A STUDY ON THE IMPACT OF ETHANOL ON THE PERFORMANCE OF SUGAR SECTORAL STOCKS IN INDIAN STOCK MARKET

PROJECT REPORT

Submitted in partial fulfilment of the requirement for the award Degree

MASTER OF BUSINESS ADMINISTRATION

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2020-2022

UNIVERSITY OF CALICUT

BONAFIDE CERTIFICATE

Certified that this project report "**A STUDY ON THE IMPACT OF ETHANOL ON THE PERFORMANCE OF SUGAR SECTORAL STOCKS IN INDIAN STOCK MARKET**" is the Bonafide work of Mr. ABISON ELDHO (YPAUMBA001) who carried out the project work.

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Certified that this project report "**A STUDY ON THE IMPACT OF ETHANOL ON THE PERFORMANCE OF SUGAR SECTORAL STOCKS IN INDIAN STOCK MARKET"** is the Bonafide work of Mr. ABISON ELDHO (YPAUMBA001) who carried out the project work under my supervision.

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This is to certify that Mr. Abison Eldho (Reg No. YPAUMBA001), MBA student of Naipunnya Business School Pongam, Koratty East Thrissur, has successfully completed his Project Report on the topic "A STUDY ON THE IMPACT OF ETHANOL ON THE PERFORMANCE OF SUGAR SECTORAL STOCKS IN STOCK MARKET" under my guidance from 14th July 2022 to 08th September 2022 as a part of his academic studies.

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DECLARATION

I, Abison Eldho hereby declare that the Project Report entitled **"A STUDY ON THE IMPACT OF ETHANOL ON THE PERFORMANCE OF SUGAR SECTORAL STOCKS IN INDIAN STOCK MARKET**" has been prepared by me and submitted to the University of Calicut in partial fulfilment of requirements for the award of the Master of Business Administration, is a record of original work done by me under the supervision of **Dr. Suraj E S**, Associate Professor of Naipunnya Business School, Pongam, Koratty East, Thrissur.

I also declare that this Project work has not been submitted by me fully or partly for the award of any Degree, Diploma, Title or recognition before any authority.

Place: Pongam, Thrissur **Abison Eldho**

Date: **(Reg. No: YPAUMBA001)**

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I am thankful to all who have contributed directly or indirectly for the compilation of this project. I would also wish to thank my dear parents and friends those who helped me for the successful completion of the project.

Place: **ABISON ELDHO**

Date: **YPAUMBA001**

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INTRODUCTION

1.1 INTRODUCTION

Ethanol has taken away the import of petroleum products! The ethanol blending policy of the government would certainly take away the unwanted imports from various nations that we are taking now to full fill the needs. The exporting policy of India on the ethanol will be certainly helps to reduce the BOP deficit of our nation to an extent. Many of the huge marketers even don't know about the importance of Ethanol in the market for developing the market for a commodity. The OMC (Oil Marketing Companies) had a good target in blending of ethanol with the petrol. It can easily take away the scarcity of financial stability that has happened in our nation due to the pandemic crisis and it will be certainly turned out into a huge asset for our nation in the future as a bio asset. It not only helps our nation to build up a good economy but also help the sugar sector of our nation to get back into track by increasing the sale and export of ethanol and sugar which is manufactured from the same raw material i.e., sugarcane. And the sugar sector opens a huge investment opportunity in the market.

Sugar is the unavoidable commodity for the human being in their daily life. It is one of the FMCG products which has high sales in the market. In India there are a lot of sugar manufacturing industries, currently there are about 732 sugar mills working in India as per the reports published by ISMA (INDIAN SUGAR MILLS ASSOCIATION). The Indian sugar itself has an annual output worth approximately Rs. 80,000 crores. In the current supply ethanol year till 10 July 2022, the total contracted quantity of ethanol were 444.42 crores. Out of this 444.42 crore liters 362.16 crore liters of ethanol was supplied from the Indian sugar itself. There are a number of unregistered sugar manufacturing industries in India too. In the ranking of sugar producers in the world India is in 2nd and Brazil is in the 1st rank among the world. Moreover, Brazil is the nation who is an largest consumer of sugar in the market.

Recently from the reports of ISMA, our nation's development in sugar mills is extraordinary. During the period of COVID-19, 502 sugar mills across the

nation started their operations from 1st October 2020 to 28th February 2021. And they had produced 233.77 lac tons of sugar as of 28th February 2021. Now the sugar industry is a huge beneficiary of the Ethanol blending with petrol which is another policy of the government of India. The ISMA has a set a target of 12 % ethanol blending with petrol is expected to be achieve with 545 Cr. liters of total supply of ethanol in the financial year of 2022-23. The government has a target for blending gasoline with ethanol by 20 % by the year of 2025 has been already planned. This policy is made up due to the main factor where the sugar mills can easily divert the sugarcanes as raw material for sugar as well as for ethanol. Therefore, in this study we will look on to the future of sugar sector and the ethanol in the capital market for the development of our nation as well as the investor's perspective. And to identify the ways in which it will help in our BOP statement and reduction of the gasoline prices.

1.2 STATEMENT OF THE PROBLEM

The formulation of the government policies in this particular area of ethanol and sugar sector has a vast opportunity for the government and for the investors in the market. The question in this study is that how does the ethanol blending policy helping the Indian economy and the global impact of it is being made in the market? There are several studies which has focused on the ethanol policy and its pros and cons for Indian economy and comparison with other commodities like oil, gas, etc. But no other studies focused on measuring the impact and efficiency of the sugar stocks and suggested the best stock from the sugar sector by analysing the ethanol and its impact over its performance.

1.3 OBJECTIVES OF THE STUDY

The following are the objectives of the study:

- To know the impact of ethanol on the performance of sugar sectoral stocks in the sugar market.

- To identify the most influential sugar sectoral stock based on the future of ethanol in the Indian stock market.

1.4 SCOPE OF THE STUDY

This study aims to have a detailed analysis on the ethanol blending policy of the Indian government and to identify the impact of ethanol on the performance of the sugar stocks in the Indian market. The EBP has shown much reflection on improving the performance of the sugar stocks in Indian market. Moreover, the ethanol blending policy have a greater advantage to the economy of Indian market will analysed thoroughly.

1.5 SIGNIFICANCE OF THE STUDY

The govt of India has started the ethanol blending petrol (EBP) programme was launched in the year of 2003, January. The programme was all about to promote the use of alternate and environmentally friendly fuels in order to reduce the dependency for energy requirements as an import from other countries across the world. During the past 5 to 6 years the government is more concerned about the EBP. As a result of that it has reflected in the performance of the sugar stocks in the Indian stock market the sugar sector is one of the rapidly growing environments in the market with increase in the price of shares and it is attracting FDI, FII more to our nation. The export of our nation in this sector is gaining more strength than any other sector and this study will give a detailed analysis on the impact of ethanol on the performance of individual sugar stocks listed on SEBI and also to showcase the sugar stocks for better investments for a better portfolio for the investors.

1.6 SUGAR INDUSTRY

India is of the largest consumer of sugar in the entire world. In India the sugar industry is one of the most important agro - based industry which impact the

livelihood of about more than 5 crore farmers and their family members and approximately more than 5 lakh peoples had been directly employed with the sugar mills in India. Currently there are 732 sugar factories installed in the country with crushing capacity of about 340 lakh MT of sugar and annual turnover of these 732 sugar mills has been valued more than Rs 80,000 crore per year. The 732 sugar mills in India consist of 327 mills in co-operative, 362 mills in private and only 43 mills are there in the public sectors of Indian economy.

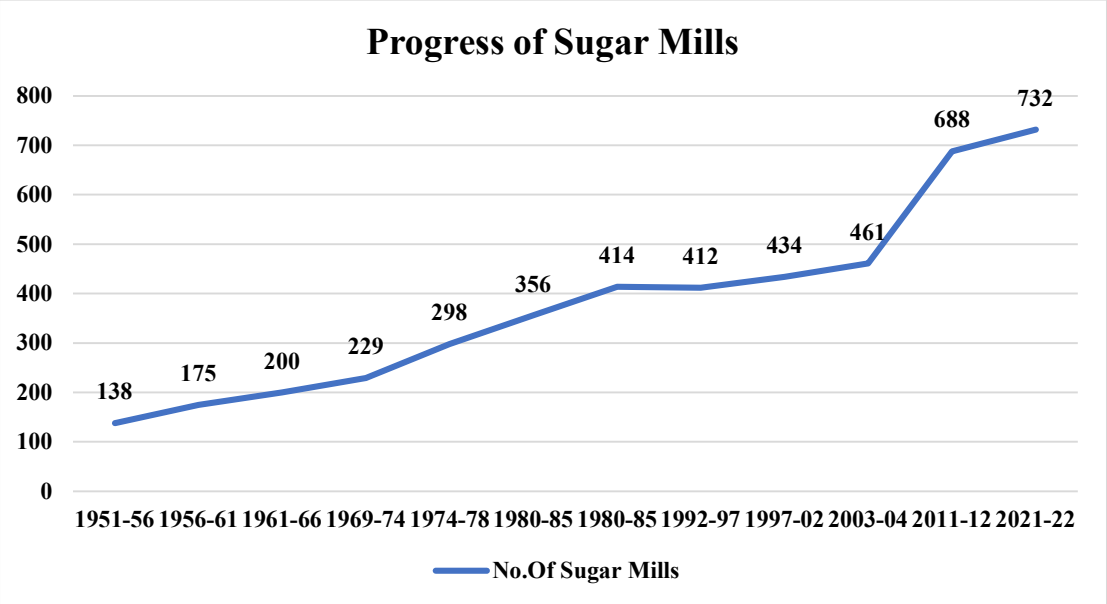
1.6.1 State Wise Sugar Industries in India

In India there a lot of small, medium and small sugar industries has been established. Many of them were incorporated based on the environment structure and some of the industries were established with the view of seeing the rapid growth in the sugar sector itself. During the time period the number of sugar mills were stopped their operations due to the poor financial stability and the lack of support from the government to taken care of the sugar sector. Likely the impact of ethanol in the global market has helped for the increased number of sugar mills in India soon after the pandemic hit the world about 502 mills has ben started their operation India which is now in total 732 sugar mills are operating in the sugar sector with the greater output of sugar, sugarcane and other by products of it. The current number of sugar mills which are operating in each of the states all over India has been show in the following table.

Sl.No	STATE/ UT	No. Of Sugar Mills
1	Uttar Pradesh	53
2	Maharashtra	173
3	Karnataka	41
4	Tamil Nadu	38

5	Bihar	28
6	Gujarat	17
7	Haryana	14
8	Andhra Pradesh	12
9	Punjab	16
10	Uttarakhand	7
11	Madhya Pradesh	26
12	Delhi	14
13	West Bengal	2
14	Others	291
	All India	732

1.6.2 Year Wise Incorporation of Sugar Industries



The above line chart shows the progress in the number of sugar mills which is being incorporated in India from the time period of 1951 to 2022. The first 138 sugar mills India which was established in India as part of the first five-year plan of the government at that time. Later on, the number of sugar mills incorporated in each sugar mills were increased rapidly. Now at the end of FY 2021-22 we have 732 sugar mills in total which has been incorporated in India legally. Before the time of covid 19 crisis, in India we were only having nearly 600 companies in operation. But when the covid crisis occurred and by knowing the scope of ethanol in the market and the future of the sugar industries were identified by the small, medium and large-scale enterprises in the Indian economy. As a result, for that knowledge the number of sugar mills in India has been increased rapidly with the manufacturing of sugar as well as the ethanol in the market. While looking into chart the we can only see the number sugar mills incorporated in various time periods. There were lot of companies which has been stopped their operations due to poor financial stability and lack of employees due to poor payment to them.

1.6.3 State Wise Sugarcane Production of India

Rank	STATE/ UT	2017-18	2018-19	2019-20	2020-21	2021-22
1st	Uttar Pradesh	177.03	179.71	179.54	177.67	180.11
2nd	Maharashtra	82.98	89.77	69.31	101.59	110.88
3rd	Karnataka	31.14	42.41	38.18	42.09	48.51
4th	Tamil Nadu	17.15	17.14	14.12	12.8	10.38
5th	Bihar	13.83	20.12	13.58	10.71	14.76
6th	Gujarat	12.07	11.33	11.57	15.85	12.82
7th	Haryana	9.63	8.51	7.73	8.53	9.07

8th	Andhra Pradesh	7.8	8.09	6.72	4.12	3.88
9th	Punjab	8.02	7.77	7.3	7.49	7.46
10th	Uttarakhand	6.27	6.33	6.94	6.96	7.54
11th	Madhya Pradesh	5.43	5.28	7.43	5.88	5.67
12th	Telangana	2.6	3.18	2.01	1.36	2.10
13th	West Bengal	1.13	1.34	1.53	1.56	1.65
14	Others	4.82	4.45	4.53	2.64	7.12
	All India	**379.9**	**405.42**	**370.5**	**399.25**	**419.25**

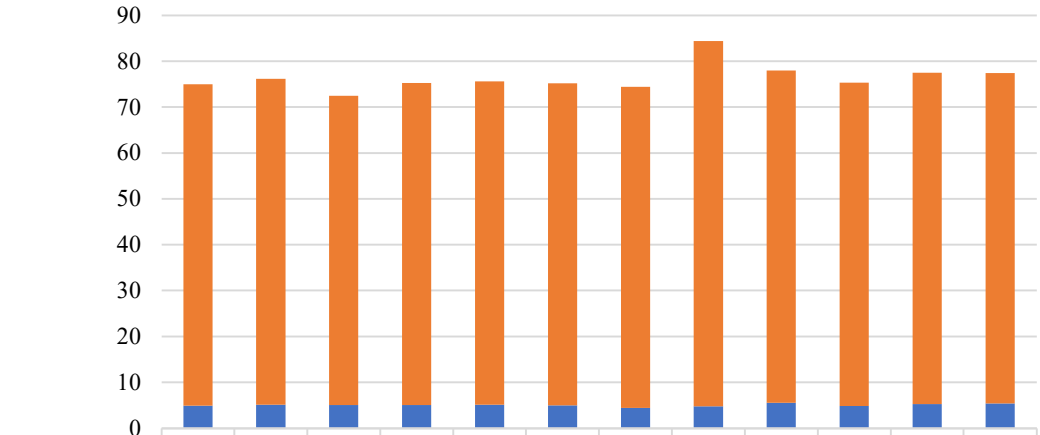
The above table shows the state wise production sugar cane in India for the four financial years in our nation. The productivity of sugarcane in India has been tremendously increased over the past years. The major reason being such increase in the production of sugarcane is because of the EBP Programme of the government and the various proposals approved. The above chart shows the growth of the sugarcane production and on the basis of the production the states has been also ranked.

The state UP has been on the top position with higher productivity of sugarcane in the market. And the state was able to give a stable output on sugarcane production in all the sugar seasons. UP is maintain their output on a stable manner with more than 180 MT of sugarcane production in the FY 2021. The All-India production is the FY years are like 379.9, 405.42, 370.5,399.25 and 419.25 in the FY 2017-18 to 2021-22. Among this total production the major productivity was done by the UP itself.

The state Maharashtra is the 2nd largest producer of sugarcane in India. The production unit of sugarcane by the state is being increased on a consistent manner in the sugar seasons. And in the FY of 2021-22 this state was able to get a

amount of 3074.88 crore rupees from the government for the purpose ethanol projects from the sugarcane. Thus, it become stronger state for the increased production of sugarcane.

1.6.4 Sugarcane Area and Yield in India



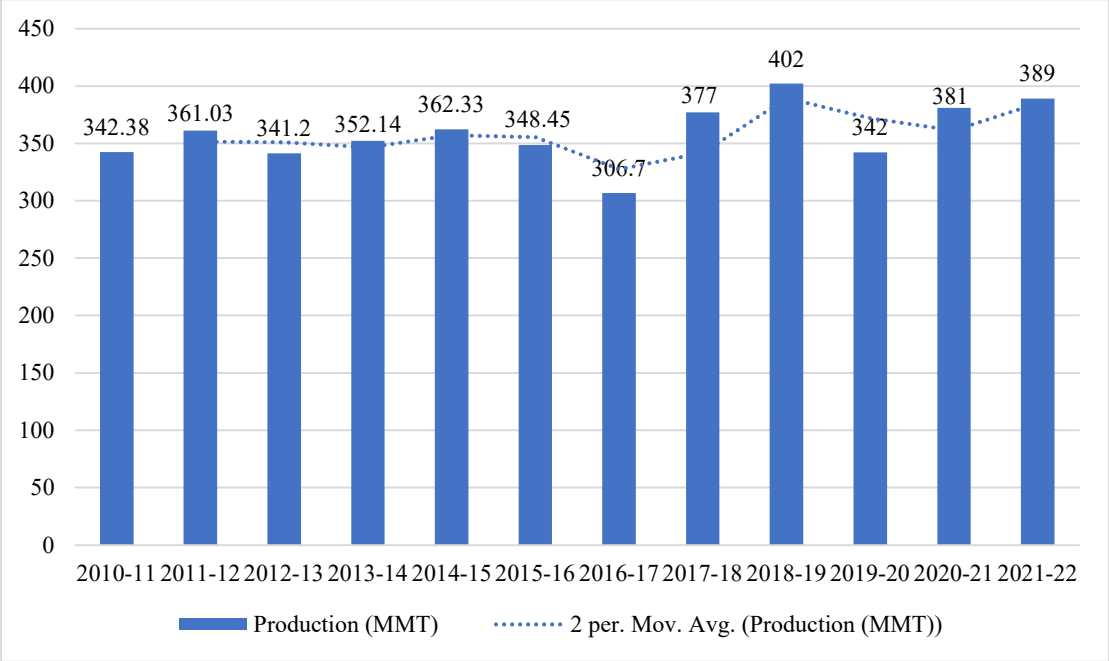
	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Yield (MT/Ha)	70.09	71.07	67.38	70.26	70.44	70.25	70.02	79.7	72.43	70.48	72.18	72
Area (MHA)	4.89	5.08	5.06	5.01	5.14	4.96	4.38	4.73	5.55	4.85	5.28	5.41

The above chart shows the 12 years data on the sugarcane production area and the yield made from them. In the FY 2010-11 the total area of India in the production process of sugarcane in total was only 4.89 MHA, but the yield from it was made to 70.09 MT/Ha. In each years the area of production used to cultivate sugarcane were increased continuously, except in the FY of 2015-16, 2016-17 there were severe issues occurred in the economy and due to poor financial stability in market and it also caused the producers to stop their operations on the manufacturing the sugarcane.

From the next FY 2017-18 onwards the sugar sector has been keenly raised back to the increased production in the market. Even the covid 19 hit the sector as well it has caused an fall in the yield of production but due to increased demand for the alcohol based hand sanitizers in the market it made the sugar sector to get back in

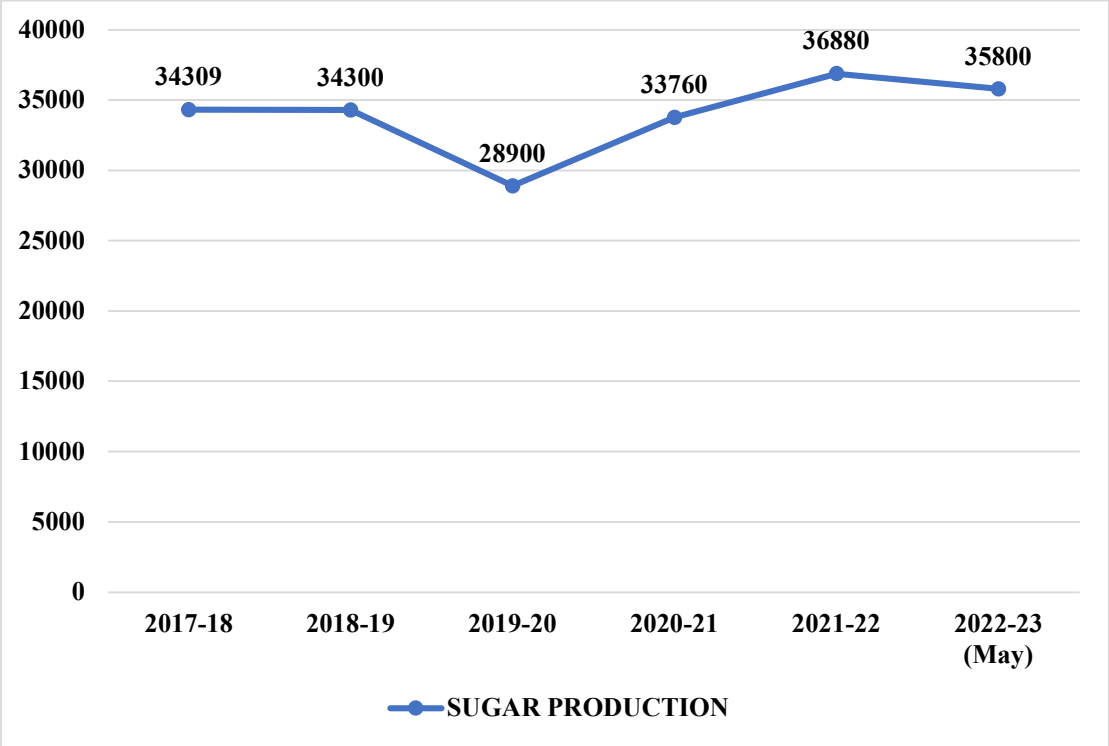
the business. At the end of FY 2021-22 the area which was utilised for the sugarcane production was 5.41 MHA and from this area the total yield made by the farmers or by the manufacturers were 72 MT/Ha. This itself shows the positive signal to this sector were more than 50,000 peoples are engaged in the process.

1.6.5 Sugarcane Production of India



The chart on Sugarcane Area & Yield has shown the utilisation of the areas in Indian economy only for the manufacturing or cultivating the sugar in the market. The chart has also shown the yield which had been made by the manufactures in the market during the time period of FY 2010-11 to FY 2021-22. In this above shown graph it shows the production which has been made through the area and the yield made through it. The actual production of sugarcane in the Indian economy is going on a stable manner apart from the fall occurred in the FY 2016-17. However, even from the fall in the production during the FY it had been taken away through the increased production by utilising the whole areas and the increased yield of sugarcane has been seen in the sector. It is why the total production of 306.7 MMT in the FY 2016-17 has been increased to 389 MMT in the FY 2021-22.

1.6.6 Sugar Production of India



The above shows the data of sugar production in India form the FY 2017-18 to FY 2022-23 (May). In the FY 2017-18 & 2018-19 the total production of the sugar has a stable production which is seen in the market. But when it comes to the FY 2019-20 in India, we were having a fall in the total sugar production due to the climatic conditions in the areas. During the sugar season of 2019-20 the errant monsoon has caused a downfall in the overall production of the sugar during the time. The downfall which has happened in the season of 2019-20 has recovered by the sugar sector with the higher production of 33760 tonnes. In the FY of 2021-22 and FY 2022-23 has also shown a tremendous growth in the overall production of sugar in the seasons. Especially in the FY 2022-23 till the month of May 2022, the overall sugar production is at 35800 tonnes. This much of growth in the production will lead to the higher production increase up to 2x or 3x more than earlier FY when this FY closes on March 2023.

1.6.7 Country Wise Sugar Production (1000 Metric Tons)

Sl. No	Country	2017 - 18	2018 - 19	2019 - 20	2020 - 21	2021 - 22
1	Brazil	38,870	29,500	30,300	42,050	35,350
2	India	34,309	34,300	28,900	33,760	36,880
3	European Union	19,508	16,750	17,040	15,913	16,505
4	Thailand	14,710	14,581	8,294	7,587	10,230
5	China	10,300	10,760	10,400	10,600	9,600
6	United States of America	8,430	8164	7,392	8,376	8,373
7	Pakistan	7,225	5,270	5,340	6,505	7,140
8	Russia	6,560	6,080	7,800	5,625	6,000
9	Mexico	6,371	6,812	5,596	6,058	6,537
10	Australia	4,480	4,725	4,285	4,335	4,120

In the global world over the decades the top 10 largest producers of the sugar in the world market are Brazil, India, EU, Thailand, China, USA, Pakistan, Russia, Mexico and Australia. In the above table it shows the country wise sugar production of 5 financial years. In the table it is clearly present that the Brazil is in the dominant position all over the world with higher production of sugar. In Brazil they have vast production of sugarcane which has led to higher productivity. Even though in the last FY 2021-22 the production of sugar in Brazil has been depleted to 35,350 MT from 42,050 MT in the FY 2020-21. And the analysts also expect that the overall sugar production of Brazil will be also fallen in the FY 2022-23. This fall is

happening due to the sugar mills in Brazil is being shifting to Ethanol production. And the govt of Brazil is giving lot of support and financial assistance to the sugar sector in there.

While looking on to the status of India in the production of sugar in the market each year the overall production of sugar is in a increasing path. The sugar production in the FY 2017-18 34,309 MT in the overall market has been increased to 36,880 MT in the end of FY 2021-22. This shows the improvements made by Indian government in supporting the sugar sector by implanting various policies and regulations for the development of the sugar sector and the companies in it. The major reason behind the increased production of sugar in the Indian market is because of the Ethanol Blending Policy which was introduced by the govt in 2003. Even if the policy has been introduced in 2003 it didn't get much importance in economy. But when the govt strengthened their policies, it has made a positive impact all over the Indian sugar sector and it has also reflected on the increased performance of the sugar sector.

And in the table of country wise sugar production the countries like United States and China are in 5th and 6th position in world market for the production of sugar. And these two countries are also the major importer of sugar in the market with 2nd and 3rd position as per the data shows in the global market.

1.6.8 Country Wise Sugar Exporting (1000 Metric Tons)

Sl. No	Country	2017 - 18	2018 - 19	2019 - 20	2020 - 21	2021 - 22
1	Brazil	28,200	19,600	19280	32,150	26,650
2	Thailand	10,907	10,612	6695	3,739	10,000
3	India	2,236	4,700	5800	7,462	8,780

4	Australia	3,600	3,735	3,600	3,400	3,300
5	Guatemala	1,881	2,125	1,858	1,395	1,740
6	Mexico	1,146	2,337	1,285	1,235	2,053
7	European Union	4,349	2,411	1,459	1,259	1,300
8	Pakistan	1,600	1,100	75	0	500
9	Colombia	732	801	778	680	710
10	South Africa	768	1,041	1,451	1,007	595

This table shows the country wise exporting of sugar over the last 5 FY in the market. Here also it is clear that the Brazil is the largest exporter and producer of sugar in the market. However due to the shift of sugar mills to the production of ethanol and reduced focus in the sugar production has declined their total exporting of sugar in the market. It has resulted to the fall of 5500 MT sugar exporting in a single FY. By taking look on to the previous FY of Brazil in the market of export they had made a major hike in exports in the FY 2020-21 with an increase of 12870 MT export more than in the FY 2019-20 19280 MT.

While looking in the case of India on the exporting of sugar in the global market, in each financial year the overall export of sugar is being increased. Even during the pandemic period in which all the countries were had a severe fall in the overall export of sugar in the market. But India was able to export 7462 MT of sugar in the market during the FY 2020-21. The major reason was because of the favourable sugar season and the climatic conditions of India. Thus, we were able to produce more output. The graph of the sugar export of India is also a positive signal which has also attracted the various FII, DII to invest more in the sugar sector. Thus, the investments made by the FII, DII, and institutions had been a favourable for

developing the sugar sector and the result of it was the increased production and exporting of the sugar to other nations. The major importers of sugar from India are; Indonesia, Afghanistan, Sri Lanka, Bangladesh, UAE, Malaysia and African Countries. India has exported 75 lakh tonnes of sugar to these countries in this current marketing year.

1.6.9 Country Wise Sugar Importing (1000 Metric Tons)

Sl. No	Country	2017 - 18	2018 - 19	2019 - 20	2020 - 21	2021 - 22
1	Indonesia	4,325	5,362	4,758	6,124	5,530
2	China	4,350	4,086	3,808	6,340	4,500
3	United States of America	2,972	2,785	3,778	2,898	3,147
4	Bangladesh	2,654	2,429	2,397	2,351	2,595
5	Algeria	2,261	2,328	2,469	2,258	2,402
6	Malaysia	2,002	2,139	1,966	2,142	2,190
7	South Korea	1,864	1,999	1,926	1,934	1,945
8	Nigeria	1,870	1,870	1,890	1,880	1,930
9	United Arab Emirates	2,797	1,579	751	1,785	1,600
10	India	2,071	1,300	900	1,243	1,000

The above table shows the country wise import of sugar in the world market. The major importers of sugar in the market are Indonesia, China, USA, Bangladesh, Malaysia and India is the major exporter of sugar to these countries. In the current marketing year itself overall by these countries they had totally imported

75 lakh tonnes of sugar. Even though India is also an importer of sugar which is ranked at lower pace. The government of India has implemented strict rules to reduce the importing of sugar into the Indian economy from various nations. As a result, to the restriction the import of sugar by India has been reduced in each of the financial year. From the import of 2071 MT in the FY 2017-18 has been reduced to 1000 MT in the FY 2021-22. In order improve the export of sugar to other nations the govt of India has decided to permit the export of sugar up to 100 LMT with the view on maintaining the domestic availability and the stability of price in the sugar seasons. This was implemented with a view of reducing the import of sugar and to strengthen the exports to much greater extent in the market.

1.7 ETHANOL & SUGAR INDUSTRY

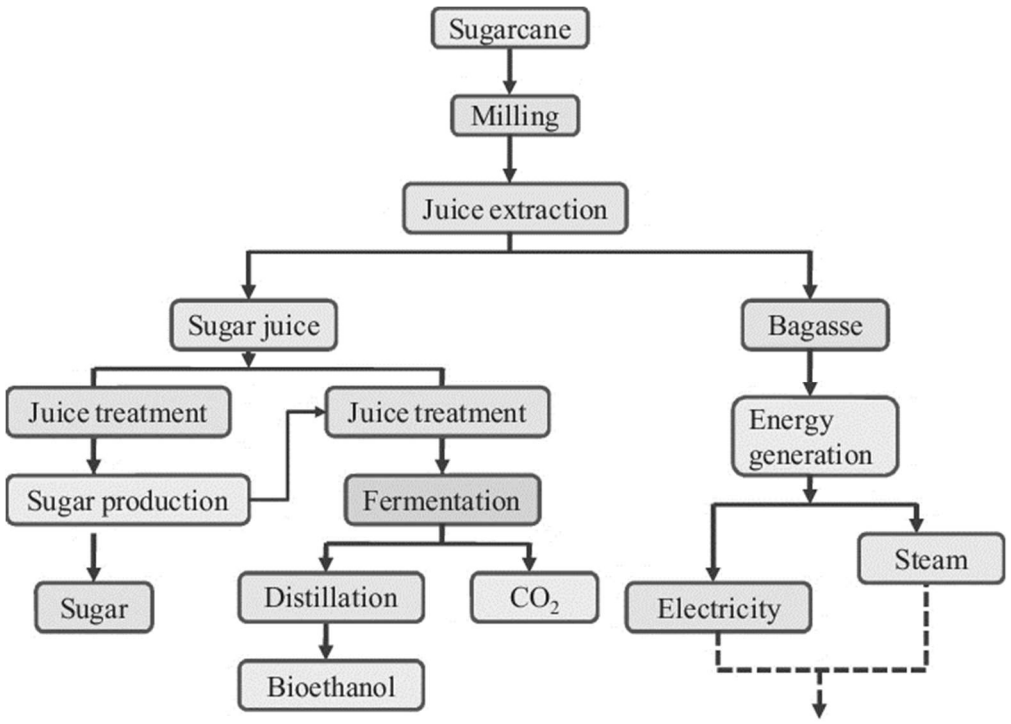
Ethanol is an alcohol also called ethyl alcohol or grain alcohol that is produced through a petrochemical process, from plants which includes sugar beet and wheat. Ethanol is the bio fuel which is being manufactured as a by-product of sugarcane. Ethanol is an alcohol with 99%-plus purity. It is now being used for blending with petrol. The normal rectified spirit which is being used for potable purposes has only 95% alcohol content. It is possible to run cars on pure ethanol and it has been seen effectively performing in Brazil for decades. Ethanol from the biomass can be produced from any kind of feedstocks that is containing any amount of appreciable sugar or the materials that can be converted into sugar. And it is also estimated that the ethanol production will be able to facilitate the diversion of excess sugarcane and sugar for the production of ethanol. This process will lead to make the sugar mills more profitable and also helps the farmers and peoples related to it. Similarly, it will be leading for a better price due to higher yields on ethanol in the domestic and international market.

In the earlier time period in which the EBP – Ethanol Blending Policy was implemented by the government of India the companies and the investors in the market didn’t gave much importance to the impact which is capable of ethanol. Now both the investors and the sugar industries has identified the importance of ethanol in

the market and the impact of it in each of the small, medium and large manufactures in India. When the price of petrol is being increased day by day since the past few years in India the ethanol turns to be cheaper than petrol in the market. And as a result of that the investors founded out the opportunity which is being opened up by the ethanol blending policy of the government of India. Thus, through the EBP of the government of India the price of the petrol will be cut downed to half of its price now it has.

The India's oil marketing companies (OMC) had a target of blending of ethanol with the petrol, which they had a blending target of 10% by the current year 2022 and a target to increase the blending up to 20% in the financial year of 2025. The sugar sector of our economy has diverted the sugarcane as the major raw material for producing ethanol from sugar. It was made because of the ethanol blending policy made by the government of India. By this it will ensure that not only the sugar manufacturing companies would make the profit from ethanol, but also in sugar. It is happening due to the oversupply of sugar has been reduced, thus the price of sugar will become beneficiary of it by having the support.

1.7.1 Ethanol Production Process



The raw materials that contain sugars, or materials which might be remodelled into sugars, may be used as fermentation substrates. The possible raw materials can be classified as directly fermentable sugar materials, starchy, lignocellulose materials and urban or industrial wastes. Sugar containing materials need the smallest amount expensive pre-treatment, wherever starchy, lignocellulose materials and urban/industrial wastes required costly pre-treatment, to convert into fermentable substrates. Sugar containing materials which can be transformed into aldohexose, can be used as fermentation substrates underneath anaerobic conditions, glucose is born-again to ethyl alcohol and carbon dioxide by glycolysis. The phosphorylation of carbohydrates is distributed through the metabolic pathway and also the finish merchandise are 2 moles of ethyl alcohol and CO_2.

1.7.2 Ethanol Blending Policy (EBP)

In 2003, the Government of India has launched the Ethanol Blended Petrol (EBP) programme with a view of promoting the environment-friendly fuels by increasing the usage of ethanol and also to reduce imports of energy fuels from other countries to an extent. The programme was made with the objectives like to increasing the usage of biofuels, reducing import dependency on other nations and also to control carbon emissions in the environment. Thus, the EBP programme injects the liquidity into the sugarcane sector by providing a sustained demand for ethanol in the market. The EBP helps to a greater extension in the reduction of accumulated arrears and it will be also permitting a timely compensation for the sugarcane farmers in the Indian economy. This EBP programme was introduced as a pilot project and it turns out to be the best project for the development of the economy and increased exports and reduced imports of fuels in the market. And It was implemented the OMC through a network of 186 depots by drawing ethanol from 179 distilleries with an installed ethanol producing capacity of 305 crore litres.

In order to encourage the domestic production of ethanol the Government of India made certain amendments to the industries (Development and Regulation) Act, 1951. Such as to legislate an exclusive central control over the

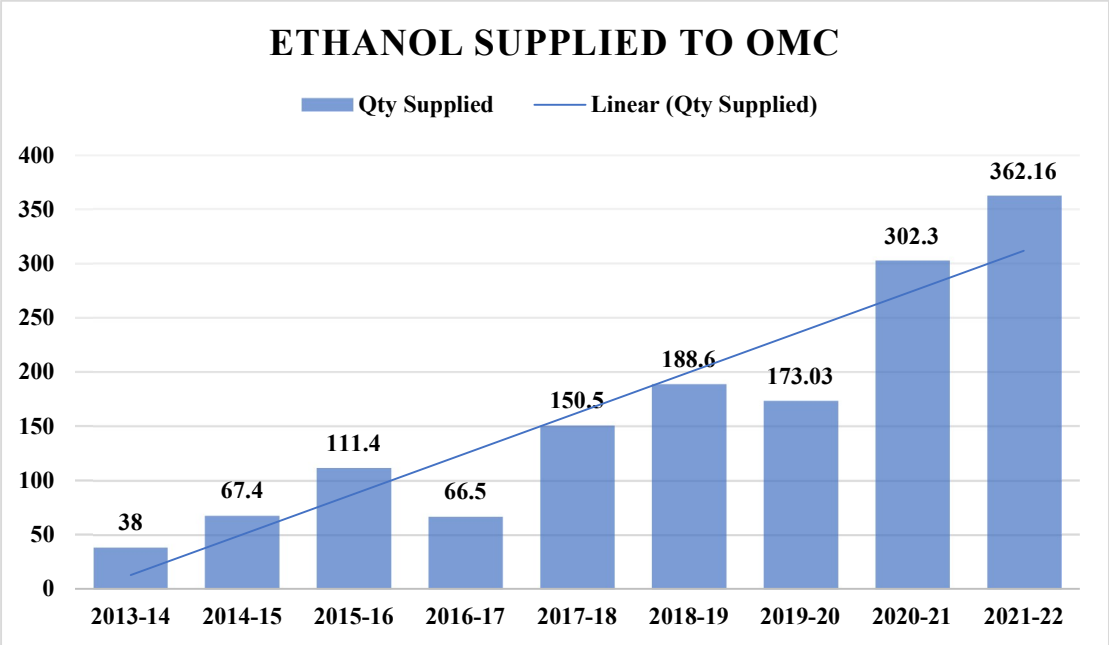
denatured alcohol in the market, reduction of GST levied on ethanol for EBP to 5%, administered price mechanism will be reintroduced and the expansion of the programme & the opening up of the alternate production routes. And the government has adopted different pricing methods in order to boost the supplies of ethanol for the EBP programme.

The cabinet committee chaired by the Prime Minister of India on the Economic Affairs had given approval for fixing the higher ethanol price which is being derived from different sugarcane based raw materials under the EBP Programme for the sugar season of 2021-22 during ethanol supply year of 2021-22. The price for the ethanol from C heavy molasses has been increased to Rs. 46.66 per litre from Rs. 45.69 per litre. The price for the ethanol produced from B heavy molasses will be increased to Rs. 59.08 per litre from Rs. 57.61 per litre. The price of ethanol from sugarcane juice, sugar & sugar syrup will be increased from Rs. 62.65 per litre to Rs. 63.45 per litre.

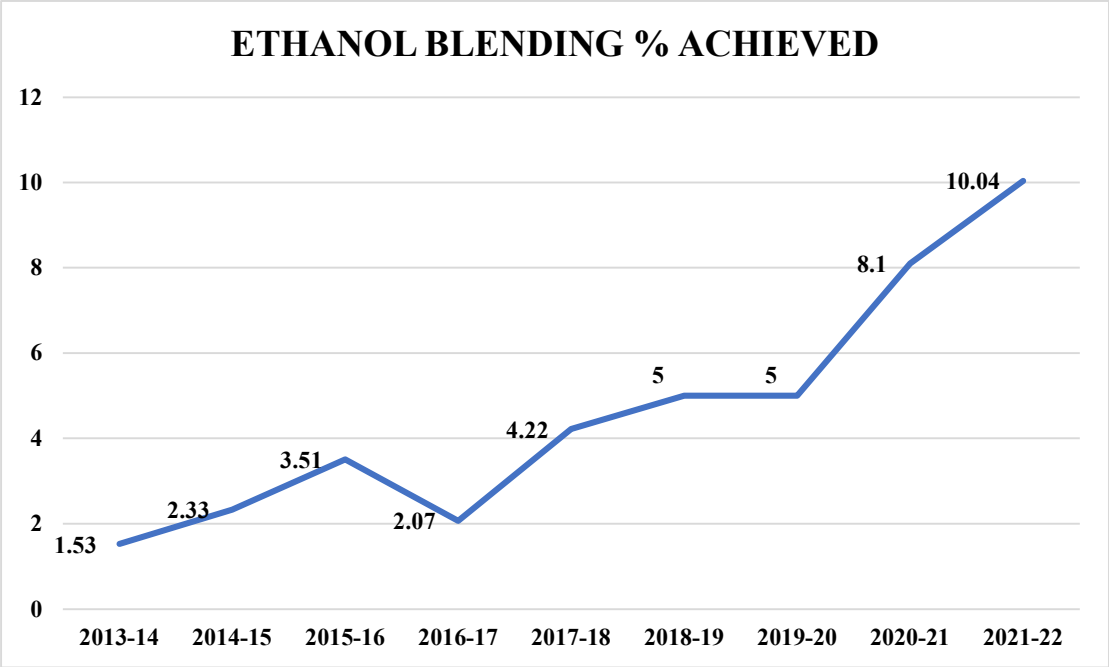
FINANCIAL YEAR (FY)	**ETHANOL BLENDING (IN %)**
2018-19	6
2019-20	7
2020-21	8.5
2021-22	10
2022-23	12
2023-24	15
2024-25	20
2025-26	20

The above table shows the ethanol blending policy of the government of India from the ESY (Ethanol Supply Year) 2018-19 to the ESY of 2025-25. The government of India is encouraging the sugar mills in India to divert the excess of sugarcane to manufacture ethanol as a by-product. As a result of that the government has a target of 10% ethanol blending with petrol in the FY of 2021-22. And also, the

govt has fixed a target of 20% blending of fuel grade ethanol with petrol in the FY 2024-25. In each year from the time in which the government sees an improvement in achieving the blending target by the sugar mills in the nation, for the next FY the blending target will be increased slowly. From the percentage of 6% in 2018-19 the blending target for the FY of 2025-26 has been decided as 20%. It is done by understanding the capability of the sugar mills Indian economy and the scope of ethanol blending in the global market itself.



Till the time period of 2014, the ethanol distillation capacity of molasses-based distilleries were less than about 200 crore litres. And the supply of ethanol to OMCs was having only 38 crore litres with the blending achievement of 1.53 % in ethanol supply in the FY 2013-14. In past years there are a lot of policy changes has been made by the Government. As a result of the policy changes the capacity of molasses-based distilleries has been doubled to 519 crore litres from 200 crore litres. The capacity of grain-based distilleries in the current scenario is 258 crore litres. In the current supply ethanol year till 10 July 2022, the total contracted quantity of ethanol were 444.42 crores. Out of this 444.42 crore litres 362.16 crore litres of ethanol were supplied from the Indian sugar itself as export through the EBP of Indian government.

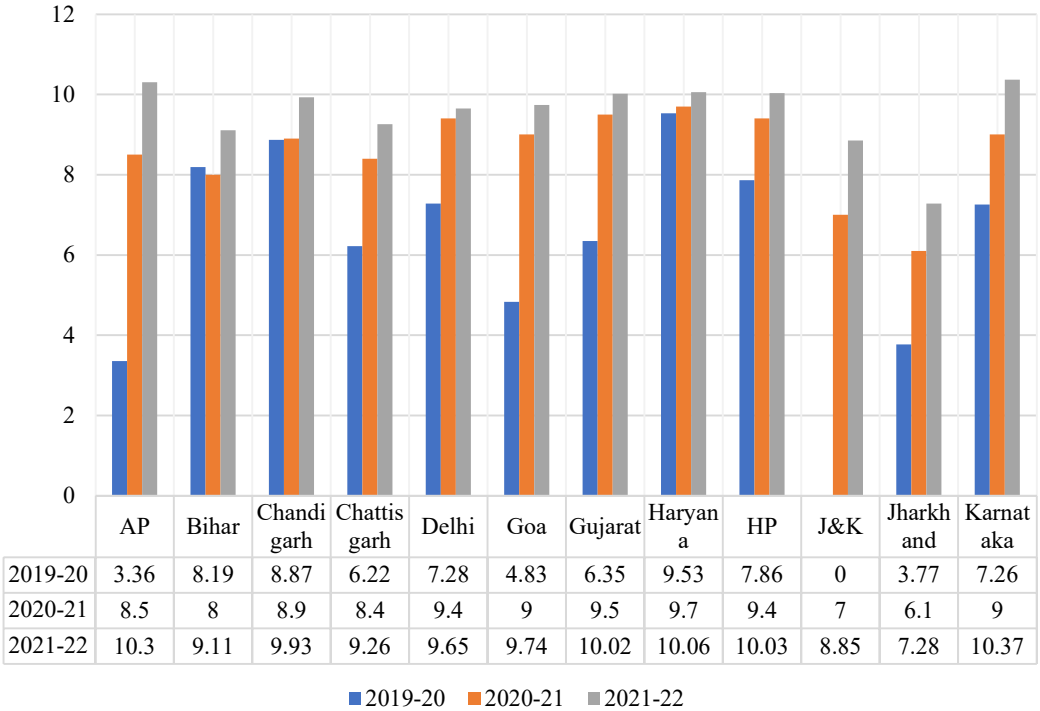


The production of fuel grade ethanol as part of the petrol blending policy of the government and its supply to OMCs has increased to 5 times more in 2018-19 from the supply made in 2013-14. In Ethanol Supply Year 2018-19, 189 crore litres of ethanol were supplied and also achieved 5% blending against the 6% of blending target set by the government. And in the previous ESY of 2020-21 around more than 302 crore litres of ethanol were supplied to OMCs and thus it helped achieve 8.1% ethanol blending levels against the 8.5% blending target made by the govt. In order to support the sugar sector and also to protect the interest of farmers in this sugar sector, the Government has also permitted for the production of ethanol from sugar, sugarcane juice, B-Heavy Molasses, and sugar syrup.

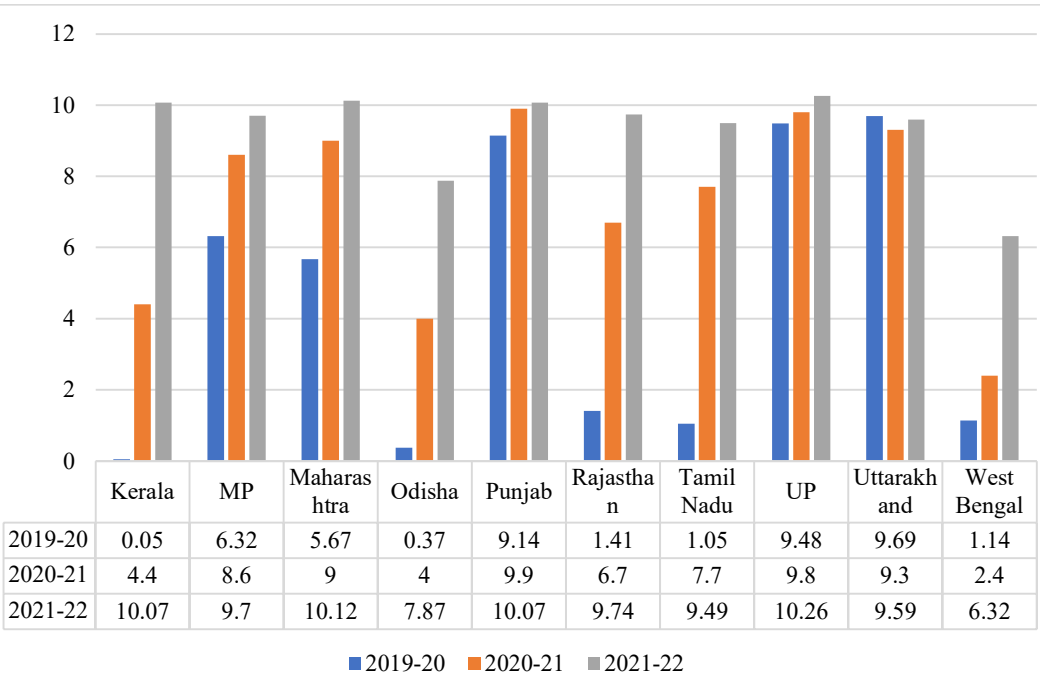
In sugar seasons of 2018-19 around 3.37 LMT and in 2019-20 around 9.26 LMT of sugar were diverted to ethanol. In the previous sugar season of 2020-21, around more than 20 LMT of excess sugar had diverted to ethanol. And in current sugar season of 2021-22 about more than 35 LMT of excess sugar has been diverted to ethanol. The target for the sugar season of 2025-26 is to divert minimum of 50-60 LMT of excess sugar to ethanol, and thus it would lead to solve the problems of high

inventories of sugar and also the improvement in the liquidity of mills. Through this it will result on the timely payment of sugarcane dues of farmers in the sugar sector.

1.7.3 Blending % Achieved by States under EBP



	AP	Bihar	Chandigarh	Chattisgarh	Delhi	Goa	Gujarat	Haryana	HP	J&K	Jharkhand	Karnataka
2019-20	3.36	8.19	8.87	6.22	7.28	4.83	6.35	9.53	7.86	0	3.77	7.26
2020-21	8.5	8	8.9	8.4	9.4	9	9.5	9.7	9.4	7	6.1	9
2021-22	10.3	9.11	9.93	9.26	9.65	9.74	10.02	10.06	10.03	8.85	7.28	10.37



	Kerala	MP	Maharashtra	Odisha	Punjab	Rajasthan	Tamil Nadu	UP	Uttarakhand	West Bengal
2019-20	0.05	6.32	5.67	0.37	9.14	1.41	1.05	9.48	9.69	1.14
2020-21	4.4	8.6	9	4	9.9	6.7	7.7	9.8	9.3	2.4
2021-22	10.07	9.7	10.12	7.87	10.07	9.74	9.49	10.26	9.59	6.32

The above chart shows the blending percentage achieved by various states in India during the FY & ESY 2019-20, 2020-21, 2021-22. The blending target for each of the ESY was like for 2019-20 – 7%, 2020-21 – 8.5% and for 2021-22 – 10%. By looking at the above chart it clearly shows which all states have achieved the blending target in all the ESY. In the ESY 2019-20, the states like Bihar, Chandigarh, Delhi, Haryana, Himachal Pradesh, Karnataka, Punjab, Uttar Pradesh, Uttarakhand were able to achieve the 7% blending target which was set by the government. Among them it was only Kerala and Jammu & Kashmir who has not achieved much to the target. Kerala was having only 0.05 % and Jammu didn't have any achievement and stands with 0%. However, the states like Chhattisgarh, Gujarat and Madya Pradesh were near to the target achievement of 7 % with the blending achievement of 6.22%, 6.35%, 6.32%.

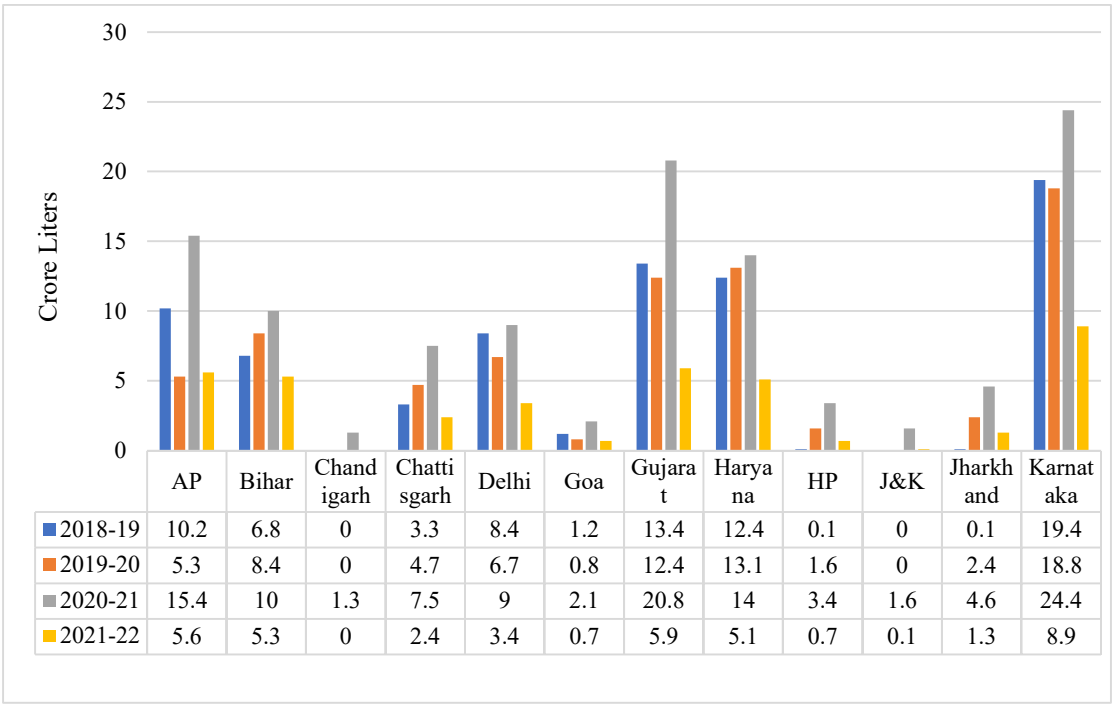
In the ESY 2020-21 the govt has set the blending target of 8.5% for the year. About 13 states has crossed the target of 8.5%. In the ESY 2020-21 there was a good growth made by Kerala and Jammu & Kashmir. Kerala was able to achieve the 4.4% and Jammu & Kashmir has achieved 7% against the blending target of the year. In the ESY 2020-21 all the states were able to bring more productivity and it has made them to achieve the target for the FY.

In the Last ESY 2021-22 the govt of India has set 10% of blending target with the petrol. As a result of the 10% target only 9 states were able to make it to the achievement of target. Especially the state Kerala has been crossed the blending target and achieved 10.07 % against the 10 % target. This was a good comeback made the state from their blending achievements in the earlier ESY with 0.055 & 4.4% of target achievement in 2019-20 & 2020-21. Moreover there 9 states who has achieved the more than 9% of the blending target against the 10% set by the government. In the ESY 2021-22 only West Bengal and Jharkhand and Odisha were the lowest achievers of the blending target with 6.32%, 7.28% and 7.87 %.

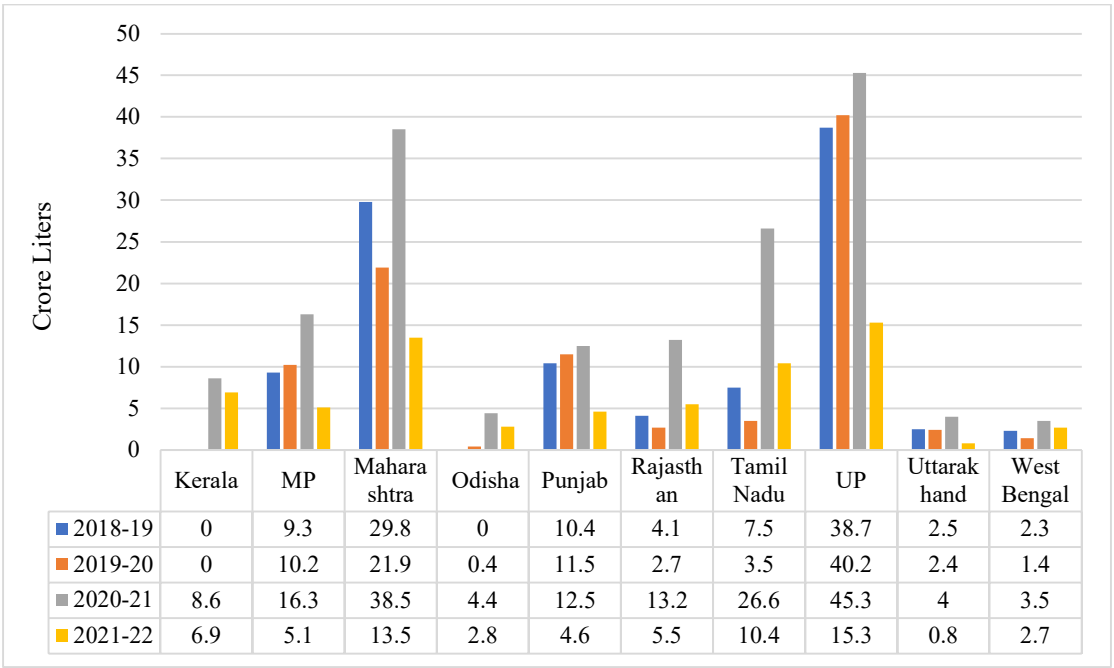
In each of the ESY the number and target achievement on the blending policy is states are being increased. Many of the states has been already crossed the

blending target with the good achievement with more than the expected blending target in the ethanol market.

1.7.4 Quantity Of Ethanol Supplied by States Under EBP



	AP	Bihar	Chandigarh	Chattisgarh	Delhi	Goa	Gujarat	Haryana	HP	J&K	Jharkhand	Karnataka
2018-19	10.2	6.8	0	3.3	8.4	1.2	13.4	12.4	0.1	0	0.1	19.4
2019-20	5.3	8.4	0	4.7	6.7	0.8	12.4	13.1	1.6	0	2.4	18.8
2020-21	15.4	10	1.3	7.5	9	2.1	20.8	14	3.4	1.6	4.6	24.4
2021-22	5.6	5.3	0	2.4	3.4	0.7	5.9	5.1	0.7	0.1	1.3	8.9



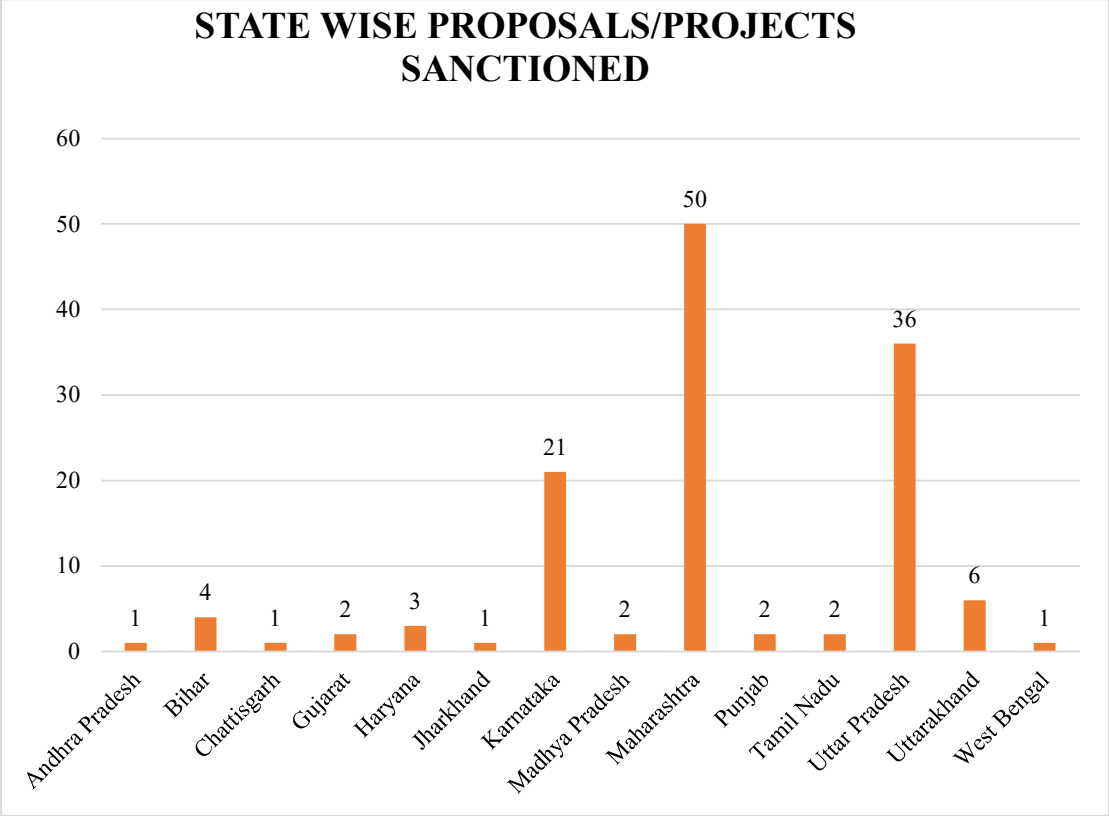
	Kerala	MP	Maharashtra	Odisha	Punjab	Rajasthan	Tamil Nadu	UP	Uttarakhand	West Bengal
2018-19	0	9.3	29.8	0	10.4	4.1	7.5	38.7	2.5	2.3
2019-20	0	10.2	21.9	0.4	11.5	2.7	3.5	40.2	2.4	1.4
2020-21	8.6	16.3	38.5	4.4	12.5	13.2	26.6	45.3	4	3.5
2021-22	6.9	5.1	13.5	2.8	4.6	5.5	10.4	15.3	0.8	2.7

The above chart shows the quantity of ethanol supplied by the states under the EBP of the govt of India during the ESY of 2018-19, 2019-20, 2020-21 & 2021-22. As similar to the chart shown in 1.7.4 – Blending Percentage Achieved by the States, the quantity of supply of the ethanol in each of the ESY has been made by the 23 states has been shown in this chart. Maharashtra and Uttar Pradesh are the major states who are having more quantity of ethanol supply in the ESY as per the records. In both of these states there are about more than 173 sugar mills in Maharashtra and 53 sugar mills in UP. These two are the major who are in the biggest production of the sugar and the ethanol in the market.

The chart clearly shows that the states like in the ESY of 2018-19 & 2019-20 the total quantity of ethanol supplied by the states like Kerala, Chandigarh and JK were Zero in these time periods while comparing with other states. But in the ESY 2020-21 and 2021-22 the state Kerala was about to supply 8.6 and 6.9 crore litres were supplied by the Kerala itself. However apart from few states the ethanol qty supplied in each is year is very attractive. Due to the improved policies and the increased productivity of the sugar and the sugarcane in the market has helped the state to achieve the blending target with much easier way. It was because of the result that the states were able to get approvals for the various projects proposed by them the government and about 8643 crore rupees has been sanctioned to the sugar sector only for the ethanol projects which was proposed.

During the FY 2021-22 the state Uttar Pradesh is the largest producer of ethanol in India with over 53 units of sugar mills operating in this state. As result of that the total production capacity of the state is recorded as 249.49 crore litres per annum is being made out from 75 installed distilleries in this state. The second largest ethanol producing state is Maharashtra. The states UP and Maharashtra has the good climatic conditions for the production of sugarcane in their states. The total sugar cane produced in these states during the sugar season of 2020-21 of UP – 177.67 MT & Maharashtra – 101.59 MT.

1.7.5 State Wise Proposals/Projects Sanctioned



State Wise Project Proposals and Loans Sanctioned

SI. No.	State/UT	No of proposals/projects sanctioned	Amount sanctioned (In Cr. Rs.)
1	ANDHRA PRADESH	1	17.33
2	BIHAR	4	319.01
3	CHHATTISGARH	1	83
4	GUJARAT	2	126.32
5	HARYANA	3	355.92
6	JHARKHAND	1	30
7	KARNATAKA	21	2012.49
8	MADHYA PRADESH	2	63.5
9	MAHARASHTRA	50	3074.88
10	PUNJAB	2	177.24

11	TAMIL NADU	2	100.45
12	UTTAR PRADESH	36	1983.02
13	UTTARAKHAND	6	229.5
14	WEST BENGAL	1	70
	TOTAL	**132**	**8,643**

In order to improve the ethanol blending with petrol through the EBP of the government there are about 8,643 crore rupees had been sanctioned through 132 projects proposals made by states to the govt for manufacturing ethanol from the excess of sugar and sugar cane. Around 14 states are there in India manufacturing the sugar and capable of producing the required amount of ethanol. From the above chart of state wise proposals/projects sanctioned by the government. The states like Maharashtra, UP, Karnataka are the major locations which is having more sugar mills installed and producing more ethanol from the in the market and as a result of that more project proposals has been sanctioned to those states. Apart from the direct proposals made by each of the states there are also a certain number of projects which has been approved by the government under different type of intervention schemes. Around 1,028 projects have been sanctioned through this way and supported the 23 states to improve the productivity on the ethanol for the assistance towards the EBP and the improved productivity will lead to the increased achievement of the blending target decided by the respective govt authorities.

Ethanol Projects Approved Under Interest Subvention Schemes

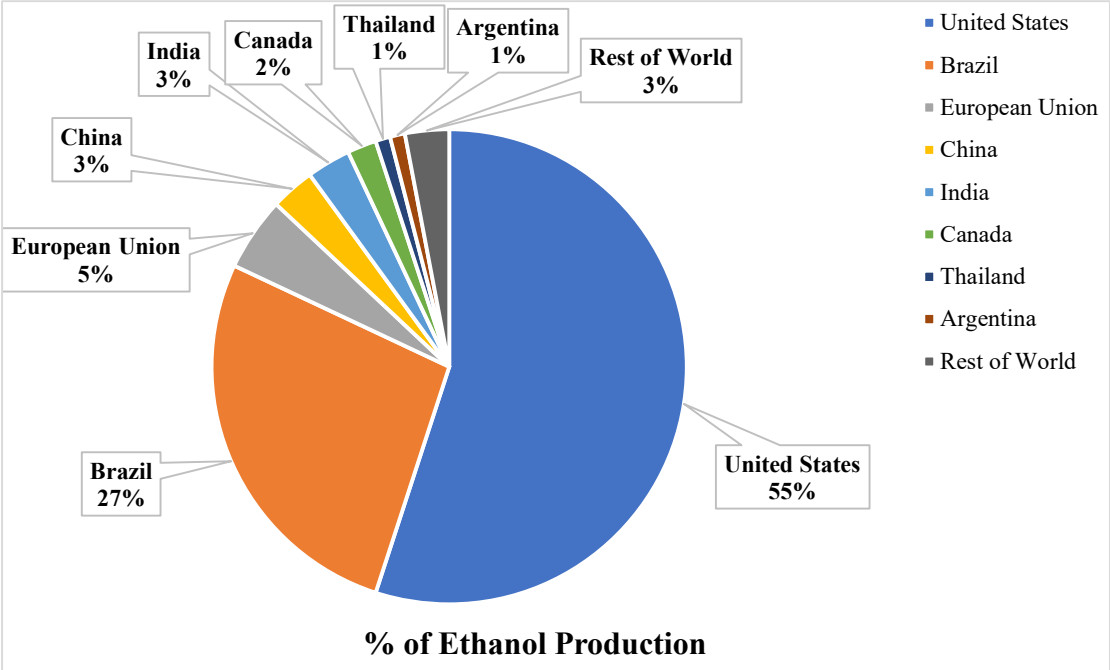
SI. No.	State/UT	No of projects approved in-principle
1	Andhra Pradesh	16
2	Bihar	25
3	Chandigarh	1
4	Chhattisgarh	22
5	Daman & Diu	2

6	Delhi	1
7	Goa	1
8	Gujarat	16
9	Haryana	20
10	Himachal Pradesh	2
11	Jammu & Kashmir	2
12	Jharkhand	4
13	Karnataka	188
14	Madhya Pradesh	41
15	Maharashtra	403
16	Odisha	9
17	Punjab	35
18	Rajasthan	7
19	Tamil Nadu	15
20	Telangana	19
21	Uttar Pradesh	176
22	Uttarakhand	14
23	West Bengal	9
	Grand Total	1028

In the above chart of State wise project proposals and loans sanctioned were having 132 project / proposals which were all sanctioned by the govt directly to the 14 states to promote and to increase the production of the ethanol from the sugar and sugarcane in the market. It was done with a view to make India as a hub of ethanol production and to become the largest exporter and also to be the major port of ethanol in the world wide. To strengthen this view in the market the government has given sanctions to 1028 projects to 23 states in India under various Interest Subvention Schemes. The largest state which has got proposals sanction or approved by the government is Maharashtra with 403 proposals is being sanctioned through the interest subvention scheme. Even in the direct approval of the projects by the

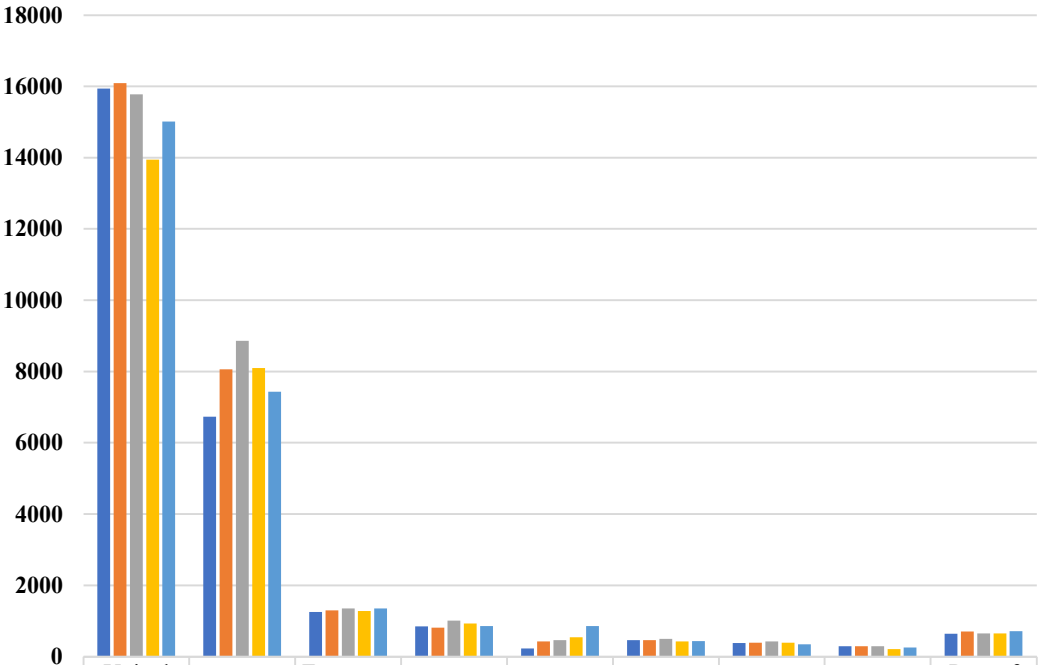
government Maharashtra itself got 50 projects amounting 3074.88 crores rupees has been sanctioned to this state itself. Thus, in total there are lot of projects has been implemented and supported by the government to achieve the blending target and to make a good development in the economy through this policy. By the end of 2025 our nation will comes in the top 5 of ethanol manufacturer world wide because of the wide availability and production of the sugar and sugarcane in the Indian market for the ethanol manufacturing process.

1.7.6 Country Wise Ethanol Production



The above diagram shows the percentage of ethanol production in various countries. The United States is the 3rd largest importer of sugar in the market. In the FY 2021-22 USA has imported about 31,47,000 Metric Tonnes of sugar has been imported by them. However, with this much of import on sugar in the market they are standing as the top producer of ethanol from sugar in the market. Thus, they are producing 55% ethanol in the global market. The worlds largest producer of sugar is Brazil but they are in second position in the ethanol production from sugar with the average amount of 27% per annum in the global market. The EU is another one in the

global market which consists of various nations has jointly producing 5% of the global ethanol from sugar and sugar allied products in the market. India is one of the developing nations in the world, with the support and various projects of the ethanol production and blending policy of it with the petrol India was able to achieve the 3% of ethanol production in the global market by taking over the various developed nations the world. The rest of the world is only producing 3%, whereas China with 3%, Argentina with 1%, Canada with 2% and Thailand with 2% of ethanol production is being taken place in the global market.



	United States	Brazil	European Union	China	India	Canada	Thailand	Argentina	Rest of World
2017	15936	6730	1250	850	230	460	380	290	644
2018	16091	8060	1300	810	430	460	390	290	709
2019	15778	8860	1350	1010	460	497	430	290	655
2020	13941	8100	1280	930	540	429	390	210	650
2021	15015	7430	1350	860	860	434	350	260	711

The above graph is the data which is showing ethanol production from sugar in the global market from 2017 to 2021. The chart clearly shows the production of ethanol of the top countries who are engaged in the ethanol production. The US had a good impact till 2018 but the next two years shown the slight decrease in the ethanol production in 2019 but when looking on to the 2020 data of ethanol production it has

made a tremendous fall in the ethanol due the covid pandemic which affected the whole world. They were able to recover the loss from 2021 onwards by the increased production and from good support from the government by promoting the renewable energy resources in the market.

When the rest of the world were severely fallen with the production of ethanol in 2020 India was able to strengthen the ethanol production due to increased demand for alcohol contented hand sanitizers and the government were providing with lot of projects and the key follow up on the blending target and they were able to make use of all the resources for the increased production. As a result of that India had stable growth of ethanol production in each FY. From 230 in the FY 2017 by the end of FY 2021 India was able to produce and achieve 860 Metric Tonnes of ethanol in the market. It is about more than 300% of increase in production is being made in the market from 2017 to 2021. Through the ethanol blending policy India will be able to take over the 2nd rank in the global ethanol production by the end of ESY 2025.

The rest of the world and other nations shown in the graph is having policies made by the respective governments for supporting the renewable energy resources in the market. However, all of them are now getting recovered and currently showing a positive signal in the market after the impact of covid 19 pandemic crisis in the world. And India is the only country which has shown an positive signal even during the pandemic crisis where rest of the world fall to a negative state of fall in ethanol production.

1.7.7 Ethanol Demand Projection

ESY	Projected Petrol Sale (MMT)	Projected Petrol Sale (Cr. litres)	Blending %	Requirement of Ethanol for Blending in Petrol (Cr. litres)
2019-20	24.1	3413	5	173

2020-21	27.7	3908	8.5	332
2021-22	31	4374	10	437
2022-23	32	4515	12	542
2023-24	33	4656	15	698
2024-25	35	4939	20	988
2025-26	36	5080	20	1016

The above table shows the ethanol demand projection of the government of India which is made by the NITI Ayog itself clearly states the year wise projected petrol sale, and the requirement of the ethanol for blending it with the petrol in the market. The table shows the expected ethanol blending in crore litres till the ESY 2025-26. It is because the govt of India has already scheduled the ethanol blending target for the time period. In the ESY the requirement of ethanol to be blended with the petrol was only about 173 Cr. litres in the current ESY 2022-23 THE requirement of ethanol for the blending purpose with the petrol is estimated to 542 Cr. litres. So, this even shows that the requirement of ethanol has be increased to an average of more 2 to 3 times than in the previous ESY. The estimates of the upcoming ESY are also similar which has been planned by the Indian government by foreseeing the opportunity that they had seen in the ethanol market globally.

The projected petrol sale and the blending policy of ethanol is being liked to each other. And the target for each ESY helps India to achieve or to fulfil the required ethanol for the blending purpose with petrol in the market. This is another milestone for India to take over the Brazil in the sugar production and the exports of sugar in the market. Thus, the sugar and sugarcane will be able to take away the BOP deficit of our nation through improved exporting of sugar and ethanol in the market. Through the increased policy and installed capacity of the sugar mills in India helps to achieve the target in a smooth way. By increasing the amount of blended petrol and its

increased sale in the Indian market helps our nation to reduce the amount of petroleum products imports from the other countries. Moreover, it also helps our nation to reduce the price of unblended petrol in the market the increased export will be taken away. The country like Brazil has already a major user of the ethanol blended petrol for the vehicles in their nation at low cost. So, it will be also practically applicable in in our economy also.

1.7.8 Top Ethanol Production Companies in India

I. BAJAJ HINDUSTAN SUGAR LTD

Bajaj Hindustan Sugar Ltd is the largest producer of ethanol in the Indian market. It is one of the companies which has started their operations in 1931 as an Indian multinational chemical company. Bajaj Hindustan Sugars is the 4th largest integrated sugar production company in the world and the having the 1st position in Asian Continent. The company has 5 mills across Uttar Pradesh and have an installed capacity of 600 Kilo Litre Per Day. Currently the company has the crushing capacity of 400 tonnes of cane per day. During the FY 2021-22 the company has produced 90900 Kilo Litre of ethanol and revenue for the company were 5575 crores in FY 2021-22.

Bajaj Hindusthan Ltd.

II. BALRAMPUR CHINI MILLS LTD

Balrampur Chini Mills Ltd is a company which has started their operations in 1975. It is one of the Indian multinational ethanol and sugar producer in the world. The installed distillery capacity of BCML is 560 Kilo Litre Per Day with a crushing capacity of

76500 tonnes. The company is using zero liquid discharge technology for the production of fuel ethanol in the market. The company has 4 mills across Uttar Pradesh and a new distillery of 320 KLPD is being under process at Maizapur. The company was also able to make a revenue of 4846 crores in the FY 2021-22.

III. DALMIA BHARAT SUGAR & INDUSTRIES LTD

Dalmia Bharat Sugar & industries is another well-known Indian multinational company, which was founded in 1994 at Uttar Pradesh. It is one of the fastest growing producers of ethanol and sugar in the market. The company is having a total crushing capacity of 35500 Tonnes of cane per day and it also has an 120MW co-generation capacity with them. The company also has the products like Refined Alcohol, Extra Neutral Alcohol and Tasting Triple Distilled Alcohol as part of the ethanol-based products through the sugar molasses distillation process. The company was also able to make a revenue of 3018 crores in the FY 2021-22.

IV. SHREE RENUKA SUGARS LTD

Shree Renuka Sugars Ltd is one of the global bio-energy and agricultural conglomerate which is operating in more than 100 countries across the world. The company has 5 factories in the state of Karnataka and 2 factories in Maharashtra also. Shree Renuka is also one of the largest producers of ethanol and sugar in the Indian market. The total crushing capacity of the company is about 35000 Tonnes of Cane per day. The ethanol distillation capacity of the company is estimated as 930 KLPD and they are the top manufacturer of fuel grade ethanol sold to the OMC. Moreover, they are the most technologically advanced ethanol producer in the market. The company was also able to make a revenue of 6432 crores in the FY 2021-22.

V. TRIVENI ENGINEERING & SUGAR INDUSTRIES LTD

The company Triveni Engineering & Sugar industries Ltd was established in 1932 as Ganga Sugar Corporation Ltd. The company is one the largest integrated sugar manufacturing in India. The company has 7 sugar mills in Uttar Pradesh and the company has an installed ethanol capacity of has an installed ethanol capacity of 320 KLPD. Now the company has the proceeding to expand the capacity to 660 KLPD for ethanol and 2 new distilleries are under progression. This company is the major supplier of ethanol to the Indian OMC for the blending of ethanol with petrol. The company was also able to make a revenue of 4290 crores in the FY 2021-22.

1.8 SUGAR INDUSRTY & STOCK MARKET

The sugar industry and the stock market are clearly linked to each other. The emergence of the ethanol in the market has also led to the increased performance of the sugar sectoral stocks in the Indian market. In India as per the records of ISMA there about 732 sugar mills has been incorporated in public, private and cooperative sectors of the nation. However, there are only 38 sugar mills has listed there shares in the Securities Exchange Board of India (SEBI). All these 38 stocks were started with a low price in the stock market which is less than a 50 rupees per share only a few stocks which was introduced as a sub of major companies were having high price value they were listed and made available for trading activities in the market. These 38 companies which also registered with both the NSE and BSE of India. The BSE of India had been clearly categorised these 38 stocks into various groups like A, B, T, Z, X, XT. These classifications are done by BSE by looking on the company's characteristics and the guideline made by BSE.

The Group A shares means that the share has the most liquid and having higher trader volume in the market. And also, such group shares are will be fulfilled with all the compliance of exchange and it indicates that the stock trades are done under the normal rolling settlement process of the stock market. And as per the records of BSE there are about 387 companies are being categorised in this Group A. The Group B shares are having normal trade volume and it fall under the rolling settlement system. In the records of BSE there are about 2216 companies are there under this category. It is because of these shares do not fall into any other groups and these shares rank the Group A shares on its liquidity and other criteria's. In Group T, the shares in the stock market are classified under this come to be the part of trade-to-trade segments. And the stocks which are coming under this category is not permitted to do intraday trade in the stock market. Moreover, about 368 shares in the stock market falls under this Group T.

The Group Z shares are those shares which have failed to comply with certain regulations and guidelines of BSE. Most of the companies in the group is not fulfilled all the exchange listing requirements, shown failures in redressing the complaints of the investors or they have failed to make arrangements for the dematerialisation of the shares in association with the NSDL & CDSL and the BSE has put 433 stocks in this group. The Group X & Group XT are the subsegments of the other groups. The group XT consist of all the type of stocks which are only listed on BSE and they are settled on a T2T basis in the stock market. The Group X shares are the most commonly used for the intraday purposes by the investors in the market.

The 38 sugar stocks in the Indian Stock exchange which is listed in the securities has been classified on to different groups based the characteristics mentioned in the above paragraphs. The group of the shares and the total sugar stocks listed in the stock exchange of India are the following.

1.8.1 Group of Sugar Stocks

SL.NO	NAME OF THE COMPANY	GROUP
1	Bajaj Hindustan Sugar	**A**
2	Balrampur Chini Mill Ltd	**A**
3	Dalmia Bharat Sugar	**A**
4	Dhampur Sugar Mills	**A**
5	Dwarikesh Sugar Industries LTD	**A**
6	E.I.D. Parry (India) Ltd	**A**
7	Shree Renuka Sugar	**A**
8	Triveni Engineering & Industries Ltd	**A**
9	Avadh Sugar & Energy	**B**
10	Bannari Amman Sugars	**B**
11	DCM Shriram Industries Ltd	**B**
12	KCP Sugar & Industries Corporation	**B**
13	Khaitan India	**B**
14	KM Sugar Mills	**B**
15	Kothari Sugars & Chem	**B**
16	Magadh Sugar & Energy	**B**
17	Mawana Sugars	**B**

18	Ponni Sugars (Erode)	**B**
19	Rajshree Sugars & Chemicals	**B**
20	Rana Sugars	**B**
21	Sakthi Sugars	**B**
22	Simbhaoli Sugars	**B**
23	Ugar Sugar Works	**B**
24	Uttam Sugar Mills	**B**
25	Vishwaraj Sugar Industries	**B**
26	Dharani Sugars & Chemicals LTD	**T**
27	Davangere Sugar Company	**X**
28	Dhampure Speciality Sugars Ltd	**X**
29	Indian Sucrose Ltd	**X**
30	Kesar Enterprises	**X**
31	Parvati Sweetners	**X**
32	Piccadily Agro Industries	**X**
33	SBEC Sugar	**X**
34	Sir Shadi Lal Enter	**X**
35	Gayatri Sugars Ltd	**XT**
36	Oswal Overseas	**XT**

37	Ravalgaon Sugar Farm	**XT**
38	Riga Sugar	**XT**

Among from the above 38 companies which has been listed in the stock market only 10 companies have been chosen for conducting the study to identify the performance of the stocks and the impact of the stock due to the EBP in the market. To select the stock the analysis on the market cap, revenue, net profit, EPS, ROE, debt to equity, asset turnover ratio, dividend per share etc has been carried out for selecting the stocks.

1.9 SUGAR STOCKS – COMPANY PROFILE

❖ BALRAMPUR CHINI MILLS LTD

BSE CODE	500038
NSE CODE	BALRAMCHIN
CMP (August 24, 2022)	344.15
Equity Capital (In Crores)	20
Face Value	1
Market Cap	7022
Book Value	135.74
Avg. 52 Week Volume	20,49,895
52 Week High	524.90
52 Week Low	297.60

Balrampur Chini Mills Ltd was incorporated in 1975 and it is one of the top business class companies in India with leading sugar and energy production. Currently the company itself has 10 manufacturing units in close proximity of Uttar Pradesh. The company is running their operations with sugar business and the distillery for ethanol in the market. As on march 2022 the market capitalization of the company was 9985 Cr. The company is currently having an installed capacity of 560

KLPD for the ethanol and it is proposed to expand with the Installed capacity of 1050 KLPD by the end of December 2022.

In the FY 2022 the company's revenue from the distillery segment itself has contributed more than 19 % to the overall revenue while compared with the 7% in FY2018. With the broad policies of the board of BCML they are expected to contribute 35% of the overall revenue from the distillery segment itself. In the Q4 FY 22 the company itself had a cash profit of Rs. 317.4 Cr corresponding to the Rs. 256.6 Cr in the Q4 FY 21. Moreover, the comprehensive income of the company has increased to 8.9% from the FY 21. The higher volume of sugar and the distillery has helped the company for the increased sales and improved realizations in the market. BMCL also has the strong support from the promoters in the market with 42.42%.

BALANCE SHEET OF BALRAMPUR CHINI MILLS (In Rs. Cr.) 31/03/2022

EQUITIES AND LIABILITIES	Rs.	**ASSETS**	Rs.
SHAREHOLDER'S FUNDS		**NON-CURRENT ASSETS**	
Equity Share Capital	20.4	Tangible Assets	1,632.67
TOTAL SHARE CAPITAL	20.4	Intangible Assets	0.97
Reserves and Surplus	2,737.76	Capital Work-In-Progress	204.3
TOTAL RESERVES AND SURPLUS	2,737.76	Other Assets	0
TOTAL SHAREHOLDERS FUNDS	2,758.16	**FIXED ASSETS**	1,837.95
NON-CURRENT LIABILITIES		Non-Current Investments	157.5
Long Term Borrowings	144.2	Deferred Tax Assets [Net]	0
Deferred Tax Liabilities [Net]	72	Long Term Loans and Advances	0
Other Long-Term Liabilities	3.14	Other Non-Current Assets	104.9

Long Term Provisions	9.57	TOTAL NON-CURRENT ASSETS	2,100.35
TOTAL NON-CURRENT LIABILITIES	228.91	**CURRENT ASSETS**	
CURRENT LIABILITIES		Inventories	2,200.70
Short Term Borrowings	1,065.43	Trade Receivables	136.72
Trade Payables	308.29	Cash And Cash Equivalents	3.28
Other Current Liabilities	109.34	Short Term Loans and Advances	0
Short Term Provisions	6.74	Other Current Assets	35.82
TOTAL CURRENT LIABILITIES	1,489.80	**TOTAL CURRENT ASSETS**	2,376.52
TOTAL CAPITAL AND LIABILITIES	4,476.87	**TOTAL ASSETS**	4,476.87

❖ DALMIA BHARAT SUGAR AND INDUSTRIES LTD

BSE CODE	500097
NSE CODE	DALMIASUG
CMP (Aug 24, 2022)	337.60
Equity Capital (In Crores)	16
Face Value	2
Market Cap	2732
Book Value	291.46
Avg. 52 Week Volume	60,796
52 Week High	569.50
52 Week Low	281.05

Dalmia Bharat Sugar and Industries Ltd has started their sugar business in the mid of 90's. The first unit of Dalmia Sugar was made at Uttar Pradesh in 1994 with a capacity of 2500 TCD. In the phase of 2006-07 the company has expanded

their operations and the total sugarcane crushing capacity of the company has been increased to 35500 TCD. The company has robust quality systems which is embarked upon the TPM and 5S initiatives in order to create a world class systems and process. As a result of that the company is now producing the high-quality sugar in the eastern India. The company is also the most preferred sugar supplier for the brand-enhancing institutional like Coca-Cola, Mondelez, Wal-Mart India, Perfetti, PepsiCo, Britannia, India Glycols Allied Blenders, Dabur, D-Mart, United Breweries, Carlsberg, etc.

In the FY 2021-22 the company was having the highest turnover of Rs. 3080 Cr which is 12% more than the turnover in FY 2020-21. The company is expected to increase their crushing capacity from 35500 TCD to 40500 TCD in the current FY. Through the increased ethanol production, the company is currently diverting 8 – 10% of their sugarcane for the production of sugarcane juice ethanol and about 80% of the sugarcane is being diverted to the production of B- Heavy Ethanol in market.

BALANCE SHEET OF DALMIA BHARAT SUGAR AND INDUSTRIES (in Rs. Cr.) 31/03/2022

EQUITIES AND LIABILITIES	Rs	ASSETS	Rs
SHAREHOLDER'S FUNDS		**NON-CURRENT ASSETS**	
Equity Share Capital	16.19	Tangible Assets	1,530.98
TOTAL SHARE CAPITAL	**16.19**	Intangible Assets	0.13
Reserves and Surplus	2,342.89	Capital Work-In-Progress	58.81
TOTAL RESERVES AND SURPLUS	**2,342.89**	**FIXED ASSETS**	**1,589.92**
TOTAL SHAREHOLDERS FUNDS	**2,359.08**	Non-Current Investments	293.36
Minority Interest	0	Deferred Tax Assets [Net]	0
NON-CURRENT LIABILITIES		Long Term Loans And Advances	0.05

Long Term Borrowings	337.21	Other Non-Current Assets	30.7
Deferred Tax Liabilities [Net]	161.01	**TOTAL NON-CURRENT ASSETS**	**1,914.03**
Other Long-Term Liabilities	7.86	**CURRENT ASSETS**	
Long Term Provisions	38.73	Current Investments	300.44
TOTAL NON-CURRENT LIABILITIES	**544.81**	Inventories	1,242.39
CURRENT LIABILITIES		Trade Receivables	166.54
Short Term Borrowings	481.3	Cash And Cash Equivalents	103.9
Trade Payables	261.17	Short Term Loans And Advances	0.31
Other Current Liabilities	169.87	Other Current Assets	94.66
Short Term Provisions	6.04	**TOTAL CURRENT ASSETS**	**1,908.24**
TOTAL CURRENT LIABILITIES	**918.38**		
TOTAL CAPITAL AND LIABILITIES	**3,822.27**	**TOTAL ASSETS**	**3,822.27**

❖ DWARIKESH SUGAR INDUSTRIES LTD

BSE CODE	532610
NSE CODE	DWARKESH
CMP (Aug 24, 2022)	98.30
Equity Capital (In Crores)	18
Face Value	1
Market Cap	1851
Book Value	35.76
Avg. 52 Week Volume	21,82,709
52 Week High	148.45
52 Week Low	63.45

Dwarikesh Sugar Industries Ltd was incorporated at Uttar Pradesh in 1995 with a crushing capacity of 2500 TCD with a 6 MV co-generation capacity. Now the installed distiller capacity of the company has been increased to 175 KLPD the approval through the project intervention scheme of the govt of India to promote the ethanol production. The added distillery capacity 130KLPD to 175 KLPD is being used for making a range of distillery products like Ethanol, ENA, Rectified Spirit, etc in the market. It is also one of the most efficient sugar stock in the market with the high rate of recovery in the state of UP with high amount of sugarcane availability. Moreover, the company will be able to increase their distillery volumes close to three time more in next three years of the sugar season and ESY.

In the FY 2020-21 the market cap of the stock in the market were only 1401.9 Cr. And it has been increased to 1851 Cr in the FY 2021-22. In the FY 2021-22 the company has exported about 0.25 lakh MT of raw sugar under OGL scheme. While it is being compared with the export of 1.60 lakh MT of sugar under the MAEQ program of FY 2019-20 and the MAEQ FY 2020-21. And the company has now entered into a contract for exporting about 50,000 MT of raw sugar to the major importers of sugar from India. In the FY 2021-22 the company has achieved the highest financial turnover ever in all of its FY of Rs.1974 Cr. As a result of that the company also declared interim dividend of 200% in the FY 2021-22.

BALANCE SHEET OF DWARIKESH SUGAR INDUSTRIES (in Rs. Cr.)

31/03/2022

EQUITIES AND LIABILITIES	Rs	ASSETS	Rs
SHAREHOLDER'S FUNDS		**NON-CURRENT ASSETS**	
Equity Share Capital	18.83	Tangible Assets	388.1
TOTAL SHARE CAPITAL	**18.83**	Intangible Assets	0
Reserves and Surplus	654.46	Capital Work-In-Progress	142.5

TOTAL RESERVES AND SURPLUS	**654.46**	Other Assets	0
TOTAL SHAREHOLDERS FUNDS	**673.29**	**FIXED ASSETS**	**530.6**
NON-CURRENT LIABILITIES		Non-Current Investments	0.32
Long Term Borrowings	200.92	Deferred Tax Assets [Net]	24.63
Deferred Tax Liabilities [Net]	0	Long Term Loans And Advances	0
Other Long Term Liabilities	1.44	Other Non-Current Assets	17.12
Long Term Provisions	22.28	**TOTAL NON-CURRENT ASSETS**	**572.67**
TOTAL NON-CURRENT LIABILITIES	**224.64**	**CURRENT ASSETS**	
CURRENT LIABILITIES		Inventories	757.7
Short Term Borrowings	319.77	Trade Receivables	34.53
Trade Payables	96.34	Cash And Cash Equivalents	38.55
Other Current Liabilities	101.1	Short Term Loans And Advances	0.3
Short Term Provisions	4.41	Other Current Assets	15.79
TOTAL CURRENT LIABILITIES	**521.61**	**TOTAL CURRENT ASSETS**	**846.87**
TOTAL CAPITAL AND LIABILITIES	**1,419.54**	**TOTAL ASSETS**	**1,419.54**

❖ E.I.D. PARRY (INDIA) LTD

BSE CODE	500125
NSE CODE	EIDPARRY
CMP (Aug 24, 2022)	526.25
Equity Capital (In Crores)	17

Face Value	1
Market Cap	9337
Book Value	456.48
Avg. 52 Week Volume	394308
52 Week High	591.30
52 Week Low	384

EID Parry (India) Ltd is the oldest company which has started their operations for more than 230 years in India. The company has set up the India's first sugar plant at Nellikuppam in 1842. Now the company has Eight mills across Tamil Nadu, Andhra Pradesh, and Karnataka. The integrated sugar manufacturing mills of the company includes the co-generation plants and distilleries. The company is having eight Global Certifications as a Nutraceutical Manufacturer in India. Moreover, EID Parry is the first sugar company in India who has started the co-generation of green power by using the sugarcane-based bagasse. And the co-generation plants of the company are operating with the principle of Zero effluents, Zero Residue & Zero Discharge. The company was also able to make the first launch of Vitamin A fortified sugar to the market as an Indian company to the retail segment.

In each of the FY the revenue from the operations that is being made by the company is increasing rapidly. From the gross revenue of 16517.82 Cr in FY 2019 it has reached to 23743.78 Cr in the FY 2022. The market cap of the company is also being increased in each financial year; the current market cap of the company is Rs.9337 Cr at the end of FY 22. The ethanol production which also made the increased distillery capacity and the improved profit for the organisation.

BALANCE SHEET OF EID PARRY (INDIA) (in Rs. Cr.) 31/03/2022

EQUITIES AND LIABILITIES	Rs	ASSETS	Rs
SHAREHOLDER'S FUNDS		**NON-CURRENT ASSETS**	
Equity Share Capital	17.74	Tangible Assets	1,211.25
TOTAL SHARE CAPITAL	**17.74**	Intangible Assets	1.55

Reserves and Surplus	2,742.40	Capital Work-In-Progress	15.08
TOTAL RESERVES AND SURPLUS	**2,742.40**	Other Assets	31.08
TOTAL SHAREHOLDERS FUNDS	**2,760.14**	**FIXED ASSETS**	**1,258.96**
NON-CURRENT LIABILITIES		Non-Current Investments	1,118.87
Long Term Borrowings	79.4	Deferred Tax Assets [Net]	0
Deferred Tax Liabilities [Net]	162.93	Long Term Loans and Advances	200
Other Long-Term Liabilities	34.27	Other Non-Current Assets	155.67
Long Term Provisions	7.21	**TOTAL NON-CURRENT ASSETS**	**2,733.50**
TOTAL NON-CURRENT LIABILITIES	**283.81**	**CURRENT ASSETS**	
CURRENT LIABILITIES		Inventories	986.04
Short Term Borrowings	24.84	Trade Receivables	145.7
Trade Payables	340.19	Cash And Cash Equivalents	44.37
Other Current Liabilities	656.37	Short Term Loans and Advances	0
Short Term Provisions	10.01	Other Current Assets	165.75
TOTAL CURRENT LIABILITIES	**1,031.41**	**TOTAL CURRENT ASSETS**	**1,341.86**
TOTAL CAPITAL AND LIABILITIES	**4,075.36**	**TOTAL ASSETS**	**4,075.36**

❖ TRIVENI ENGINEERING & INDUSTRIES LTD

BSE CODE	532356
NSE CODE	TRIVENI
CMP (Aug 24, 2022)	240.40

Equity Capital (In Crores)	24
Face Value	1
Market Cap	5811
Book Value	79.12
Avg. 52 Week Volume	618688
52 Week High	374.50
52 Week Low	164.25

Triveni Engineering & Industries Ltd which was founded in 1932 at Uttar Pradesh. Currently the company have an combined production capacity of 320 KLPD and the process for the enhancement of the total distillation capacity to 660 KLPD before the sugar season 2022-23 is being scheduled to implement in UP. The distillery volumes of the company have been increased from 8.5 crore litre to 10.4 crore litre in FY21 The production units of the company have the flexible operations with a capacity for producing Ethanol, Extra Neutral Alcohol (ENA), Denatured Spirit (SDS), Rectified Spirit (RS). Under the company there are about more than 6500 employees are working. The Triveni Group itself has 7 sugar manufacturing units 195K hectare of area for the sugarcane production itself. Through the integrated sugar operations by using the co0genereation capacity it enables them to drive the operations in a stable manner. And the co-products which is developed from the sugar manufacturing is done through the 6 power plants and 2 large state art distilleries.

In the FY 2021-22 the company were able to make an highest ever profitability with PBT at 573.75 crore with a growth of 24.8% than FY 2020-21.and the PAT of the company during FY 22 were with a growth of 43.9% in the market with Rs. 424.06 Cr. As a result of such growth the company had given dividend of ₹ 2 per equity share (200%) for the financial year 2021-22. The current market cap of the company is valuing at 5811Cr.

BALANCE SHEET OF TRIVENI ENGG. & INDUST (in Rs. Cr.) 31/3/2022

EQUITIES AND LIABILITIES	Rs	ASSETS	Rs
SHAREHOLDER'S FUNDS		**NON-CURRENT ASSETS**	
Equity Share Capital	24.18	Tangible Assets	1,063.08
TOTAL SHARE CAPITAL	**24.18**	Intangible Assets	1.61
Reserves and Surplus	1,750.04	Capital Work-In-Progress	256.53
TOTAL RESERVES AND SURPLUS	**1,750.04**	Other Assets	4.42
TOTAL SHAREHOLDERS FUNDS	**1,774.22**	**FIXED ASSETS**	**1,325.66**
NON-CURRENT LIABILITIES		Non-Current Investments	59.18
Long Term Borrowings	263.29	Deferred Tax Assets [Net]	0
Deferred Tax Liabilities [Net]	91.15	Long Term Loans And Advances	20.02
Other Long Term Liabilities	13.47	Other Non-Current Assets	46.35
Long Term Provisions	33.51	**TOTAL NON-CURRENT ASSETS**	**1,451.22**
TOTAL NON-CURRENT LIABILITIES	**401.42**	**CURRENT ASSETS**	
CURRENT LIABILITIES		Inventories	2,036.87
Short Term Borrowings	1,232.24	Trade Receivables	260.59
Trade Payables	350.76	Cash And Cash Equivalents	22.3
Other Current Liabilities	227.84	Short Term Loans And Advances	0.46
Short Term Provisions	48.28	Other Current Assets	263.32
TOTAL CURRENT LIABILITIES	**1,859.12**	**TOTAL CURRENT ASSETS**	**2,583.54**
TOTAL CAPITAL AND LIABILITIES	**4,034.76**	**TOTAL ASSETS**	**4,034.76**

❖ AVADH SUGAR & ENERGY LTD

BSE CODE	540649
NSE CODE	AVADHSUGAR
CMP (Aug 24, 2022)	515.05
Equity Capital (In Crores)	20
Face Value	10
Market Cap	1031
Book Value	404.83
Avg. 52 Week Volume	36354
52 Week High	885
52 Week Low	396

Avadh Sugar & Energy Ltd was incorporated in 2015 with a clear objective to deal with sugar and its allied products, alcohol and spirits to the market. The company is currently having four sugar mills in total, which is at Hargaon, Hata, Rosa and Seohara. All of them are operating in the state of Uttar Pradesh. These four sugar mills of Avadh have a combined sugarcane capacity of 31200 TCD. The installed capacity of the company is 260 KLPD with a co-generation capacity of 74 MW. The company is increasing its distillery capacity to 320 KLD, thus they will be able to produce about 11 Cr litre of ethanol from the sugar itself. Moreover, it would lead them to divert 80% of the sugarcane production to the production of B – Heavy Ethanol to the market.

The total income which has been generated by the company in the FY 2022 were Rs. 2748 Cr. The Ethanol production capacity of the company for producing the B-heavy molasses will be increased to 325 KLPD. The current Market cap of the company is 1031 Cr. And the pledge of the promoters had been remained to be unchanged at 23.82% of holdings in the quarter of June 2022.

BALANCE SHEET OF AVADH SUGAR & ENERGY (in Rs. Cr.) 31/03/2022

EQUITIES AND LIABILITIES	Rs	ASSETS	Rs
SHAREHOLDER'S FUNDS		**NON-CURRENT ASSETS**	
Equity Share Capital	20.02	Tangible Assets	1,076.88
TOTAL SHARE CAPITAL	**20.02**	Intangible Assets	0.48
Reserves and Surplus	790.38	Capital Work-In-Progress	8.61
TOTAL RESERVES AND SURPLUS	**790.38**	Other Assets	0
TOTAL SHAREHOLDERS FUNDS	**810.4**	**FIXED ASSETS**	**1,085.97**
NON-CURRENT LIABILITIES		Non-Current Investments	46.82
Long Term Borrowings	403.03	Deferred Tax Assets [Net]	0
Deferred Tax Liabilities [Net]	21.61	Long Term Loans And Advances	0
Other Long Term Liabilities	4.54	Other Non-Current Assets	23.33
Long Term Provisions	1.73	**TOTAL NON-CURRENT ASSETS**	**1,156.13**
TOTAL NON-CURRENT LIABILITIES	**430.9**	**CURRENT ASSETS**	
CURRENT LIABILITIES		Inventories	1,169.74
Short Term Borrowings	809.78	Trade Receivables	85.71
Trade Payables	310.46	Cash And Cash Equivalents	3.06
Other Current Liabilities	61.64	Short Term Loans And Advances	0.49
Short Term Provisions	7.28	OtherCurrentAssets	15.34
TOTAL CURRENT LIABILITIES	**1,189.16**	**TOTAL CURRENT ASSETS**	**1,274.34**
TOTAL CAPITAL AND LIABILITIES	**2,430.46**	**TOTAL ASSETS**	**2,430.46**

❖ BANNARI AMMAN SUGARS LTD

BSE CODE	500041
NSE CODE	BANARISUG
CMP (Aug 24, 2022)	2764.15
Equity Capital (In Crores)	12
Face Value	10
Market Cap	3466
Book Value	1135.11
Avg. 52 Week Volume	307
52 Week High	3048.70
52 Week Low	1701

Bannari Amman Group is one of the largest Industrial Conglomerate in the South India with a wide spectrum of trading, service manufacturing activities. The manufacturing and trading activities of the group which includes sugar, liquor, granite alcohol, etc. The service sector of the group also has the wind power energy, education etc. The net-worth of Bannari Amman exceeds to over $ 270 million, with a sales turnover of more than $570 million. The first sugar mill was started in 1986 with a initial crushing capacity of 1250 TCD. Now the capacity of the sugar sector under the group has been expanded to 20100 TCD. The company has established five units of sugar mill with increased TCD and co-generation capacity. The sugar stocks of Bannari Amman are majorly held with the hands of promoters. In the FY 21-22 about 7360276 number pf shares were with them. The revenue from the sugar has been increased to 168247.22 lakhs in FY 22 than the revenue in FY21 128093.07 lakhs.

BALANCE SHEET OF BANNARIAMMAN SUGARS (in Rs. Cr.)

EQUITIES AND LIABILITIES	Rs	ASSETS	Rs
SHAREHOLDER'S FUNDS		**NON-CURRENT ASSETS**	
Equity Share Capital	12.54	Tangible Assets	1,048.45
TOTAL SHARE CAPITAL	**12.54**	Intangible Assets	0

Reserves and Surplus	1,410.86	Capital Work-In-Progress	60.81
TOTAL RESERVES AND SURPLUS	**1,410.86**	Other Assets	0.44
TOTAL SHAREHOLDERS FUNDS	**1,423.40**	**FIXED ASSETS**	**1,109.69**
NON-CURRENT LIABILITIES		Non-Current Investments	1.22
Long Term Borrowings	123.68	Deferred Tax Assets [Net]	0
Deferred Tax Liabilities [Net]	30.81	Long Term Loans And Advances	0
Other Long Term Liabilities	6.57	Other Non-Current Assets	29.1
Long Term Provisions	4.48	**TOTAL NON-CURRENT ASSETS**	**1,140.01**
TOTAL NON-CURRENT LIABILITIES	**165.54**	**CURRENT ASSETS**	
CURRENT LIABILITIES		Inventories	1,005.70
Short Term Borrowings	836.28	Trade Receivables	345.56
Trade Payables	86.67	Cash And Cash Equivalents	3.45
Other Current Liabilities	50.08	Short Term Loans And Advances	0.96
Short Term Provisions	6.56	OtherCurrentAssets	72.85
TOTAL CURRENT LIABILITIES	**979.59**	**TOTAL CURRENT ASSETS**	**1,428.51**
TOTAL CAPITAL AND LIABILITIES	**2,568.52**	**TOTAL ASSETS**	**2,568.52**

❖ UTTAM SUGAR MILLS

BSE CODE	532729
NSE CODE	UTTAMSUGAR

CMP (Aug 24, 2022)	258.90
Equity Capital (In Crores)	38
Face Value	10
Market Cap	986
Book Value	121.34
Avg. 52 Week Volume	15072
52 Week High	337.30
52 Week Low	152.30

Uttam Group which was established in 1960 and the group has been made a tremendous growth in the market from the single unit they had established in 1960. Now they are the leading producer of Double Refined Sugar in the country. The major clients of the sugar company are the best known FMCG companies in the market like Rasna, Patanjali, Safal, Cadbury& Heinz, Britannia. The Net Profit of Uttam Sugar Mills had been increased to 119.40% to 61.06 Cr rupees in the Quarter of March 22. Moreover, the Reserves and Surplus of the company has been rose to 424.63 Cr in FY 22 against the 299.81 Cr in FY 21. The Co-generation capacity and the crushing capacity of the company has been also increased rapidly. From 2000 TCD in 2001 has been reached to 23750 TCD by the end of FY22.

BALANCE SHEET OF UTTAM SUGAR MILLS (in Rs. Cr.) 31/03/2022

EQUITIES AND LIABILITIES	Rs.	ASSETS	Rs.
SHAREHOLDER'S FUNDS		**NON-CURRENT ASSETS**	
Equity Share Capital	38.14	Tangible Assets	677.54
TOTAL SHARE CAPITAL	**38.14**	Intangible Assets	0
Reserves and Surplus	424.63	Capital Work-In-Progress	0
TOTAL RESERVES AND SURPLUS	**424.63**	Other Assets	0
TOTAL SHAREHOLDERS FUNDS	**462.77**	**FIXED ASSETS**	**677.54**

NON-CURRENT LIABILITIES		Non-Current Investments	0
Long Term Borrowings	86.89	Deferred Tax Assets [Net]	0
Deferred Tax Liabilities [Net]	78.19	Long Term Loans And Advances	0
Other Long-Term Liabilities	33.07	Other Non-Current Assets	5.03
Long Term Provisions	15.82	**TOTAL NON-CURRENT ASSETS**	**682.57**
TOTAL NON-CURRENT LIABILITIES	**213.97**	**CURRENT ASSETS**	
CURRENT LIABILITIES		Inventories	799.6
Short Term Borrowings	552.89	Trade Receivables	61.06
Trade Payables	295.71	Cash And Cash Equivalents	11.58
Other Current Liabilities	42.25	Short Term Loans and Advances	0
Short Term Provisions	2.34	Other Current Assets	15.12
TOTAL CURRENT LIABILITIES	**893.19**	**TOTAL CURRENT ASSETS**	**887.36**
TOTAL CAPITAL AND LIABILITIES	**1,569.93**	**TOTAL ASSETS**	**1,569.93**

❖ UGAR SUGAR WORKS LTD

BSE CODE	530363
NSE CODE	UGARSUGAR
CMP (Aug 24, 2022)	55.60
Equity Capital (In Crores)	11
Face Value	1
Market Cap	625

Book Value	10.82
Avg. 52 Week Volume	158308
52 Week High	84.85
52 Week Low	25.20

Ugar Sugar Works Ltd. is a wholly owned subsidiary company of Ugar Theatre Ltd. The sugar mills of the company are operated in the state of Karnataka located at Nagarhalli & Ugarkhurd. The company is primarily engaged with the manufacturing and sale of industrial and potable alcohol, sugar and the generation and distribution of electricity in the state. The company is involved in the manufacture of sugar integrated with cogeneration of power and distillery operations and also the Indian-made foreign liquor manufacturing is also been made by the company. The sugar mill manufactures the white crystal sugar and in the plants of the approximately 18000 tonnes of sugarcane is being crushing to produce the sugar and other products.

The company is operating over 44 MW bagasse-based cogeneration power plant. The two-distillery located at Ugar is the place in which the IML brands of liquor is being made. The India Made Brands by Ugar are like U.S Whisky, U.S. Gin, Old Castle Premium Whisky, U.S. Brandy are manufactured. As part of the mandatory rule by the government to produce ethanol the company has also have an good quantity of production which is being made out in the market and supplied to OMC.

BALANCE SHEET OF UGAR SUGAR WORKS (in Rs. Cr.) 31/3/2022

EQUITIES AND LIABILITIES	Rs.	ASSETS	Rs.
SHAREHOLDER'S FUNDS		**NON-CURRENT ASSETS**	
Equity Share Capital	11.25	Tangible Assets	116.98
TOTAL SHARE CAPITAL	**11.25**	Intangible Assets	0.03

Reserves and Surplus	109.4	Capital Work-In-Progress	112.23
TOTAL RESERVES AND SURPLUS	**109.4**	Other Assets	0.07
TOTAL SHAREHOLDERS FUNDS	**120.65**	**FIXED ASSETS**	**229.31**
NON-CURRENT LIABILITIES		Non-Current Investments	4.16
Long Term Borrowings	124.1	Deferred Tax Assets [Net]	0
Deferred Tax Liabilities [Net]	9.07	Long Term Loans And Advances	0.04
Other Long Term Liabilities	0	Other Non-Current Assets	6.12
Long Term Provisions	3.64	**TOTAL NON-CURRENT ASSETS**	**239.62**
TOTAL NON-CURRENT LIABILITIES	**136.81**	**CURRENT ASSETS**	
CURRENT LIABILITIES		Inventories	769.49
Short Term Borrowings	515.58	Trade Receivables	88.78
Trade Payables	231.69	Cash And Cash Equivalents	7.65
Other Current Liabilities	143.89	Short Term Loans And Advances	0
Short Term Provisions	13.67	Other Current Assets	56.75
TOTAL CURRENT LIABILITIES	**904.84**	**TOTAL CURRENT ASSETS**	**922.68**
TOTAL CAPITAL AND LIABILITIES	**1,162.30**	**TOTAL ASSETS**	**1,162.30**

❖ DCM SHRIRAM INDUSTRIES LTD

BSE CODE	523369
NSE CODE	DCMSRMIND

CMP (Aug 24, 2022)	1004.80
Equity Capital (In Crores)	31
Face Value	2
Market Cap	15669
Book Value	352.80
Avg. 52 Week Volume	27532
52 Week High	1263.85
52 Week Low	855

DCM Shriram Industries Ltd, entered into the sugar business in the year of 1997 with the first sugar manufacturing unit at Ajbapur. The company has installed a co-generation capacity of 155 MW out of which they are also supplying some amount of renewable energy to the national grid and the rest is for captive purposes. The company has awarded with various certifications like ISO Certification for Quality (ISO 9000), Environment (ISO 14000), and Health & Safety (OHSAS 18000). Approximately more than 1.5 lakhs of farmers are engaged with employment in the company. And the company has an installed capacity of 38000 TCD which is crushing around four million of sugarcane from the four sugar manufacturing mills operated by them. Moreover, the company is also supported with 350 KLD of distillery capacity in their Hariawan unit.

The market cap of the company in the FY 22 is recorded as 2954.2 Cr which is 12.7% more than the market cap of the company in FY21 of 2621.1 Cr. The total sugar diversion for the production of ethanol has increased to 11.4 lakh qtls from the 7.0 lakh qtls in the last sugar season 2020-21. As per the reports this stock has high liquidity in the market. The Delhi-based DCM Shriram Ltd has also diversified into the business which includes the manufacturing of sugar, chloro-vinyl, bio seeds and fertilisers.

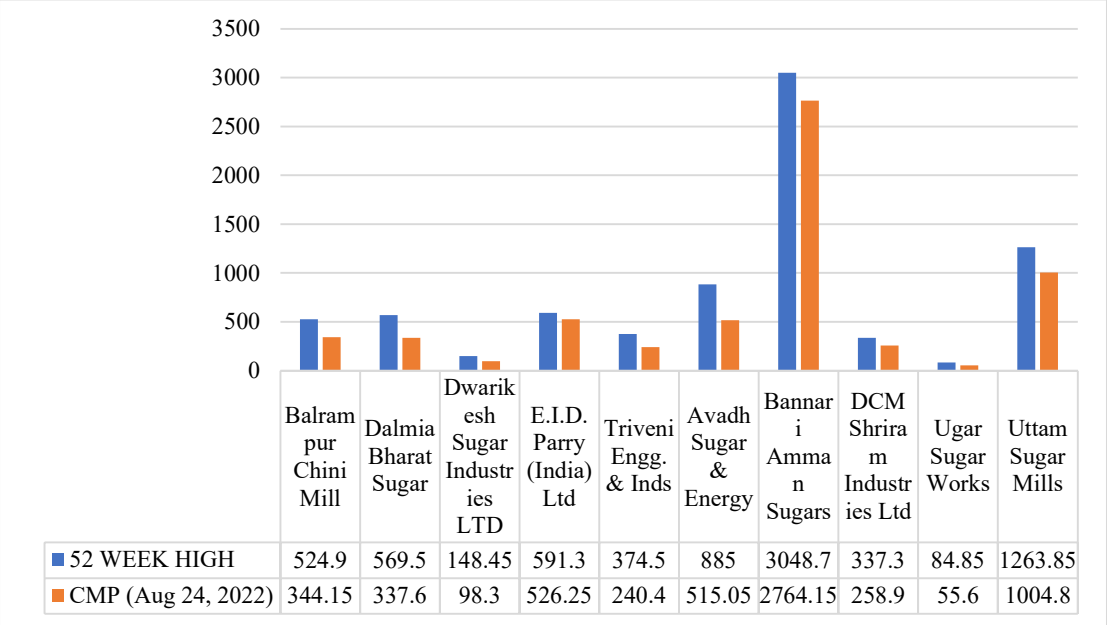
BALANCE SHEET OF DCM SHRIRAM (in Rs. Cr.) 31/.3/2022

EQUITIES AND LIABILITIES	Rs.	**ASSETS**	Rs.
SHAREHOLDER'S FUNDS		**NON-CURRENT ASSETS**	
Equity Share Capital	31.35	Tangible Assets	3,274.53
TOTAL SHARE CAPITAL	31.35	Intangible Assets	11.55
Reserves and Surplus	5,494.74	Capital WIP	485.53
TOTAL RESERVES AND SURPLUS	5,494.74	Other Assets	0.4
TOTAL SHAREHOLDERS FUNDS	5,526.09	**FIXED ASSETS**	3,781.25
NON-CURRENT LIABILITIES		Non-Current Investments	98.59
Long Term Borrowings	951.34	Deferred Tax Assets [Net]	0
Deferred Tax Liabilities [Net]	214.5	Long Term Loans and Advances	23.44
Other Long-Term Liabilities	59.28	Other Non-Current Assets	258.5
Long Term Provisions	250.95	**TOTAL NON-CURRENT ASSETS**	4,161.78
TOTAL NON-CURRENT LIABILITIES	1,476.07	**CURRENT ASSETS**	
CURRENT LIABILITIES		Inventories	2,246.68
Short Term Borrowings	553.28	Trade Receivables	853.95
Trade Payables	909.06	Cash And Cash Equivalents	1,550.07
Other Current Liabilities	778.5	Short Term Loans and Advances	137.02
Short Term Provisions	55.08	Other Current Assets	348.58

TOTAL CURRENT LIABILITIES	2,295.92	**TOTAL CURRENT ASSETS**	5,136.30
TOTAL CAPITAL AND LIABILITIES	9,298.08	**TOTAL ASSETS**	9,298.08

1.10 PERFORMANCE ANALYSIS OF SUGAR STOCKS

1.10.1 ANALYSIS ON 52 WEEK PRICE OF SUGAR STOCKS



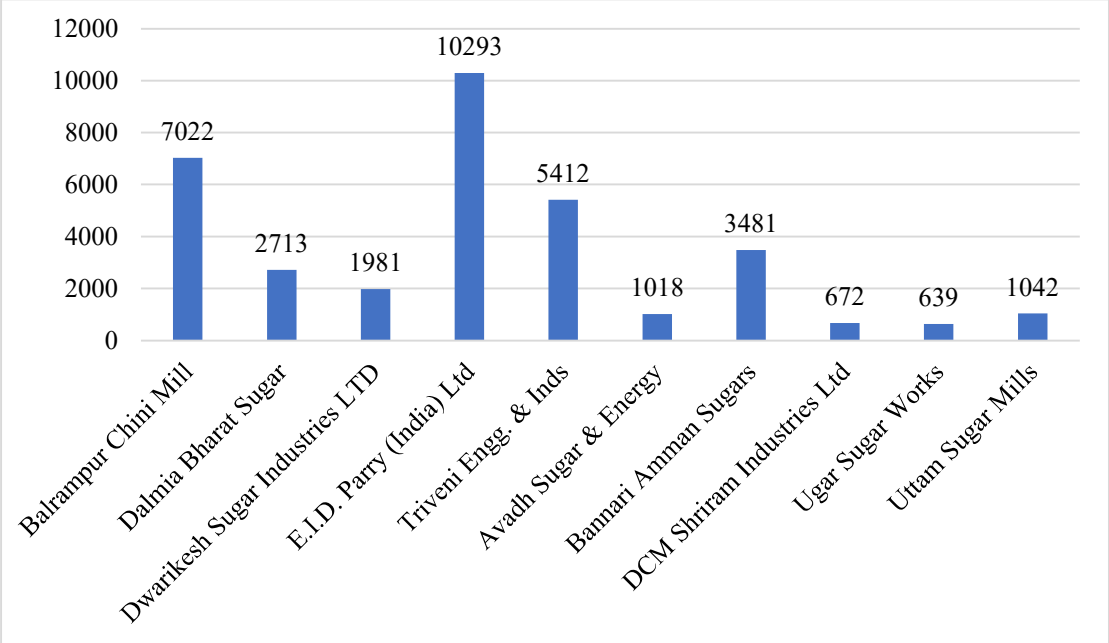
	Balrampur Chini Mill	Dalmia Bharat Sugar	Dwarikesh Sugar Industries LTD	E.I.D. Parry (India) Ltd	Triveni Engg. & Inds	Avadh Sugar & Energy	Bannari Amman Sugars	DCM Shriram Industries Ltd	Ugar Sugar Works	Uttam Sugar Mills
52 WEEK HIGH	524.9	569.5	148.45	591.3	374.5	885	3048.7	337.3	84.85	1263.85
CMP (Aug 24, 2022)	344.15	337.6	98.3	526.25	240.4	515.05	2764.15	258.9	55.6	1004.8

The above chart 1.10.1 shows the current market price and the 52-week high price of the top performing sugar stocks in the Indian stock market. During the FY 22 the stocks were able into increase their share value in the market through the achievement of the EBP target of the year. Thus, the crossing of EBP target in the market made the stocks much more stable and had positive impact in the market. All the price per share of the stocks had been increased up to 15-20% during the time period.

From the chart it is significant that the sugar stocks are maintain a momentum in their share price. Whenever there is an increase in the stock price it will move a maximum based on the current economic and market conditions. Even if there

is a fall in the stock price it does not go undervalued in the market. Especially the sugar stock Balrampur Chini Mills Ltd, is one the sugar stock which always has a positive impact and more stable stock among the sugar sector. Thus, it has became the most investor favoured stock in the market.

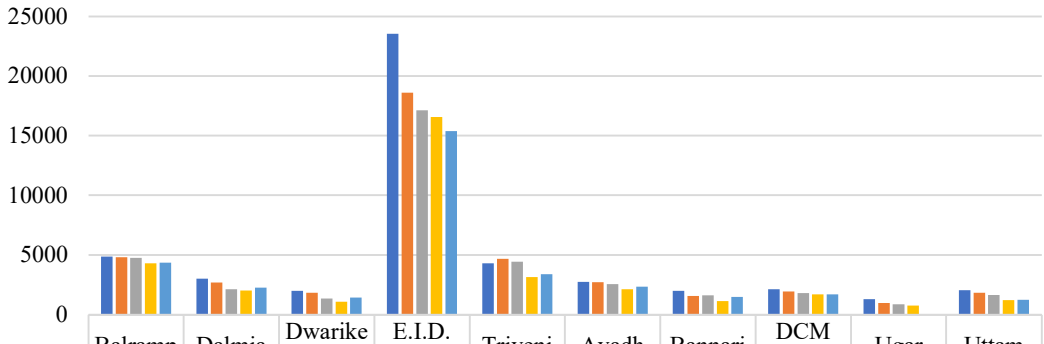
1.10.2 ANALYSIS ON MARKET CAP OF SUGAR STOCKS



In the FY 22 the market cap of all the sugar stocks has been increased in the market through the increased production of ethanol and sugar in the market. The market cap and the value of the stocks has been shown a tremendous growth in the market since the time in which the blending target has achieved in the market. EID Parry (India) Ltd is having the highest market cap among the sugar stocks with Rs.10,293 Crore in the market which is followed by Balrampur Chini Mills in the 2nd position on having largest market cap among the sugar sectoral stocks of Rs. 7,022 Crore in the market when the FY 2022 has closed. Among the 10 stocks in the chart five of the are in the Group A of the BSE classification and the rest of the stocks are in Group B of the classification.

Among the Group B classified stocks, the stock Bannari Amman Sugars Ltd is the company which has the highest market cap among other stocks in that group with Rs. 3,481 Crore. The market cap has been increased for the stocks through the stable performance of in the market and through the focused production of ethanol, sugar and sugarcane in the market. Especially in the post covid and covid period sugar stocks has made a good impact in the global market itself.

1.10.3 ANALYSIS ON REVENUE OF SUGAR STOCKS



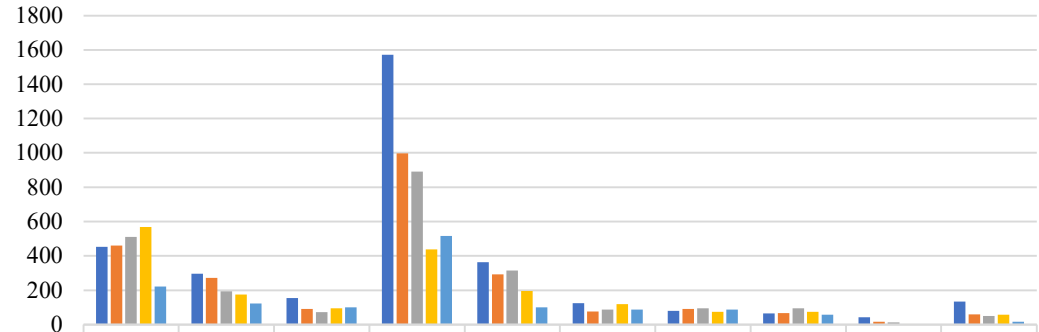
	Balrampur Chini Mill	Dalmia Bharat Sugar	Dwarikesh Sugar Industries LTD	E.I.D. Parry (India) Ltd	Triveni Engg. & Inds	Avadh Sugar & Energy	Bannari Amman Sugars	DCM Shriram Industries Ltd	Ugar Sugar Works	Uttam Sugar Mills
2022	4846	3018	1974	23527	4290	2743	1998	2123	1301	2034
2021	4811	2685	1838	18587	4674	2710	1561	1943	955	1818
2020	4741	2110	1336	17128	4436	2559	1609	1794	870	1644
2019	4285	2018	1084	16555	3151	2130	1124	1689	750	1214
2018	4342	2244	1429	15372	3370	2335	1480	1704	0	1243

The chart 1.10.3 shows the analysis on the revenue of the sugar stocks in the market during the FY 2022,2021,2020,2019 & 2018. By analysing the chart, we can say that all the stocks have a positive signal on the increase of their total revenue made by them in the market in all the FY. The Ugar Sugar Works is one of the mid cap stocks in the market, The revenue of the stock in the FY 2019 were only having 750 Crore in the market. At the end of FY 2022 of the same stock the total revenue has been increased to 1301 Crore. Similarly, all the sugar stocks in the market have made a good benefit even during the covid period and also in the post covid time period. These stocks are maintaining a positive increase in all the FY with a good sign which also makes the investors to choose them. The stable revenue of the stocks has

made them to increase their production capacity and to expand their operations through increasing the number of mills in India.

Therefore, the increase on the revenue of stocks will be having a positive figure in the coming FY. It is happening mainly due to the strict guidelines of the ethanol blending policy to achieve the target and the financial support by the government towards the sugar industry for ethanol and sugar production in the market.

1.10.4 ANALYSIS ON NET PROFIT OF SUAGR STOCKS



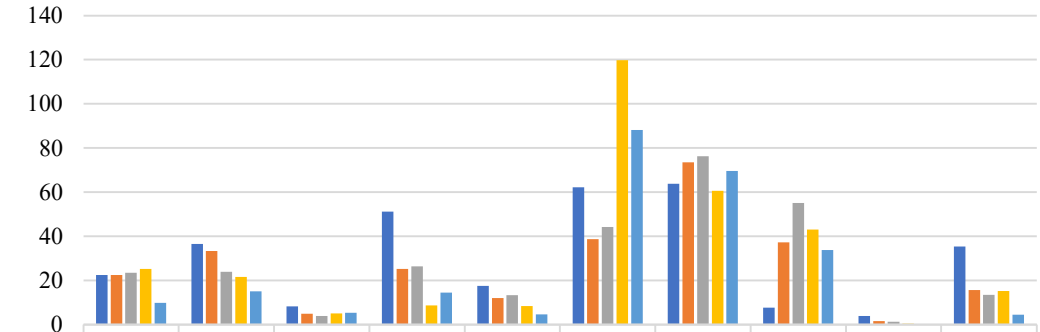
	Balrampur Chini Mill	Dalmia Bharat Sugar	Dwarikesh Sugar Industries LTD	E.I.D. Parry (India) Ltd	Triveni Engg. & Inds	Avadh Sugar & Energy	Bannari Amman Sugars	DCM Shriram Industries Ltd	Ugar Sugar Works	Uttam Sugar Mills
2022	452	297	155	1572	364	124	79	65	43	134
2021	460	271	91	997	293	77	92	66	17	59
2020	511	193	73	891	314	88	95	95	13	51
2019	569	175	95	437	196	119	75	74	4	58
2018	221	122	101	517	100	88	87	57	0	17

The chart 1.10.4 shows the five-year net profit made by the sugar stocks in the market. In the end of FY 2019 and in FY 2020 has been significantly affected the covid crisis in the market. But at the end FY 2020 the sugar stocks gas identified the market of ethanol and the increased production of alcohol-based hand sanitizers were much scare in the market. As a result of that the ethanol-based hand sanitizers were being started to manufacture. Even small and medium level of ethanol production units from sugar had been rapidly increased in the market. By comparing the Net Profit of the stocks from the FY 2018 to FY 2022 there is a 20-35% of growth

is present except for Bannari Amman Sugars Ltd. Many of the companies has already scheduled their projects to be implemented by getting the approvals and amount sanction from the respective state government and by the central government of India.

The increasing capacity of the production in the sugar mills will attracting more investment and exporting of the commodities into the market and it would lead to more FDI & FII to the sugar sector. In the upcoming FY it is estimated that the sugar sector will take the major portion of the petroleum products through Ethanol blending programme (EBP) of the government.

1.10.5 ANALYSIS ON EARNINGS PER SHARE OF SUGAR STOCKS

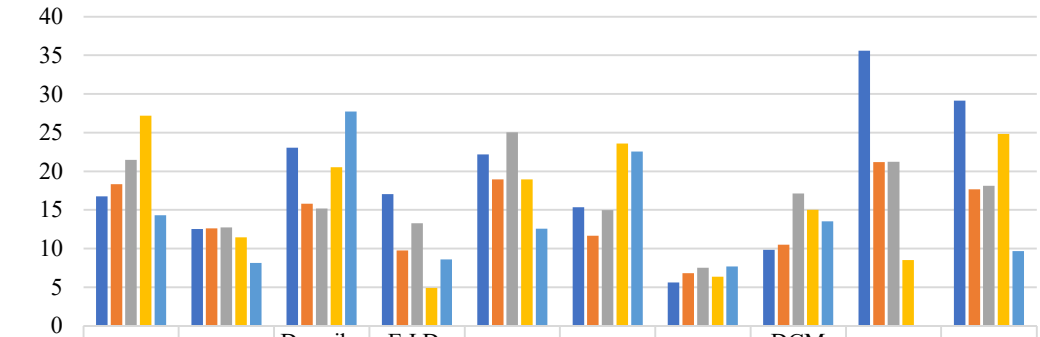


	Balrampur Chini Mill	Dalmia Bharat Sugar	Dwarikesh Sugar Industries LTD	E.I.D. Parry (India) Ltd	Triveni Engg. & Inds	Avadh Sugar & Energy	Bannari Amman Sugars	DCM Shriram Industries Ltd	Ugar Sugar Works	Uttam Sugar Mills
2022	22.44	36.54	8.24	51.17	17.54	62.15	63.78	7.61	3.85	35.38
2021	22.48	33.4	4.86	25.27	12.01	38.76	73.48	37.22	1.52	15.67
2020	23.44	23.87	3.9	26.43	13.32	44.27	76.27	55.11	1.22	13.53
2019	25.21	21.64	5.05	8.67	8.39	119.76	60.56	43.03	0.39	15.27
2018	9.86	15.11	5.39	14.46	4.62	88.08	69.6	33.73	0	4.52

The above chart 1.10.5 shows the earning per share of the sugar stocks in the FY 2018 to FY 2022. In the FY 2018 the EPS for the shares in the market were very low by the stocks except for Avadh Sugar & Energy, Bannari Amman Sugars and DCM Shriram industries Ltd. These three stocks were givig the high EPS to the shareholders in the market during the FY 2018. In the FY 2019 the EPS by these stocks were remain to be higher than other stocks. But in the FY 2019 the stocks except Dwarikesh Bharat Sugar, EID Parry Ugar Sugar works were still lower in position for providing a good EPS in the market.

In the FY 2020 except for Dwarikesh all the other stocks been provided a better EPS to the investor in the market. For Dwarikesh the EPS had been lowered to 3.9 against 5.05 in the FY 2019. On the FY 2021 and 2022 the EPS provided by all the sugar stocks were having a positive signal in the market which has clearly attracted more promoters and FII to all of the stocks in the market. While analysing the FII, DI, Promoters during these quarters of FY 21 & FY 22 there is a significant change in the percentage of shareholdings in the stocks of sugar sectoral stocks.

1.10.6 ANALYSIS ON RETURN ON EQUITY OF SUGAR STOCKS

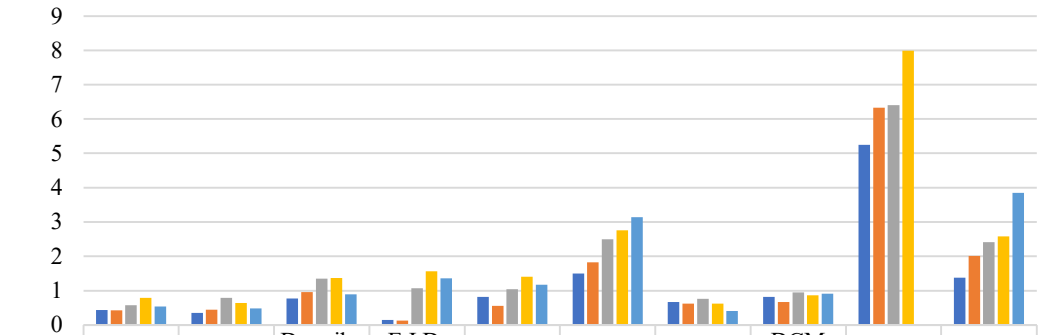


	Balrampur Chini Mill	Dalmia Bharat Sugar	Dwarikesh Sugar Industries LTD	E.I.D. Parry (India) Ltd	Triveni Engg. & Inds	Avadh Sugar & Energy	Bannari Amman Sugars	DCM Shriram Industries Ltd	Ugar Sugar Works	Uttam Sugar Mills
2022	16.77	12.53	23.05	17.02	22.16	15.35	5.61	9.85	35.58	29.15
2021	18.31	12.61	15.81	9.76	18.93	11.65	6.79	10.49	21.18	17.68
2020	21.49	12.72	15.18	13.29	25.03	14.97	7.5	17.13	21.22	18.1
2019	27.18	11.43	20.51	4.9	18.96	23.57	6.34	15.02	8.49	24.81
2018	14.32	8.12	27.73	8.61	12.58	22.54	7.68	13.52	0	9.65

In the chart 1.10.6 which shows the Return on Equity of the sugar stocks in the stock market. All the Group A shares based on the BSE classification of high liquidity and they are the actively traded stocks in the capital market. The chart clearly depicts that only the stock Avadh Sugar & Energy were having a good return on equity during the FY 18. And from the FY 2019 onwards the return on equity of the sugar stocks increased consistently. This has really strengthened the financials and the increase on the shareholdings pattern in the capital market of this sector.

The sugar mills industry had made a major step in the market by increasing sales and exports of sugar and substitutes of it across the globe. Through the government support via new policies and schemes for the sugar industry sector had made a good impact in the development of the sector. The pandemic crisis caused the FII, promoters, DII for withdrawing their investments during the financial year of 2019-2020. But the sugar industry had found new opportunities and ways to stay in the market and that led to the production of hand sanitizers, extraction of ethanol and sugar manufacturing. As a result, for such undertaking from the sugar sectoral stocks they were able to increase the return on equity in the FY 21 & FY22.

1.10.7 ANALYSIS ON DEBT TO EQUITY OF SUGAR STOCKS



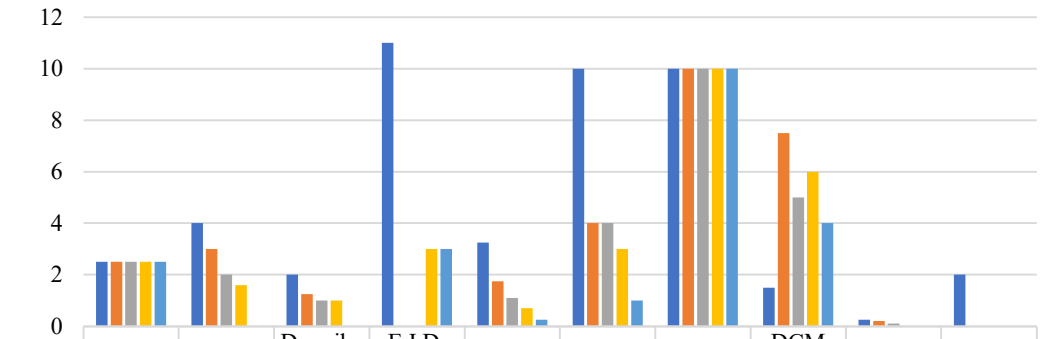
	Balrampur Chini Mill	Dalmia Bharat Sugar	Dwarikesh Sugar Industries LTD	E.I.D. Parry (India) Ltd	Triveni Engg. & Inds	Avadh Sugar & Energy	Bannari Amman Sugars	DCM Shriram Industries Ltd	Ugar Sugar Works	Uttam Sugar Mills
2022	0.44	0.35	0.77	0.15	0.82	1.5	0.67	0.82	5.25	1.38
2021	0.43	0.45	0.96	0.13	0.56	1.83	0.62	0.67	6.33	2.01
2020	0.58	0.79	1.35	1.07	1.04	2.5	0.76	0.95	6.4	2.41
2019	0.79	0.64	1.37	1.56	1.41	2.76	0.62	0.87	7.99	2.58
2018	0.54	0.48	0.89	1.36	1.17	3.14	0.41	0.91	0	3.85

The above chart 1.10.7 shows the debt equity of the sugar stocks in the FY 2018, FY19, FY 20, FY 21 & FY 22. As shown in the chart all the stocks are having low debt equity ratio in the market. This shows that the fundamentals and the financials of the sugar stocks are much strong in the market. This low debt equity ratio points out these stocks are having very low risk in the market and they are also able to provide higher return to the shareholders on the company. This lowered debt

equity ratio is the major element for the FII, DII, Promoters and also to the public to pool their funds for investing in the shares without effecting the chance of loss in the market. The Ethanol Blending Policy of the government had made the debt of majority of the sugar mills in India to recover from the higher debt of the companies in the market.

While analysing the chart it is significant that the stocks such as Balrampur Chini Mills, Dalmia Bharat Sugar and EID parry (India) is having less the 0.50 which is an ideal debt ratio in the market. Therefore, these three stocks are not depending other sources for the financial support and will not affected any kind of financial risk for them in the market which also make the investors more happy.

1.10.8 ANALYSIS ON DIVIDEND PER SHARE OF SUGAR STOCKS

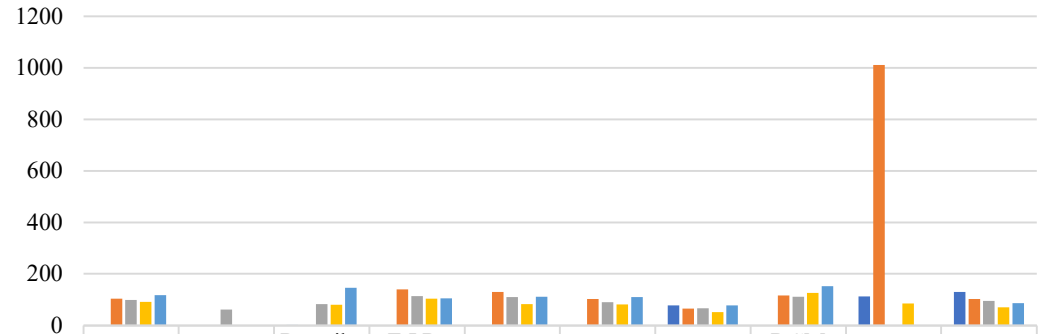


	Balrampur Chini Mill	Dalmia Bharat Sugar	Dwarikesh Sugar Industries LTD	E.I.D. Parry (India) Ltd	Triveni Engg. & Inds	Avadh Sugar & Energy	Bannari Amman Sugars	DCM Shriram Industries Ltd	Ugar Sugar Works	Uttam Sugar Mills
2022	2.5	4	2	11	3.25	10	10	1.5	0.25	2
2021	2.5	3	1.25	0	1.75	4	10	7.5	0.2	0
2020	2.5	2	1	0	1.1	4	10	5	0.1	0
2019	2.5	1.6	1	3	0.7	3	10	6	0	0
2018	2.5	0	0	3	0.25	1	10	4	0	0

This chart 1.10.8 shows the dividend pay-out by the sugar stocks to their shareholders from FY 2018 to FY 2022. EID Parry (India) is the stock which is paying higher dividend to their shareholder of Rs 11 per share. This is top dividend paying company to the shareholders in the sugar sector. The stocks Bannari Amman and Balrampur Chini mills are having the stable payment of dividend to the

shareholders in the market. And the rest of the stocks has increased their dividend pay out to the shareholders in each of the FY in a consistent manner. Such as Avadh sugar has increased their dividend pay out to Rs.10 per share which is two times more than they paid in the FY 21 & FY 20. Similarly this structure of giving high dividend to share holders will be motivated to invest more funds to the stocks which helps the companies to develop themselves and expand their operations. Thus, it leads to the strong financial nature of the companies in the market of sugar mills sector.

1.10.9 ANALYSIS ON ASSET TURNOVER RATIO OF SUGAR STOCKS



	Balrampur Chini Mill	Dalmia Bharat Sugar	Dwarikesh Sugar Industries LTD	E.I.D. Parry (India) Ltd	Triveni Engg. & Inds	Avadh Sugar & Energy	Bannari Amman Sugars	DCM Shriram Industries Ltd	Ugar Sugar Works	Uttam Sugar Mills
2022	1.06	0.8	1.38	0.29	1.12	1.08	77.79	1.24	111.85	129.58
2021	103.83	0.75	1.2	140.13	129.12	102.32	65.31	115.6	1011	102.15
2020	98.63	61.39	83.02	114.01	109.65	89.51	66.1	111.55	0	94.71
2019	91.14	0.75	79.41	103.53	82.83	81.65	51.08	125.64	84.97	69.82
2018	117.33	0.8	145.37	105.3	111.16	110.14	77.4	152.06	0	86.47

The asset turnover ratio which is used being used to analyse and measure the operating performance of the stocks in the market. The ideal ratio is to have greater than "1" in the market which means that the stock Dalmia Bharat Sugar and EID Parry is having < 1. And all the other stocks are having > 1 as the asset turnover ratio which shows the strong management of the company and the company is much more efficient in generating more revenue from the assets of the firm. The Dalmia and EID parry groups are having diversified product portfolio in various sectors which may also affecting in their performance in the market.

CHAPTER – II

LITERATURE REVIEW

2.1 REVIEW OF LITERATURE

The **National Federation of Cooperative Sugar Mills,** is the apex organisation of 250 cooperative sugar industries which is accounting for nearly 60% of our nation's sugar production, did not support it. However, the government of India has removed all restrictions on the exporting sugar and also permitted the commencement of future trading in white sugar. Futures contracts are traded mainly in the National Multi Commodity Exchanges (NMCEs), the National Commodities and Derivatives Exchange (NCDEX), and the Multi Commodity Exchange (MCX), besides E-Sugar Ltd.

The **Indian Sugar Mills Association** had been in favour for the futures trading in the sugar sector in order to provide a cushion for the industry once it is decontrolled.

As per the reports of **CARE** on the Indian industry they had stated that there is a need to devise a proper pricing model to endure long term growth for the sugar.

CRISIL report stated the disparity between sugar prices and sugarcane are high in UP and it was followed by Tamil Nadu. The impact of high sugarcane prices has been the most severe in UP which has caused a large decrease in net worth for the mills. industry and also proves it is beneficial to farmers.

In the methodology of **R. S. Deshmukh has** developed a systematic approach towards the in-bound logistics interface regarding the sugar industry and the farmers engaged in it. In his methodology during the study, he had attempted to minimize the harvesting to crushing time in order to obtain the maximum possible sugar recovery for enhancing the profitability. For achieving this he suggested the farmers and the millers in our nation should be treated as interdependent enterprises.

The Researchers of **IITB** in humanities suggested that the sugar industry sector should take necessary steps for the effective organisation of labour,

adopting sound methods for increasing productivity of labour and also for promoting industrial harmony in India at this present world is essential.

Sarbapriya Ray on her economic analysis on "Performance of Indian Sugar Industry: An Economic Analysis" showed the results of diminishing utility capacity in the sugar industry during the post reform periods. And also noticed the impact of economic capacity utilization of the sugar sector of India has impacted due to the liberalization in a negative way.

The report of **KPMG** on Indian Sugar Industrial sector, they have stated that our nation is the second largest sugar producing geography in the world. The sugar industrial sector of our economy supports more than 50 million farmers and their families, and delivering value additions to the farm side. The by-products of the sugar are Fuel, ethanol and surplus power production through cogeneration of manufacturing through sugar.

"India's Sugar Industry: Analysing Domestic Demand and Recent Trends" were stating that there will be an overall increase of 50 percentage in the price of oil in between the time period of 2010 and 2030. And it would be significantly reduce economic growth, consumption and household income. Expansion of biodiesel and ethanol intervention can be used to counteract the economic impacts occurring due to the oil price hikes in the market. Combining supply-side energy solutions with modest energy efficiency improvements in agriculture will provide useful results for the development.

The study conducted by **P. Murali, R. Sendhil, G. Govindaraj** analyses the pattern, extent and degree of spatial integration of sugar markets in the Indian market also the relationship of white sugar export prices of India and the global market. The pattern and degree of integration in this study which were assessed by testing for the existence of the law of one price. Thus, it helped in ascertaining the speed of adjustment towards long-run equilibrium, by using various tests cointegrated methods. The results from this study which has indicated that only 4 out of 11 sugar markets are only been cointegrated. And the supply of sugar which seems to appear as

the most important factor which is shaping the long-run behaviour of its price levels in India.

Murty analysed the impact of the sugar industry of India for the environmental regulations on the productive efficiency and cost of pollution.

"India's Sugar Industry: Analysing Domestic Demand and Recent Trends" report says that a 50% increase in oil prices between 2010 and 2030 would significantly reduce economic growth, real consumption and household income. Expansion of biodiesel and ethanol intervention can use to counteract the economic impacts of oil price hikes. Combining supply-side energy solutions, like biodiesel development, together with modest energy efficiency improvements and productivity improvements in agriculture will provide useful results

Chaugule and Vaidya (2003). they worked on the sugar industry in Maharashtra and made an effort to identify the 7 main causes for the decline in yield of sugarcane and to enhance productivity level of sugarcane, by adopting proven practices and at the same time at all the stages of cultivation.

IIFT report states that the linkages between sugar, oil and ethanol prices are very important considerations since the ethanol market continues to develop in market. The Sharp increases in oil prices which will be tend to exert upward pressure on prices of ethanol during harvest. And the growing tendency to fix the physical ethanol prices with the New York contract can be emerged at times of volatile oil prices. As consumers react to the relative price differential between ethanol and gasoline, any increase in the price of gasoline which can easily stimulate the demand for ethanol, also it can lead to the reduction sugar exports and would lead to the rise in price across the globe. It is estimated that about 15% of sugar crops are converted into ethanol rather than sugar.

Jessica N. Lin in her thesis report, she explains that the political and the legal aspects of global sugar cultivation are being dominated by government trade

protections. The country like Brazil has the advanced technologies and tools that will make sugar cultivation water and energy efficient in the economy.

Indian Institute of Foreign Trade (2011) in its report opined that, in India sugar is an essential item of mass consumption and the cheapest source of energy, supplying around 10 percent of the daily calorie intake. India is the second largest producer of sugar and also India is the largest consumer of sugar across the world. Raw as well as refined sugar prices plunged this year on expectation that output in Brazil and India would increase.

Sarbapriya Ray economic analysis on "Performance of Indian Sugar Industry: An Economic Analysis" result showed that there has been diminishing capacity utilization growth rate in the industry during post reform period. The impact of liberalization have an significant negative impact on the economic capacity utilization of Indian sugar industry has been noticed by her study during that time.

Chatin (2004) studied about the opportunities in the tropical areas for new scopes to the sugar beet growers and opportunities for sugar industry. He also studied the opportunities for the same in India, Pakistan, Sudan, and Egypt.

The study conducted by **ICRIER** in 2011, examines the ethanol blended petroleum pricing mechanism in India in comparison with the globally accepted price mechanism. The cost of producing ethanol in India varies largely with molasses prices and hence cyclical variations in sugarcane production chiefly determine the cost of ethanol production. From the ethanol pricing point of view, supply constraints rather than demand would dictate price movement. Since sugarcane supply follows a cyclical trend, the ethanol price fixed by the government would need to be revised periodically to adequately reflect market conditions.

Chaugule, (2003) has identified the revolutionary transformations made in the rural India which has brought by the sugar farmers by themselves by

voluntarily contributing a small part of their sugarcane price to a special fund for the socio-economic developments in their respective areas.

The governments **National Policy on Biofuels-2018** has emphasized on achieving the energy security of the country with a target of reducing import dependence i.e., usage of fossil fuels by 10 percentage from 2014 by the year 2022. This target has to be achieved by adopting a five-pronged strategy which includes the following; Energy Efficiency Norms, Adopting Biofuels & Renewable, Improvement in Refinery Processes, Demand Substitution and Increasing Domestic Production.

Amitabha Sen, (2005) has made an estimate regarding the Indian domestic sugar market of about US$ 5 billion and also about 45 million of the farmers and their families in India are depending on the sugar industry sector. India is one of the largest countries which is in second position in the agro- processing industry and also, he estimated more than 3% of India's cultivable land is under sugar.

Sharma Vinod K, Smart share, published in the Business Standard dated 22nd September 2007 pointed that India is likely to take over Brazil next year as the largest producer of sugar, and world markets too expect a rise of 17 percent in production, which could keep production under pressure in the foreseeable future. The sugar industry is in a pitiable state. The prices of sugar are on the decline

Mahalingam (2005) in his article titled "Challenges and Opportunities in Sugar Sector: A Symposium", has pointed out that among all the agricultural commodities only sugarcane enjoys an assured price and assured market. And when production of ethanol is stepped up to 300 billion litres there will be no need to import petroleum products. Thus, inflation can be contained to a large extent

According to **CARE** Report on Indian Sugar Industry, the lack of linkage between sugar and sugarcane prices leads to cyclicality. CARE states that there is a significant need to devise appropriate sugarcane pricing model which will be helping to ensure a long-term sustainability of the sugar sector and also to prove it

is beneficial to the farmers. In major sugar producing countries like Brazil, Australia and Thailand they are following the model revenue sharing of sugarcane pricing.

Jessica N. Lin in her study report clearly mentions that the political and legal aspects of the global sugar production and manufacturing are being dominated by governments trade protections. Nations like Brazil have advanced technologies and practices that make sugar cultivation easier and efficiently.

Siddiqi and Bayly have highlighted the linkage of regional production of sugar to the overseas and the developing home market during the first half of the nineteenth century of our Indian economy.

Attwood Donald has studied another dimension on the topic "Capital and the Transformation of Agrarian Class System. In the case study of Sugar Production in India made by him states that the ownership and control of land is not at all relevant for the productivity of sugarcane farms in various states of India to increase the productivity.

Siwch, Gupta and Gulerir (1985) studied on both economic and management aspects of sugar beet cultivation and processing in India and the associated problems related to it. And they have also considered the comparative economics at macro level for production.

Forbes Marshall, (2003) in his study he had stated that in order to generate more profit the mills in the sugar sector has to reduce the manufacturing costs and there the stream and fuel economy\y plays a significant role. And to improve the quality of sugar bagasse or steam provide the savings also.

Sugar Industry, Cover story, Fortune India? Feb. 28-2006 Points out that Bajaj Hindustan; belonging to the Bajaj group, which is all set to celebrate its platinum Jubilee, has emerged as the largest sugar company in the country.

Profitability of the company is bound to improve further as it has great focus on increasing operational size and reducing cost of production

Based on the report of **Committee on revitalization of sugar industry in August 2004**, they made some certain policies to be compulsorily followed such as oxygenation of gasoline, long term policy for blending of petrol with ethanol, prevention of frequent changes in PPA for cogeneration plants were also implemented by the committee towards the sugar industry.

P. Chellaswamy on his for understanding the sugar sector has conducted a study on the Growth and Productivity of Indian Sugar Companies and he analysed that about 34 sugar manufacturing companies were included among the list of 119 universal companies. The methodology which is being adapted by using Annual compound growth rate, trend analysis by method of least squares and multiple regression analysis as its tools. The production function and the productivity ratios were computed by using the Solow model. The growth of the northern region had positive impact of growth in terms of the output, capital employed and the better rainfall and irrigation in this region.

The suggestion made by **Gorton and Rouwenhorst** stated that the commodity prices might provide diversification effects to an investor's portfolio at time in which the price dropping of the equity markets is also supported.

Raza (2016) showed in their study that oil prices have a negative impact on the stock markets of all emerging economies, while the price of gold showed mixed results**.**

The **Rangarajan committee** report on the deregulation of Sugar sector in India had prepared a comprehensive report by explaining the various aspects of Sugar business in India. The cyclicality in the production of sugar and sugar cane in India and the various aspects of control. The sugar cane reservation area and its minimum distance criterion, implications, and the options which can be considered for bringing the greater efficiency and increase of productivity were discussed.

The **India Stat Website** compares the sugar industry in many companies with respect to the following variables like Sugar Production, Total Consumption of Sugar, Working Units, Production of Sugarcane, Cane Crushed, Molasses Produced, Sugar Recovery, Population, Per Capita Consumption of Sugar.

D. Venkatesh and M. Venkateswarlu in their study they had analysed the sugar industries and also recognized how does the Indian sugar industries has played an important role in the development of the economy and the provided employment in rural areas. This study clearly explained the state wise production trends size and structure of sugar industry and development of these industries in the economy. It covers a decade from 2005-06 to 2014-15 and categorizes sugarcane areas, production of sugar, production of by-products and shows that the production of sugarcane is highest in Uttar Pradesh and lowest in Bihar and Punjab.

Gromb and Vayanos (2010) states that the link between the sugar and oil which is based on the production of ethanol can be behaviourally both of the aforementioned. That can be associated with each other, especially in time where the increased financialization in the market.

According to **Observatory of Economic Complexity (2017)** considered that the raw sugar is the 119th most traded product in the world. It has also forecasted that in the upcoming decades, exports of sugar will continue to remain concentrated, and the Brazil keeping its leading position with an accounting for 38% of the world trade of sugar in the global market.

According to the **Indian Sugar Mills Association**, the domestic sugar industries were able to supply the adequate quantities of extra neutral alcohol (ENA) or ethanol according to the requirement for the purpose of using it in the manufacture of hand sanitizers during the time of Covid-19 crisis. About 50 sugar mills across in India have created sanitizer capacities by totalling it to 100,000 litters per day. Thus, it had simply helped the sugar mills to make a rapid growth in the economy.

Oil Marketing Companies (OMC), committee suggests that the gradual rollout of E20 ethanol in the country in order to achieve the target by 2025. In the same meantime, the rollout plan still suggests that the pan-India availability of E10 from April, 2022 for the use as a protection fuel for meeting the demands of the existing vehicles in India till April 2025.

In 2019 the **OECD-Food and Agriculture Organization** has stated that both sugar cane production and the sugar beet production projects are to be expanded mainly by the support policies and high remunerative returns for the sugar crop based on the ethanol production.

As a result of the study conducted by **Systematix Institutional Equities**, they had stated that the sugar industry is on the major cusp of a mega transformation which has been emerged as a potent driver of clean energy. Which will be driving our nations shift to renewable energy faster than ever had happened. The Sugar companies are now shedding the burden of the legacy with high working capital and realigning their business models to path of new high growth trends which are more profitable and scalable

Yusri et al (2016). The use of ethanol in SI engines confers several advantages over gasoline. The research octane number (RON) of ethanol were higher, Thus, obtaining more power from the engine, and ethanol blended fuels can simply withstand higher pressures before detonating.

Bae and Kim (2017), has stated that the ethanol is usually used in SI engines by blending with pure gasoline in a well-defined percentage and is injected in the inlet manifold or directly into engine cylinders.

AFS Ltd (India) Research Repot- Indian sugar industry (2013) In this report they clearly examine the growth and development of the potential of sugar industries in India. And this report clearly shows the data from 2008 - 2013 and it

includes the domestic consumption surplus scenario, sugarcane productivity, sugar production and it also shows state wise area under sugar cultivation. As per the report of ISMA the total sugar production of the sugar industries utilizes their waste after their purposes helps them to make a by-product which is making an increase in their profit and also saving the environment.

In the monthly report published by **ICICI Direct** clearly states that they had reiterated their positive stance on sugar sector along with an imminent re-rating. It is because of the sugar stocks have seen a 2-4x run-up in four months while valuation multiples have been re-rated from 3-5x to 8-10x PE. The sugar sector which has seen a greater turnaround from being a cyclical sector in the Indian stock market to a structural growth sector which is being backed by government's aggressive ethanol blending programmes.

Ali Muhammad Khushk, Aslam Memon and Ikram Sayeed (2011) opined that in Sindh, 50 Percent sugar industry falls in the large size group. In Punjab a major portion of the sugar industry (70 percent) also falls in the large size group, while sugar industry of NWFP falls in the small size group. In Punjab and NWFP, 76 and 70 percent respectively are small size growers having less than 5 Hectares, whereas in Sindh 49 Percent are small growers. They found the competitiveness of the sugar industry indicates that sugar industry of Punjab had the advantage in total quantity of sugar production. The Sugar Industry of Sindh had the advantage in extraction rate of sugar per ton of sugarcane and industry of NWFP had advantage in molasses recovery percentage.

In the study of Sugarcane based Ethanol Production for Fuel Ethanol Blending Program in India by **P. Murali**, the energy strategy of India aims to chart the way forward to meet the Government's recent ambitious announcements in the energy domain such 175GW of renewable energy capacity by 2022. Globally, biofuels assume importance due to growing energy demand and environmental concerns. India aims 20% blending of biofuel by 2030 to reduce the commitment made in the Paris agreement.

CHAPTER – III

RESEARCH METHODOLOGY

3.1 RESEARCH DESIGN

A sound research design is inevitable for a research work to be successful. Here the sound research work is analytical in nature. The research design is the basic framework which provides the guidelines for the rest of the research process. A research design is a plan that specifies the source and types of information's relevant to the research problem.

3.2 DATA COLLECTION

Data collection is the important aspect of any type of research study. For conducting this study, the data were collected from secondary sources. The secondary data sources include a number of researches, working papers, financial dailies and the website of ISMA, SEBI were also referred for conducting the study.

3.3 TOOLS AND TECHNIQUES

Analysis of data means to critically examine the data for studying the characteristics of the objectives under the study. Analytical study tools like correlation analysis is being used in this study with the help of SPSS software for identifying the impact of ethanol on the performance of sugar sectoral stocks in Indian stock market and also to describe the various factors like FII, FDI, DII, Promoters of the sugar sector and their influence on the movement of the sugar stocks.

3.4 PERIOD OF THE STUDY

The study was conducted from 14th July 2022 to 08th September 2022.

3.5 HYPOTHESIS FOR THE STUDY

H_0: There is no impact of ethanol on the performance of sugar stocks in Indian market.

H_1: There is an impact of ethanol on the performance of sugar stocks in Indian market.

3.6 LIMITATIONS OF THE STUDY

- Historical data were not accurate in the websites published by the authorities.
- Lack of information's in the publications of the companies.
- Actual ethanol production of each company was not available.
- The study has done only with 10 sugar stocks to analyse the impact of ethanol on the performance selected stocks through the evaluation. Therefore, this study cannot be generalized to all the sugar stocks.

CHAPTER – IV

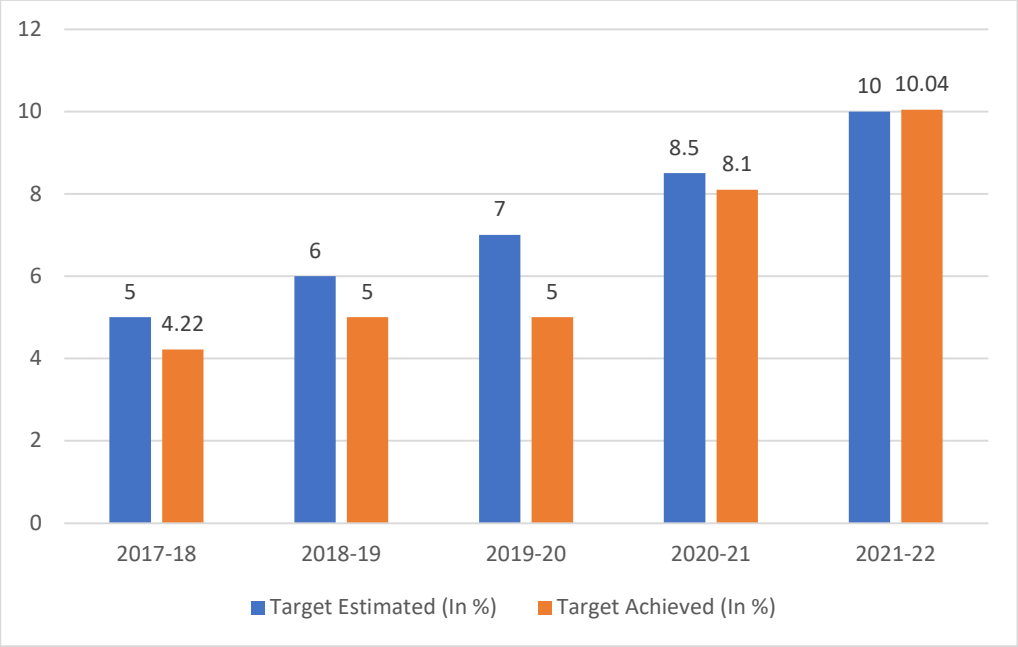
DATA ANALYSIS AND INTERPRETATION

4.1 BLENDING POLICY IMPACT

Table No. 4.1 – Showing the blending policy impact

Financial Year	Target Estimated (In %)	Target Achieved (In %)
2017-18	5	4.22
2018-19	6	5
2019-20	7	5
2020-21	8.5	8.1
2021-22	10	10.04

Figure No. 4.1 – Showing the blending policy impact



Interpretation

Correlations		
Variables	Target Estimated	Target Achieved
Target Estimated	1	.966** 0.007
Target Achieved	.966** 0.007	1
Result from SPSS Ver. 26 **. Correlation is significant at the 0.01 level (2-tailed).		

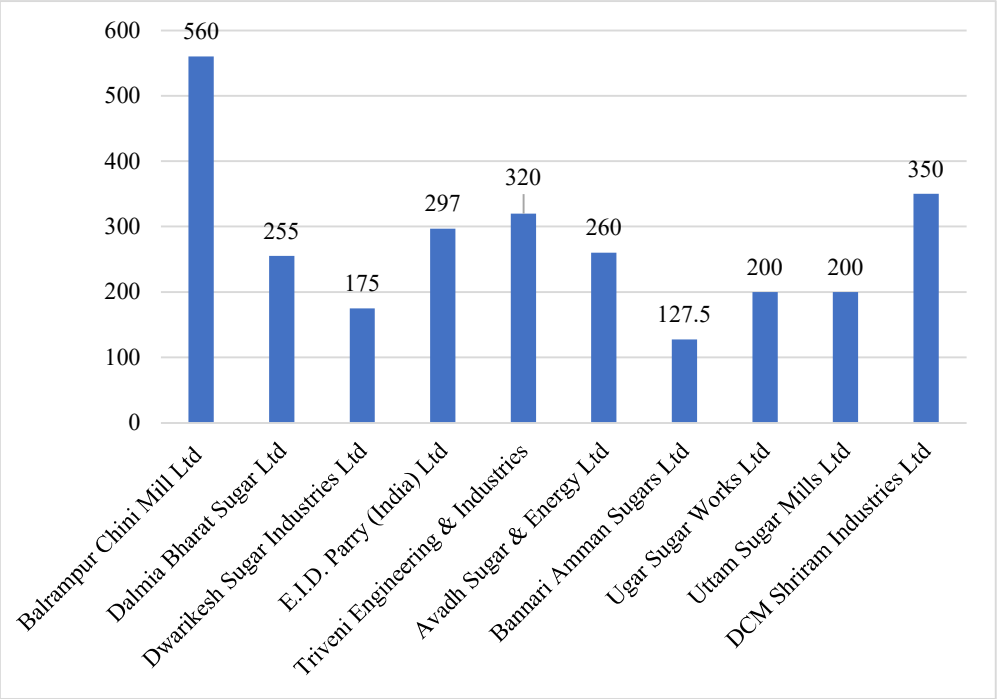
The analysis on the blending target estimated by the government and the target achieved by the sugar mills in India which is highly correlated and the null hypothesis has been rejected and alternative hypothesis has accepted. Thus, through the defined structure of the blending policy of the government for increasing the ethanol blending with petrol has helped the sugar mills to make a good impact in the market. In FY 2017-18 the target achieved 4.22 % achieved against the target of 5%, Which shows the positive approach of the companies towards the ethanol production and blending. As a result of that the companies were able to achieve the target of 10% in FY 2021-22 with a production 10.04%.

4.2 ETHANOL INSTALLED CAPACITY OF STOCKS

Table No. 4.2 – Showing installed capacity of stocks

Company	Installed Distillery Capacity
Balrampur Chini Mill Ltd	560
Dalmia Bharat Sugar Ltd	255
Dwarikesh Sugar Industries	175
E.I.D. Parry (India) Ltd	297
Triveni Engineering & Industries	320
Avadh Sugar & Energy Ltd	260
Bannari Amman Sugars Ltd	127.5
Ugar Sugar Works Ltd	200
Uttam Sugar Mills Ltd	200
DCM Shriram Industries Ltd	350

Figure No. 4.2 – Showing installed capacity of stocks



Interpretation

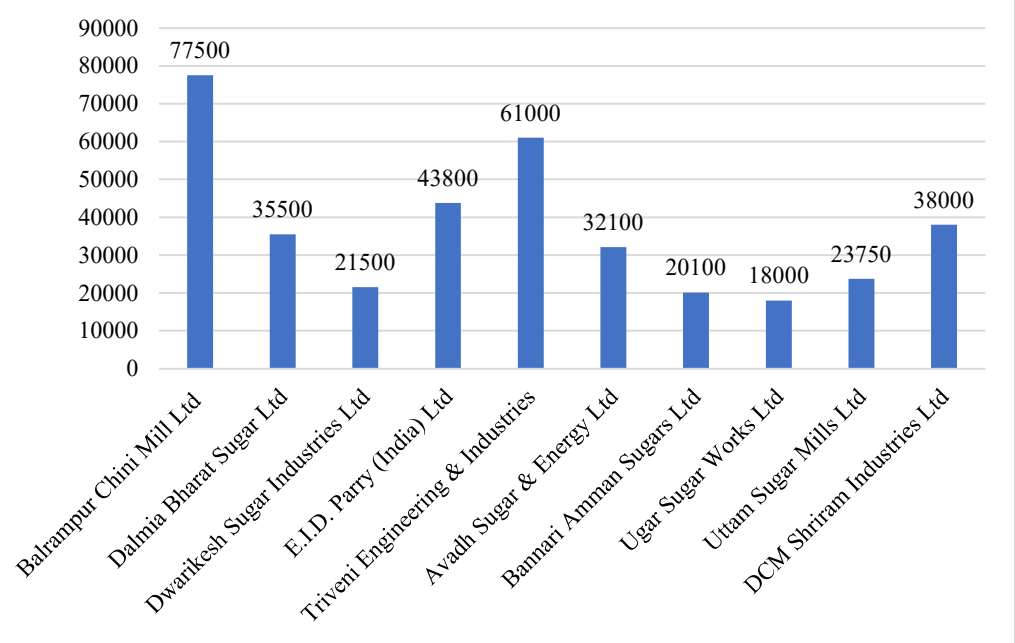
The above diagram shows the installed capacity of the sugar stocks in their sugar mills. The distillery capacity is the maximum amount of ethanol which can be produced by the sugar mills on a day. The installed distally capacity is valued at KLPD – Kilo Litre Per Day. Thus, based on the total number of working days of the sugar mill in a year is calculated to identify the KLPA on each of the sugar mills. Through the strong management and keen need for increasing the ethanol production the sugar mills have increased their capacity to the next level. As a result of that among the selected stocks for the study states that the stock Balrampur Chini Mills has the largest distillery capacity to bring out maximum amount of 560 KLPD of ethanol. After Balrampur Chini Mills the largest installed capacity of distillery is held with DCM Shriram Industries Ltd 350 with KLPD and E.I.D. Parry (India) Ltd with 320 KLPD. Moreover, Balrampur Chini Mills is expanding the distillery capacity to 1050 KLPD by the end of December 2022. Therefore, it is significant to state that the installed capacity of stocks has the impact on the performance of the sugar stocks in the Indian market.

4.3 CRUSHING CAPACITY OF SUGAR STOCKS

Table No. 4.3 – Showing crushing capacity of stocks

Company	TCD
Balrampur Chini Mill Ltd	77500
Dalmia Bharat Sugar Ltd	35500
Dwarikesh Sugar Industries Ltd	21500
E.I.D. Parry (India) Ltd	43800
Triveni Engineering & Industries	61000
Avadh Sugar & Energy Ltd	32100
Bannari Amman Sugars Ltd	20100
Ugar Sugar Works Ltd	18000
Uttam Sugar Mills Ltd	23750
DCM Shriram Industries Ltd	38000

Figure No. 4.3 – Showing crushing capacity of stocks



Interpretation

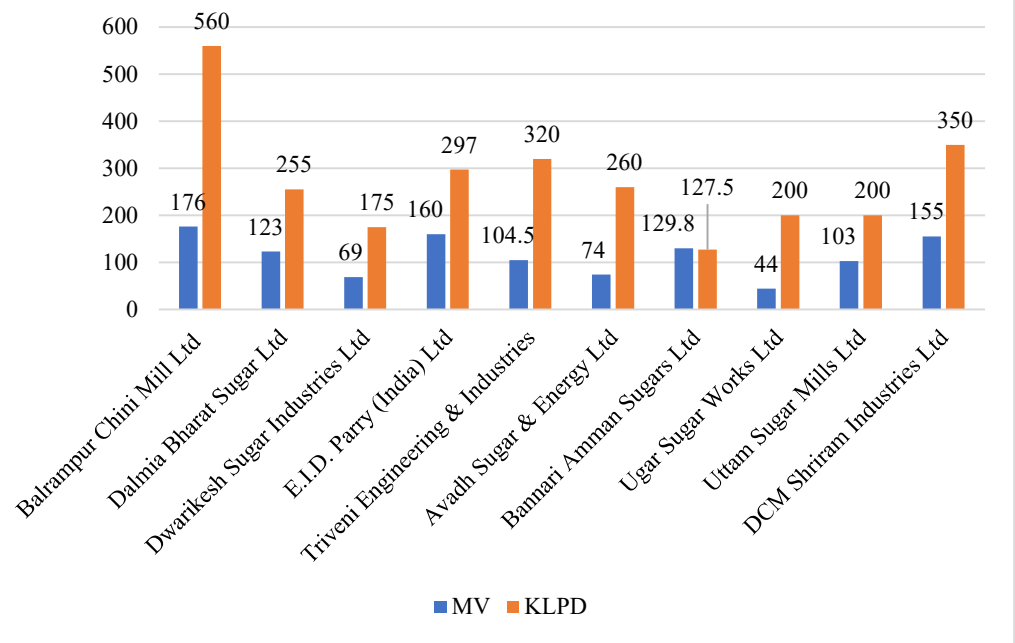
The above diagram shows the crushing capacity of the stocks in their sugar mill units. The crushing capacity of the stocks are valued at TCD – tonnes of cane per day. The data on the crushing capacity of the stocks it is significant to state that the Balrampur Chini Mills Ltd is having high amount of sugarcane crushing in the units with 77,500 TCD. The total TCD by converting it into annum will give the actual result on the overall production of sugarcane in India per annum. In the FY 2022 the overall production of India were 4018 lakh tonnes of sugar. And the stocks Balrampur Chini Mills, Triveni Engineering & Industries with 61000 TCD and E.I.D. Parry (India) Ltd with 43,800 TCD of cane crushing had been made. Thus, they were able to contribute more in this sector. Therefore, it is evident to these stocks on the market which has played a key role in the overall production of ethanol and the production performance in the market had also reflected on improving the performance of these sugar stocks to a greater extent in the Indian stock market.

4.4 CO-GENERATION CAPACITY OF STOCKS

Table No. 4.4 – Showing cogeneration capacity of stocks

Company	MV	KLPD
Balrampur Chini Mill Ltd	176	560
Dalmia Bharat Sugar Ltd	123	255
Dwarikesh Sugar Industries Ltd	69	175
E.I.D. Parry (India) Ltd	160	297
Triveni Engineering & Industries	104.5	320
Avadh Sugar & Energy Ltd	74	260
Bannari Amman Sugars Ltd	129.8	127.5
Ugar Sugar Works Ltd	44	200
Uttam Sugar Mills Ltd	103	200
DCM Shriram Industries Ltd	155	350

Figure No. 4.4 – Showing cogeneration capacity of stocks



Interpretation

Correlations		
Variables	M V	KLPD
M V	1	.636* 0.048
KLPD	.636* 0.048	1
Result from SPSS Ver. 26 *. Correlation is significant at the 0.05 level (2-tailed).		

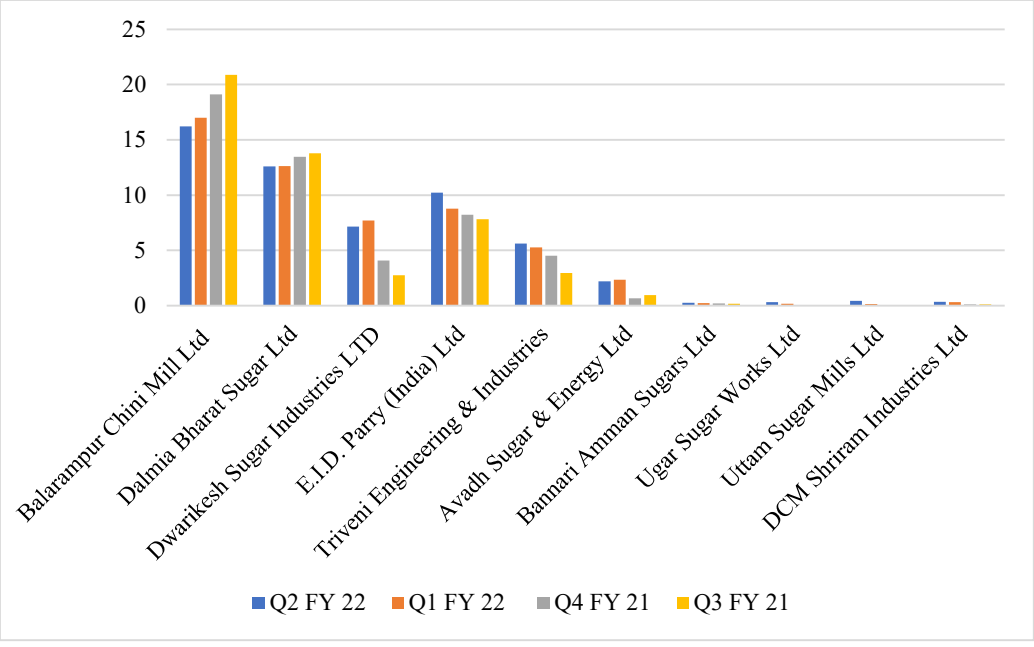
The analysis on the co-generation capacity of the sugar stocks and KLPD is positively correlated. Thus, is shows that the sugar stocks gave significant impact of ethanol on the increased capacity of production and the expansion of the mills in the sugar sector of India. From this analysis it is clear that the stocks are having a maximum utilisation of the MV in order have an effective co-generation capacity in the units of sugar mills. Here the Balrampur Chini Mills is having high production of 560 KLPD with the co-generation capacity of 176 MV.

4.5 PERCENTAGE OF FOREIGN INSTITUTIONAL INVESTOR- SUGAR STOCKS

Table No. 4.5 – Showing percentage of FII on sugar stocks

COMPANY	Q2 FY 22	Q1 FY 22	Q4 FY 21	Q3 FY 21
Balrampur Chini Mill Ltd	16.22	17	19.1	20.89
Dalmia Bharat Sugar Ltd	12.59	12.63	13.46	13.77
Dwarikesh Sugar Industries	7.16	7.7	4.09	2.76
E.I.D. Parry (India) Ltd	10.21	8.76	8.21	7.81
Triveni Engineering & Industries	5.62	5.28	4.51	2.96
Avadh Sugar & Energy Ltd	2.19	2.33	0.66	0.95
Bannari Amman Sugars Ltd	0.26	0.23	0.21	0.17
Ugar Sugar Works Ltd	0.31	0.18	0.03	0
Uttam Sugar Mills Ltd	0.42	0.13	0.04	0
DCM Shriram Industries	0.35	0.32	0.12	0.11

Figure No. 4.5 – Showing percentage of FII on sugar stocks



Interpretation

Correlations				
Variables	***Q2 FY 22***	***Q1 FY 22***	***Q4 FY 21***	***Q3 FY 21***
Q2 FY 22	1	.995** 0.000	.974** 0.000	.949** 0.000
Q1 FY 22	.995** 0.000	1	.977** 0.000	.956** 0.000
Q4 FY 21	.974** 0.000	.977** 0.000	1	.994** 0.000
Q3 FY 21	.949** 0.000	.956** 0.000	.994** 0.000	1
Result from SPSS Ver. 26 **. Correlation is significant at the 0.01 level (2-tailed).				

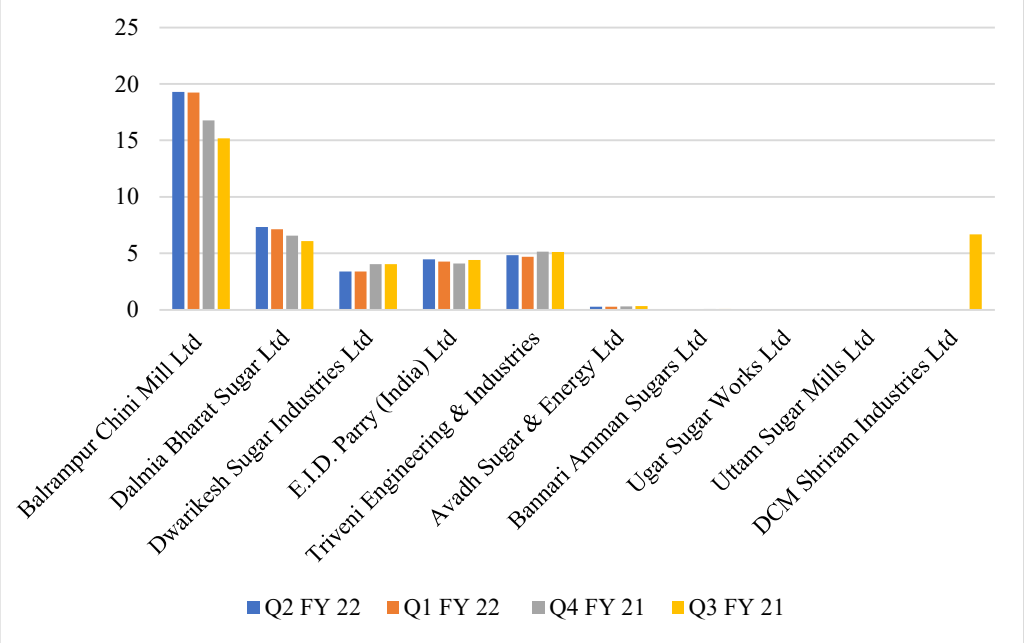
The above diagram shows the percentage of the shareholding pattern of the stocks made by FII in four quarters of FY. The stocks are able to maintain a stable amount of FII to invest on the shares in the stock market during the quarters of the financial years. The chart clearly shows the increased amount of the lower-level stocks and similarly for the large and midcap stocks. Thus, the FII on the sugar stocks are being positively correlated which states that there has been a significant impact of ethanol in improving the performance of the sugar stocks in the market. And as a result of that the sugar stocks were able to attract the FII to pool their investments into them. Therefore, the null hypothesis has been rejected and alternative hypothesis has accepted

4.6 PERCENTAGE OF DOMESTIC INSTITUTIONAL INVESTOR - SUGAR STOCKS

Table No. 4.6 – Showing percentage of DII on sugar stocks

COMPANY	Q2 FY 22	Q1 FY 22	Q4 FY 21	Q3 FY 21
Balrampur Chini Mill Ltd	19.28	19.25	16.78	15.19
Dalmia Bharat Sugar Ltd	7.33	7.14	6.56	6.08
Dwarikesh Sugar Industries Ltd	3.38	3.38	4.04	4.04
E.I.D. Parry (India) Ltd	4.46	4.26	4.1	4.41
Triveni Engineering & Industries	4.85	4.7	5.15	5.12
Avadh Sugar & Energy Ltd	0.28	0.28	0.31	0.32
Bannari Amman Sugars Ltd	0	0.06	0.09	0.09
Ugar Sugar Works Ltd	0	0	0	0
Uttam Sugar Mills Ltd	0	0	0	0.01
DCM Shriram Industries Ltd	0.01	0.01	0	6.69

Figure No. 4.6 – Showing percentage of DII on sugar stocks



Interpretation

Correlations				
Variables	***Q2 FY 22***	***Q1 FY 22***	***Q4 FY 21***	***Q3 FY 21***
Q2 FY 22	1	1.000** 0.000	.997** 0.000	.906** 0.000
Q1 FY 22	1.000** 0.000	1	.997** 0.000	.906** 0.000
Q4 FY 21	.997** 0.000	.997** 0	1	.904** 0.000
Q3 FY 21	.906** 0.000	.906** 0.000	.904** 0.000	1
Result from SPSS Ver. 26 **. Correlation is significant at the 0.01 level (2-tailed).				

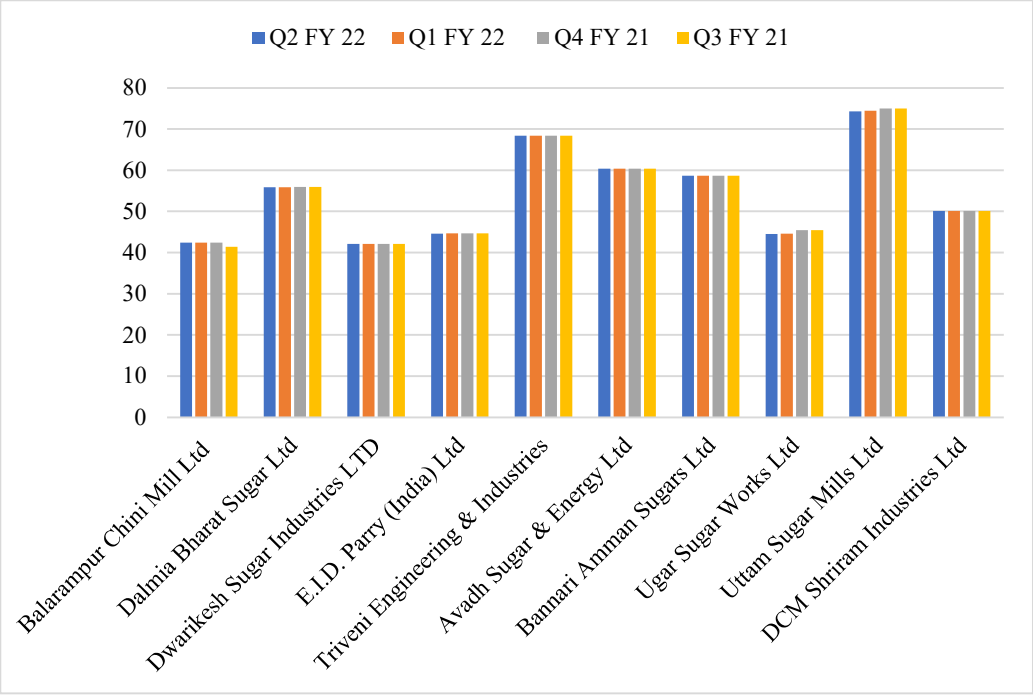
The above diagram shows the percentage of the domestic institutional investors shareholding in the selected stocks from the sugar sector for the study. Here the shareholding of the DII in all the four quarters of FY is showing that there is a stable momentum is being made by the stocks through the improved performance in the market. By doing the statistical study it clearly shows that all the four quarters of the DII with the selected stocks are positively corelated. Thus, it shows the involvement of DII on to the pooling of funds to the stock. Therefore, the percentage of DII in the stocks has the influence of the ethanol impact in the market for the stable position of DII in investing into the stocks. And in the result of analysis of the DII the null hypothesis of the study has been rejected and the alternative hypothesis is being accepted.

4.7 PERCENTAGE OF PROMOTERS ON SUGAR STOCKS

Table No. 4.7 – Showing percentage of promoters on sugar stocks

COMPANY	Q2 FY 22	Q1 FY 22	Q4 FY 21	Q3 FY 21
Balrampur Chini Mill Ltd	42.42	42.42	42.42	41.4
Dalmia Bharat Sugar Ltd	55.9	55.9	55.97	55.97
Dwarikesh Sugar Industries Ltd	42.09	42.09	42.09	42.09
E.I.D. Parry (India) Ltd	44.61	44.64	44.66	44.68
Triveni Engineering & Industries	68.43	68.43	68.43	68.43
Avadh Sugar & Energy Ltd	60.39	60.39	60.39	60.39
Bannari Amman Sugars Ltd	58.7	58.7	58.7	58.7
Ugar Sugar Works Ltd	44.52	44.61	45.42	45.42
Uttam Sugar Mills Ltd	74.31	74.43	75	75
DCM Shriram Industries Ltd	50.11	50.11	50.11	50.11

Figure No. 4.7 – Showing percentage of promoters on sugar stocks



Interpretation

Correlations				
Variables	***Q2 FY 22***	***Q1 FY 22***	***Q4 FY 21***	***Q3 FY 21***
Q2 FY 22	1	1.000** 0.000	1.000** 0.000	.999** 0.000
Q1 FY 22	1.000** 0.000	1	1.000** 0.000	.999** 0.000
Q4 FY 21	1.000** 0.000	1.000** 0.000	1	1.000** 0.000
Q3 FY 21	.999** 0.000	.999** 0.000	1.000** 0.000	1
Result from SPSS Ver. 26 **. Correlation is significant at the 0.01 level (2-tailed).				

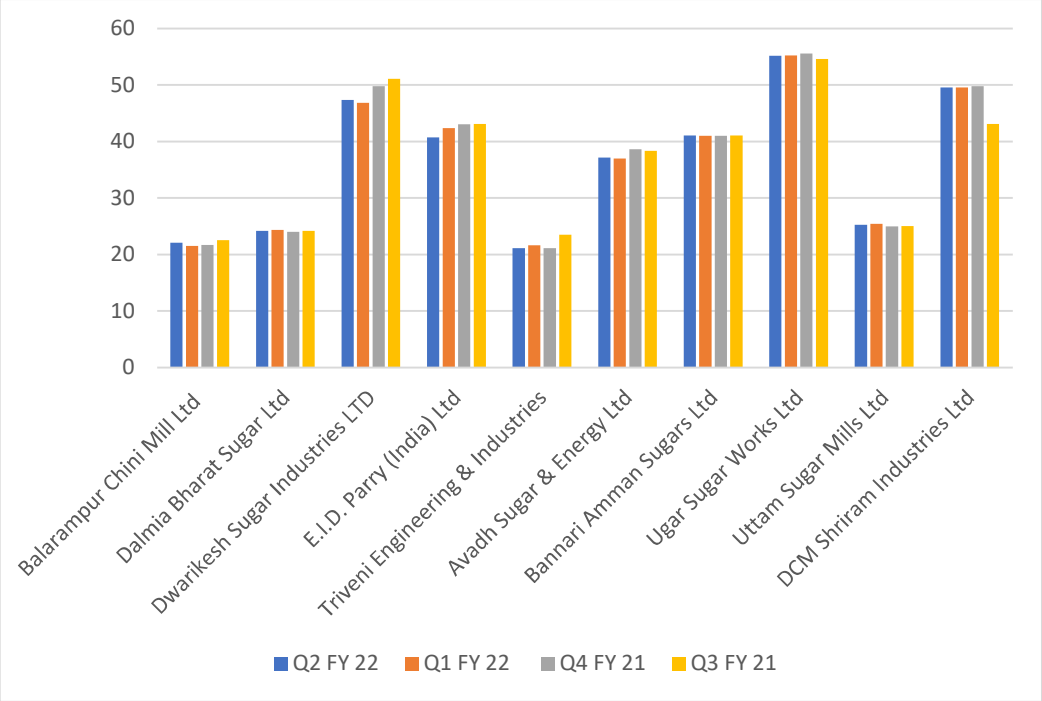
The above chart shows the percentage of promoters invested on the selected sugar stocks in the market. The shareholding on the selected stocks for the study shows that the major portion of the shareholding in the company is held within the hands of the promoters in the market. In all the quarters of the financial year of the stocks the percentage of promoters for the stocks had not even reduced and the stocks are able maintain a proper stability in the market for making it happen. The correlation analysis is showing that there the percentage of promoters in all the quarters are highly corelated thus the null hypothesis of the study has rejected and it shows the impact of ethanol on the improved performance of the stocks in the market. And the increased production of ethanol has made the stock to have a momentum on the promoters. The increased level of promoters of better for any stock in the market which shows that they are fundamentally and financially strong in the market.

4.8 PERCENTAGE OF PUBLIC INVESTMENT ON SUGAR STOCKS

Table No. 4.8 – Showing percentage of pubic investment on sugar stocks

COMPANY	Q2 FY 22	Q1 FY 22	Q4 FY 21	Q3 FY 21
Balrampur Chini Mill Ltd	22.08	21.53	21.7	22.52
Dalmia Bharat Sugar Ltd	24.18	24.33	24.01	24.18
Dwarikesh Sugar Industries Ltd	47.37	46.84	49.78	51.11
E.I.D. Parry (India) Ltd	40.73	42.34	43.03	43.11
Triveni Engineering & Industries	21.1	21.59	21.1	23.49
Avadh Sugar & Energy Ltd	37.14	37	38.64	38.34
Bannari Amman Sugars Ltd	41.05	41.01	41	41.04
Ugar Sugar Works Ltd	55.17	55.21	55.55	54.58
Uttam Sugar Mills Ltd	25.26	25.44	24.96	25
DCM Shriram Industries Ltd	49.53	49.56	49.77	43.09

Figure No. 4.8 – Showing percentage of pubic investment on sugar stocks



Interpretation

Correlations				
Variables	***Q2 FY 22***	***Q1 FY 22***	***Q4 FY 21***	***Q3 FY 21***
Q2 FY 22	1	.999** 0	.997** 0	.975** 0
Q1 FY 22	.999** 0	1	.997** 0	.976** 0
Q4 FY 21	.997** 0	.997** 0	1	.984** 0
Q3 FY 21	.975** 0	.976** 0	.984** 0	1
Result from SPSS Ver. 26 **. Correlation is significant at the 0.01 level (2-tailed).				

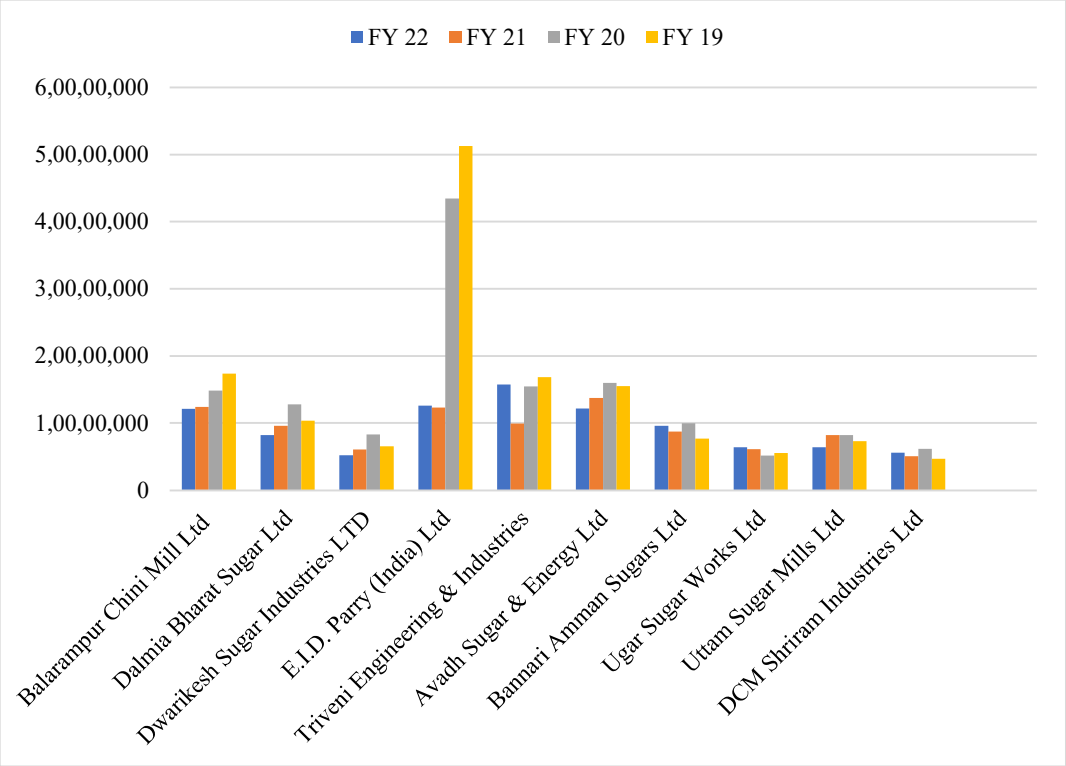
The above diagram shows the percentage of the public investment on the shareholding of the selected sugar stocks in the market. The result by analysing the chart shows that the percentage of shareholdings made by the public the stocks have a positive figure in the market in all the quarters of the FY. The public investment is being more stable in purchasing these sugar stocks. Moreover, for all these stocks they are having good investment form the promoters also. Thus, the intertest of investors on choosing the strong stocks form the market has been significantly reflected in the sugar stocks. The correlation analysis also states that the percentage of public investment in the market has a significant impact made by ethanol in the performance of the sugar stocks. Which means that the null hypothesis of the study has been rejected and the alternative hypothesis is accepted.

4.9 DEBT OF THE SUGAR STOCKS

Table No. 4.9 – Showing the debt of sugar stocks

COMPANY	FY 22	FY 21	FY 20	FY 19
Balarampur Chini Mill Ltd	1,21,07,125	1,24,03,804	1,48,24,848	1,73,40,038
Dalmia Bharat Sugar Ltd	81,85,100	95,78,900	1,27,72,000	1,03,68,700
Dwarikesh Sugar Industries LTD	52,27,569	60,68,107	82,79,661	65,15,924
E.I.D. Parry (India) Ltd	1,25,93,500	1,22,94,900	4,34,69,800	5,12,46,200
Triveni Engineering & Industries	1,57,50,637	99,04,763	1,54,77,673	1,68,43,474
Avadh Sugar & Energy Ltd	1,21,52,304	1,37,49,968	1,59,84,259	1,55,23,172
Bannari Amman Sugars Ltd	96,06,332	87,16,628	99,66,332	76,89,890
Ugar Sugar Works Ltd	63,96,833	60,92,711	51,43,896	55,41,531
Uttam Sugar Mills Ltd	64,01,600	82,29,138	82,20,474	72,82,449
DCM Shriram Industries Ltd	55,99,763	50,76,799	61,34,163	46,58,855

Figure No. 4.9 – Showing the debt of sugar stocks



Interpretation

Correlations				
Variables	***FY 22***	***FY 21***	***FY 20***	***FY 19***
FY 22	1	.792**	0.585	0.592
		0.006	0.076	0.071
FY21	.792**	1	.642*	0.628
	0.006		0.046	0.052
FY 20	0.585	.642*	1	.994**
	0.076	0.046		0
FY 19	0.592	0.628	.994**	1
	0.071	0.052	0	
Result from SPSS Ver. 26 **. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed).				

The above data shows the debt of the selected sugar stocks for the study. The analysis of FY 22, FY 21, FY 20 and FY 19 shows the consistent reduction of the debt of the stocks in the financial arena. The debt for all the stocks in FY 19 were much higher and in the FY 2020, 2021 and 2022 the level of debt has been fallen, this shows the positive impact of the management and the increased debt equity ratio of the stocks, except for DCM Shriram Industries Ltd has a slight increase in the FY 22, while analysing the debts in previous FY it comes to a conclusion that the debt of this sugar stock will be reduced in this FY. The analytical study also shows an positive correlation on the debt of stocks due to the reduced amount of debt for each stocks in the market. Thus, the fall in the level of debt of the stocks has the significant impact of the ethanol business in the market which helped the stocks to improve the financial performance and the improved performance has made to reject the null hypothesis of the study in the impact of ethanol in performance of the selected sugar sectoral stocks.

CHAPTER – V

FINDINGS, SUGGESTIONS AND CONCLUSION

5.1 FINDINGS

The main findings arrived at as a result of this study on various aspects has been stated in the relevant chapters. This study is based on the impact of ethanol on the performance of sugar sectoral stocks in Indian stock market.

- The EBP and the target scheduled by the government as part of the ethanol blending with petrol has strived the production of sugar, sugarcane and the ethanol in the Indian market.
- The increased production of the sugar sector will certainly will our nation to be the largest producer of sugar in the world by the end of FY 2030.
- The projects sanctioned by the government and the ethanol intervention schemes has boosted the entire sugar sector. This has led to the increased production and export of sugar in the global market.
- The increased production of ethanol and blending target will help to a solution for the increased petroleum price in India on a future basis.
- The total export of petroleum products to India can be taken away through the increased blending of ethanol with petrol in the market. Thus, the BOP deficit can be reduced to an extent.
- The impact of ethanol in the market has reduced the debt of all the sugar stocks in the market and it has led to the improved performance of stocks & expansion of the sugar mills unit in the market had made a positive impact which will lead to increased production of sugar, sugarcane and ethanol.
- The co-generation capacity, TCD and KLPD of the sugar mills has been increased to produce more products through the increased distillery capacity of the units.
- The ethanol policy has impacted much more on the performance of the sugar stocks. Thus, the stocks were able to attract more FII, DII, Promoter and public to pool the investments and it strengthened the financial aspects of the stocks.
- The promoters in the market has acquired majority of the shares in all the sugar sectoral stocks due to the positive impact of ethanol in the Indian market and the efficient functioning of the sugar mills to achieve the blending target.

- The performance analysis of the selected stocks has proven that the impact of ethanol has helped to improve the EPS, Net Profit, Revenue and market cap of the stocks had increased rapidly.
- The study has helped to identify that Balrampur Chini Mills Ltd. is the most fundamentally and financially strong sugar stock in the market which will be having a great move in the market during FY 2022-23 and also in the upcoming FY.
- The small cap shares in the market had considerably influenced by the ethanol impact to enhance the performance and the financial stability of the stocks.

5.2 SUGGESTIONS

- The blending target of all the FY had to reviewed and make certain increase in the percentage blending target rather than fixing a particular percentage for sugar seasons.
- The storage capacity of ethanol by OMC's has to be increased consistently to store the increased amount of ethanol by the respective sugar mills in India.
- As similar to the ethanol production from sugarcane and sugar in the market the production of ethanol from other crops has to be increased. Thus, it helps India to become the top producer and exporter of ethanol in the world market.
- The import of sugar from other nations has to be completely restricted which will lead to increased production of sugar and employment opportunities in the market.
- The ethanol production has made significant impact to the sugar sector which will lead to be an asset for the investors in the market. The stocks like Balrampur Chini Mills, EID Parry, etc will bring more returns to the investors in the market.

5.3 CONCLUSION

The study on the impact of ethanol on the performance of sugar sectoral stocks in the Indian stock market it is identified that the ethanol and the

ethanol blending policy of the government to blend it with petrol has significant impact on the performance of the sugar sectoral stocks in the market. The impact of ethanol in the market has helped the sugar stocks to attract more investments through the Promoters, FII, DII and public. The performance of all the selected stocks in this study has made a greater profit and the increased the revenue, EPS had made this sector to be more investor friendly with high opportunity in the upcoming FY. The studies also estimate that the share price of the sugar stocks will be increased to 3 to 4 time more than its current value in the market by the end of this FY 2022-23. Thus, the return to the investors in this sector will be consistent through the improved performance by the support and increased blending target of ethanol scheduled for the FY by the respective government.

The Indian sugar stock market is mostly owned by the small caps. From this study on ethanol impact on the stocks Balrampur Chini Mills Ltd, as the top pick from the sugar sector after analyzing all the 38 sugar stocks listed in the market till now. It is because the largest midcap in this market is Balarampur Chini Mills who had a market cap of more than 800 million dollars. BMCL is both financially and fundamentally sound organisation which has significantly attracted more FII, DII, Promoters to pool more investments. In the FY 2022 the company's revenue from the distillery segment itself has contributed more than 19 %. The market cap for Balrampur Chini Mills daily turnover rises they are becoming more inevitable for attracting the buyers for funds and investment and the flow on ethanol will keep on getting better and better on a structural basis. With the broad policies of the board of BCML they are expected to contribute 35% of the overall revenue from the distillery segment itself. The ethanol policies and the advanced support from the state and central government through financial assistance made BMCL to expand the Installed capacity of the distillery to 1050 KLPD by the end of December 2022. Therefore, the BMCL is the most investor friendly and this share can be also considered as an asset to the investors on a future basis.

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