Recent Trends And Outlook In The International Sugar Industry

** C. Muthaiya*

INTRODUCTION

Sugars are a major form of carbohydrates and are probably found in all green plants. They occur in significant amounts in most fruits and vegetables. There are three main simple sugars -sucrose, fructose and glucose. Sucrose is in fact a combination of fructose and glucose and the body quickly breaks down these into separate substances.

Table 1 : Details of Sugar Industry

Tamilnadu Sugar Industry	Uttaranchal Sugar Industry
Uttar Pradesh Sugar Industry	West Bengal Sugar Industry
Andhra Pradesh Sugar Industry	Bihar Sugar Industry
Gujarat Sugar Industry	Haryana Sugar Industry
Himachal Pradesh Sugar Industry	Karnataka Sugar Industry
Madhya Pradesh Sugar Industry	Maharashtra Sugar Industry
Chhattisgarh Sugar Industry	Manipur Sugar Industry
Punjab Sugar Industry	Orissa Sugar Industry

World sugar production is highly dependent on weather and the global demand-supply balance, which dictates free market pricing. The free market for sugar is classified as a "residual market" - a market in which the freely traded product is only a residual of the world's total production . Because the free market for sugar is typically only 20-25% of world production, a 5% change in production can represent a 25-35% change in free-market sugar supply, which is one of the reasons for the high historical volatility of sugar prices. During 1995-1996, world exports are expected to total about 31 million metric tons (34 million tons). A few countries produce enough excess sugar to export large amounts of sugar.Half of the world's traded sugar is exported by four countries: Brazil, Thailand, Australia, and Cuba. The productivity of these countries can significantly affect world free-market sugar supply and price. This is particularly true of Brazil, the world's largest sugar exporter in 1995-1996 at an estimated 4.8 million metric tons (5.3 million tons). Over half of Brazil's sugar cane is used to produce fuel alcohol for transportation uses.

INDIAN GOVERNMENT ON SUGAR INDUSTRY

The following policy initiatives have been taken to boost the **Sugar industry**:

- Government declared the new policy on August 20,1998 with regards to licenses for new factories, which shows that there will be no sugar factory in a radius of 15 km of existing sugar mills under Sugarcane (Control Amendment) Regulations 2006.
- Indian Institute of Sugar Technology at Kanpur was set up with an aim of improving efficiency in the industry.
- In the year 1982, the sugar development fund was set up with a view to avail loans for modernization of the industry.
- India has been known as the original home of sugar and sugarcane.
- Indian mythology supports the above fact as it contains legends showing the origin of sugarcane. India is the second largest producer of sugarcane next to Brazil.
- Presently, about 4 million hectares of land is under sugarcane cultivation, with an average yield of 70 tonnes per hectare.
- India is the largest single producer of sugar including traditional cane sugar sweeteners- *Khandsari* and *Gur* equivalent to 26 million tonnes raw value followed by Brazil in the second place at 18.5 million tonnes.
- Even in respect of white crystal sugar, India has retained the No.1 position in 7 out of last 10 years.

**Assistant Professor and Head,* Department of MBA, Annai Mathammal Sheela Engineering College, Namakkal District, Tamil Nadu. Email : profmuthaiya1973@gmail.com

Traditional sweeteners *Gur & Khandsari* are consumed mostly by the rural population in India. In the early 1930's, nearly 2/3rd of sugarcane production was utilized for production of alternate sweeteners, *Gur & Khandsari*. With better standard of living and higher incomes, the sweetener demand has shifted to white sugar. Currently, about 1/3rd sugarcane production is utilized by the *Gur & Khandsari* sectors. Being in the small scale sector, these two sectors are completely free from controls and taxes which are applicable to the sugar sector. The advent of modern sugar processing industry in India began in 1930 with grant of tariff protection to the Indian sugar industry. The number of sugar mills increased from 30 in the year 1930 - 31 to 135 in the year 1935-36 and the production during the same period increased from 1.20 lakh tonnes to 9.34 lakh tonnes under the dynamic leadership of the private sector.

SUGAR PRODUCTION IN STATES

The following table shows level of sugar production (In Lakh Tonnes) in Indian States:

Table 2 : Level of Sugar Production (In Lakh Tonnes)

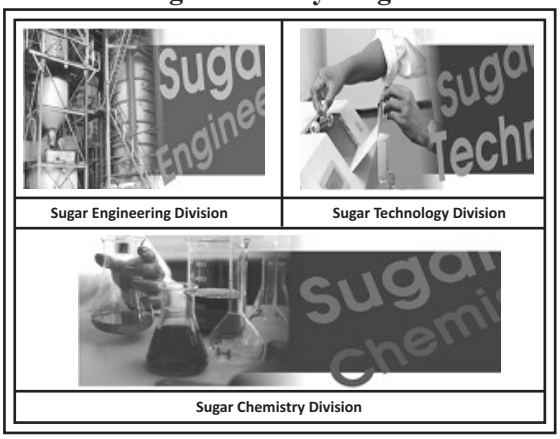
State	2002-03	2004-05	2006-07 Estimated
Uttar Pradesh	58.74	46.08	50.32
Maharashtra	61.64	31.99	22.29
Karnataka	17.98	11.57	13
Tamil Nadu	17.04	11.9	9.84
Andhra Pradesh	11.88	8.81	9.75
Gujarat	12.38	10.77	8.32
Haryana	5.99	5.86	4.03
Uttaranchal	4.59	3.93	3.82
Punjab	5.11	3.88	3.37
Bihar	4.21	2.77	2.77
Madhya Pradesh	0.85	0.94	0.85
Other	0.91	1.09	1.58

There are around 45 million sugar cane growers in India and a larger portion of rural labourers in the country largely rely upon this industry. Sugar Industry is one of the agricultural based industries.

Table 3: Sugarcane Disease Information

Red Rot	Smut	Wilt	Rust
Grassy Shoot	Ratoon Stunting	Yellow Spot	Ring Spot
Brown Spot	Brown Strip	Eye Spot	Masaic
Pineapple Disease	Giant African nail	(Marathi- Shankhi Gogalgai)	

Exhibit 1: Four Divisions Of Sugar Industry- Sugar Instrumentation Division



INDIAN SUGAR INDUSTRY

❁PRODUCTION

In 2008/09, India produced 23.64 mt of sugar. UP and Maharashtra together contributed more than 67% to the total production. Maharashtra overtook UP to become the largest producer of sugar. Maharashtra's production increased from 5.9 mt to 9.6 mt. Higher yields and greater cane acreage contributed to this increase. The following Table 4 shows the region wise distribution of production.

Table 4 : Region Wise Distribution Of Production

Year	Sugar production (oct-Apr period) (mt)
2001-02	17.62
2002-03	18.63
2003-04	13.34
2004-05	12.27
2005-06	18.18
2006-07	25.36
2007-08	24.12
2008-09	23.64

Source: Indian Mills Association (ISMA)

❁CURRENT INDUSTRY STATUS

In 2005/06, there were 581 installed sugar mills in the country with a production capacity of 190 lakh MTs of sugar, of which only 455 are working. These mills are located in 18 states of the country. Around 312 of the total installed mills are in the cooperative sector, 205 in the private sector and 64 in the public sector (Source: Directorate of Sugar). The number of factories in the private sector has increased by more than 15% which shows the corporatization of sugar production. But majority of the industry is still fragmented with more than 50% of the industry represented by the co operatives.

❁OUTLOOK

The Indian economy has showed robust growth during the past few years and the same trend is expected to continue. The sugar prices have started showing signs of stabilization and with the support of the State & Central Government initiatives, the sugar sector is turning around after a very difficult phase.

Table 5: Peer Comparison

Co_Name	Bajaj Hindustan	Balrampur Chini	Shree Renuka Sug.	Triveni Engg. Ind.	Ugar Sugar Works
EV/ Sales (x)	3.12	2.58	0.89	2.75	0.68
EV/EBITADA (x)	14.77	21.69	4.74	17.74	5.28
CMP	189.25	91.20	112.00	108.75	17.30
PE (x)	27.47	-151.31	3.98	62.34	9.79
Mcap/Sales (x)	1.53	1.67	0.29	2.04	0.38
Price/BV (x)	1.87	2.50	6.13	4.16	2.10
NPM (%)	5.58	-1.11	7.39	3.28	3.38
EBIDTA (%)	0.21	0.12	0.19	0.16	0.13
EPS (₹)	6.89	-0.60	28.12	1.74	1.77

❁DEMAND-SUPPLY SCENARIO AND OUTLOOK

Significant capacity additions and bumper cane crop lead to record sugar production in SY2006-07,limited export opportunities and expectations of strong production in SY2007-08 is likely to push up stock position further The supply-demand trend in the domestic sugar industry is brought out in the following Table 6.

Exhibit 2 : Statewise Area Under Sugarcane (%) In India

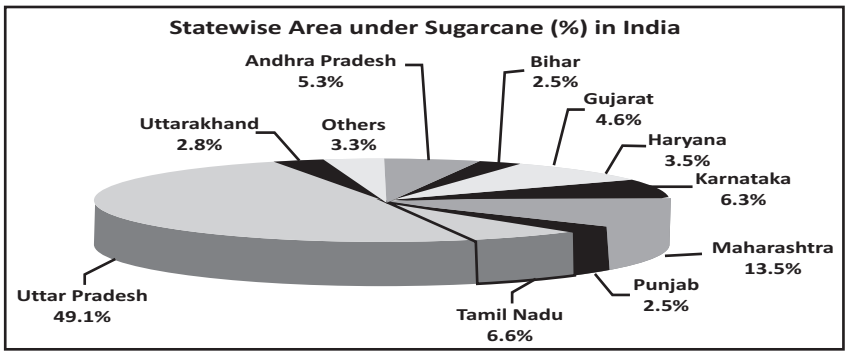


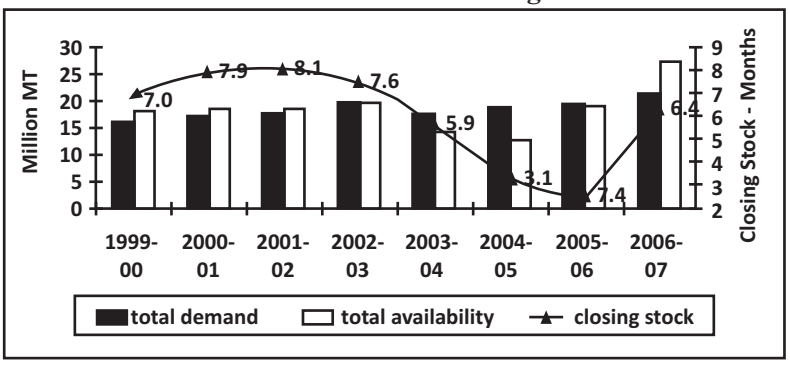
Table 6: Domestic Sugar Production And Consumption

MT/SY	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Opening Stock-1st Oct	6.90	9.34	10.66	11.32	11.61	8.50	4.00	3.90	3.84
Production in NW India	5.45	6.88	5.48	7.37	5.91	6.13	6.96	0.00	1.12
Production in Rest of India	12.75	11.64	13.04	12.77	7.64	6.56	12.31	0.00	0.00
Production(Oct-Sep)	18.20	18.51	18.53	20.14	14.00	12.69	19.27	27.50	23.56
Imports	0.40	0.00	0.00	0.04	0.40	2.14	0.00	0.00	0.00
Total Availability	25.51	27.85	29.19	31.50	26.0	23.33	23.27	31.40	24.03
Domestic Consumption	16.10	16.20	16.78	18.38	17.29	18.50	18.50	19.50	21.47
Exports	0.07	0.99	1.09	1.50	0.22	0.00	1.13	1.50	1.62
Closing Stock as on Sept.30	9.34	10.66	11.32	11.61	8.50	4.83	3.64	10.40	15.89
Closing Stock as months of consumption	6.96	7.90	8.09	7.58	5.90	3.13	2.36	6.40	11.12

Source: Indian Mills Association (ISMA)

The (sugar) year-end domestic closing stock (CS) as months' consumption (Cons.) is depicted in the following exhibit 3.

Exhibit 3 : Trend in Domestic Sugar Stock



The period SY2003-05 saw significant stock clearance following poor harvests. The main States accounting for the decline in production were Maharashtra, Tamil Nadu and Karnataka (which normally account for almost 50% of the domestic production) with each of them reporting 40-50% lower production as compared with their SY2002-03 peak. However, this trend has been reversed since then. Sugar production increased to 19.3 MT in SY2005-06 and further to around 27.5 MT in SY2006-07. The production for SY2006-07 is a domestic record that surpasses the previous peak of 20.1 MT (in SY2002- 03) by almost 37%. This growth has been driven mainly by two factors. **First**, favourable weather conditions in most cane growing regions. And **second**, a significant increase in capacities, concentrated principally in UP, where the State Government had announced a lucrative incentive scheme in FY 2004-05. Of course, the capacity addition was by no means confined to UP, and other States, including Maharashtra, Karnataka, and

Andhra Pradesh, also witnessed significant capacity expansions. While production outstripped domestic off take, exports too were limited both during SY2005-06 and SY2006-07. While a ban on sugar exports was imposed in July 2006-which prevented exports from that month till December 2006-even after removal of the export ban, actual exports were limited. This was mainly because of a significant slump in international prices, which fell from around US$480 per tonne in June 2006 to remain at around US$325 during much of calendar 2007. This made export of Indian sugar relatively unremunerative.

Table 7: Closing Stock Estimate

MT	SY 2005-06	2006-07	2007-08	2008-09(p)
Opening Stock-1st Oct	4.00	3.90	10.4	14.35
Production(Oct-Sep)	19.27	27.50	28	23.54
Imports	0.0	0.0	0.0	0.0
Total Availability	23.27	31.40	38.4	43.56
Domestic Consumption	18.50	19.50	20.0	23.21
Exports	1.13	1.50	1.0	0.89
Closing Stock as on Sept.30	3.64	10.40	14.4	16.74
CS as months of consumption	2.36	6.40	8.0	9.25

Note: ICRA has largely followed estimates of ISMA and the Ministry of Food, GOI, For SY 2006-08

WORLD SUGAR INDUSTRY

There are **two main types of sugar-yielding plants in the world: cane and beet**. Both produce the identical refined (centrifugal) sugar product when processed. **Cane**, which accounts for 65-70% of world sugar production, is a bamboo-like grass with a fibrous stem that is grown in semi-tropical regions. **Sugar Beets** are grown in more temperate climates. World sugar production and consumption for 1995-1996 are projected to reach record levels of 119.0 million metric tons (130.9 million tons) and 118.1 million metric tons (129.9 million tons), respectively.World sugar projections for 1995-1996 are about 3 percent higher than the output of the previous year and about 1 percent higher than the previous record of 116.4 million metric tons (128.0 million tons), which was set in 1991-1992. Over the last decades, the growth in global sugar consumption has been about 1.2 percent per year, which is down from about 2 percent during the previous decade. However, world consumption is forecast to rise a robust 3.5 percent over the next year because rapid declines in consumption are associated with economic turndowns in the countries of the former Soviet Union and Central Europe appear to have ceased and consumption has either stabilized or is starting to rise. About one-third of the world's centrifugal sugar production is in four countries (India, Brazil, the United States, and China); an additional one-third is grown in the next four largest producers (Thailand, Australia, France, and Mexico) . India and Brazil are easily the world's largest cane growers at 146.0 and 125 million metric tons (160.6 and 137.5 million tons), respectively. World sugar production is very dependent on weather and the global demand-supply balance, which dictates free market pricing. The free market for sugar is classified as a "residual market" - a market in which the freely traded product is only a residual of the world's total production. Because the free market for sugar is typically only 20-25% of world production , a 5% change in production can represent a 25-35% change in free-market sugar supply, which is one of the reasons for the high historical volatility of sugar prices. During 1995-1996, world exports are expected to total to about 31 million metric tons (34 million tons). A few countries produce enough excess sugar to export large amounts of sugar. Half of the world's traded sugar is exported by four countries: Brazil, Thailand, Australia, and Cuba. The productivity of these countries can significantly affect world free-market sugar supply and price. This is particularly true of Brazil, the world's largest sugar exporter in 1995-1996 at an estimated 4.8 million metric tons (5.3 million tons). Over half of Brazil's sugar cane is used to produce fuel alcohol for transportation uses.

WORLD SUGAR MARKET REVIEW

In 2008/09, for the first time since 2004/05, world production is expected to decrease, to 162.258 mln tonnes, raw value, a massive 6.389 mln tonnes down from the last season. World consumption is put at 165.884 mln tonnes, raw value up 2.35%, generally in the line with the long-term average growth. The second forecast of the world sugar

balance for the period from October 2008 to September 2009 puts world production 3.626 mln tonnes lower than world consumption. Thus, the distinctive global surplus phase has ended and the market is likely to move into a deficit phase. Production shortfalls are expected to lead to decreases in export availability, on the one hand, and higher import demand, on the other. For the time being, ISO does not anticipate shortages in physical supply to the world market, global export availability and import demand look well balanced. Most of the production shortfalls in exporting countries are expected to be covered by sugar from stocks accumulated during the two previous surplus seasons. A summary of the second assessment of the world sugar balance in 2008/09 is provided in the Table 8.

Import demand in India plays an important role in the outlook for world sugar prices. As discussed earlier, there has been a significant decline in domestic sugar availability (both production and stocks) in recent years. There is

Table 8: World Sugar Balance

	2008/09	2007/08	Change	
	(mln tonne, raw value)		in mln t	in %
Production	162.258	168.647	-6.389	-3.79
Consumption	165.884	162.073	+3.811	+2.35
Surplus / Deficit	-3.626	+6.574		
Import demand	47.766	45.811	+1.955	+4.27
Export availability	47.781	47.471	0.310	0.65
End Stocks	65.660	69.301	-3.641	-5.25
Stocks/Consumption ratio in%	39.58	42.76		

Source: ISO quarterly market outlook, November 2008.

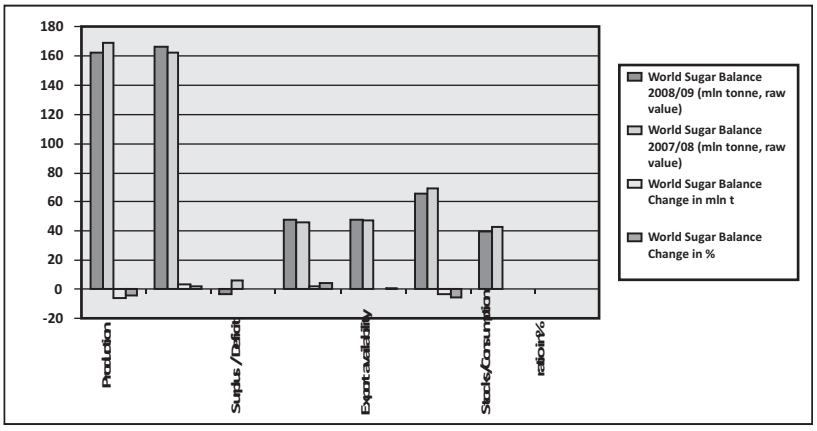


Exhibit 4 : Major Sugar Exports and Prices in the World

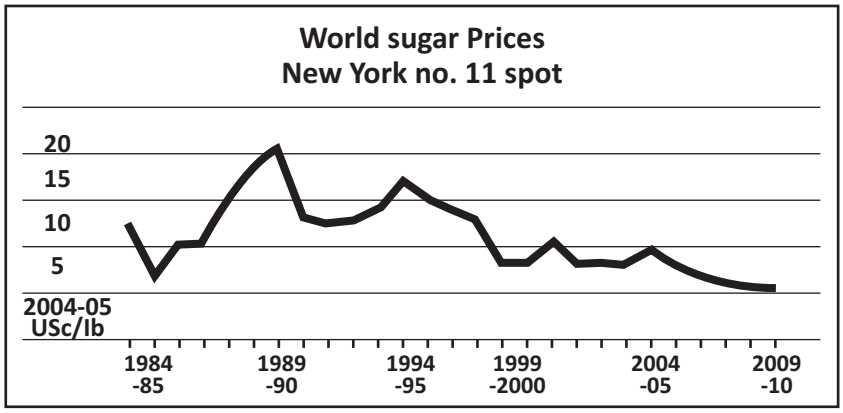


Exhibit 5: World's Top Sugar Net Exporters

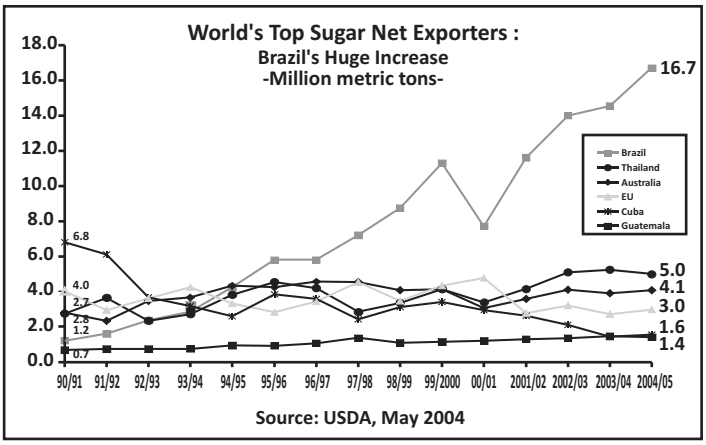


Table 9: World Sugar Outlook

	Unit	2002 -03	2003 -04	2004 -05f	2005 -06z	2006 -07z	2007 -08z	2008 -09z	2009 -10z
World a	Mt	148.1	144.4	145.2	152.9	157.5	161.3	165.0	168.4
Production	Mt	141.9	145.4	148.4	151.4	154.6	157.8	161.1	164.5
Stocks b	Mt	66.2	65.1	62.0	63.5	66.4	69.9	73.8	77.7
price									
– nominal	USc/lb	8.0	7.9	9.7	8.2	7.2	6.8	6.5	6.4
– real c	USc/lb	8.4	8.1	9.7	8.0	6.9	6.4	6.0	5.8
Australia d									
Sugar Production e	kt	5.461	4.994	5.155	5.224	5.280	5.326	5.371	5.413
Sugar exports	kt	3.975	3.882	4.034	4.071	4.107	4.133	4.158	4.178
Value of exports									
– nominal	A$m	1.179	1.029	1.248	1.111	1.053	1.021	1.001	999
– real g	A$m	1.236	1.054	1.248	1.086	1.004	950	908	885

Notes :

a. October-September years.

b. Historical estimates of closing stocks are based on individual country estimates of production, consumption, trade and stocks. Given possible under/over reporting of statistics in individual countries, changes in world closing stocks from year to year may not necessarily equal the difference in world production and world consumption.

c. In 2004-05 US dollars.

d. July-June years.

e. Raw tonnes actual.

g. In 2004-05 Australian dollars.

f. ABARE forecast.

h. ABARE projection.

Sources: Australian Bureau of Statistics; International Sugar Organization; ABARE.

considerable uncertainty about import demand in India. If production increases in 2005-06 as currently forecast, then the prospects for a large increase in import demand in the short term will be low. On the other hand, if the imbalance between domestic sugar availability and consumption widens, there will be a need for India to significantly increase its sugar imports, providing support for higher world sugar prices. India's importance in world sugar markets has increased in recent years. Over the past few years, production shortfalls in India have helped to ease downward pressure on world prices. Depending on the progress with which the Indian sugar industry addresses structural issues and increases production, India could be an importer of sugar for the foreseeable future.

KEY SUCCESS FACTORS FOR THE DOMESTIC SUGAR INDUSTRY

ICRA believes that the key success factors for individual players in the domestic sugar industry would be as follows:

❁ **Cane Development Activities:** Given the likely competition for cane following capacity expansion, mills' efforts in terms of cane development activities would have a key bearing on cane availability.

❁ **Operating Efficiencies:** The ability to control operating expenses by exercising control over manpower levels, achieving economies of scale, making investments in energy-saving measures, and following better operating and maintenance practices would be crucial to reducing overall costs (as cane costs are not discretionary).

❁ **Level Of Integration:** Mills progressively integrated more into co-generation and productions of ethanol are likely to be better insulated against cyclical downturns vis-à-vis non-integrated mills.

❁ **Capital Structure:** As with any cyclical business characterized by relatively high levels of business and regulatory risks, it is necessary for sugar mills to maintain a relatively low gearing level. This is all the more critical since most major sugar mills are currently engaged in significant capacity expansion measures.

Table 10 : Sugar Sales And Revenue, Crop Year, 2000-01 - 2008-09

Crop Year	Production		Exports		Local Sales	
	Qty	Value	Qty	Value	Qty	Value
2000-01	596.3	7,504.4	568.6	7,500.7	0.7	3.7
2001-02	645.6	9,201.0	620.0	9,057.0	25.6	144.0
2002-03	520.9	8,301.6	509.8	8,246.6	10.3	55.0
2003-04	537.2	9,120.4	535.7	9,118.4	0.5	2.0
2004-05	572.3	10,352.5	572.1	10,351.7	0.1	0.8
2005-06	519.8	10,466.1	519.4	10,464.4	0.2	1.7
2006-07	502.5	11,215.8	539.2	12,994.7	0.4	3.6
2007-08	542.7	13,165.9	567.4	14,826.1	0.6	5.7
2008-09	528.6	13,928.6	586.3	16,510.2	0.9	9.18

Source: Mauritius Sugar Syndicate

Notes:

1. Harvesting generally extends from June to December, while export and local sales are spread over the period 1st July to 30th June the following year.

2. Production may not tally with exports and local sales due to loss or surplus in storage.

3. Data do not include imported sugar destined for local market.

CONCLUSION

The realizations and profitability of sugar mills has seen an upward surge in the recent past. With the supply-demand scenario reversing and cane costs rising, pressures on conversion margins from SY 2007- 08 onwards cannot be ruled out. That notwithstanding, the overall outlook for the industry remains positive, considering the healthy prospects for by-products like ethanol and power. The continuation of firm trends in international sugar prices would also support domestic manufacturers in the medium term. Overall, integrated sugar mills, besides enjoying greater stability in their revenue streams, would also be in a superior position to capitalize on the expected buoyancy.

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