SECTOR STUDY . AUGUST 2024

Together. Creating Value.

Sugar

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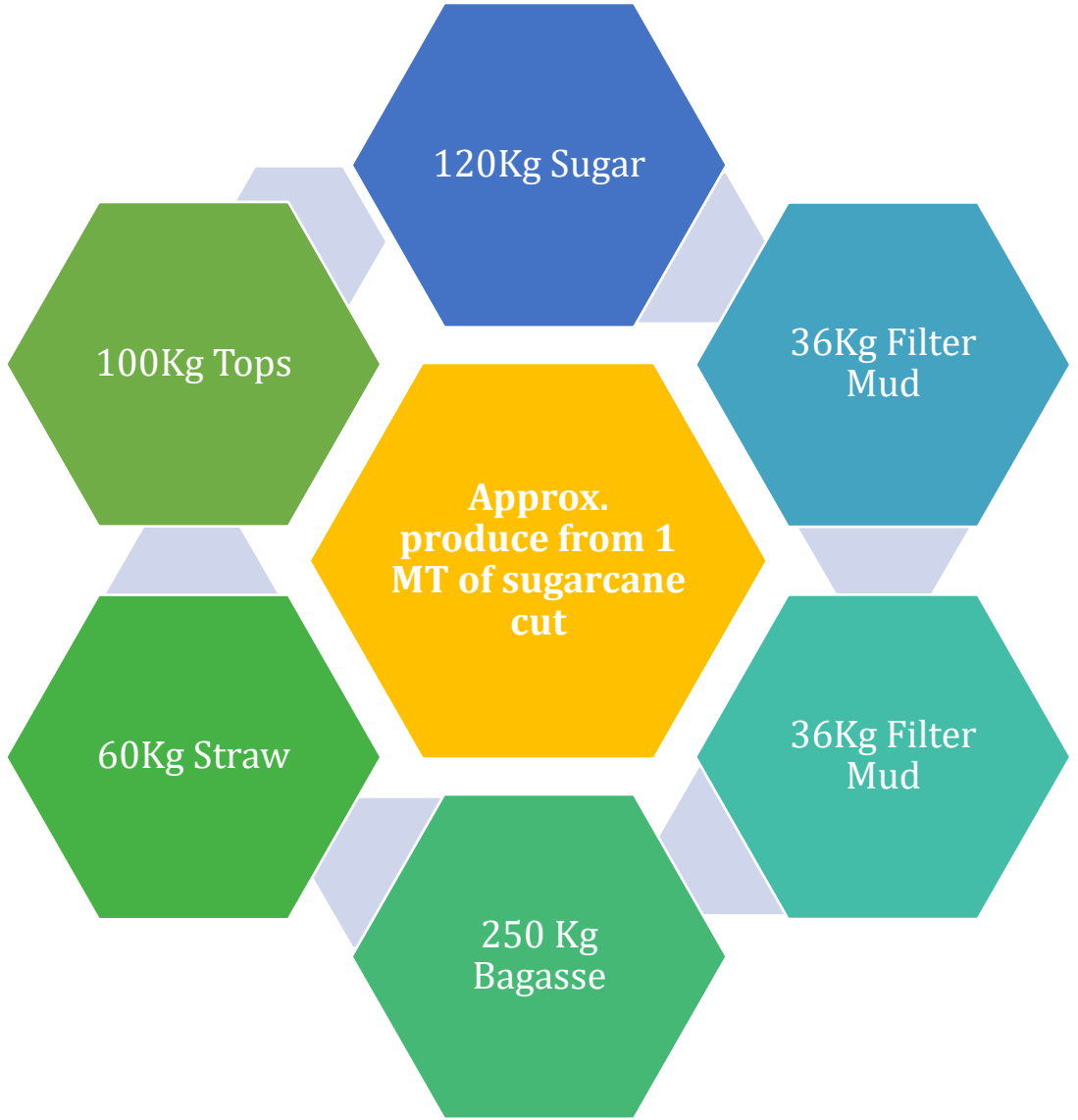
Introduction

- Sugar undergoes a process to remove impurities and other substances from sugarcane or sugar beet to form a sweet crystalline food supplement.
- The end-product of refining is often white refined sugar, which is commonly used in households and food manufacturing. It is highly soluble and widely used as a sweetener in cooking, baking, and beverages.
- The sugar production process involves several stages, including cane offloading, cane preparation, juice extraction, juice clarification, evaporation, sugar crystallization, centrifugal separation, steam generation, and renewable power generation.
- The important byproducts of sugar are molasses a thick syrup left after crystallization, which is used for ethanol production while bagasse is used as a biofuel or in production of paper and building materials.
- Sugarcane is mainly cultivated in tropical regions and provides nearly ~80% of sugar produced worldwide.
- ~75% of the sugar produced globally was consumed in the food and beverages production and households during MY23 while the balance was used in biofuel production.
- Sugarcane cultivation and processing currently provided employment for ~100-150mln people across the world during MY23.



Source: ISO, FAO

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Production Process

Harvested Cane → Crushing/ Milling → Liming, Heating, Clarification → Evaporation → Distillation

Crushing/ Milling → Bagasse

Evaporation → Crystallization

Crystallization → Raw Sugar

Crystallization → Molasses

Distillation → Ethanol

Source: ISO, SUCDEN

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Global | Overview

- Global sugar production clocked in at ~179.4mln MT in MY23, down ~0.6% YoY, while consumption was recorded at ~176.7mln MT, a growth of ~0.1% YoY as European Union, China and Pakistan production was down by ~15.5%, ~6.6% and ~9.3% respectively.
- Global sugar production recorded a CAGR of ~0.1% during MY19-23, while consumption has increased at a CAGR of ~0.2%.
- During MY23, sugar imports clocked in at ~58.4mln MT, a YoY increase of ~0.1%, while exports stood at ~62.1mln MT, a YoY decline of ~4.1%. The global closing stock during MY23 declined to ~46.0mln MT (SPLY: ~47.7mln MT) on the back of higher consumption levels during the year.
- Global sugar production is expected to rise in MY24 to ~184.3mln MT due to an increased production in Brazil, China and EU as favorable prices stimulate producers to prioritize sugar production.
- In line with this, the global sugar exports are forecast to rise by ~9.7% YoY during MY24, with Brazil maintaining its position as the top sugar exporter (covered later).

Disclaimer: *The difference in sugar imports and exports reflects the varying marketing years across countries, reporting timelines and the frequency of USDA publications.*

Global | Sugar Overview (mln MT)						
Particulars	**MY19**	**MY20**	**MY21**	**MY22**	**MY23**	**MY24***
Opening Stock	51.9	53.2	47.8	50.2	47.7	46.0
Production	179.2	166.5	180.2	180.6	179.4	184.3
Imports	53.3	54.0	58.2	56.4	58.4	56.8
Total Supply	**288.8**	**273.7**	**286.2**	**287.2**	**285.5**	**287.1**
Exports	58.1	53.4	64.0	64.8	62.1	68.2
Consumption	177.9	171.4	171.0	173.9	176.7	177.3
Total Demand	**235.6**	**224.8**	**235.0**	**238.7**	**238.8**	**245.5**
Closing Stock	**53.2**	**47.8**	**50.2**	**47.7**	**46.0**	**40.2**

***Note**: MY refers to "Marketing Year" – Brazil MY "April to March", India, China, USA & Pakistan MY "Oct-Sep".*
**Estimated.*

Source: USDA

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Global | Production

- In MY23, Asia accounted for ~38.4% of the global sugar production (~68.8mln MT) (SPLY: ~68.9% share; ~68.9mln MT), while South America was the second-largest producer with ~23.8% share (or ~42.8mln MT) (SPLY: ~40.7% share; ~40.7mln MT).
- In Asia, India was the largest sugar producer during MY23, with ~53.7% share in regional production (~37.0mln MT), whereas Brazil formed ~89.0% share (~38.1mln MT) in South America. Globally, these represented ~20.6% and ~21.2% of overall sugar production during the year (SPLY: ~20.4%, ~19.6%, respectively).
- India and Brazil collectively accounted for ~41.8% of global sugar production in MY23 (SPLY: ~39.9%), registering ~0.5% and ~7.6% YoY increase, respectively.
- During MY24, global sugar production is expected to increase to ~183.4mln MT, up ~2.2% YoY, as Brazil sugarcane yield for MY24 has improved on the back of favorable weather conditions (production forecast is up ~13.5% YoY for MY24, while yield is expected to improve from ~67.5mln Ha to ~70.8mn Ha).
- On the other hand, India's sugarcane production is forecast to decline by ~8.1% YoY during MY24 owing to lower area harvested (~0.9% YoY decline in acreage to record at ~5.4mln Ha) and unfavorable weather conditions.
- Pakistan's sugar production was down ~9.3% YoY (~6.7mln MT) in MY23, owing to ~5.1% decline in yield. For MY24, this is forecast to further decline to ~6.6mln MT.

Global | Sugar Production (%)

Period	MY19	MY20	MY21	MY22	MY23	MY24*
Asia						
India	19.1%	17.4%	18.7%	20.4%	20.6%	18.5%
China	6.0%	6.2%	5.9%	5.3%	5.0%	5.4%
Thailand	8.1%	5.0%	4.2%	5.6%	6.1%	4.7%
Pakistan	2.9%	3.2%	3.6%	4.2%	3.8%	3.6%
Other Asia	3.1%	3.2%	2.8%	2.7%	2.8%	2.8%
Total Asia	**39.4%**	**35.0%**	**35.2%**	**38.2%**	**38.4%**	**35.1%**
South America						
Brazil	16.5%	18.2%	23.3%	19.6%	21.2%	24.8%
Other South America	3.0%	3.1%	2.9%	2.9%	2.6%	2.7%
Total South America	**19.4%**	**21.3%**	**26.2%**	**22.5%**	**23.8%**	**27.5%**
North America	8.4%	7.8%	8.0%	8.3%	7.7%	7.2%
Central America	2.1%	2.2%	1.9%	1.9%	1.9%	1.8%
Europe	10.3%	11.2%	9.2%	10.0%	8.5%	9.2%
Russia	3.4%	4.7%	3.1%	3.3%	3.4%	3.6%
Oceania	2.6%	2.6%	2.4%	2.3%	2.4%	2.2%
Other Regions	14.4%	15.3%	14.0%	13.6%	13.8%	13.4%
Total World	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

***Note**: MY24 figure are provisional.*

Source: USDA

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Global | Consumption

- The top five sugar-consuming countries (as depicted) accounted for ~47.0% of global consumption during MY23 (MY22: ~45.3%), while also registering a YoY increase of ~1.5%.
- India remained the largest sugar-consuming country with ~16.9% share in MY23 (MY22: ~16.6%). India has witnessed sugar consumption growth at a CAGR of ~1.8% during MY19-23, on the back of increasing population and growth of the hotel and restaurant industries sugar usage. During MY23 India sugar consumption per capita stood at ~19.5 Kg/Capita.
- Despite being the largest producer of sugar, Brazil ranks fifth in terms of sugar consumption, reflecting the country's global sugar exports (covered later). During MY23, Brazil's sugar consumption was down ~3.1% YoY. This is probably due to increased consumer awareness of sugar intake and surge in exports. Brazil sugar consumption per capita stood at ~47.8 Kg/ Capita.
- For MY24, global sugar consumption is expected to forecast to increase by ~0.3% YoY, with India maintaining its spot as the largest sugar consuming country with increase sugar consumption (up ~3.3% YoY).

Top 5 | Sugar-consuming Countries (mln MT)						
Countries	**MY19**	**MY20**	**MY21**	**MY22**	**MY23**	**MY24***
India	27.5	27.0	28.0	29.0	30.0	31.0
EU	18.7	17.0	16.7	17.0	16.8	16.8
China	15.7	15.4	15.5	14.8	15.5	15.6
USA	11.4	11.1	11.0	11.3	11.4	11.2
Brazil	10.6	10.7	10.2	9.8	9.5	9.5
Sub-total	**83.9**	**81.2**	**81.4**	**81.9**	**83.2**	**84.1**
Others	94.0	90.2	89.7	92.0	93.5	93.2
Global | Consumption	**177.9**	**171.4**	**171.0**	**173.9**	**176.7**	**177.3**

Source: USDA

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Global | Trade

- Brazil was the largest sugar exporting country with a share of ~45.5% in MY23 (~41.0%), followed by India having a share of ~13.3% during the same period (MY22:~18.3%).
- Global sugar exports are expected to grow by ~9.7% YoY in MY24 as sugar production in Brazil is forecast to increase by ~19.6% YoY.
- Meanwhile, sugar exports for India are expected to decline ~44.5% YoY in MY24 in response to exports restrictions imposed due to reduced sugarcane production caused by unfavorable weather conditions.
- Indonesia and China were the largest importers of sugar in MY23 with ~9.9% and ~6.5% shares in global imports and recorded ~6.1% increase and ~24.0% YoY decline, respectively.
- Global sugar imports are forecast to decline ~2.7% YoY in MY24, with Indonesian imports down ~13.7% YoY, USA by ~4.4% YoY and Malaysia by ~2.4%. This is owing to excess available stocks and high global sugar prices.

Global | Sugar Exports (mln MT)

Countries	MY19	MY20	MY21	MY22	MY23	MY24*
Brazil	19.6	19.3	32.2	26.6	28.3	36.0
Thailand	10.6	6.7	3.7	7.0	6.8	10.0
India	4.7	5.8	8.4	11.9	8.3	4.6
Australia	3.7	3.6	3.4	3.1	3.0	3.4
Guatemala	2.1	1.9	1.4	1.7	1.4	1.4
EU	2.4	1.5	1.3	1.2	0.8	1.1
Mexico	2.3	1.3	1.2	1.8	1.1	0.6
Others	12.7	13.3	12.5	11.5	12.4	11.1
Total	**58.1**	**53.4**	**64.0**	**64.8**	**62.1**	**68.2**

Global | Sugar Imports (mln MT)

Countries	MY19	MY20	MY21	MY22	MY23	MY24*
Indonesia	5.4	4.8	6.1	5.5	5.8	5.0
China	4.1	3.8	6.4	5.0	3.8	4.6
United States	2.8	3.8	3.0	3.3	3.3	3.1
EU	2.4	2.2	1.8	2.0	3.1	3.0
India	1.3	0.9	1.3	0.3	1.4	2.5
Malaysia	2.1	2.0	2.1	2.0	2.1	2.0
Bangladesh	2.4	2.4	2.4	2.8	2.1	2.0
Others	32.8	34.2	35.1	35.5	36.8	34.6
Total	**53.3**	**54.0**	**58.2**	**56.4**	**58.4**	**56.8**

Source: USDA

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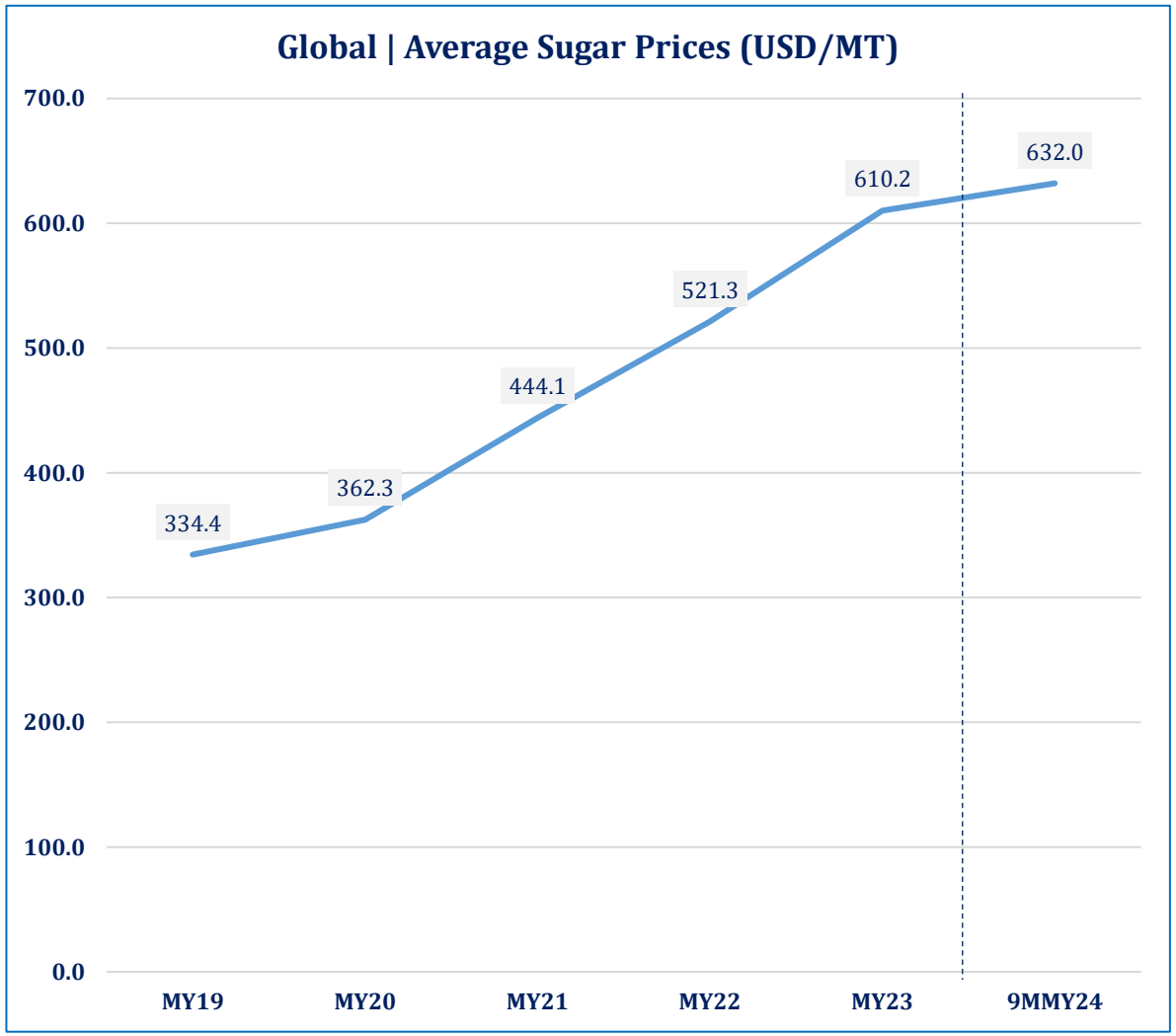
Global | Prices

- Historically, global sugar prices have increased at a ~12.8% CAGR (MY19-23). During MY23, global average sugar prices clocked in at USD~610.2/MT, a YoY increase of ~17.0%, while in 9MFY24, these surged to USD~632.0/MT, up ~18.5% YoY.
- The increase in MY23 came majorly on account of rising crude oil prices, global inflation and concerns over global sugar supply, seeing especially as India is expected to keep the export quotas in place during MY23.
- Another factor contributing towards global sugar trading at higher prices is the lower global supplies in response to unfavorable weather conditions affecting sugarcane production in India and Thailand during MY23, the world's second and third largest exporters.
- The increase in prices from MY19-23 can also be supported by high consumption levels across the globe, with levels reaching ~176.7mln MT during MY23 (MY22: ~173.9mln MT), a YoY increase of ~1.6%.
- During MY24, global consumption is expected to increase by ~0.3% YoY, while sugar production in India is expected to decrease by ~8.2 YoY, with export restrictions likely to be in place during MY24.Therefore, prices are forecasted to maintain upward momentum due to adverse weather conditions and rising cost of production during MY24.



***Note**: MY refers to "Marketing Year" – "Oct-Sep".*

Source: ISO,USDA

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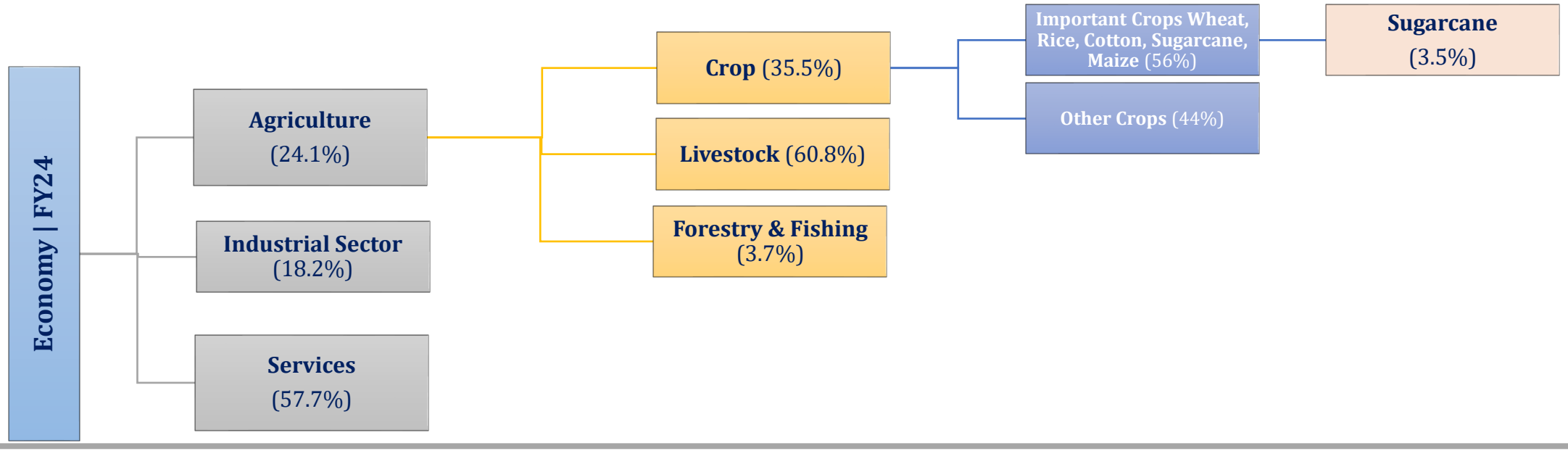
Agriculture | Overview

- In FY24, Pakistan's GDP (nominal) stood at PKR~106.0trn (FY23: PKR~83.9trn), increasing, in real terms, by ~2.8% YoY (FY23: ~-0.03% growth). Industrial activities in FY23 held ~21.7% share in the GDP while the manufacturing activities made up ~65% of the value addition. In 3QFY24, Pakistan's GDP (nominal) stood at PKR~25.4trn (3QFY23: PKR~20.6trn), rising in real terms by ~2.1% YoY (2QFY24: ~1.8% YoY). Real GDP growth rate (~2.1%) for 3QFY24 signals a moderate improvement in economic activity as compared to SPLY.
- Pakistan's economy is broadly classified into three segments: Agriculture, Industry and Services. During FY24, the agricultural sector growth was recorded at ~6.2% (FY22: ~2.2%), whereas important crops grew by ~16.8% YoY in FY24 (FY23: ~0.3% growth), owing to post-flood recovery of the crops.
- During FY24, important crops (Wheat, Rice, Cotton, Sugarcane and Maize) contributed ~20.6% (FY23:~18.7%) to the agriculture sector and ~4.9% to the country's GDP while other crops accounted for ~13.5% (FY23:~14.2) in total agriculture sector and ~3.2% in the GDP. Sugarcane production was down ~0.5% YoY in FY24 to ~87.6mln MT, while crops contributed ~0.8% in the overall GDP and ~3.5% in the agriculture sector.



Source: PBS, PES

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Local | Snapshot

- Sugarcane is an important agricultural and cash crop of Pakistan. It contributed ~20.5% to country's "important crops" and ~3.7% to the overall agriculture sector, with ~0.9% share in country's GDP during MY23 (MY22: ~0.8%).

- Total sugar production clocked in at ~6.7mln MT during MY23, a YoY decline of ~15.1%. Meanwhile, sugar imports remained nil in MY23 due to sufficient local supply and surplus of sugar stock. During the year, only a limited quota of ~0.3mln MT was allowed for sugar export. MY24 sugar production is projected to decline by ~0.1% YoY whereas imports are expected to stay nil.

- Consumption of sugar during MY23 clocked in at ~6.0mln MT same as the levels of MY22. During MY19-23, consumption increased at a CAGR of ~3.3%. Pakistan's per capita consumption of sugar stood at ~27.9Kg during MY23 (MY22: ~27.1Kg). During MY24, sugar consumption is expected to increase by ~6.6%.

- The sugarcane production is expected to increase during MY25 as prices are encouraging farmers to maintain sugarcane area over planting other crops. During MY25, sugarcane plantation area is expected to grow by ~5.6% YoY to reach ~1.3mln Ha, however, production is forecast at ~76.6mln MT, likely on account of lower yield.

Particulars	MY19	MY20	MY21	MY22	MY23	MY24**
Sugarcane						
Contribution to Nominal GDP	0.5%	0.6%	0.7%	0.8%	0.9%	0.8%
Value Added to Agriculture	2.9%	2.9%	3.4%	3.7%	3.7%	3.5%
Area Cultivation (mln Ha)	1.1	1.0	1.2	1.3	1.3	1.2
Production (mln MT)	67.1	67.1	81.0	88.7	87.9	87.6
Yield (MT/Ha)	61.0	67.1	67.5	68.2	67.6	73.0
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Production (mln MT)	5.3	4.9	5.6	7.9	6.7	6.7
Total Imports (mln MT)	0.0	0.0	0.3	0.3	0.0	0.0
Consumption (mln MT)	5.2	5.3	5.3	5.9	6.0	6.4
Total Exports (mln MT)	0.7	0.0	0.0	0.2	0.2	0.0
Market Structure	Competitive					
Association	Pakistan Sugar Mills Association					

***Note**: *MY24 figures are provisional*

Source: PSMA, PES,USDA,PBS, OECD

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Sugarcane | Overview

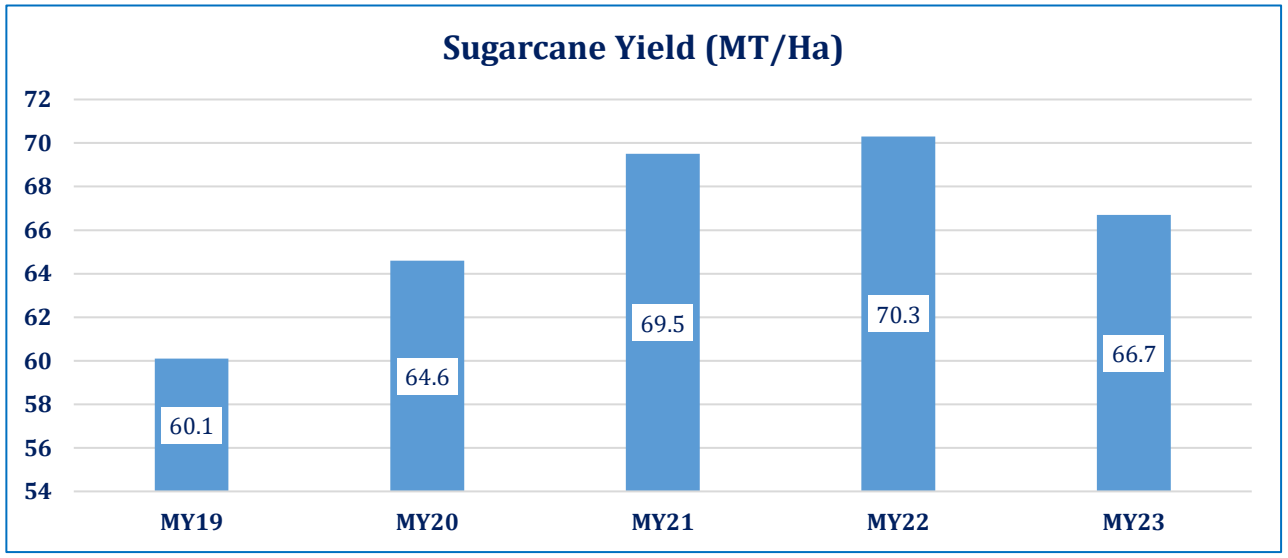
- Area cultivated for sugarcane production during MY23 increased to ~1.3mln Ha (MY22: ~1.2mln Ha). Meanwhile, sugarcane production decreased to ~87.9mln MT (MY22: ~88.6mln MT), a YoY decrease of ~0.7%.

- During MY23, sugar mills utilized ~65.1mln MT of total sugarcane produced for sugar production (SPLY: ~79.7mln MT). While average sugarcane utilization remained low, the average recovery rate improved to ~10.2% in MY23 (MY22: ~9.9%)

- Sugarcane yield declined ~1.3% YoY to ~66.7MT/Ha in MY23 (MY22: ~70.3MT/Ha). This came on the back of Aug'22 floods which affected the main sugarcane plantation area in Sindh.

- During MY23, sugarcane farmers received fairly good minimum prices at an average of PKR~408.3/40Kg. High domestic and better sugarcane procurement prices, favorable weather conditions, better management and timely availability of quality inputs incentivized growers to dedicate more area to the sugarcane crop.

Local | Sugarcane Dynamics					
Particulars	**MY19**	**MY20**	**MY21**	**MY22**	**MY23**
Cultivation Area (mln Ha)	1.1	1.0	1.2	1.2	1.3
Production (mln MT)	67.1	66.3	80.9	88.6	87.9
Utilized by Mills (mln MT)	49.7	48.7	58.6	79.7	65.1
Average Recovery (%)	10.5%	10.2%	9.6%	9.9%	10.2%
Yield (MT/Ha)	60.1	64.6	69.5	70.3	66.7



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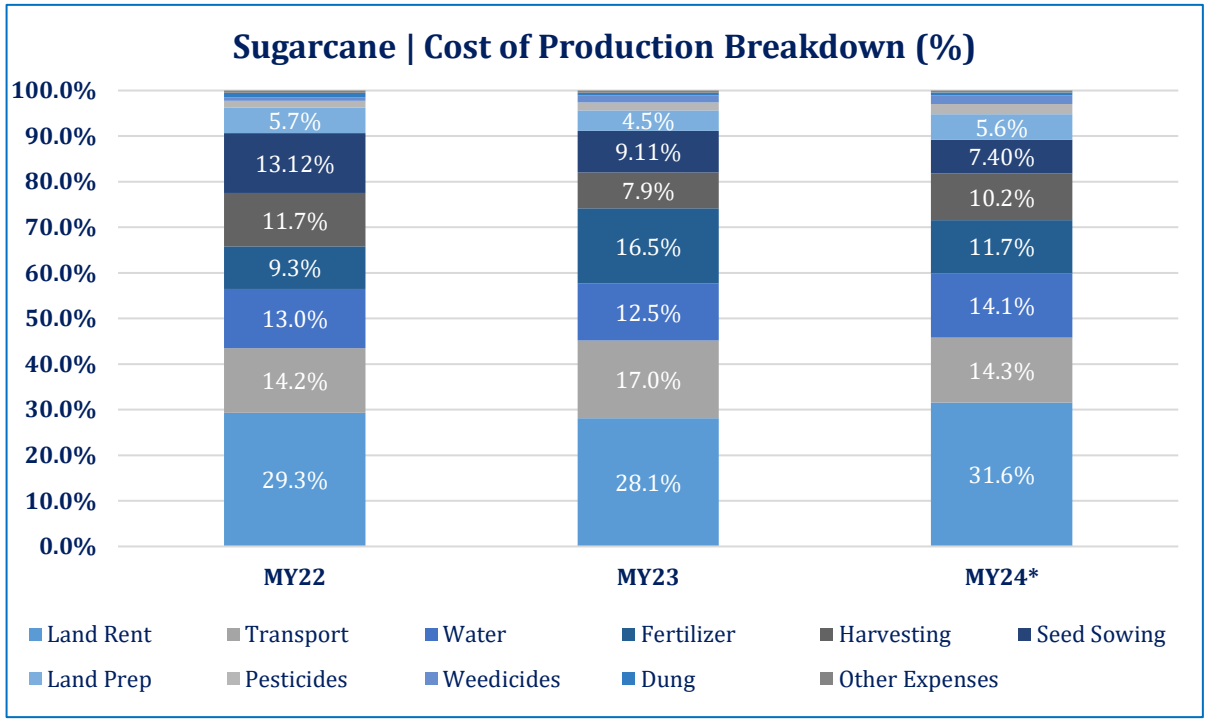
Sugarcane | Cost of Production

- During MY23, sugarcane's average cost of production increased to PKR~142,146/acre (MY22: PKR~136,344/acre, a YoY increase of ~4.2%. With a surge in inflationary pressure, the cost of production during MY24 is expected to increase PKR~221,814/acre, a YoY increase of ~56.0%.
- Cost of fertilizer clocked in at PKR~23,411/acre during MY23 (MY22: PKR ~12,650/acre), a YoY increase of ~85.0% YoY while cost of transport increased to PKR ~24,192/acre, up ~25.3% YoY.
- During MY24 the cost of water, harvesting, transport and land rent are expected to increase by ~75.5%, ~ 101.7, ~30.7% and ~75.0% YoY respectively.

Sugarcane | Average Cost of Production (PKR/acre)			
Operations/Inputs	**MY22**	**MY23**	**MY24***
Land Rent	40,000	40,000	70,000
Transport	19,300	24,192	31,620
Water	17,751	17,822	31,293
Fertilizers	12,650	23,411	25,866
Harvesting	15,977	11,217	22,626
Seed Sowing	17,895	12,948	16,419
Land Prep	7,717	6,372	12,465
Pesticides	1,983	2,513	4,926
Weedicides	1,103	2,161	4,295
Cost of Dung	1,295	822	1,384
Other Expenses	673	688	920
TOTAL	**136,344**	**142,146**	**221,814**



***Note**: *MY24 figures are provisional*

Source: AMIS, PACRA Database

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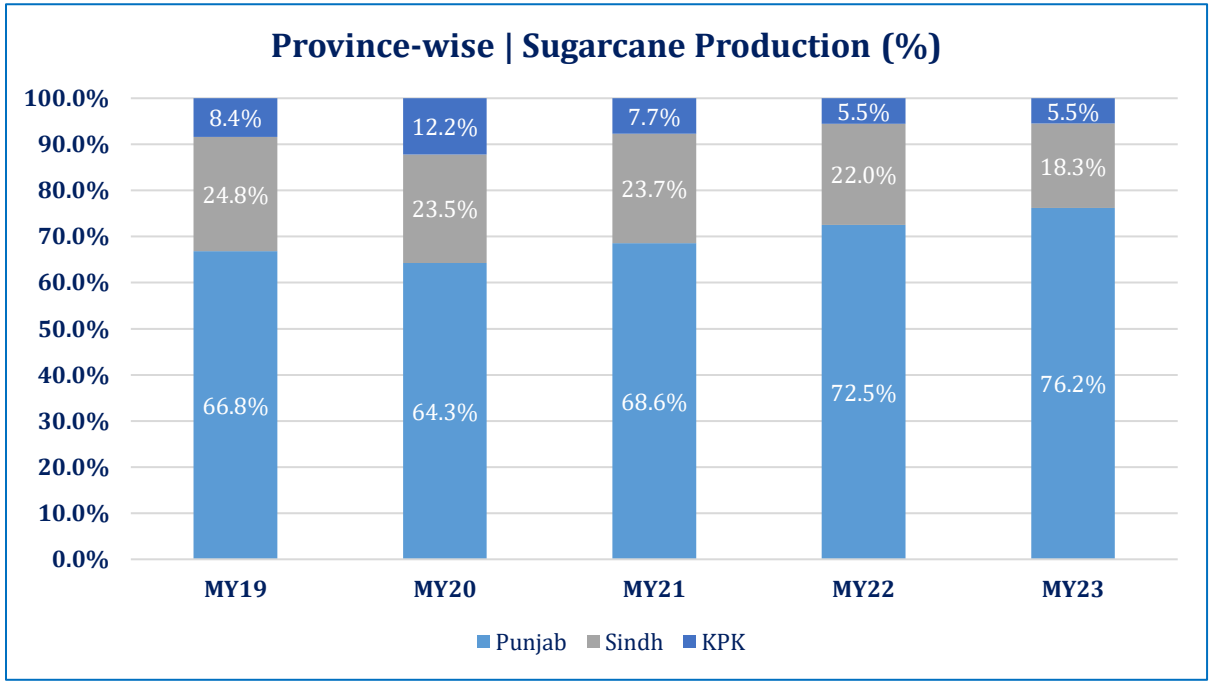
Sugarcane | Province-wise Distribution

- Pakistan has two planting seasons for sugar crop; Spring season (Feb-Mar) and Autumn season (Sep-Nov). Being a tropical crop, it is cultivated mainly in Punjab, Sindh and Khyber Pakhtunkhwa (KPK).
- Province-wise, Punjab made up ~76.2% sugarcane produced in MY23 (~66.9mln MT), recording a YoY increase of ~4.2%. Sindh's share declined to ~18.3% (~16.1mln MT), with production down ~17.0% YoY. Meanwhile, KPK contributed ~5.5% in the overall sugarcane production during MY23, same as the last year.
- Overall, area under cultivation increased by ~4.6% during MY23. Due to favorable crop conditions in Punjab during MY23, cultivated area increased to ~0.9mln Ha (MY22: ~0.8mln Ha), while in Sindh this declined to ~0.2mln Ha (MY22: ~0.3mln Ha) due to lower yield



Sugarcane Planting Time		
Province	**Spring Crop**	**Autumn Crop**
Punjab	15th Feb to 3rd week of Mar	Sep
Sindh	1st Feb to 15th Mar	Sep-Oct
KPK	15th Feb-3rd week of Mar	Sep

Sugar Mills | Overview (MY23)		
Province	**No. of Sugar Mills**	**Operational (%)**
Punjab	46	91%
Sindh	38	87%
KPK	07	86%
Total	**91**	**89%**

Source: PSMA, MNFSR

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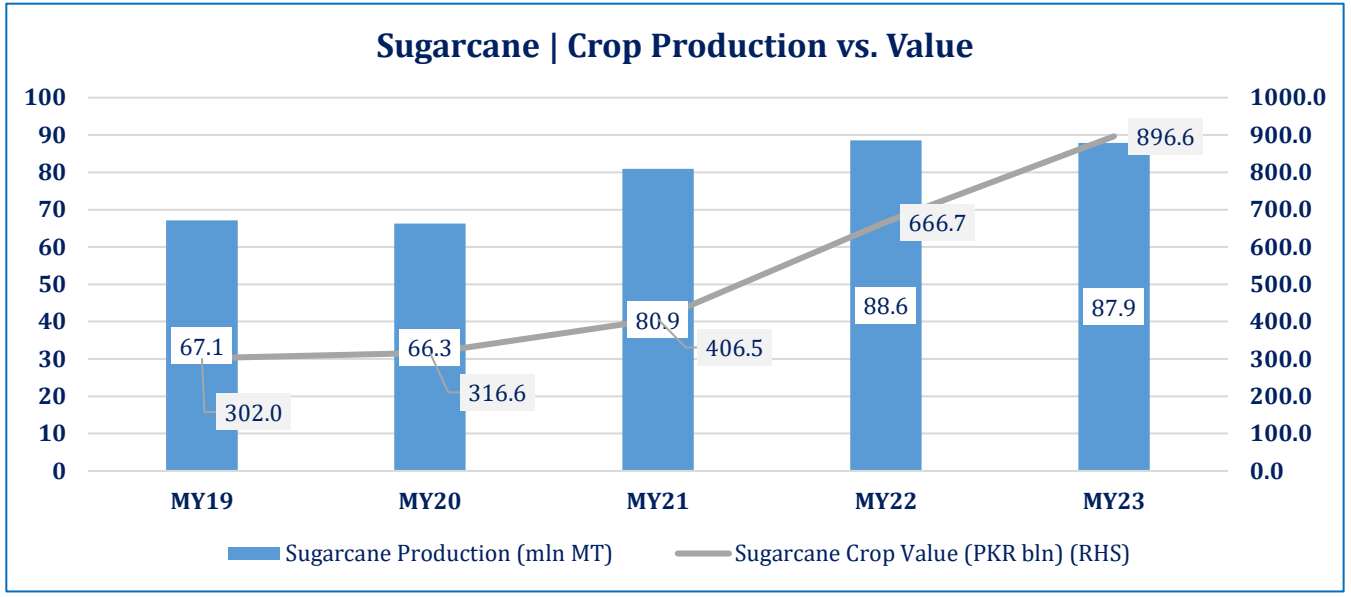
Local | Sugarcane Prices

- Minimum price levels for sugarcane are set by the respective provincial governments, after considering the cost of production to farmers. For MY23, the Punjab and KPK Governments set sugarcane price at PKR~400/40Kg, an increase of ~33.3% YoY. For the same period, the Sindh government raised the prices to PKR~425/40Kg, up ~40.7% YoY. This rise in prices was in response to higher input costs during MY23 owing to higher inflation (covered earlier).
- Overall, sugarcane crop value increased at a CAGR of ~24.2% during MY19-23. Due to higher yields and production levels during this period, sugarcane crop value increased substantially to PKR~666.7bln.
- Despite yield and production levels declining during MY23, crop value increased to PKR~896.6bln, up ~34.4% YoY. This was majorly due to the rise in input cost of sugarcane (covered earlier). Moreover, plants' resilience and good prices of sugarcane encouraged farmers to maintain cane area.

Sugarcane | Minimum Prices (at factory gate) - PKR/40Kg

Province	MY20	MY21	MY22	MY23	MY24
Punjab	190	200	225	300	400
Sindh	192	202	250	302	425
KPK	190	200	225	300	400
Average	**191**	**200**	**233**	**301**	**408**



Source: PSMA

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Local | Demand and Supply

- MY23 recorded opening sugar stock of ~2.1mln MT (MY22: ~1.5mln MT). Due to export restrictions, excess stocks were available during MY22 and the same stock was carried forward as the opening stock for MY23.
- Sugar production increased at a CAGR of ~4.8% during MY19-23. However, production during MY23 clocked it at ~6.7mln MT (MY22: ~7.9mln MT), down ~15.1% YoY.
- During the year, the GoP allowed sugar exports amounting to ~0.3mln MT (SPLY: Nil), as international prices were higher than local prices and sugar stocks were available in excess.
- Consumption of sugar increased at a CAGR of ~2.9% during MY19-23. Sugar consumption clocked in at ~6.0mln MT during MY23 (MY22: ~5.9mln MT), whereas per capita consumption was recorded at ~27.9Kg (MY22: ~27.1Kg).
- Bulk sugar consumers such as bakeries, candy, ice cream, and soft drink manufacturers account for ~60.0% of total sugar demand, where the beverage industry annually consumes ~1.2mln MT of sugar.

Sugar | Production and Consumption (mln MT)

Particulars	MY19	MY20	MY21	MY22	MY23	MY24*
Opening Stock	2.4	1.8	0.8	1.5	2.1	0.4
Production	**5.3**	**4.9**	**5.7**	**7.9**	**6.7**	**6.6**
Imports	0	0	0.2	0.3	0	0
Exports	0.7	0.2	0	0	0.3	0
Consumption	**5.1**	**5.2**	**5.3**	**5.9**	**6**	**6.4**
Closing Stock	1.8	0.8	1.5	2.1	0.4	0.3
Consumption Per Capita (Kg)	25.6	26.5	26.9	27.1	27.9	28.2

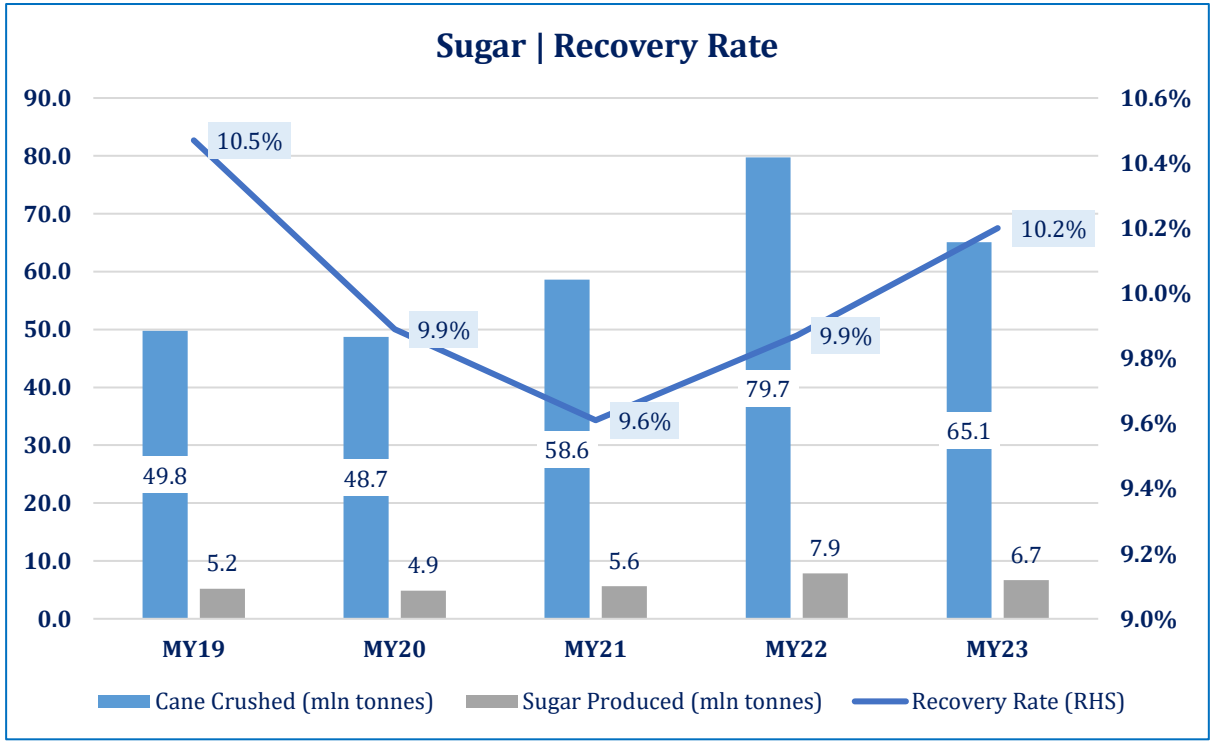
***Note**: *MY24 figures are provisional*

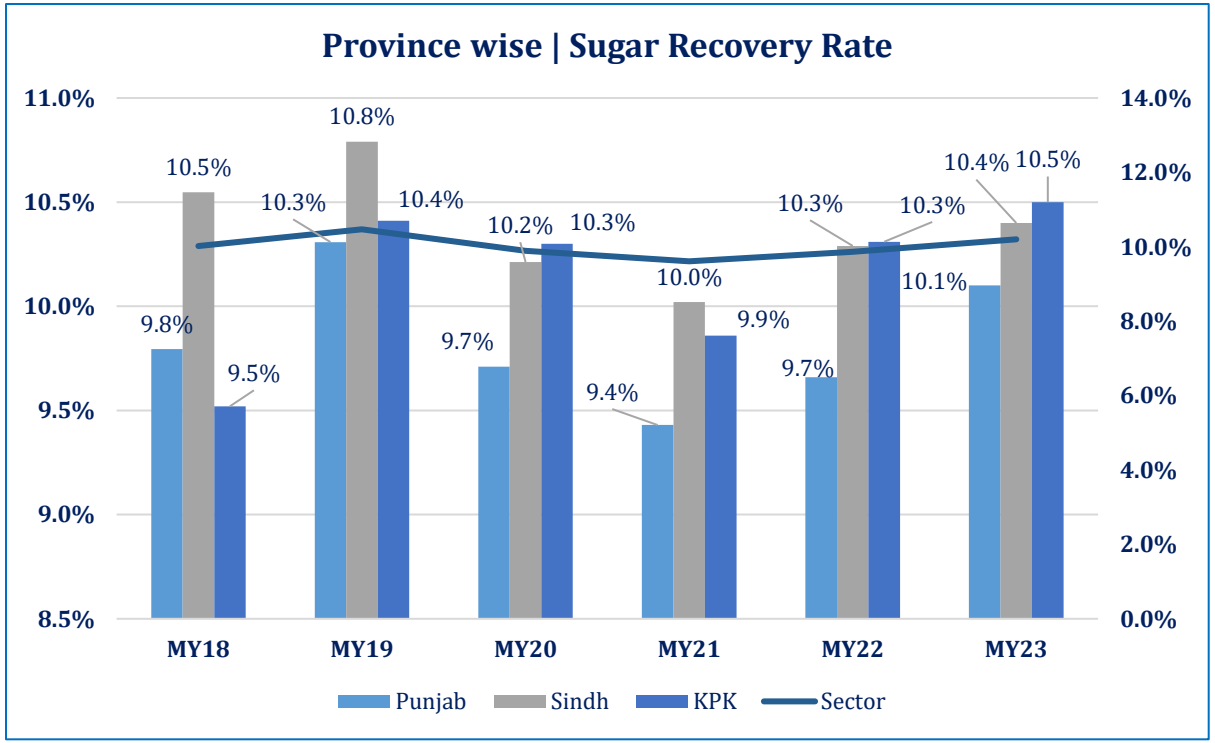
Source: PSMA, USDA

Sugar

Local | Recovery Rates

- Overall, sugar recovery rate for Pakistan averaged ~10.2% in MY23 (MY22: ~9.8%), in line with India where the average recovery rates fell in the range of ~9.0% to ~11.0% during the year. Recovery rate can vary based on weather conditions, agricultural practices and efficiency of sugar mills.
- In terms of local sugar recovery rates, KPK recorded an average recovery rate of ~10.5% during MY23 (MY22: ~10.3%), while average recovery rates in Sindh clocked in at ~10.4% (MY22: ~10.3%), higher than that of Punjab (MY23: ~10.1%; MY22: ~9.7%), as the Thatta region is ideal for sugarcane production due to its humid environment and higher water retention rate.





Source: PSMA, USDA

Sugar

Market Share | Top Players

Production Share - Top 20 Players - MY23					
Sr.	Company	Cane Crushed (MT)	Sugar Production (MT)	Recovery Rate	Market Share*
1	JDW (Combined)	6,426,664	694,973	10.8%	10.4%
2	Tandlianwala (Combined)	3,876,707	333,664	8.6%	5.0%
3	Hamza	3,130,566	324,413	10.4%	4.9%
4	JK (Combined)	2,762,646	296,747	10.7%	4.5%
5	Hunza (Combined)	2,269,944	221,275	9.7%	3.3%
6	Eithad	1,975,739	217,033	11.0%	3.3%
7	R.Y.K	2,032,978	215,217	10.6%	3.2%
8	Al Moiz (Combined)	2,019,244	214,684	10.6%	3.2%
9	Chashma (Combined)	1,968,111	211,873	10.8%	3.2%
10	Sheikhoo	1,939,704	210,728	10.9%	3.2%
11	Layyah	1,582,688	174,315	11.0%	2.6%
12	Ramzan	1,784,800	171,440	9.6%	2.6%
13	Deharki	1,585,515	165,410	10.4%	2.5%
14	Fatima	1,499,571	162,325	10.8%	2.4%
15	Two Star	1,563,383	154,957	9.9%	2.3%
16	Madina	1,560,945	143,391	9.2%	2.2%
17	Indus	1,229,053	127,639	10.4%	1.9%
18	Alliance	1,216,291	123,585	10.2%	1.9%
19	Ashraf	1,098,076	107,159	9.8%	1.6%
20	Shakargan (Combined)	1,019,180	104,540	10.3%	1.6%
21	Others	22,593,505	2,282,040	10.1%	34.3%
	Total	**65,135,310**	**6,657,408**	**10.2%**	**100.0%**

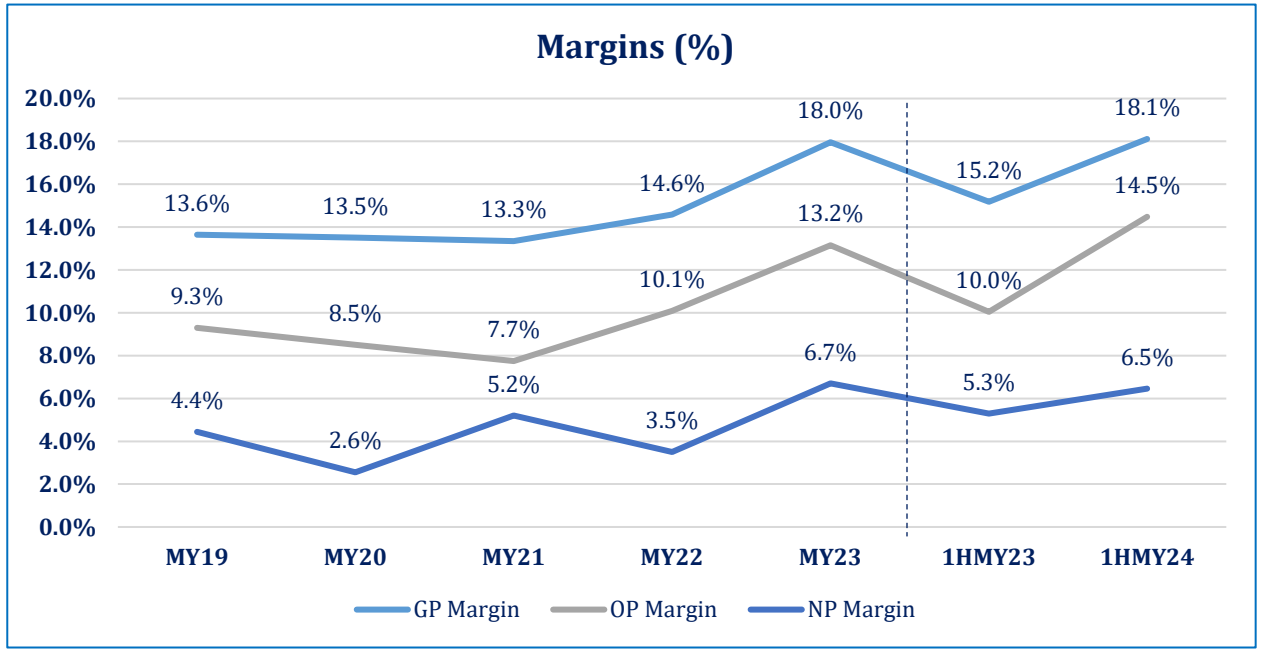
**Based on Production.*

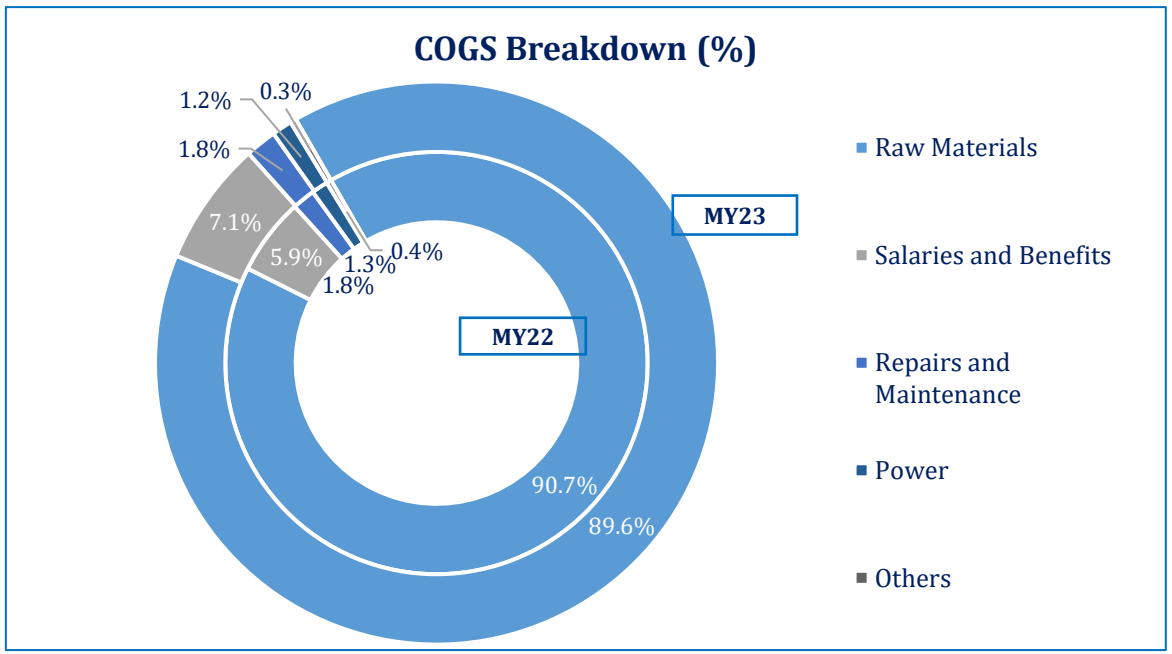
Source: PSMA

Sugar

Business Risk | Margins

- During MY23, the sector's gross revenue grew by ~31.8% YoY (MY22: ~16.9% YoY) while costs rose ~26.5% YoY, resulting in average gross margins to clock in at ~18.0% during MY23 (MY22: ~14.6%). In 1HMY24, gross revenue increased by ~33.8% YoY, while costs were up ~29.2% YoY. Resultantly, gross profits rose by ~63.7% YoY in FY23 (MY22: ~26.7%) and average gross margins clocked in at ~18.1%.
- Moreover, operating profit increased by ~60.1% YoY in MY23 (MY22: ~41.4%), while the net profit registered ~102.9% YoY growth resulting in average net margins improving to ~6.7%. During the year, finance costs rose ~70.5%, while other income was up ~98.4% YoY. In 1HMY24, finance costs increased by ~40.6% YoY, while other income rose ~62.7% YoY, therefore, average net margins clocked in at ~6.5%.
- The sector relies heavily on raw material as it comprised ~89.6% of total costs in MY23. With provincial government maintaining the sugarcane prices, profits margins are sensitive to changes in cost of raw material.





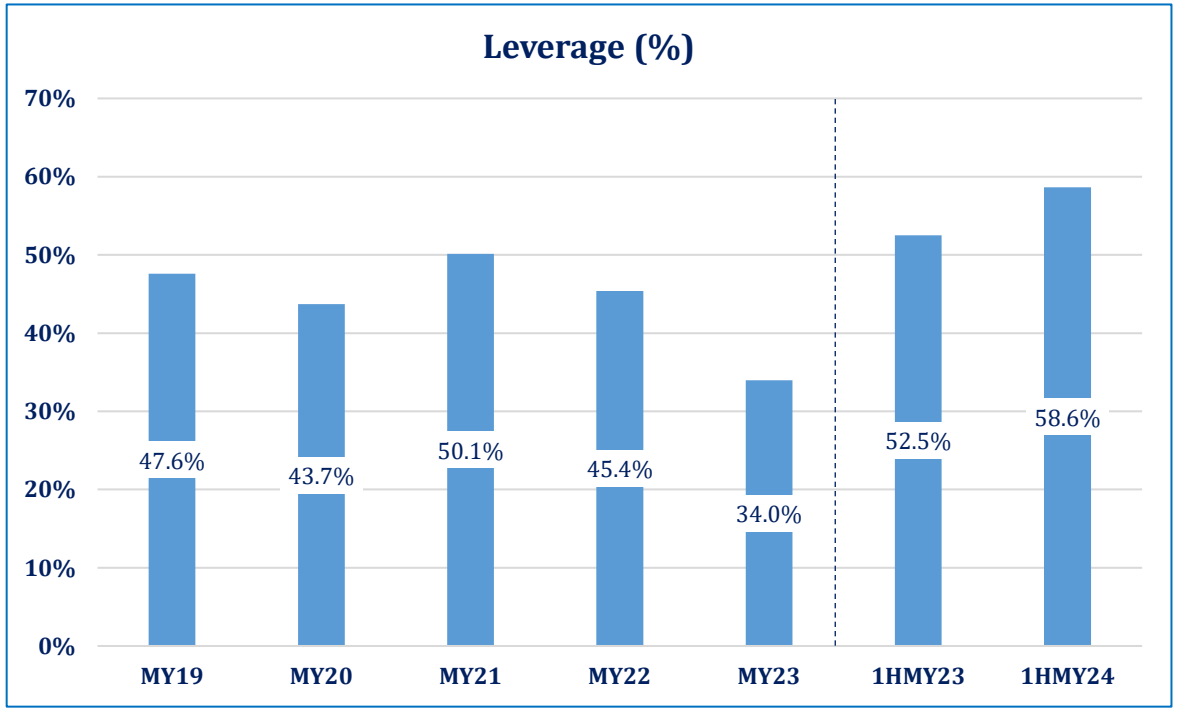
***Note**: Data is reflective of ~21 PACRA-rated/ Listed sector players in FY23, while margins are revenue-weighted.*

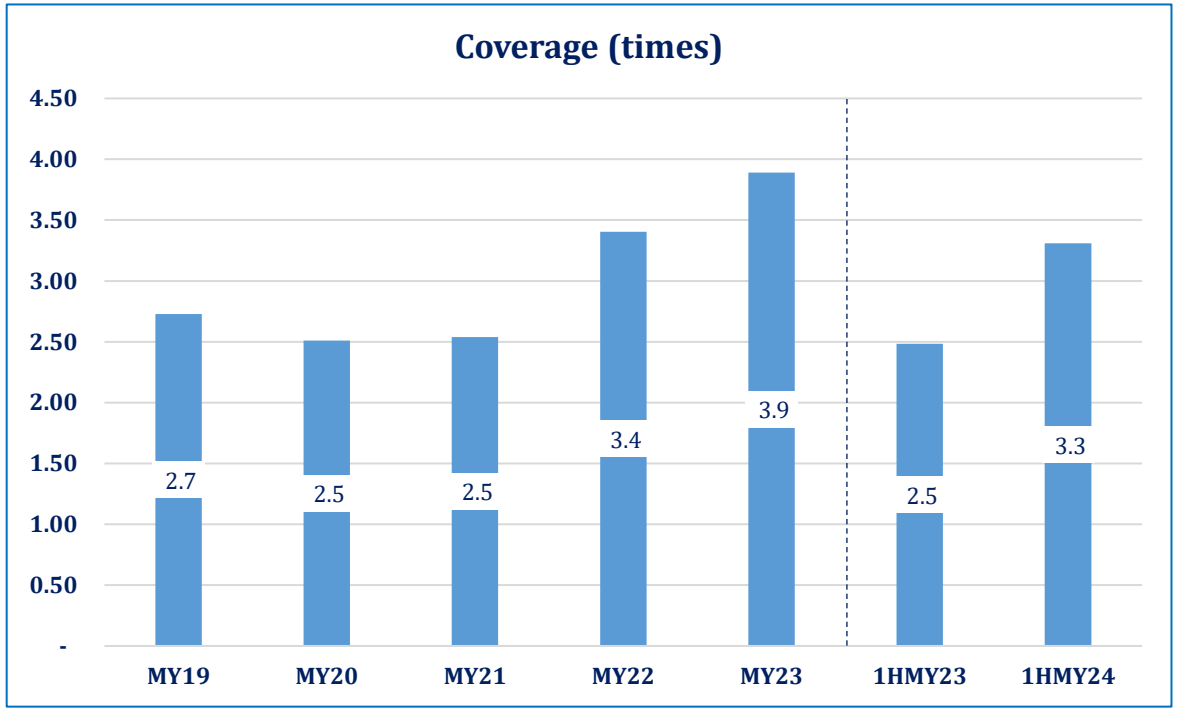
Source: PSX, PACRA Database

Sugar

Financial Risk | Leverage and Coverage

- In MY23, the sector's average leverage lowered to ~34.0%, as total borrowings declined by ~16.6% YoY, lowering exposure to high interest rates and indicating sufficient cushion for borrowing. During 1HMY24, leverage increased to ~58.6%, as total borrowings increased by ~45.1% YoY and equity by ~16.9%.
- Coverage improved during MY23 to ~3.9x, despite increase in average finance costs by ~70.5% YoY (average finance costs rose owing to steep interest rate hikes, from ~16.0% in Oct'22 to ~22.0% as at End-Sp'23). However, operating profits increased by ~60.1% YoY during MY23. In 1HFY24, coverage improved to ~3.3x when compared with 1HFY23.



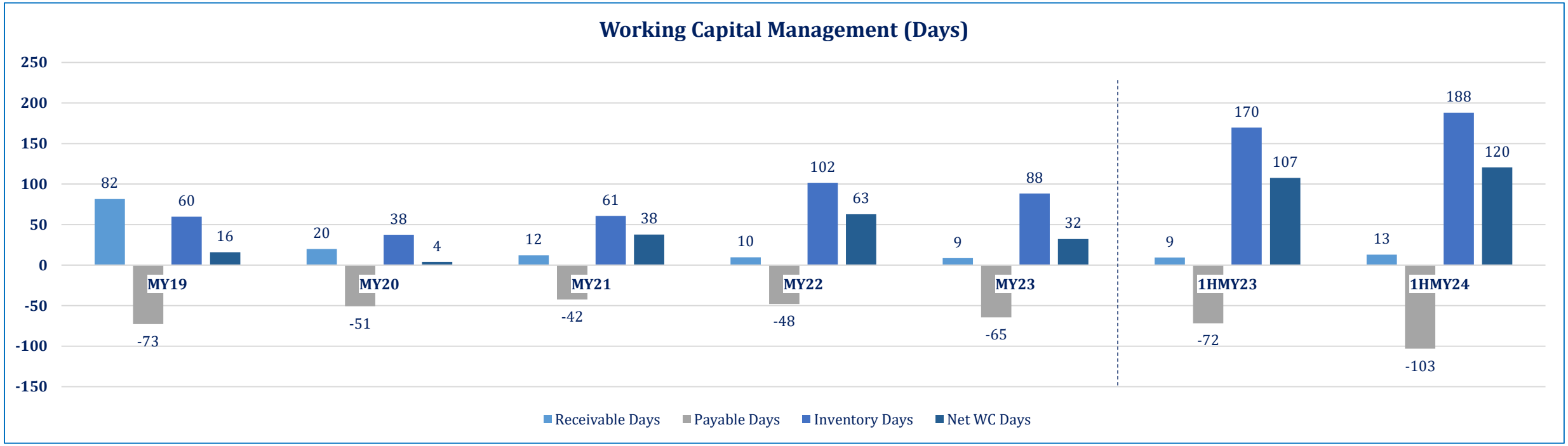


***Note**: Data is reflective of ~21 PACRA-rated/Listed sector players in FY23, while margins are revenue-weighted.*

Source: PSX, SBP, PACRA Database

Financial Risk | Working Capital Management

- Inventory levels of sugar mills are at peak during the crushing season i.e., Dec-Feb and Apr-May. In MY23, average working capital days of the sector declined to ~32 days (MY22: ~63 days). However, average working capital days increased to ~120 days during 1HMY24 (1HMY23: ~107 days).
- Average inventory days increased to ~102 days (FY22: ~61 days) whereas average receivable days only marginally decreased to ~9 days (FY22: ~10 days). Meanwhile, average payable days increased to ~65 days (FY22: ~48 days).
- For 1HMY24, the average inventory days increased to ~188 days (1HMY23: ~170 days) whereas average receivable days increased to ~13 days (1HMY23: ~9 days) and average payable days increased to ~103 days (1HMY23: ~72 days).



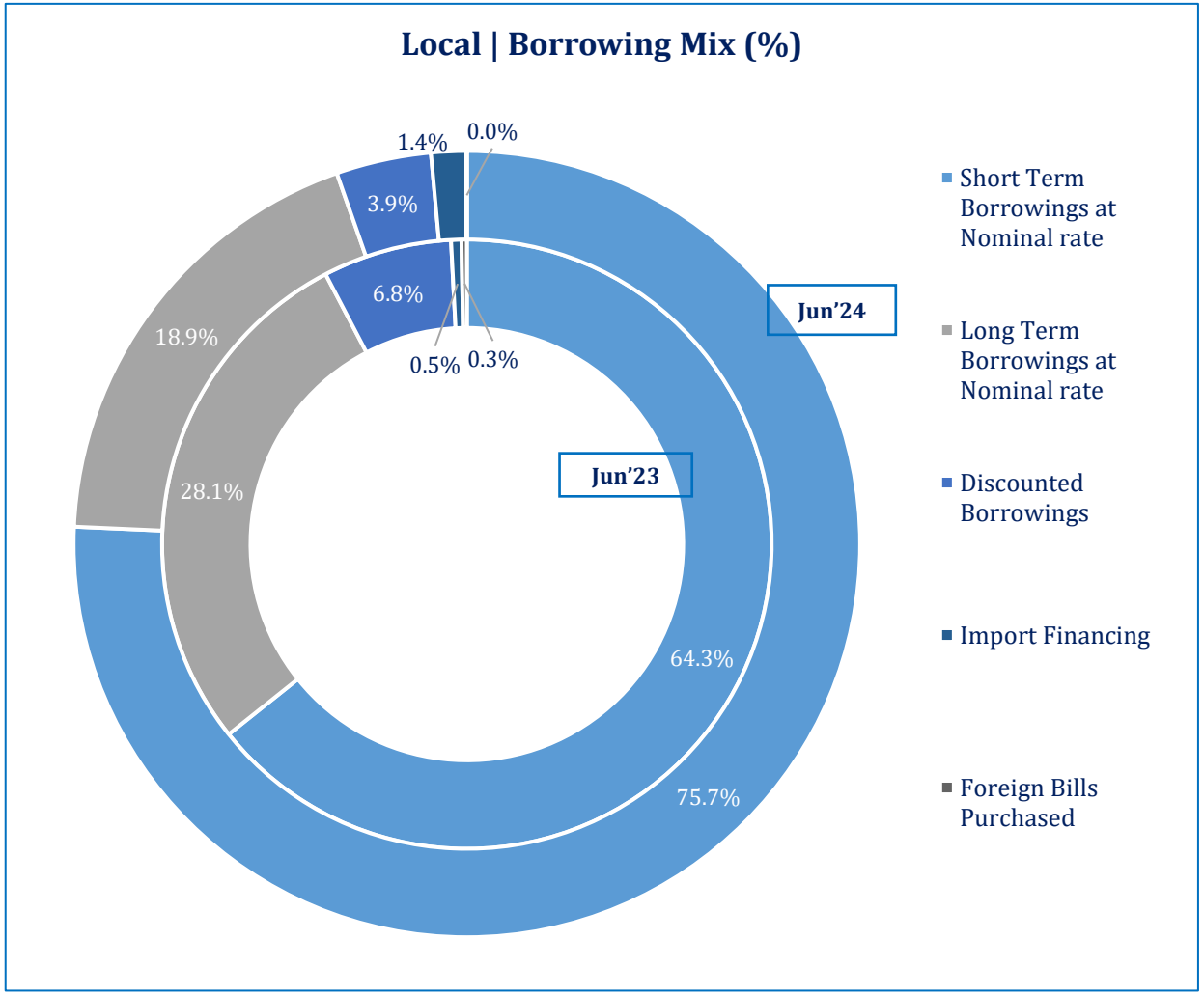
***Note**: Data is reflective of ~-21 PACRA-rated/Listed sector players in FY23, while margins are revenue-weighted.*

Source: PSX, PACRA Database

Sugar

Financial Risk | Borrowing Mix

- As of End-Jun24, the sector's overall borrowings stood at PKR~485.6bln, up ~36.5% YoY (End-Jun'23: PKR~355.5bln).
- Short-term borrowings (STBs) at nominal rate stood at PKR~367.6bln, up ~60.8% YoY, and held the largest share in the sector's borrowing mix at ~75.7% (SPLY: ~64.3%).
- Long-term borrowings (LTBs) at nominal rate stood at PKR~91.9bln, down ~7.8% YoY and held a share of ~18.9% in overall borrowings (End-Jun'23: ~28.1%).
- Discounted borrowing (LTFF & EFS) stood at PKR~18.9bln (End-Jun'23: ~24.3bln), down ~22.0% YoY and held a share of ~3.9% in the overall borrowing mix.
- Meanwhile, import financing stood at PKR~7.0bln (End-Jun'23: PKR~1.9bln), up ~261.9% YoY as of End-Jun'24, and held ~1.4% share in the total borrowing mix during the period.

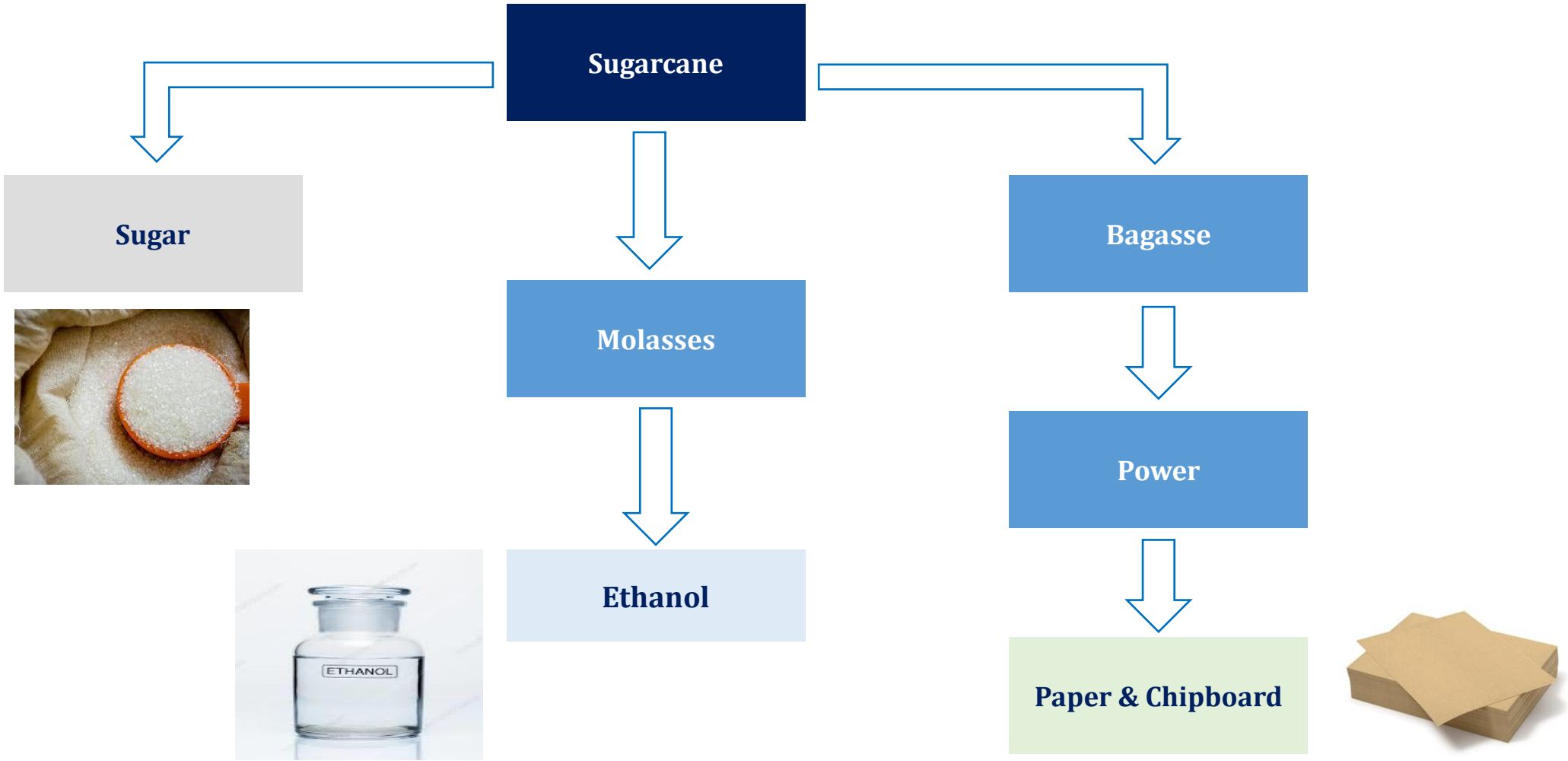


***Note**: Data pertains to SBP Classification " Manufacturing of Sugar" .*

Source: PSX, PACRA Database

Sugar

By-Products | Process Flow



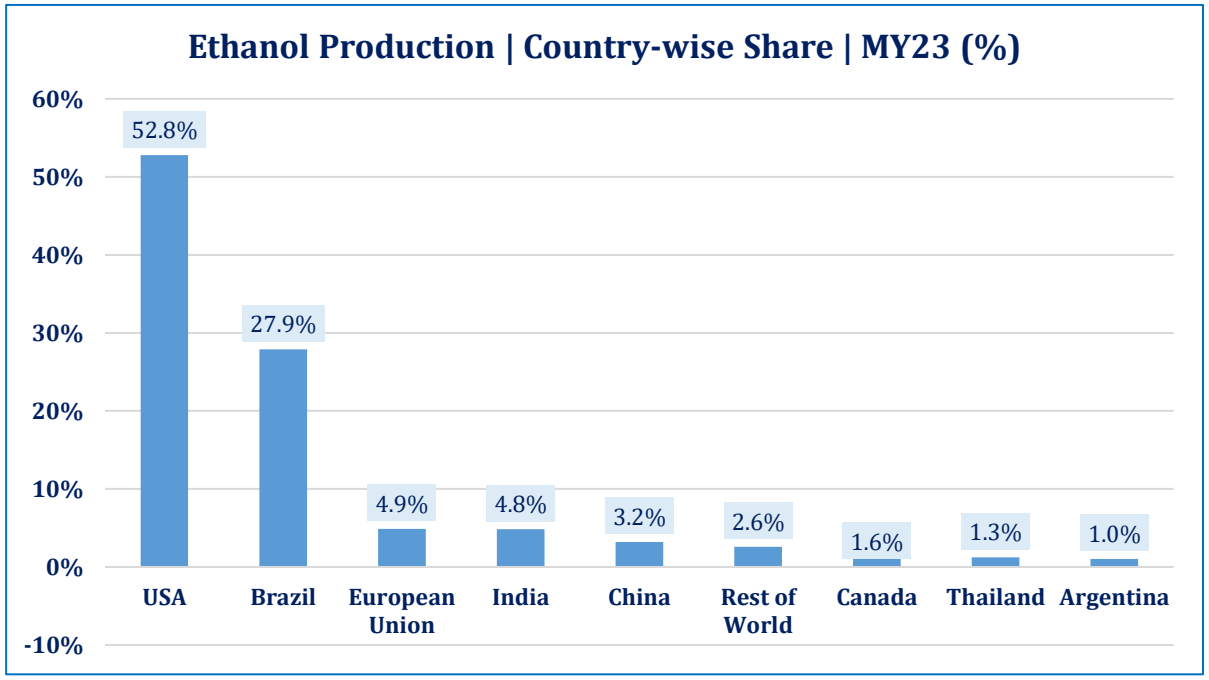
Sugar

Ethanol | Global Overview

- Ethanol is majorly derived from sugarcane and is used as a biofuel. During MY23, global Ethanol production clocked in at ~111.3bln ltr (MY22: ~106.5bln ltr) a YoY increase of ~4.5%. USA & Brazil together produced ~80.7% of the total global ethanol during MY23 (SPLY: ~80.5%).

- During MY23, USA ethanol exports increased to ~5.4bln ltr (MY22: ~4.9bln ltr) a YoY increase of ~6.1% ,while USA ethanol exports value clocked in at USD~3.8bln (MY22: USD~3.6bln). Canada, UK and European Union remained the top destinations for USA ethanol exports.

Global Ethanol Production (bln ltr)					
Countries	**MY19**	**MY20**	**MY21**	**MY22**	**MY23**
USA	59.6	52.6	56.7	58.0	59.0
Brazil	33.4	30.6	27.6	27.9	31.2
European Union	5.2	5.0	5.3	5.5	5.4
India	1.9	2.0	3.3	4.6	5.0
China	3.8	3.6	3.4	3.5	3.6
Rest of World	2.4	2.3	2.6	2.7	2.9
Canada	1.9	1.6	1.6	1.7	1.7
Thailand	1.6	1.5	1.3	1.4	1.4
Argentina	1.1	0.8	1.0	1.2	1.1
Total	**110.9**	**100.0**	**102.8**	**106.5**	**111.3**



***Note**: 1 Gallon=3.78 Liters*

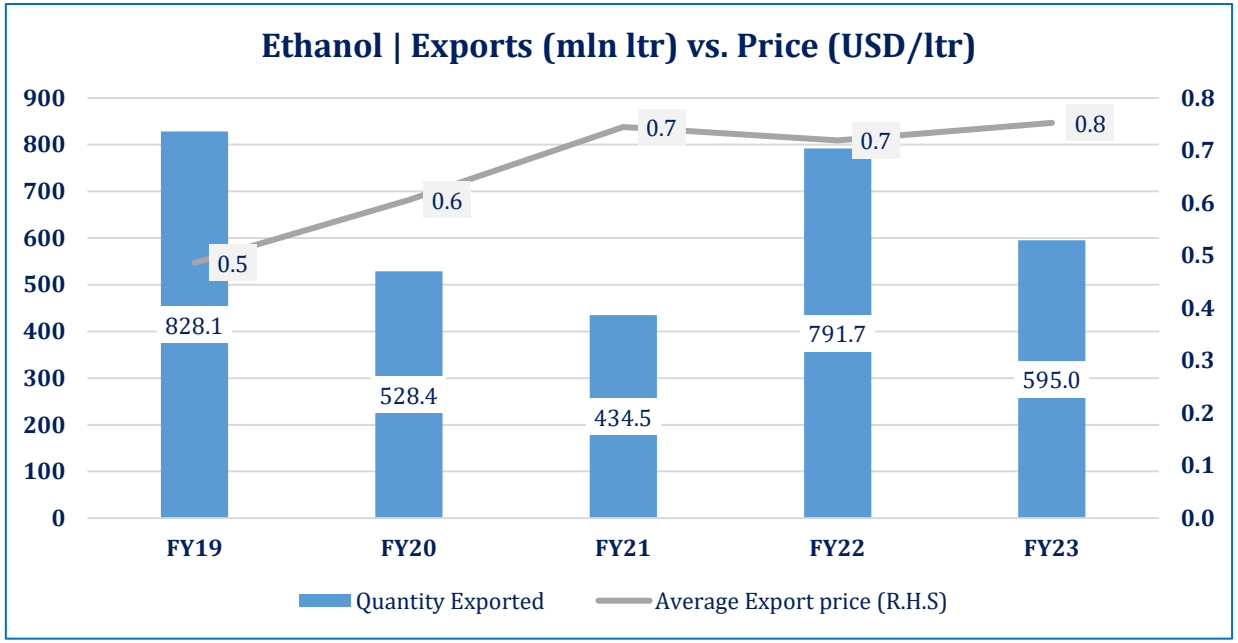
Source: Renewable Fuel Association

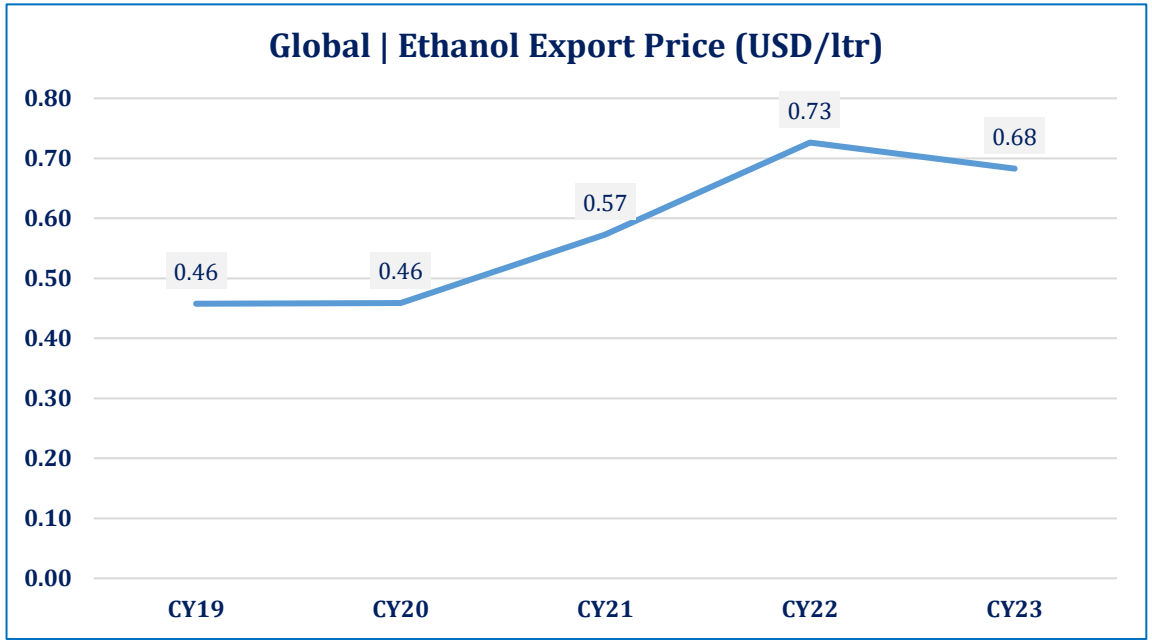
Sugar

Ethanol | Local Exports

- Ethanol production is dependent upon cane yield. This segment is highly sensitive to rupee fluctuations as ~80.0% of ethanol produced in Pakistan is exported.

- The average global price of ethanol recorded at USD~0.68/liter. However, in the case of Pakistan, export prices of ethanol have remained higher than the international average prices due to rupee fluctuations. During FY23, Pakistan's ethanol exports decreased by ~24.8% YoY and clocked in at ~595.0mln ltr (FY22: ~791.7mln ltr).



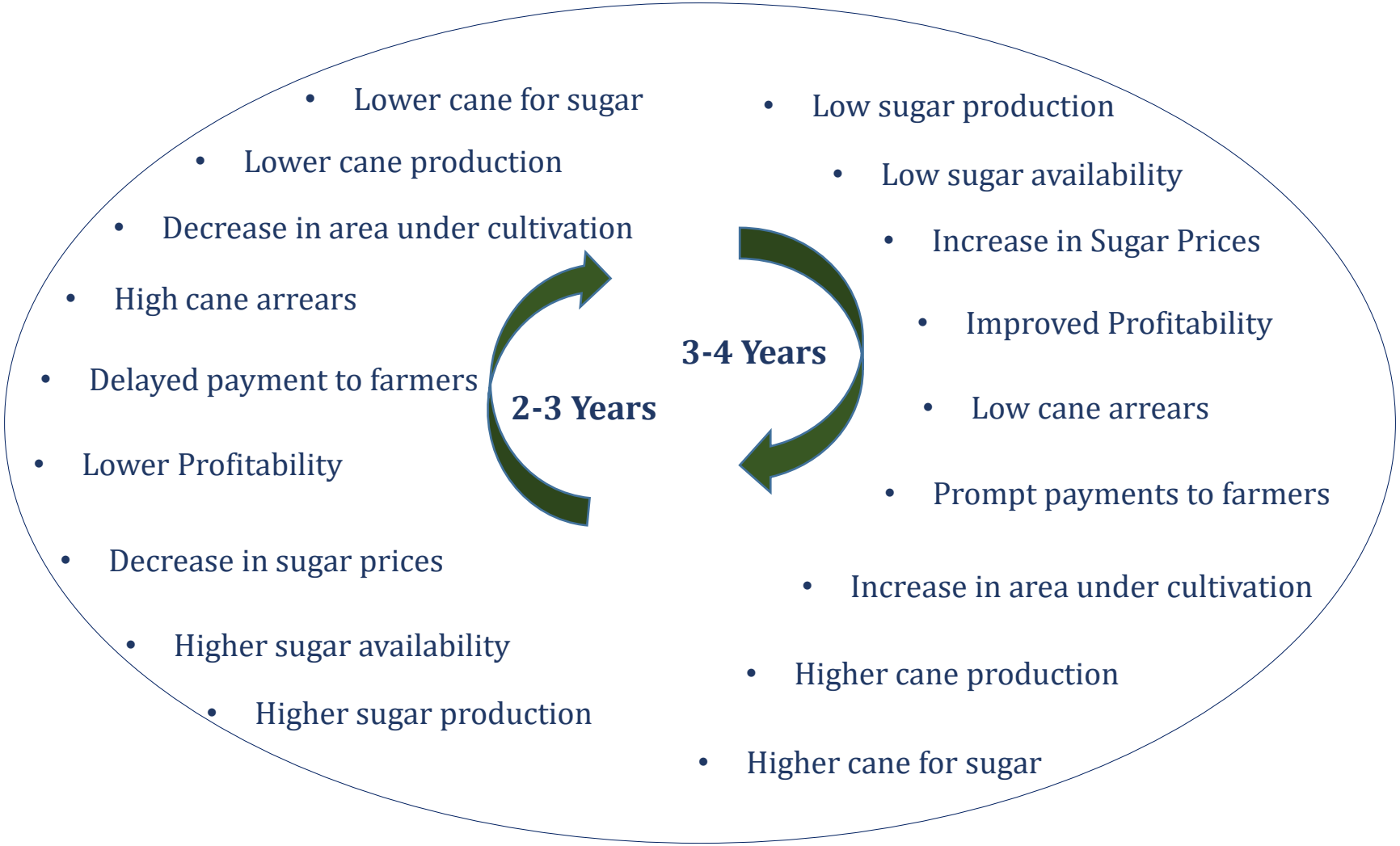


***Note**: Data for Global Prices pertains to average export prices of USA and Brazil. Domestic data on Ethanol Exports pertains to HS Codes 2207.1000 and 2207.2000.*

Source: PBS, UN Comtrade

Sugar

Production Cycle



- Farmers in Pakistan enjoy limited power. Their cash cycle is mainly influenced by large sugar mills.
- Even in the current scenario of price spurs and high profitability margins, many farmers are paid much less than the minimum price levels set by the government.
- Payments of farmers are long deferred by some of the strong sugar mills.

Source: PSX, PACRA Database

Sugar

Duty Structure

HS Code	Description	Custom Duty		Additional Custom Duty		Income Tax		Sales Tax	
		FY23	FY24	FY23	FY24	FY23	FY24	FY23	FY24
1701.9910	White Crystalline Sugar	20%	20%	6%	6%	12%	12%	18%	18%
1703.1000	Cane Molasses	3%	3%	2%	2%	12%	12%	18%	18%
1703.9000	Other Molasses	3%	3%	2%	2%	12%	12%	18%	18%
2207.1000	Ethyl Alcohol	90%	90%	7%	7%	12%	12%	18%	18%
2207.2000	Ethyl Alcohol	50%	50%	7%	7%	12%	12%	18%	18%

Sugar

Porters 5 Forces Model

POTENTIAL NEW ENTRY

- Medium level of threat
- No governments restrictions on entry
- Cost of entry relatively low
- Many inefficient mills operating in market

BUYERS

- Low power
- Consumers will purchase, no matter what the price levels are
- Possibilities and history of producer cartels

SUBSTITUTES

- Low threat of substitutes (artificial sugar)
- Basic Necessity

SUPPLIERS

- Large number of suppliers (farmers)- Limited power
- Farmers are protected through minimum price policy of government
- Farmers tend to easily switch between crops if they do not find favorable terms.

COMPETITIVE RIVALRY

- High Rivalry
- ~91 Players
- No differentiation on price basis
- Differentiated on the basis of quality, availability and delivery

Sugar

SWOT Analysis

- Availability of land and raw material
- Low cost skilled and unskilled labor
- Suitable weather for crop yield
- Large domestic market with increasing demand
- Influence on government policies
- Simple to operate plants
- High crushing capacity

- Lack of proper knowledge and training to farmers
- Water management problems and small holding of land by farmers
- Lack of proper recycling systems
- Low Yield and recovery ratios and varying cost of sugarcane to mills
- Inefficient plants running
- Export Restrictions

- Growing population and food consumption
- Export market potential due to produced surpluses.
- High potential to increase yield and recovery ratios.
- Potential use of by-products in power generation and as feed stock for industries

- Excessive regulation and control by government
- Vulnerable to political interest, Hoarding by millers
- Unhealthy competition and cartels
- Changing climate patterns
- Shortage of irrigation water and pesticides.
- Varying quality of seeds and cane

Sugar

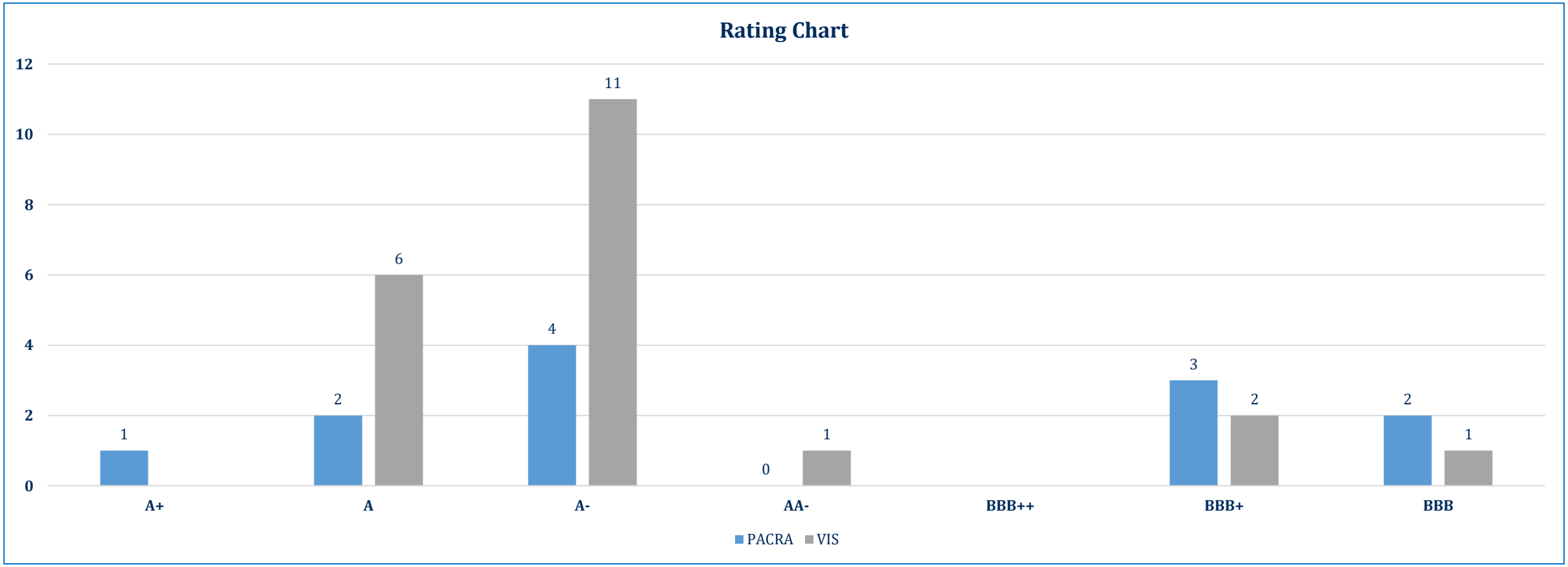
Regulatory Framework

- Sugar Act 1934 – Price regulation of sugarcane
- Sugar Factory Control Act 1950- regulation of sugarcane supply and price to factories.
- Punjab Sugarcane Control Order 1972- regulating and prohibiting the movement, transport, supply, distribution and use or consumption of sugarcane and trade and commerce therein.
- Punjab Foodstuff Act 1958- continuance of powers to control the supply, distribution and movement of, and trade and commerce in, foodstuffs in Punjab.
- Sindh Foodstuff (Control) Act 1958 – an enactment made in public interest to provide for the continuance of powers to control the supply, distribution and movement of, and trade and commerce in, foodstuffs in Sindh.
- Price Control and Prevention of Profiteering and Hoarding Act 1977 – an enactment to provide for price control and prevention of profiteering and hoarding.
- Punjab Registration of Godowns Act 2014 – an enactment to register godowns, provide for a comprehensive system regarding stable supply and availability of essential articles, and deal with ancillary matters.
- Competition commission control over non-competitive strategies of the producers.
- Competition Act 2010 that regardless of whether the sugar industry is heavily regulated by the provincial governments, it is still susceptible to being monitored by the CCP. Not only can the sugar mills and other private parties be looked at by the CCP, governmental bodies, such as the Sugarcane Control Board, can also be monitored.

Sugar

Rating Curve

PACRA rates 12 entities in sugar sector. Rating bandwidth for sector is A+ to BBB.



Sugar

Outlook: Stable

- In FY24, Pakistan's GDP (nominal) stood at PKR~106.0trn (FY23: PKR~83.9trn), increasing, in real terms, by ~2.8% YoY (FY23: ~-0.03% growth). Industrial activities in FY23 held ~21.7% share in the GDP while the manufacturing activities made up ~65% of the value addition. In 3QFY24, Pakistan's GDP (nominal) stood at PKR~25.4trn (3QFY23: PKR~20.6trn), rising in real terms by ~2.1% YoY (2QFY24: ~1.8% YoY). Real GDP growth rate (~2.1%) for 3QFY24 signals a moderate improvement in economic activity as compared to SPLY.
- Total sugar production clocked in at ~6.7mln MT during MY23, a YoY decline of ~15.1%. Meanwhile, sugar imports remained nil in MY23 due to sufficient local supply and surplus of sugar stock. During the year, only a limited quota of ~0.3mln MT was allowed for sugar export. MY24 sugar production is projected to decline by ~0.1% YoY whereas imports are expected to stay nil.
- Consumption of sugar during MY23 clocked in at ~6.0mln MT same as the levels of MY22. During MY19-23, consumption increased at a CAGR of ~3.3%. Pakistan's per capita consumption of sugar stood at ~27.9Kg during MY23 (MY22: ~27.1Kg). During MY24, sugar consumption is expected to increase by ~6.6%.
- During MY23, sugar mills utilized ~65.1mln MT of total sugarcane produced for sugar production (SPLY: ~79.7mln MT). While average sugarcane utilization remained low, the average recovery rate improved to ~10.2% in MY23 (MY22: ~9.9%).
- During MY23, sugarcane's average cost of production increased to PKR~142,146/acre (MY22: PKR~136,344/acre, a YoY increase of ~4.2%. With a surge in inflationary pressure, the cost of production during MY24 is expected to increase PKR~221,814/acre, a YoY increase of ~56.0%.
- Overall, sugar recovery rate for Pakistan averaged ~10.2% in MY23 (MY22: ~9.8%), in line with India where the average recovery rates fell in the range of ~9.0% to ~11.0% during the year. Recovery rate can vary based on weather conditions, agricultural practices and efficiency of sugar mills.
- During MY23, the sector's gross revenue grew by ~31.8% YoY (MY22: ~16.9% YoY) while costs rose ~26.5% YoY, resulting in average gross margins to clock in at ~18.0% during MY23 (MY22: ~14.6%). In 1HMY24, gross revenue increased by ~33.8% YoY, while costs were up ~29.2% YoY. Resultantly, gross profits rose by ~63.7% YoY in FY23 (MY22: ~26.7%) and average gross margins clocked in at ~18.1%.
- Moreover, operating profit increased by ~60.1% YoY in MY23 (MY22: ~41.4%), while the net profit registered ~102.9% YoY growth resulting in average net margins improving to ~6.7%. During the year, finance costs rose ~70.5%, while other income was up ~98.4% YoY.
- The sugar sector in Pakistan could significantly transform if the exports quotas are reviewed, utilization of by-products incentivized, and advance farming techniques implemented (along with proper training to farmers) in order to enhance the crop's yield.

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- Agricultural Market Information System (AMIS)
- Renewable Fuels Association (RFA)
- International Sugar Organization (ISO)
- Organization for Economic Co-operation and Development (OECD)
- United Stated Department of Agriculture (USDA)
- Food and Agriculture Organization (FAO)
- PACRA In-house Database

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