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Credit Rating Company Limited

PAKISTAN SUGAR SECTOR REPORT

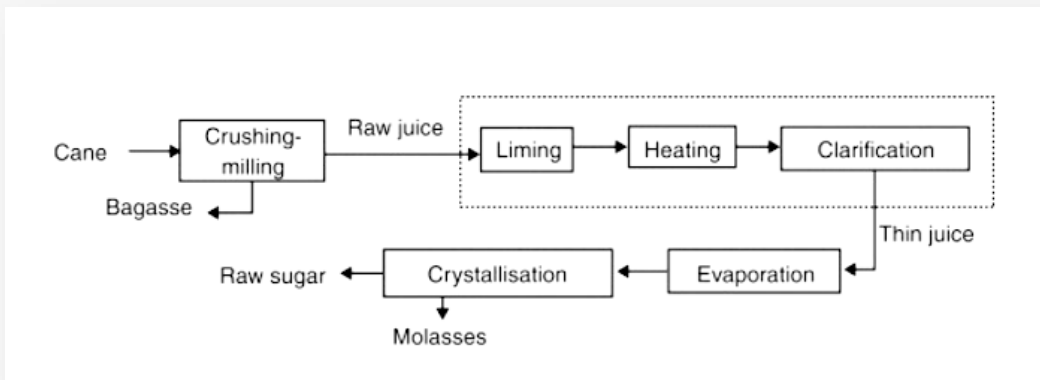
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INTRODUCTION

Sugar is a sweet, crystalline food supplement primarily extracted from sugar cane and sugar beet, and is widely used as a food additive in various drinks and food products. It imparts sweetness, is soluble in water, provides nutrition and energy, and enhances the color and texture of foods. Also sugar is an effective hand cleaner and is an environmentally friendly household product and safe for drains. Its seasonal industry operating during October to March. Globally, sugar production involves processing sugarcane or sugar beets into raw sugar, which is then refined into pure sucrose. Sugar canes generally are washed, after which juice is extracted from them. The juice is clarified to remove mud, evaporated to prepare syrup, crystallized to separate out the liquor, and centrifuged to separate molasses from the crystals. Sugar crystals are dried and bagged as brown sugar or further refined to produce white sugar. With slight variations in production powdered, or superfine crystal sugar can also be produced. Process main by-products include molasses, which is used for ethanol production while bagasse is used as fuel for captive power plants and for producing chip/fiber board. A wide range of environmental and social issues are connected with sugar production and processing, and sugar crop growers, processors, plus energy and food companies, are seeking ways to address concerns related to sugar production, biofuels and sustainability.



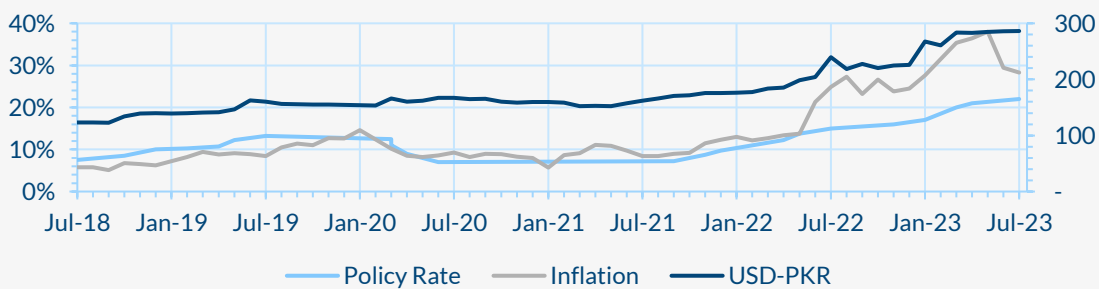
The sugar sector is a major part of Pakistan's economy, providing direct employment to over 1.5 million people. Favorable agro-climatic conditions exist in Pakistan for sugarcane cultivation. However, despite being a major sugarcane producer, Pakistan still relies on sugar imports at times due to inefficiencies in the sector.

Key trends impacting the global and local sugar industry include increasing demand in developing markets driven by population and income growth, stagnating demand in developed countries due to health concerns, and volatility in production and prices. The sector faces challenges in Pakistan around water availability, the need for greater efficiency, and ensuring fair competition.

ECONOMIC OVERVIEW

A. PAKISTAN ECONOMIC OUTLOOK

The Pakistan economy is undergoing severe stress due to a combination of domestic and external factors. GDP growth has fallen to just 0.29% in FY2023 down from 5.7% in FY2022 while GDP growth target of 3.5% is set for FY2024. Persistently high inflation above 30% continues to erode purchasing power and the tight monetary policy is hindering investment and growth. Import restrictions imposed to preserve foreign exchange reserves have led to shortages and production disruptions across industries. Devastating floods in 2022 damaged agriculture, infrastructure and livelihoods, inflicting losses of over \$30 billion as per World Bank estimates.



Measures like ban on luxury imports, subsidy rollbacks and new taxes to rein in the fiscal deficit have been taken, however, structural issues plaguing the economy remain unaddressed. Economic growth is projected to recover slowly to around 4% by FY2025 if the IMF program is completed. But major risks remain, including the need for major energy reforms, deteriorating social indicators, rising poverty and poor productivity.

The sector has strategic importance due to linkages with national food security, rural economy, and agricultural growth. The sugar sector accounts for 6% of the manufacturing sector, 18% of the large-scale industry and 13% of the agricultural economy. The sugar sector provides direct employment to 1.5 million people, has a market value of USD1, 813 million in 2020, and is expected to grow at a CAGR of 3.93% to reach a market size of USD2,375 million in 2027. According to the Economic Survey of Pakistan FY2022, sugarcane is of great importance for sugar-related industries and the second largest agro-based industry after textile. Its production accounts for 3.7 percent of agriculture's value addition and 0.8 percent of Gross Domestic Product (GDP).

B. GLOBAL ECONOMIC OUTLOOK

The global economy continues to experience weak growth momentum amidst heightened uncertainty. As per IMF's latest World Economic Outlook, global GDP growth is expected to slow from 3.4% in 2022 to 2.7% in 2023, before recovering slightly to 2.9% by 2024. Multiple headwinds persist that are dampening economic activity worldwide. Key central banks have sharply raised interest rates to combat inflation thus tightening financial conditions significantly. Geopolitical tensions including the Russia-Ukraine war have aggravated supply chain disruptions, food and energy crises, and security concerns globally. Lockdowns in China to contain fresh Covid-19 outbreaks have also impacted manufacturing and trade flows. Rising costs of living, stratified labor markets and weaker fiscal support are reducing consumer purchasing power and confidence. With high debt levels, governments also have limited space for stimulus measures.

GLOBAL PERSPECTIVE

Globally, about 110 countries produce sugar from either cane or beet, and eight countries produce sugar from both cane and beet. Sugarcane, on average, accounts for nearly 80% of global sugar production. As of 2022 season the top ten producing countries (Brazil, India, EU-27, China, USA, Thailand, Russia, Mexico, Pakistan, and Australia) accounted for nearly 70% of global output. Brazil, Thailand, India, Australia and Guatemala are the leading exporters with Brazil accounting for over 40% of exports. Indonesia, China, the US, the EU and Bangladesh are the top importers. India, the EU, China, the US and Brazil are the largest consumers.

Pakistan holds a significant position among the world's sugarcane producing countries. According to World Statistics Year Book 2020, Pakistan ranked 5th in acreage, but it ranked 32nd in yield (69.76 tons/ha during 2021-22), which is close to the world average yield of 70.44 tons/ha. Peru has the highest yield in the world at 124 tons/ha, which is 77 percent higher than Pakistan. With similar soil and climate conditions, India achieves a sugarcane yield of 79.35 tons/ha, which is about 11% higher than Pakistan.

World production during 2022 was around 176 million tons. Sugar markets are expected to undergo a slow recovery as the sector is capital-intensive and some investments were postponed due to low prices. Over the outlook period, the increase in the production of sugarcane is foreseen to come from higher yields and area expansion. Global sugar production is projected to expand by 15%, from 176 Mt in the base period to 203 Mt by 2029, with 96% of the projected increase originating from developing countries.

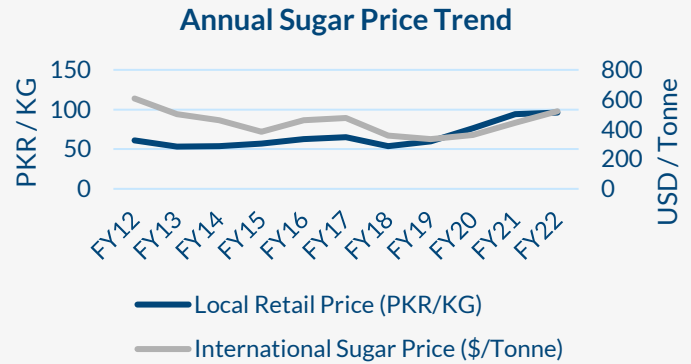
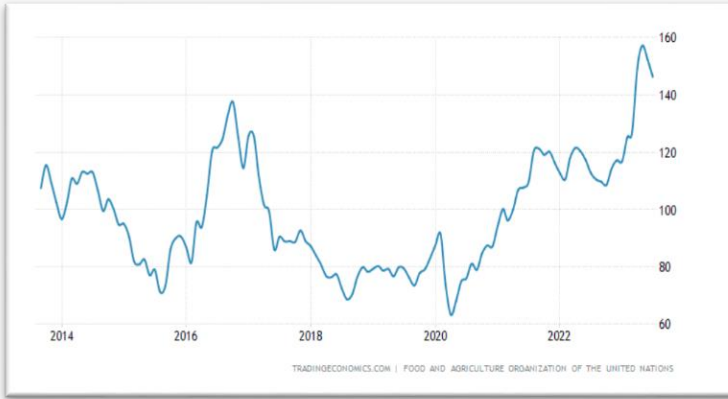
In 2022, World sugar consumption was 172 million tons up 1.7 million tons from 2021 and following three years of decline earlier. The most important drivers which influence sugar demand include population growth, per capita incomes, the price of sugar and alternative sweeteners, and health concern debate. Developing nations drive global demand. Demand is expected to grow steadily in developing countries and decline in developed countries due to health concerns over sugar intake. Global sugar consumption is projected to continue growing at around 1.4% p.a., reaching 199 Mt by 2029, underpinned by population and income growth. Over the outlook period, the average world level of per capita consumption is expected to increase from 22.5 kg/cap to 23.5 kg/cap, although considerable variations between regions and countries will occur.

Some of the major players operating in the global industrial sugar market are Südzucker AG, Associated British Foods, Michigan Sugar Company, Amalgamated Sugar., RANA GROUP, Rajshree Sugars & Chemicals Limited (RSCL), Shree Renuka Sugars Ltd, Upper Ganges Sugar & Industries Limited, Bajaj Hindusthan Sugar Ltd., Mitr Phol Sugar., Ragus Sugars Manufacturing Ltd., Lantic Inc., Nile Sugar, AMERICAN CRYSTAL SUGAR, and Balrampur Chini Mills Limited among others.

WORLD SUGAR PRODUCTION AND CONSUMPTION

Year	Sugar Production (Million Tons)	Sugar Consumption (Million Tons)
2022	176	172
2021	175	169
2020	175	168
2019	185	180
2018	186	180

Following is the Sugar Price Index for 10 years, measuring monthly change in international prices of sugar in USD.



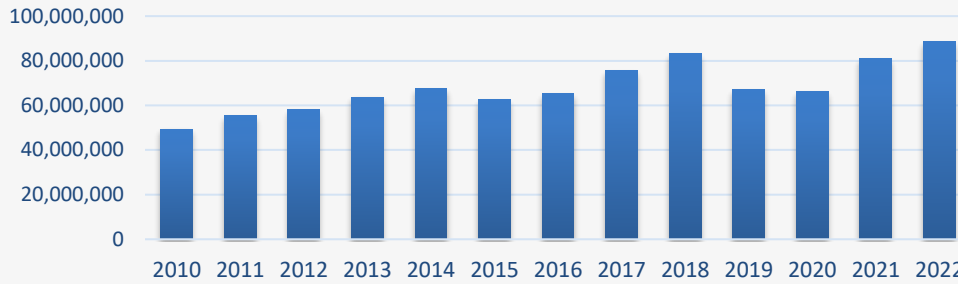
PAKISTAN SUGAR SECTOR

Pakistan is the world's fifth largest producer of sugarcane, the sixth largest producer of cane sugar and the eighth largest consumer of sugar. Sugarcane is grown on approximately 1.2 million hectares and provides the raw material for 90 sugar mills. The sugar industry is the country's second largest agriculture-based industry after textiles. In addition to sugar, sugarcane is used in the production of pharmaceuticals, ethanol, bagasse for paper and chip board manufacturing, and press mud - a source of organic fertilizer used in crop production. Sugarcane is typically grown on the high delta away from flood areas along Pakistan's major rivers.

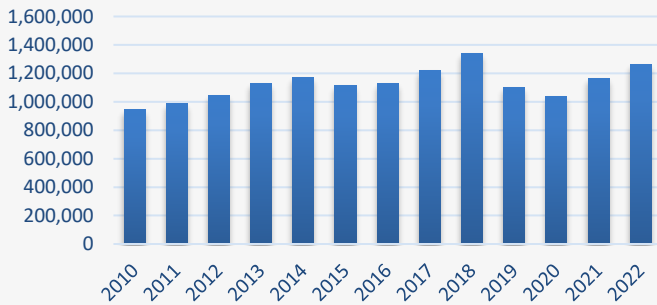
A. SUGARCANE CULTIVATION, PRODUCTION AND YIELD

Pakistan's sugarcane production is concentrated in the Punjab (66%) and Sindh provinces (26%) while KPK and Baluchistan accounts for 8% and less one percent respectively. The Bahawalpur division of Punjab and the Sukkur division of Sindh account for more than half of the total sugarcane area. The inherent cyclicity in crop yields and raw material prices is believed to have a substantial impact on the business risk profile of the sugar sector. A typical sugarcane crop has a 3- to 5-year production cycle, with government assistance to farmers and crop productivity playing a major role. During 2022-23, sugarcane was cultivated on 1.3 million hectares, showing increase of 4.7% compared to 1.2 million hectares in the preceding year. However, almost 33% of the 22 million hectares of total cultivable land were inundated by flood while damage to the sugarcane crops resulted in a loss of USD 273m. For the season 2023-24, the estimated harvesting area is expected to increase to 1.25 million hectares (2022-23: 1.23 million hectares). Sugar output for the forthcoming season is projected to clock at ~7.05 million MT, a marginal increase from that in 2022-23. According to the most recent United States Department of Agriculture (USDA) annual sugar report published on April 12, 2023, sugarcane production is expected at 83.5m MT during 2023-24, three percent above 2022-23 production, on account of expected recovery in yield in areas which were previously impacted by the floods. Moreover, due to population growth and demand from the developing food processing industry, sugar consumption is projected to rise by around 3% to 6.3 million MT. Throughout the decade ending 2021-22, the area under sugarcane crop at country level ranged between 1,046.0 to 1,259.6 thousand hectares and production from 58.038 to 88.615 million tons. Yield of sugarcane fluctuated between 55.13 to 70.35 tons per hectares.

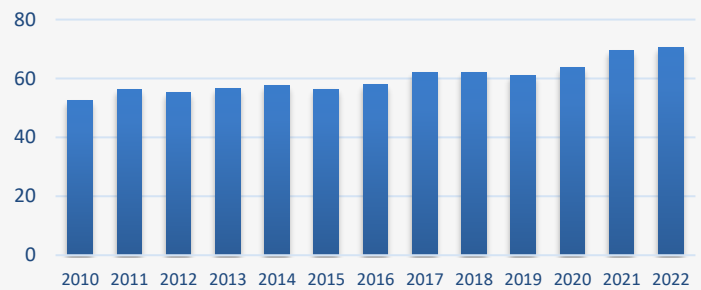
Sugarcane Production (Tons)



Area Under Sugarcane Cultivation(Ha)

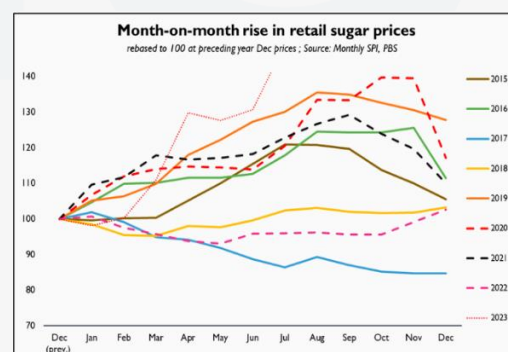
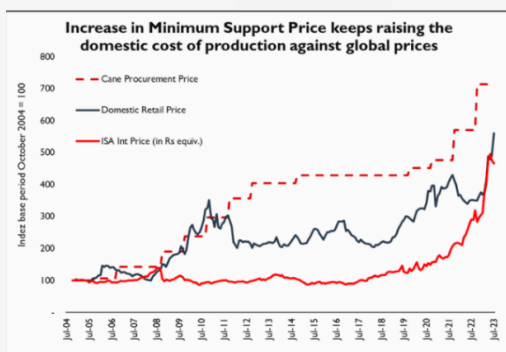


Yield (Tons/Ha)



B. REGULATORY ENVIRONMENT

The industry is tightly regulated by provincial governments through minimum sugarcane prices, sugar price controls, and factory oversight. Agriculture Policy Institute (API) every year collects primary data from the field on different elements to assess the cost of production. These estimates provide guidance in determining indicative price of the concerned crop. During crushing season 2022-23, the government set a minimum support price (MSP) of Rs. 300 per 40 kg in Punjab (2021-22: Rs. 225/40 Kg) and Rs. 302 per 40 Kg in Sindh (2022-22: Rs. 250/40 Kg). This was highest annual increase in the MSP in 10 years. The mills also have to pay premium over and above this support price due to competition, difference in quality and transportation cost incurred. However, with increase in MSP, the premium has witnessed decrease. The main reason of higher price of sugarcane as compared to indicative price is the supply of sugarcane from Punjab to Sindh due to relatively higher prices offered by sugar mills in Sindh, particularly the bordering districts in Punjab. The government increased the price to keep pace with the record inflation driving input and total production costs higher. Mills provide technical and financial assistance to farmers as incentives both to produce more quantity and to ensure output with higher sucrose content. For 2023-24 season, the Food department has decided to raise the sugarcane support price by ~42% to Rs. 425 per 40 Kg. Increase in MSP has been pushing the domestic cost of production vis-à-vis global prices. Similarly, sugar prices have witnessed an increasing trend lately primarily induced by inflationary pressure. It should be noted that, according to Household Integrated Economic Survey (HIES) 2018-19 by PBS, and under certain scenarios, every 1 Rupee increase in sugar prices over the average level of RS. 88.62 per KG would raise the CPI by 0.01%.



Support prices are encouraging farmers to maintain sugarcane area vis-à-vis planting other crops. Farmers' preference to plant sugarcane is also due to the crop's resiliency to weather hazards compared to alternative crops. In 2022-23 season, the crushing season took off a bit late owing to disagreement between PSMA, representing sugar mill owners, and Government of Pakistan, to allow export of 2 million tons of sugar, to cover up for the higher costs associated with producing sugar and pulling the industry out of crisis.

The government controls exports and is reluctant to approve too much, fearing domestic price increases.

C. PRODUCTION

Sugarcane production and consequently sugar production rises and falls in a 3-to-5-year cycle, depending on how the level of government support influences farmers' planting decisions, and on crop yields. In the 2021-22 season (October-September), Pakistan produced a record 7.9 million tons of sugar, which was about 1.9 million tons more than domestic consumption. Domestic demand is expected to grow steadily around 4-5% annually due to population growth.

SUGARCANE CRUSHING, SUGAR PRODUCTION AND SUGAR RECOVERY				
Year	No. of Mills	Cane Crushed (Tons)	Sugar Made (Tons)	Recovery (%)
2022	90	79,714,711	7,867,514	9.87
2021	90	58,603,839	5,631,249	9.61
2020	90	48,717,544	4,819,793	9.89
2019	89	49,768,113	5,210,744	10.47
2018	89	65,639,963	6,589,111	10.02

The Pakistan Sugar Mills Association (PSMA) and around 90 sugar mills (44 mills in Punjab, 38 mills in Sindh and 8 mills in KPK) operate in the market with high rivalry. There is limited product differentiation. Largest sugar mills in Pakistan in terms of sugar cane crushing capacity are JDW Sugar Mills, Almoiz Sugar Mills, Tandianwala Sugar Mills, HAMZA SUGAR Mills, RYK, Alnoor Sugar and others as under:

TOP PLAYERS	CRUSHING CAPACITIES (TONS PER DAY)
JDW Group	57,000
Almoiz Group	58,000
RYK Group	47,500
Tandiawala	48,500
Al-Noor Group	25,500

With no differentiation in pricing, rivalry among the sugar mills is high based on differentiation on the basis of quality, availability and delivery.

PRODUCTION SHARE TOP 20 PLAYERS MY22					
S.No.	Company Name	Cane Crushed (Tons)	Sugar Production (Tons)	Recovery Rate (%)	Market Share
1	JDW	7,811,556	781,634	10.0%	9.9%
2	Tandianwala	3,867,405	356,611	9.2%	4.5%
3	Hamza	3,307,027	334,315	10.1%	4.2%
4	RYK	2,447,393	243,965	10.0%	3.1%
5	Etihad	2,336,469	241,830	10.4%	3.1%
6	Hunza	2,572,280	232,120	9.0%	3.0%
7	Sheikhoo	2,255,524	231,387	10.3%	2.9%
8	Al Moiz	1,986,223	226,758	11.4%	2.9%
9	AKT (JK/Golf)	2,188,002	218,590	10.0%	2.8%
10	Madina	2,092,350	200,044	9.6%	2.5%
11	Dehark-1	1,953,090	196,560	10.1%	2.5%
12	Chashma	1,886,076	195,218	10.4%	2.5%
13	Layyah	1,785,947	189,336	10.6%	2.4%
14	Two Star	1,923,195	183,737	9.6%	2.3%
15	Fatima	1,769,587	178,115	10.1%	2.3%
16	Ramzan	1,879,966	163,387	8.7%	2.1%
17	Alliance	1,559,680	154,937	9.9%	2.0%
18	Indus	1,492,104	151,635	10.2%	1.9%
19	Ashraf	1,601,555	147,678	9.2%	1.9%
20	Shakarganj	1,347,430	125,318	9.3%	1.6%
21	Others	29,463,850	3,114,341	10.6%	39.6%
	Total	77,526,710	7,867,514	10.1%	100.0%

D. DIVERSIFICATION IN LOCAL SUGAR INDUSTRY

In view of the decreasing trend in the world prices of sugar and large-scale investments in the domestic sugar industry, it is imperative to improve the efficiency of resource use in sugarcane production and its processing. To improve productivity in sugar processing, the requirement is not only to improve efficiency but also value addition through vertical integration. In the wake of fast approaching globalization and WTO requirements, the sugar industry would also have to go into value adding business and growers would also get their share of returns.

- In Pakistan, sugar mills have mainly diversified their operations in Power, Steel, Ethanol and Fiber Board.
- Positive demand dynamics of ethanol underpinned by increasing trend towards its blending with gasoline fuels in international market and export competitiveness due to PKR devaluation has boded well for local industry players.
- Inclination towards sugarcane-ethanol in international market instead of corn ethanol, due to food security issues.
- Export business provides the company access to tax incentives and borrowings at subsidized rates from Govt.

- While comparing it with diversification in Medium Density Fiber Boards (MFDB) business or steel billets/deform bars production, ethanol production is based on indigenous raw material. Whereas for MFDB ~23-25% raw material is imported and steel scrap is almost 100% imported. MFDB and steel demand is also more sensitive to economic slowdown.

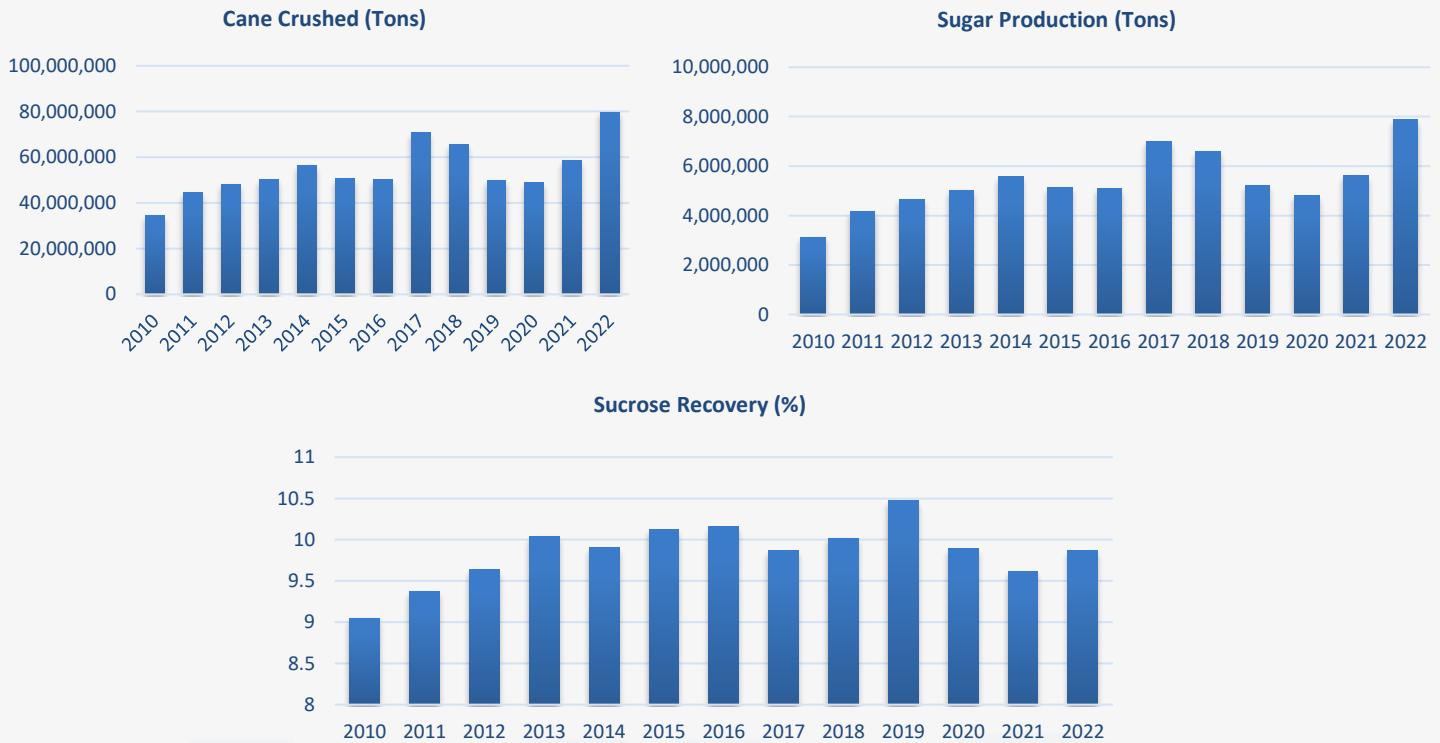
E. FINANCIAL RISK OF LOCAL SUGAR INDUSTRY

- As the sugar mills produces up to 80% of its annual output in less than a calendar quarter, they have to carry inventory all the way till the end of the (marketing) year, if it foresees a shortfall in the upcoming season. The mills also carry inventory in anticipation of rising sugar prices going forward.
- Unfavorable sugar prices prevailed most of the period because of surplus carryover sugar stocks of approx. 1.0 million tons from last year which was available at start of the crushing season 2022-23, with expectation of bumper sugar production in the season.
- Delayed decision by the Federal Government for export of sugar coupled with inadequate permission for export i.e., just 250,000 tons out of available surplus has kept the local sugar prices depressed until end of the crushing season 2022-23.
- The sugar Sector in Pakistan recorded the highest-ever profits in 9MFY23, with a rise of 22.61% YoY, clocking in the total sector's profit after tax at Rs13.7bn as compared to Rs11.18bn in the same period last year (SPLY).
- Going by the companies' results, the sector recorded the highest ever sales in a nine-month period, increasing by 24.62% YoY to Rs235.3 billion as compared to Rs188.8 billion in SPLY. This increase is due to a rise in both Sugar volumes and prices.
- However, with benchmark rates hovering at around 23%, the cost of carrying inventories has caused a massive strain on bottom line of sugar mills.
- Ethanol, which is a by-product of sugar, experienced improved performance in 9MFY23 due to favorable Ethanol selling prices in the international market along with the devaluation of the Rupee against the US dollar.
- The sector saw an increase in exports, with total exports totaling 216k tons and a 13% YoY increase in average domestic prices.
- Company-wise, Al-Abbas Sugar Mills Limited (PSX: AABS) remained the best performer with profits of Rs. 2.61 billion (9M'22: Rs. 1.0 billion), followed by Shahmurad Sugar Mills Limited (PSX: SHSML) with a profit of Rs. 2.4 billion (9M'22: Rs. 1.3 billion) and The Thal Industries Corporation Limited (PSX: TICL) with a profit of Rs. 1.55 billion (9M'22: Rs. 1.34 billion) in 9MFY23.
- Please note that AABS, SHSML, and TICL accounted for 19%, 18%, and 11% of the total sector profit respectively.

COMPANY	NET PROFIT (9M'MY23)	% OF TOTAL SECTOR
Al-Abbas Sugar Mills	2,608	19.03%
Shahmurad	2,419	17.65%
Thal Industries	1,553	11.33%
JDW	1,478	10.79%
Habib	1,369	9.99%

F. SECTOR ISSUES

- Factors limiting growth of sugar sector primarily includes, political influence in licensing mills, government price controls, limited diversification in byproducts by mills, low quality of sugarcane, and potential anti-competitive practices facilitated by the industry association PSMA.
- As a result, Pakistan's sugar sector lags behind other major sugar producing countries in yields, recovery rate, and productivity. This makes the sector vulnerable to global price fluctuations. Per hectare yields are relatively low due to lack of high yielding varieties, water shortages, and uneven fertilizer distribution.



- Per hectare yields are relatively low due to lack of high yielding varieties, water shortages, and uneven fertilizer distribution.
- The inherent cyclical nature in crop yields and raw material prices is believed to have a substantial impact on the business risk profile of the sugar sector. Furthermore, there is a noticeable difference in pricing mechanisms, with the price of the end product, granulated sugar, being set by market forces whereas sugarcane cost being regulated by the government.
- Delayed payment to the growers is a persistent feature in the sugar cane marketing. The sugar industry, at the beginning of the season, generally made payments to growers within two weeks as mentioned in the Sugar Factor Control Act. However, as the season progresses to the end, the payments are delayed by months and, in some cases, in bumper crops, they are delayed by seasons. Mills are of the view that this happens due to liquidity problems.
- The relationship between farmer and sugar millers are always conflicting particularly the price of produce and weightment has been observed contrary to the benefit of each other. It is necessary to develop a contract between growers and sugar mills for supply of sugarcane on prefixed price.

- The sugarcane seed is required in bulk quantity, its harvesting, transportation and planting is carried out at same time and cannot be stored/ packed. Its rate of multiplication is hardly 1:10 as compared to 1:40 for wheat. The production, multiplication and distribution of quality seed of high yielding varieties at Institute level do not exist. After de-zoning, sugar mills also have stopped their cane development activities including the supply of improved seed to the growers. Resultantly, farmers generally use their commercial crop as seed without its treatment against diseases.
- The availability of healthy seeds of approved sugarcane varieties to sugarcane growers is a big issue in the current prevailing yield gap. There was no seed standard for sugarcane seed production available prior to 2016. However, after the implementation of the Seed Act 2016, the Sugarcane Research Institute (SRI), Faisalabad took up the matter and seed standards were approved with the consultation of the Federal Seed Certification & Registration Department, Islamabad.
- The SRI is producing a limited quantity (about 10 acres annually) of quality seed (pre-basic/ basic) which is available for multiplication/ certified seed production by the sugar mills and seed farms. There is a dire need to strengthen extension activities by the government and sugar mills for cultivation of only approved varieties and discourage or ban un-approved or outdated sugarcane varieties from provincial/national sugarcane agriculture.
- Lack of an adequate plant population remains an important factor in the low productivity of sugarcane. Research on sugarcane has found that even good quality seed does not provide more than 60 per cent germination. In general, 80-100 maunds of seed of thin and 100-120 maunds of thick varieties of cane are recommended for cultivating one acre.
- Sugarcane sowing and harvesting operations are still manual, labour intensive and time consuming operations which reduce the per acre sugarcane yield due to poor germination and less plant population in the acre. Manually harvesting of sugarcane affects the ratoon crop and also reduces the sugar content in sugarcane.

Major steps taken by Government and Industry players to tackle some of these issues during the past few years include:

- In efforts to regulate the sector, bring transparency and enhance tax collection, Federal Board of Revenue (FBR) has implemented Track & Trace System in 2021 across the country to ensure electronic monitoring of the production and sale of important sectors, including tobacco, fertilizer, sugar and cement sectors. Under the Track & Trace System, no bag of sugar can be taken out from the factory and manufacturing plant without stamp and individual identity mark;
- Payments to growers via banking channel within 15 days of the Purchase;
- Competition Commission of Pakistan issued show cause notices to PSMA and 84 mills for prima facie cartelization in sugar industry, violation of the Act by reducing stocks of sugar through exports; hence collectively raised and maintained prices of sugar in Pakistan. Also, expansion of capacities by certain mills during the period when it was not allowed was also included in the report. Please note that the operation of the said order has been suspended and CCP has been restrained from recovering the penalty imposed in terms of an order of the LHC dated October 2021 followed an interim stay order for the same by the Commission Appellate Tribunal.
- Regularization of installed sugarcane crushing capacities, subject to requital amount on per ton basis;
- Majority of the large industry players provide interest free advances to growers and provide seeds, agricultural implements and fertilizers on favorable terms;
- Some large industry players are also involved actively in research and development activities for seed development etc.

RECENT DEVELOPMENTS

The global industrial sugar market is increasingly adopting substitutes and alternatives. This shift is being driven by a variety of factors, including shifting consumer preferences, health concerns, sustainability concerns, and regulatory changes. Sugar cane and sugar beet have traditionally been the primary sugar sources in the industrial sugar market. However, changing market dynamics and consumer demands have prompted the exploration and use of substitutes and alternatives to traditional industrial sugar.

Given the prevailing high inflation rate globally criteria such as naturalness, sustainability and organic qualities are losing ground in direct comparison to price.

Transparency about ingredients and their origin is making difference as regionality has grown as a purchase criterion in some countries, such as Germany and France, where it has gained more relevance. The importance of the origin of ingredients is also reflected in the fact that increasing percentage of consumers want to have more transparency about ingredients including ingredient sourcing, production methods, social implications, and environmental impact

EU has set out legally binding targets to reduce food waste by 10% in processing and manufacturing, and 30% jointly at retail and consumption levels, by 2030 which will have bearing on sugar consumption in EU.

In May 2023, Mitr Phol Group announced the launch of new packaging material that is sustainable and eco-friendly. They stated to transform the packaging for sugar products into sustainable material due to rising concern among the consumers. This development will help the company to attract the large consumer base.

Advancements in technology have revolutionized the industry, introducing sophisticated automation systems, computerized controls, data analytics, new techniques and equipment that streamline production, optimize resource utilization, and enhance product quality. These advancements are reshaping the global industrial sugar market and creating opportunities for manufacturers to stay competitive in a rapidly changing landscape.

Sugar refineries are becoming intelligent factories, thanks to digitalization. Real-time data gathering, analysis, and remote monitoring are made possible by the deployment of sensors, Internet of Things (IoT) gadgets, and cloud-based platforms. This supply chain integration is made possible by digital transformation, which also increases operational effectiveness and makes predictive maintenance easier.

SECTOR DYNAMICS

- In Pakistan Sugar is under law an essential commodity. The provincial governments exert control through determining prices and ensuring supply. Additionally, the laws allow them vast powers to regulate sugar factories as well. The provincial governments has the power to restrict a sugar factory to only purchase sugarcane from the notified reserve area and even fix the quantity to be bought by a factory. Vast power with the provincial governments thus muddle the sector with political influences and the accompanying inefficiencies and malpractices.
- In Pakistan, sugarcane production rises and falls in a 3-to-5-year cycle, depending on how the level of government support influences farmers' planting decisions, and on crop yields with no government restrictions on entry, cost of entry relatively low entry barriers are low prompting many inefficient mills to operate in market Buyers carry no or limited power in the sector as consumers will purchase, no matter what the price levels are. Possibilities and history of producer cartels are other factors limiting buyers influence.

- Large number of suppliers (farmers) defuse supplier's power. However, farmers are protected through minimum price policy of government, farmers tend to easily switch between crops if they do not find favorable terms, which provide them some influence in the sector.
- With no differentiation in pricing, rivalry among the sugar mills is high based on differentiation on the basis of quality, availability and delivery.

SECTOR OUTLOOK - STABLE

Overall outlook for Pakistan's sugar sector is considered 'Stable'.

- Albeit, upward trend in sugar prices will positively impact gross margins of players, inflated markup rates will continue to drag net profitability. Retail prices of sugar are expected to remain high amidst inflationary pressure and significant gap in imported sugar prices vis-à-vis domestic production.
- The companies which have low gearing and financial muscle to carry inventory have benefitted more from increasing trend in sugar prices and are expected to do so, going forward as well.
- Particularly, the mills which are vertically integrated with distillery operations are expected to post higher profitability due to export competitiveness of Ethanol.
- Meanwhile, it should be taken into account that with increase in support prices of sugarcane and area under cultivation, upcoming season 2023-24 is expected to be a bumper crop season.
- This may impact the retail prices of sugar, given the government has been cautious in allowing sugar exports. However, inflationary pressure is expected to persist in medium term, which may continue to push retail prices.
- The Govt. also need to take concrete steps to curb sugar smuggling to Afghanistan, where sugar prices are almost double the retail prices in Pakistan.

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