- One-way ANOVA.
- Wilcoxon signed rank test.

Paired Comparison T test is conducted and the results are shown in Table 5. It is found that the calculated T values for all the industries under study are lesser than the critical value and thus it is found that the mean difference between the pre and post demonetization period is equal to 0.

One way ANOVA test is conducted and the results are shown in Table 6. The test is conducted at 5 percent level of significance. The calculated F values are lesser than the critical values. Thus, even under one-way ANOVA test, it is proved that there is no significant impact from demonetization on the stock returns.

Wilcoxon signed rank test is conducted and the results are shown in Table 7. The test is conducted at 5 percent level of significance. The calculated Z values are lesser than the critical values. Thus, even under Wilcoxon signed rank test, it is proved that there is no significant impact from demonetization on the stock returns.

Table-5: Results of Paired Comparison T test @ 5% Level of Significance

Sector	Period	Event Windows					
		11	15	31	41	91	101
Private Banks	T-Statistic	-0.3994	-0.58533	-1.08997	-1.04323	-0.43256	-0.34856
	T-Critical	2.131847	1.94318	1.76131	1.729133	1.68023	1.676551
Public Banks	T-Statistic	0.019318	-0.14877	0.158913	0.149094	0.10393	0.109767
	T-Critical	2.131847	1.94318	1.76131	1.729133	1.68023	1.676551
Cement	T-Statistic	-1.12459	-1.68947	-0.91061	-1.04766	-1.14119	-1.27835
	T-Critical	2.131847	1.94318	1.76131	1.729133	1.68023	1.676551
IT	T-Statistic	-0.25944	-0.14887	0.525224	0.432278	1.838689	2.003241

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	T-Critical	2.131847	1.94318	1.76131	1.729133	1.68023	1.676551
Automobiles	T-Statistic	-0.42972	-0.69919	-0.53719	-0.63345	-0.46114	-0.65544
	T-Critical	2.131847	1.94318	1.76131	1.729133	1.68023	1.676551
Breweries	T-Statistic	-0.31185	-0.69281	0.486786	0.337148	-0.66892	-0.56766
	T-Critical	2.131847	1.94318	1.76131	1.729133	1.68023	1.676551
Consumer Goods	T-Statistic	0.011241	0.210226	0.878066	0.850855	0.279806	0.243417
	T-Critical	2.131847	1.94318	1.76131	1.729133	1.68023	1.676551
Domestic Appliances	T-Statistic	-0.93205	-0.94817	-0.9172	-0.61068	0.167363	-0.01449
	T-Critical	2.131847	1.94318	1.76131	1.729133	1.68023	1.67655
Trading Companies	T-Statistic	0.787065	1.399921	2.127828	1.510076	0.130088	-0.02849
	T-Critical	2.131847	1.94318	1.76131	1.729133	1.68023	1.676551
Pharmaceutical	T-Statistic	0.814964	1.114929	1.214792	1.153752	0.755195	0.907316
	T-Critical	2.131847	1.94318	1.76131	1.729133	1.68023	1.676551
Tyre	T-Statistic	-0.61167	-0.59607	-0.26708	0.088045	-0.82779	-1.22344
	T-Critical	2.131847	1.94318	1.76131	1.729133	1.68023	1.676551
Transport and Logistics	T-Statistic	0.409936	0.100k67	0.168393	-0.09074	0.202325	0.279196
	T-Critical	2.131847	1.94318	1.76131	1.729133	1.68023	1.676551
Telecom	T-Statistic	0.348549	0.380679	0.723946	0.980731	0.741573	0.92082
	T-Critical	2.131847	1.94318	1.76131	1.729133	1.68023	1.676551
Steel Industry	T-Statistic	1.203455	0.814345	0.643019	0.037439	0.431187	0.57491
	T-Critical	2.131847	1.94318	1.76131	1.729133	1.68023	1.676551
Ceramics and Granites	T-Statistic	-0.87002	-1.30544	-0.49532	-0.40224	-0.454	-0.24911
	T-Critical	2.131847	1.94318	1.76131	1.729133	1.68023	1.676551
Chemicals	T-Statistic	0.119301	-1.03302	-0.22162	-0.07361	0.280618	0.3227
	T-Critical	2.131847	1.94318	1.76131	1.729133	1.68023	1.676551
Tea and Coffee	T-Statistic	-0.44432	-1.04722	-0.45281	-0.08212	0.567321	0.889141
	T-Critical	2.131847	1.94318	1.76131	1.729133	1.68023	1.676551
Electricals	T-Statistic	-0.00091	-0.24976	0.037815	-0.12494	0.37866	0.453475
	T-Critical	2.131847	1.94318	1.76131	1.729133	1.68023	1.676551
Finance	T-Statistic	0.432092	0.4634	0.749365	0.649261	0.265039	0.272079
	T-Critical	2.131847	1.94318	1.76131	1.729133	1.68023	1.676551
Food Processing	T-Statistic	-0.3498	-0.68142	-0.20406	0.046329	0.563934	0.69924
	T-Critical	2.131847	1.94318	1.76131	1.729133	1.68023	1.676551

Sources: Authors Compilation

Table-6: Results of One Way ANOVA @ 5% level of Significance

Sector	Period	Event Windows					
		11	15	31	41	91	101
Private Banks	F-Statistic	0.180327	0.278044	1.045579	1.127137	0.190482	0.122972
	F-Critical	5.317655	4.747225	4.195972	4.098172	3.949321	3.938111
Public Banks	F-Statistic	0.000234	0.017312	0.022354	0.02467	0.010856	0.010939
	F-Critical	5.317655	4.747225	4.195972	4.098172	3.949321	3.938111
Cement	F-Statistic	1.065012	1.911067	0.634964	1.932146	1.324759	1.654732
	F-Critical	5.317655	4.747225	4.195972	4.098172	3.949321	3.938111
IT	F-Statistic	0.048219	0.019138	0.271704	0.036657	3.063487	3.819662
	F-Critical	5.317655	4.747225	4.195972	4.098172	3.949321	3.938111
Automobiles	F-Statistic	0.155742	0.393101	0.232968	0.401801	0.232174	0.416895
	F-Critical	5.317655	4.747225	4.195972	4.098172	3.949321	3.938111
Breweries	F-Statistic	0.050744	0.420937	0.205947	0.105678	0.481228	0.39963
	F-Critical	5.317655	4.747225	4.195972	4.098172	3.949321	3.938111
Consumer Goods	F-Statistic	6.75E-05	0.053095	0.693867	0.852336	0.077093	0.051818
	F-Critical	5.317655	4.747225	4.195972	4.098172	3.949321	3.938111
Domestic Appliances	F-Statistic	0.548078	0.81965	0.797159	0.468396	0.034863	0.000235
	F-Critical	5.317655	4.747225	4.195972	4.098172	3.949321	3.938111
Trading Companies	F-Statistic	0.570582	2.112127	2.699333	2.814295	0.018055	0.000906
	F-Critical	5.317655	4.747225	4.195972	4.098172	3.949321	3.938111

Pharmaceutical	F-Statistic	0.548852	0.746901	1.255145	1.19636	0.580374	0.733482
	F-Critical	5.317655	4.747225	4.195972	4.098172	3.949321	3.938111
Tyre	F-Statistic	1.431285	0.679102	0.0086	0.055955	0.335318	0.117526
	F-Critical	5.317655	4.747225	4.195972	4.098172	3.949321	3.938111
Transport and Logistics	F-Statistic	0.135499	0.00884	0.022528	0.007684	0.040274	0.065453
	F-Critical	5.317655	4.747225	4.195972	4.098172	3.949321	3.938111
Telecom	F-Statistic	0.805753	0.611004	0.869824	0.393556	0.149228	0.072677
	F-Critical	5.317655	4.747225	4.195972	4.098172	3.949321	3.938111
Steel Industry	F-Statistic	0.638444	0.529507	0.279951	0.001466	0.204556	0.283138
	F-Critical	5.317655	4.747225	4.195972	4.098172	3.949321	3.938111
Ceramics and Granites	F-Statistic	0.60257	1.125848	0.257261	0.137237	0.179985	0.060318
	F-Critical	5.317655	4.747225	4.195972	4.098172	3.949321	3.938111
Chemicals	F-Statistic	0.009708	0.014887	0.051187	0.006854	0.082009	0.09904
	F-Critical	5.317655	4.747225	4.195972	4.098172	3.949321	3.938111
Tea and Coffee	F-Statistic	0.053297	0.149235	0.149235	0.007502	0.31801	0.746039
	F-Critical	5.317655	4.747225	4.195972	4.098172	3.949321	3.938111
Electricals	F-Statistic	6.62E-07	0.046928	0.001223	0.0191	0.001223	0.129418
	F-Critical	5.317655	4.747225	4.195972	4.098172	3.949321	3.938111
Finance	F-Statistic	0.139415	0.218249	0.593961	0.391246	0.063453	0.073328
	F-Critical	5.317655	4.747225	4.195972	4.098172	3.949321	3.938111
Food Processing	F-Statistic	0.148566	0.285812	0.042482	0.002433	0.320284	0.40158
	F-Critical	5.317655	4.747225	4.195972	4.098172	3.949321	3.938111

Sources: Authors Compilation

Table-7: Results of Wilcoxon Signed Rank Test

Sector	Period	Event Windows					
		11	15	31	41	91	101
Private Banks	Z-Statistic	-0.6742	-0.5071	-0.8519	-0.8213	-0.0959	-0.0338
	P-Value	NA	NA	0.39532	0.41222	0.92034	0.97606
Public Banks	Z-Statistic	-0.4045	0	-0.3976	-0.1637	-0.4853	-0.3523
	P-Value	NA	NA	0.39532	0.41222	0.92034	0.97606
Cement	Z-Statistic	-0.9439	-1.5213	-0.6248	-0.448	-0.8490	-0.771
	P-Value	NA	NA	0.39532	0.41222	0.92034	0.97606
IT	Z-Statistic	-0.1348	-0.3381	-0.284	-0.2987	-1.8568	-1.6555
	P-Value	NA	NA	0.39532	0.41222	0.92034	0.97606
Automobiles	Z-Statistic	-0.4045	-0.5071	-0.6816	-0.2987	-0.3781	-0.4006
	P-Value	NA	NA	0.39532	0.41222	0.92034	0.97606
Breweries	Z-Statistic	-0.1348	-0.8452	-0.568	-0.0747	-0.9086	-0.4489
	P-Value	NA	NA	0.39532	0.41222	0.92034	0.97606
Consumer Goods	Z-Statistic	-0.6742	0	-0.6816	-0.9333	-0.1975	-0.4585
	P-Value	NA	NA	0.39532	0.41222	0.92034	0.97606
Domestic Appliances	Z-Statistic	-0.6742	-0.5071	-0.568	-0.1493	-0.4346	-0.0821
	P-Value	NA	NA	0.39532	0.41222	0.92034	0.97606
Trading Companies	Z-Statistic	-0.9439	-1.0142	-2.2718	-1.3813	-0.7732	-0.1303
	P-Value	NA	NA	0.39532	0.41222	0.92034	0.97606
Pharmaceutical	Z-Statistic	-0.4045	-05071	-0.8519	-0.672	-0.0282	-0.8157
	P-Value	NA	NA	0.39532	0.41222	0.92034	0.97606
Tyre	Z-Statistic	-0.6742	-0.3381	-0.3976	-0.448	-0.9425	-0.6516
	P-Value	NA	NA	0.39532	0.41222	0.92034	0.97606
Transport and Logistics	Z-Statistic	-0.4045	-0.3381	-0.0568	-0.336	-0.2088	-0.0241
	P-Value	NA	NA	0.39532	0.41222	0.92034	0.97606
Telecom	Z-Statistic	-0.6742	-0.3381	-0.7384	-0.896	-0.5023	-0.6902
	P-Value	NA	NA	0.39532	0.41222	0.92034	0.97606
Steel Industry	Z-Statistic	-0.6742	-1.0142	-0.7384	-0.4107	-0.2427	-0.3813
	P-Value	NA	NA	0.39532	0.41222	0.92034	0.97606
Ceramics	Z-Statistic	-0.6742	-0.6761	-0.2272	-0.0373	-0.1072	-0.111

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and Granites	P-Value	NA	NA	0.39532	0.41222	0.92034	0.97606
Chemicals	Z-Statistic	-0.1348	-0.169	-0.3976	-0.448	-0.5813	-0.6612
	P-Value	NA	NA	0.39532	0.41222	0.92034	0.97606
Tea and Coffee	Z-Statistic	-0.4045	-0.8452	-0.3976	-0.2613	-0.9086	-0.588
	P-Value	NA	NA	0.39532	0.41222	0.92034	0.97606
Electricals	Z-Statistic	-0.4045	-0.5071	-0.568	-0.224	-0.5813	-0.6612
	P-Value	NA	NA	0.39532	0.41222	0.92034	0.97606
Finance	Z-Statistic	-0.4045	-0.5071	-1.1359	-1.1946	-0.7168	-0.7771
	P-Value	NA	NA	0.39532	0.41222	0.92034	0.97606
Food Processing	Z-Statistic	-0.6742	-0.6712	-0.1704	-0.5973	-1.3489	-1.3852
	P-Value	NA	NA	0.39532	0.41222	0.92034	0.97606

Sources: Authors Compilation

FINDINGS OF STUDY

Demonetization is one of the very innovative decisions taken by the Prime Minister to curb the black money, terrorism and corruption. This strategic decision had disturbed the entire system of our economy. Stock market is not an exception to it. In this juncture, the researcher has undertaken the current study. The following are the major finding. Among 120 mean abnormal returns (20 industries x 6 windows) 68 mean abnormal returns are higher for post event period and 52 mean abnormal returns are lesser during the same period. Thus, it indicates that in majority of the cases demonetization had positive impact on the stock market.

For 19 industries, post event period standard deviation of abnormal returns is greater than the pre event period standard deviation. Thus it is concluded that majority of the companies have shown higher variations in the stock returns during the post announcement period.

The T test conducted for testing the abnormal returns of each day of 41-day event window shows insignificant abnormal returns for most of the days. Thus, it can be concluded that the demonetization has not resulted in abnormal return for various days of 41-day event windows.

The hypothesis framed in the study is been used by testing, Paired comparison T test, One way ANOVA and Wilcoxon signed rank test. The result of the test conducted shows that none of the test statistic is higher than the critical value @ 5% level of significance. It is true that the demonetization has had no impact on stock returns. Thus, there is enough evidence to accept the null hypothesis "There is no significant difference between the mean abnormal returns during the pre and post demonetization period".

CONCLUSION

India requires a wise decision like Demonetization to eradicate various evils of this country like corruption, black money, unequal distribution of income, poverty, illegal political activities etc. The success of this kind of program highly depends upon the way it is accepted by the citizens of the country. In the present study according to mean abnormal returns it is found that the stock market had reacted negatively in the short run and as per the standard deviation, there were higher variations in the returns during the post demonetization period. However, the results of the hypotheses tested reveals the fact that the stock market was not affected significantly by the decision of Demonetization. Thus, it can be concluded that even though the investors were confused in their decision during the early days of Demonetization, they started understanding the importance and relevance of this kind of gentle decision of the Prime Minister.

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