

INDUSTRY REPORT

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# SUGAR INDUSTRY IN PAKISTAN

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CHALLENGES AND  
OPPORTUNITIES

 **ABBASI**  
SECURITIES

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JANUARY 2019



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DISCLAIMER AND  
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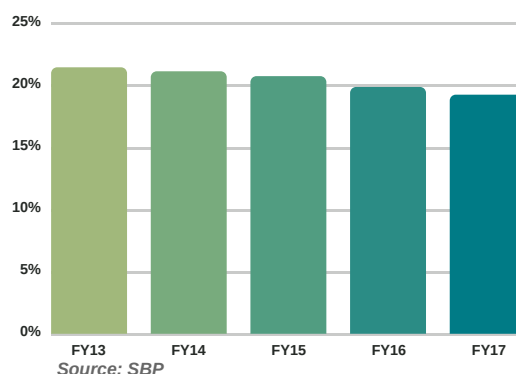




In Pakistan agriculture plays a crucial role in the overall economic development as the sector contributes around 20% to the GDP and employs around half of the employed labor force. The sector also contributes heavily in terms of generating foreign exchange earnings for the country as most of the major crops i.e. wheat, sugar, cotton, corn and rice are produced in exportable surplus quantities. This makes effective management of the sector both in terms of government policies and private sector input extremely important to not just maintain (if possible enhance) its share in

the GDP but also in terms of national food security. However, the reality is very different from what should be the case – the contribution of agriculture in the country's GDP has been consistently declining; due to lack of investment in agro-research and inefficient use of water Pakistan has one of the lowest crop yields (productivity) in the region. The Economist Intelligence Unit (EIU) currently ranks Pakistan at 77 (out of 109 countries) in terms of food security and going forward the challenges will only exacerbate due to a growing population, climate changes and rising water scarcity.

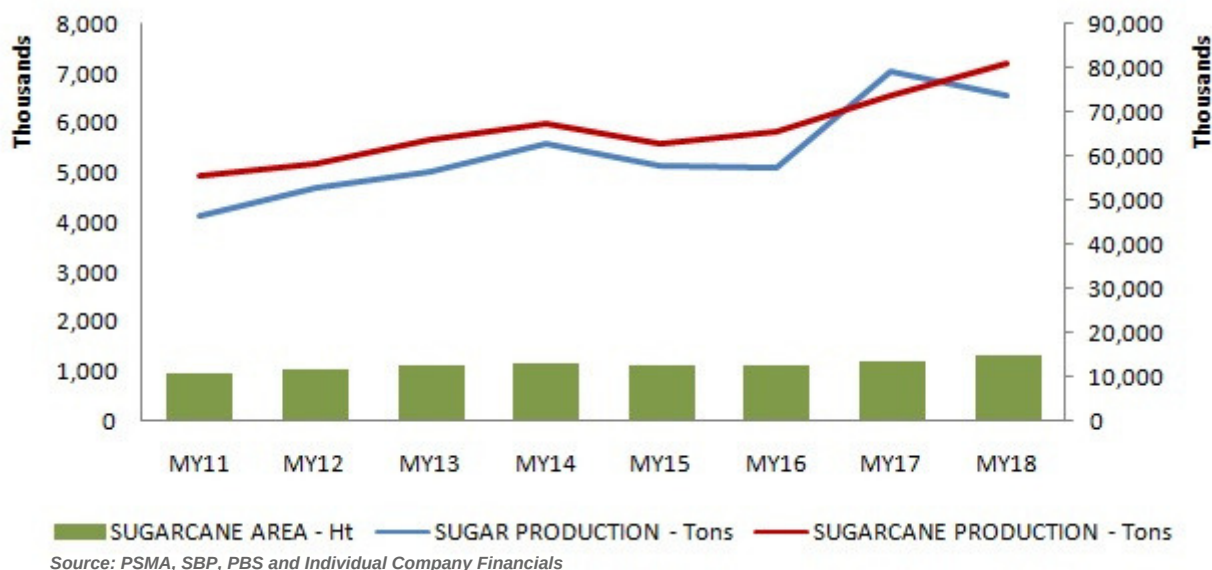
AGRICULTURE CONTRIBUTION TO GDP (%)



### Sugarcane and Sugar

Pakistan is the 6th largest producer of Sugarcane in the world with an area under cultivation in excess of 1 mn hectares. Sugarcane yield in Pakistan has consistently been lower than the world average of 70 t/h and currently stands at around 62 t/h. Sugarcane in Pakistan is categorized as a major Kharif crop where cultivation starts from Feb and extends till April and harvesting is done between October and December. Most of the area under cultivation is in Punjab (65%) followed by Sindh (25%) and KPK (10%). Sugarcane farming is still an extremely labor intensive process in Pakistan as modern farming techniques are yet to be adopted. Sugarcane is primarily used for the production of sugar, other uses such as Gur production also occupies a healthy share. Pakistan is the 9th largest producer of sugar with much of the production done through sugarcane while a small amount less than 1% is also produced from beet. There are currently around 89 mills producing sugar with an average crushing capacity of less than 6,000 TCD. Average sugar recovery in Pakistan is still lower than 10% with Sindh offering better recovery rates than other provinces.

## Domestic Dynamics - Demand-supply, Pricing and Inventory



Sugarcane cultivation and sugar production in the past few years has been on a constant ascent as better indicative pricing on sugarcane by the government lead farmers to plant more of sugarcane resulting in more sugarcane being crushed and more sugar being produced. In MY17, a record production of 73.6 Mn tons of sugarcane and 7 Mn tons of sugar was witnessed. Domestic consumption has been growing modestly and currently stands at around 5.5 Mn tons. Sugarcane pricing in Pakistan is a provincial subject and the provincial governments are responsible for setting the procurement price of cane from growers for the mills, while sugar pricing is based on market dynamics which are broadly dependent on international prices. Due to consistent surplus globally and locally sugar prices have been on a consistent decline while sugarcane procurement cost has been kept constant. This one-sided policy has been detrimental for the industry as sugarcane constitutes around 90% of the cost of producing sugar and in some instances, the cost of sugar production went higher than the domestic selling price. This, in turn, led to a lot of quandary between sugarcane growers and sugar millers and payment delays were witnessed as millers challenged the legality of higher fixed sugarcane pricing.

Government controls domestic availability of sugar and sets export quotas for export of any surplus. In the past 2 years government's dealing with sugar surplus resulting from bumper crops can only be described as a failed attempt. Against a record production of

Marketing Year	MY16	MY17	MY18
Beginning Stocks	848,025	800,747	2,363,750
Total Sugar Produced	5,114,901	7,048,476	6,525,000
Import/TCP stock	10,043	14,327	7,943
Total Sugar Available	5,972,969	7,863,550	8,896,693
Total Domestic Consumption	4,900,000	5,100,000	5,400,000
Exports	272,222	399,800	1,568,571
Ending Stock	800,747	2,363,750	1,928,122

Source: PSMA, SBP, PBS and Individual Company Financials

7 Mn tons and surplus of around 2 Mn tons less than 0.5 Mn tons could be exported in MY17 as the time delay between request-approval, phased approval without any understanding of international outlook and dynamics lead to lower exports. The timeline below depicts how the policy failed surplus management and lead to a hit on national exchequer both in terms of loss of precious foreign exchange and footing a heavy subsidy to exporters as by the time bulk quantities were approved international prices had already come off substantially and exports without a subsidy were not viable.

## HOW POLICY FAILED

# SUGAR SURPLUS

A tale of how government lost opportunity to earn \$1 Bn in sugar exports through untimely and adhoc policies



However, with subsidies in place in MY18 a record quantity of around 1.5 Mn tons was exported leaving the ending surplus stock as of September 2018 to around 1.9 Mn tons.

## Sugar Outlook

Payment scuffle between growers-millers in the previous year has lead to lower area under cultivation for the produce of MY19. As per USDA review sugarcane cultivation area has declined by around 10% as farmers have moved towards other crops. This along with export of existing surplus will ease off surplus pressure on sugar pricing going forward. Globally the situation is similar as output from big producers such as Brazil, India and Thailand is also expected to decline (see our section on global dynamics and outlook), which is expected to lower global surplus stocks in MY19 while in MY20 a deficit of around 2 Mn tons is expected. These factors bode well for the sugar pricing outlook as at current exchange rates Pakistan's cost of production is around 0.15-0.16 ct/lb while top producer's cost is around 0.10-0.11 cts/lb.

The ECC in its recent decision after keeping a domestic strategic stock of around 0.8 Mn tons have allowed export of 1.1 Mn tons without any subsidy support with the rationale that due to more than 20% devaluation in rupee no such subsidy is required. The math however, does not support that as at \$338/ton per kg international price is \$0.34/kg which at exchange rate of around 139 works out to be Rs 46.98/kg which is below ex-mill price of Rs 50-52 based on our channel checks.

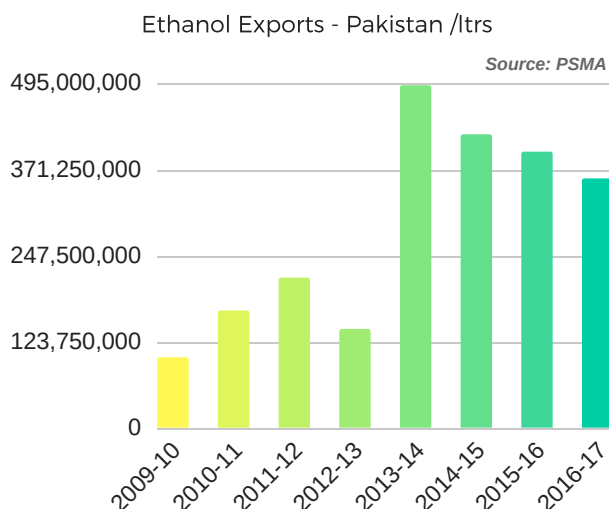
Source: PSMA, SBP, PBS, Individual Company Financials and Media reports



## Ethanol - the real value driver

Economics of sugar production is quite simple as sugar being a commodity is always subject to price risk and most of the bigger producers globally have ventured into more efficient utilization of byproducts to diversify their earnings risk. Sugar byproducts i.e. molasses, bagasse and press mud have their use in multiple industries such as power, chemicals, food, fibre board etc. to the extent that sugar byproducts are now termed as co-products. Pakistan has done quite well in the usage of molasses for ethanol production. Due to

low domestic use most of the ethanol is exported out of the country. Pakistan's export of ethanol has increased from around 100 mn ltrs in 2009 to over 300 mn ltrs in 2018, although there is a lot more potential as based on molasses production, Pakistan can produce around 800 Mn ltrs of ethanol. For sugar producers, ethanol is the saviour as a) it is a dollar-based export-oriented higher margin product and b) they do not have to get export quotas from the government for export of ethanol.



## Our Investment Hypothesis and Top Picks

Our Investment hypothesis for the sugar industry is broadly based on the following two factors:

- Better sugar prices outlook and stagnant prices of sugarcane can turn sugar earnings in miller's favour
- Export-based earnings from ethanol will continue to enhance margins

Our top picks from the listed part of the sector is given below:

Company Name	Noon Sugar Mills	Mehran Sugar Mills	Habib Sugar Mills	Sakrand Sugar Mills
SYM	NONS	MRNS	HABSM	SKRS
Region	PUNJAB	SINDH	SINDH	SINDH
Market Price	75.16	110.5	37	20.96
Target Price	105.9	133.24	47.1	29.94
Upside (%)	40.90%	20.58%	27.30%	42.84%
Sugar Recovery (%)	10.20%	11.10%	10.00%	10.8%*
Crushing Capacity (TCD)	9000	11500	11000	8000

\*9M18 Recovery rate



## SUGAR PROCESSING AND REFINING



Sugar has been a part of our everyday diet for thousands of years and can be traced back to as early as 500 BC. In the modern day, sugar is processed through crystallization of sucrose found in sugarcane and beetroot



**BRAZIL** - is the largest producer of sugar with production in excess of 39 Mn tons constituting around 20% of the world's total production



Processing and refining of sugar starts with cane-filled trucks arriving at the sugar mill.



01

**Juice Pressing:**  
A combination of shredders and crushers are used to break cane into pieces and extract juice out of them



02

**Purification:**  
Impurities are removed from the juice and about two-thirds water is removed from the juice through vacuum evaporation to form a syrup



03

**Crystallization:**  
A single pan vacuum is used to evaporate the syrup till saturation of sugar. High-speed centrifugal action is then used to separate the massecuite to raw sugar crystals and molasses



04

**Drying and Packaging:**  
A granulator is used for drying and then sugar is packed into bags to be supplied for consumption

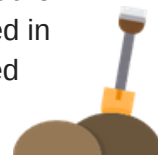
## BYPRODUCTS

Sugarcane is a C4 plant with efficient photosynthesizing characteristics as it can convert up to 1% of incident solar energy into biomass. It is a rich source of food, fibre, fodder, fuel and chemical. A mature sugar cane stalk comprises of 11-16% fiber, 12-16% soluble sugars, 2-3% non-sugars and 63-73% water. The main byproducts of high economic value are bagasse, molasses and press mud. Other byproducts are of less commercial value such as green leaves and tops, trash, boiler ash and effluent. Many economies have diversified their earnings from sugar by setting up industries based on by-products. Every ton of sugarcane crushed produces around 250-280 kg of bagasse, 23 Ltrs of molasses and 7-9% of press mud (carbonation) and 3-5% of press mud (sulphitation).



**Bagasse** is produced at the cane milling/crushing stage, primarily used as a fuel source for power generation for sugar mills, additional major use is by the pulp and paper industry.

**Sugar press Mud (SPM)** is created at the filtration of cane juice stage and is used in multiple areas like fertilizer, animal feed and industrial use



**Molasses** is a viscous liquid separated from massecuite during centrifuging process, it can be fermented in a distillery to form ethyl alcohol (ethanol).

# PAKISTAN



5-6 Mn Tons  
Domestic  
Consumption



89  
SUGAR MILLS

% Area Under Cultivation - 10%  
% Production - 6.95%  
Yield - 48.81 t/ha  
Recovery - 9.4%(FY17)  
Number of Mills - 6  
MSP - 180

KPK

PUNJAB

% Area Under Cultivation - 65%  
% Production - 68%  
Yield - 59.50 t/ha  
Recovery - 9.8% (FY17)  
Number of Mills - 45  
MSP - 180

SINDH

% Area Under Cultivation - 25%  
% Production - 24.75%  
Yield - 57.49 t/ha  
Recovery - 10.2% (FY17)  
Number of Mills - 38  
MSP - 160

## KEY EXPORT MARKETS



27.5kg



PER CAPITA  
CONSUMPTION

1.3 Mn  
Hectares

AREA UNDER CULTIVATION



82 Mn T  
ons

SUGARCANE PRODUCTION FY18



6.6  
Mn Tons  
SUGAR PRODUCTION IN  
FY18

8.1%

AVERAGE RECOVERY OF SUGAR  
FY18



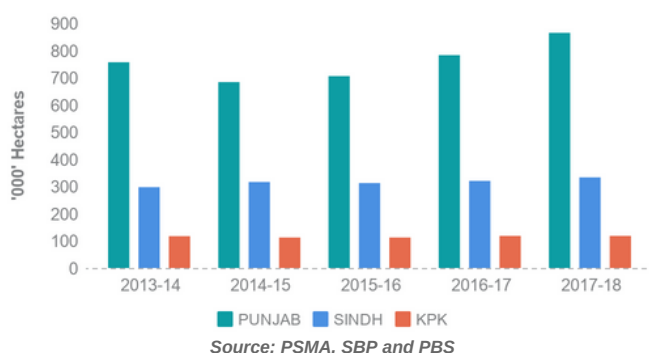
# SUGAR CANE

Sugarcane is the world's largest crop by production quantity as it is produced in over 100 countries. It is considered one of the best converters of solar energy into biomass. It requires plenty of sunshine and water typically for a continuous period of 6-7 months. The life of the crop ranges from 10 months to 2 years globally but on average 5-6 months is sufficient as the sucrose content reaches its highest level. Sugarcane is primarily harvested for its sucrose content for sugar production but over time its byproducts such as bagasse and molasses are being used as fuel source and production of ethanol among other uses.

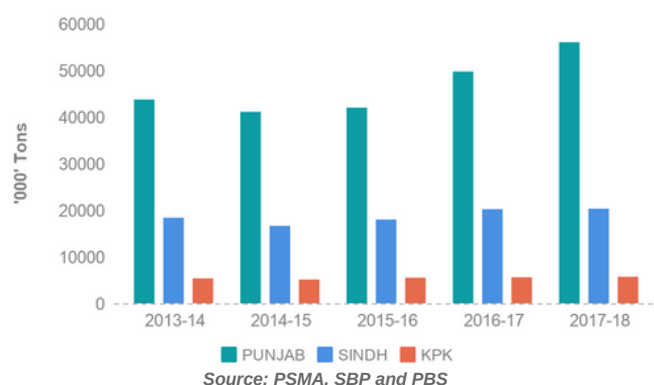
Sugarcane is a high-value cash crop of Pakistan. Its cultivation has grown significantly over the years from under 1 Mn hectares of area under cultivation in 2008-09 to over 1.3 Mn hectares in 2017-2018. In terms of production, a record 82 Mn tons was produced in 2017-2018 against 50 Mn tons produced in 2008-09. The change can be primarily attributed to higher indicative sugarcane procurement price set by the government to support the farmer. However, sugarcane yield has been consistently lower than other agriculturally developed countries. Pakistan's sugarcane yield was around 62 t/h which is much lower than average of 70t/h of other top producers.

Among the provinces, Punjab holds a lion's share of around 65%, while Sindh and Khyber Pakhtunkhwa accounts for 25% and 10% respectively in the overall area under cultivation. Sugarcane in Pakistan is categorized as a major Kharif crop where cultivation starts from Feb and extends till April, harvesting is done between October-December.

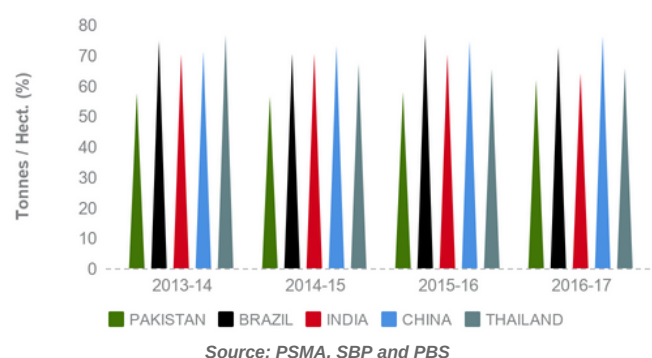
Sugarcane - Province wise cultivation area in Pakistan



Sugarcane - Province wise production in Pakistan



Sugarcane Yield in Pakistan against other top producers



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# SUGAR CANE - CHALLENGES

Major challenges facing the sugarcane farmers can be classified as economic and technical:

## Economic

Due to inequitable distribution of agricultural land in Pakistan, a majority of the farmers have smaller land holdings (average farm size of around 5 acres) and thus do not make enough money to invest in proper farming. They generally depend on a middleman for money and inputs, who exploit them by charging higher markups and more price on inputs. On the sales side, farmers face problems in getting the minimum support price prescribed by the government as mill owners discount their produce based on quality and other factors and bargain 30-40% than the support price. A lot of farmers end up selling their produce to a middleman at a much lower rate to avoid transportation charges and price negotiation with mills directly.

## Technical

Sugarcane cultivation is labor intensive and each process i.e. planting, weeding, earthing up, fertilizer application and harvesting requires high man-hours. In agriculturally developed countries much of this process is mechanized through modern farming techniques which not only reduces human input requirement but also ensures better care for the produce which has led to higher yields. In Pakistan, the process is still by and large traditionally done which in large part is because of farmers limited financial capability of investing in modern technology. In addition, the lack of research organizations spreading awareness is also seen as a limiting factor. In a country where water scarcity is an imminent threat, the drip-irrigation system which reduces water requirement by almost 40% and increases yield per acre is still not widely known and applied. High yielding varieties of sugarcane are another area which needs massive work as farmers who are only concerned with getting the set price against the weight of their produce are quite oblivious to how shifting to another variety can enhance their yields per acre.

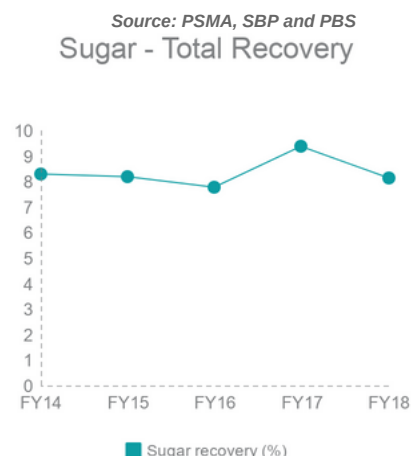
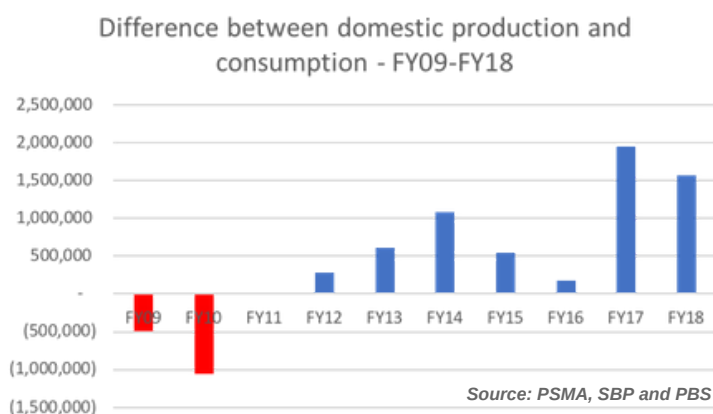
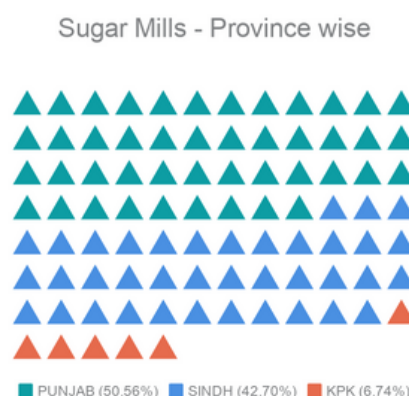
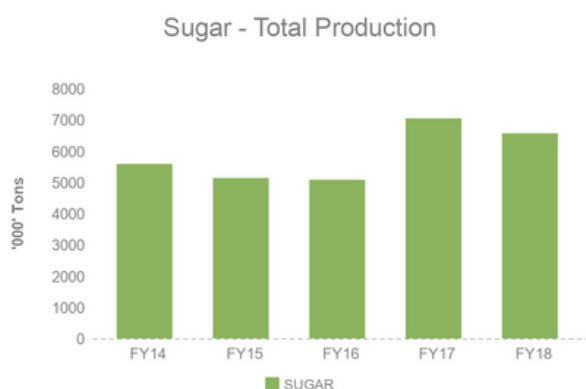


# SUGAR

Pakistan is the 9th largest sugar producer in the world. Majority of the sugar in Pakistan is produced through sugarcane and only a small percentage i.e. less than 1% is produced through beetroot. Sugar beet industry in Pakistan is very small and present only in KPK. In tandem with rising cultivation area of sugarcane, sugar production has also surpassed record levels in recent years. In FY17, Pakistan achieved the highest ever sugar production of 7 Mn tons which is almost double of what we produced 2009-2010. This trajectory has however marginally declined in FY18 as total sugar production was only around 6.5 Mn tons.

There are 89 sugar mills operating in the country with majority i.e. 50%+ situated in Punjab and around 26 of these are listed (actively) on the Pakistan Stock Exchange.

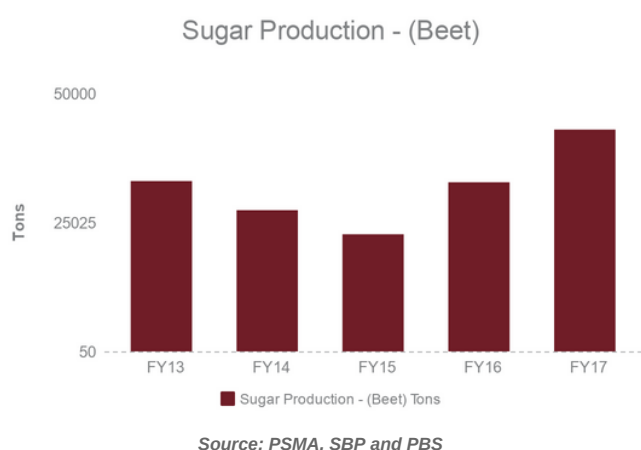
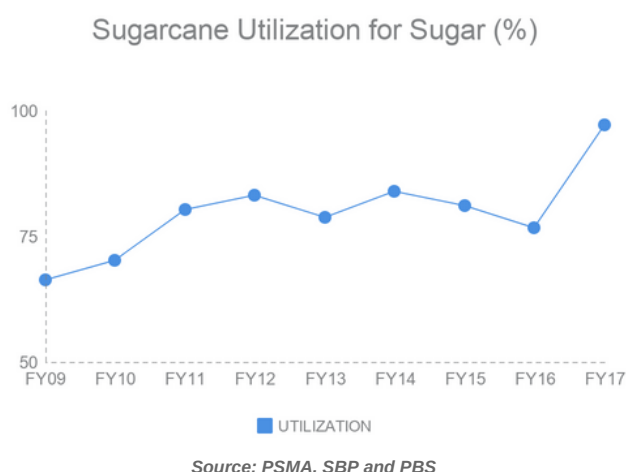
In terms of consumption, Pakistan is the 8th largest consumer with per capita consumption of around 25.7kg which is highest in the region. Annual local demand stands between 5-6 Mn tons. Barring initial two years in the last decade, Pakistan has been self-sufficient in sugar as domestic production is exceeding domestic consumption.



# SUGAR

## Other uses of sugarcane

In Pakistan, sugar production over the years has also been affected by lower utilization levels of sugarcane due to the production of gur and usage as sugarcane seeds. Gur has been particularly popular as it is one of the key diet elements for Afghans and due to a large influx of Afghan refugees in Pakistan a lot of demand for gur in the local market exists. It is even sent to Afghanistan through proper and improper channels. Gur has a higher recovery rate than sugar of around 13%-14%. In FY17, for the first time in a decade utilization level for sugar production was over 90% which generated a significant exportable surplus.



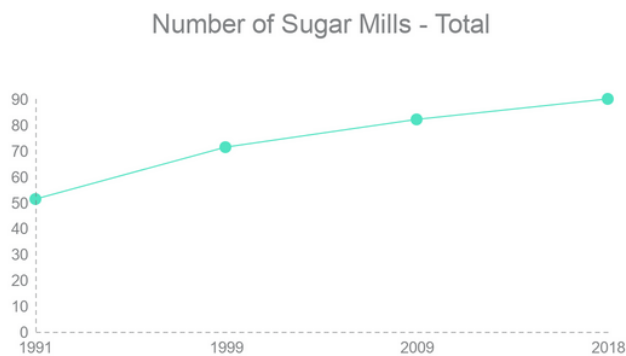
## Sugar Production from beet

Sugar production from beetroot has been consistently under 1% in Pakistan and restricted to only KPK. This has been despite the fact that not only sugar beet is a shorter duration crop (4-5 months), but requires 30-40% less water than sugarcane and the recovery rates from beet are at least 1.5% better than from sugarcane. In FY17 sugar production from beet stood at a meagre 42,000 Tons compared to over 7 Mn tons produced from sugarcane. Many reasons are cited for this low acceptability, a) Power requirement in case of sugarbeet cannot be met through by-product as bagasse is not produced b) existing sugar mills will have to invest capital to add beet slicing and other processes required for sugar beet production and c) as beet rots early, the proximity of sugar mills near the growing areas is essential.

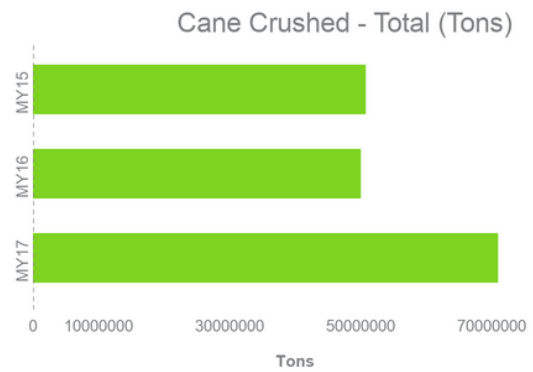
# SUGAR

## Mills

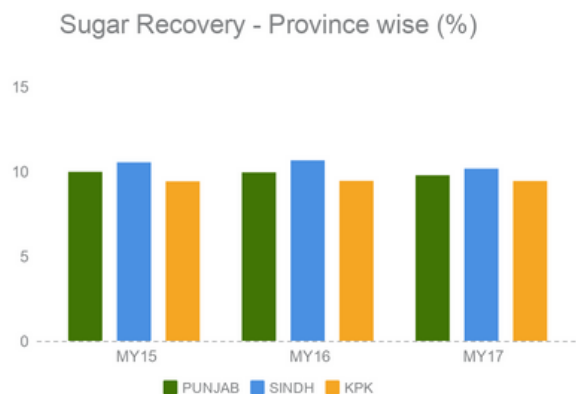
Sugar Industry in Pakistan has been a victim of unchecked growth without any consideration of actual viability and availability of raw material (sugar cane). Most of the units operating have a crushing capacity of less than 6,000 TCD which are below the global feasible capacity of 10,000 TCD. Upon Independence in 1947, the country only got two sugar mills in its share with a total crushing capacity of 1,800 TCD and 10,000 tons of sugar per annum. Since the 1970s there has been a huge rise in the number of new sugar mills reaching a total of 73 mills in less than 3 decades. Currently, there are 89 mills operating in the country, mostly owned by private players from influential families. However, Sugar mills have been a major driver of economic development of rural areas in Pakistan as their presence has opened access to improved facilities such as roads, utilities and transport. Out of the 89 mills functioning, 45 are in Punjab, 38 in Sindh and 6 in KPK and 26 mills out of the total are listed(actively) on the Pakistan Stock Exchange (PSX).



Source: PSMA, SBP and PBS



Source: PSMA, SBP and PBS

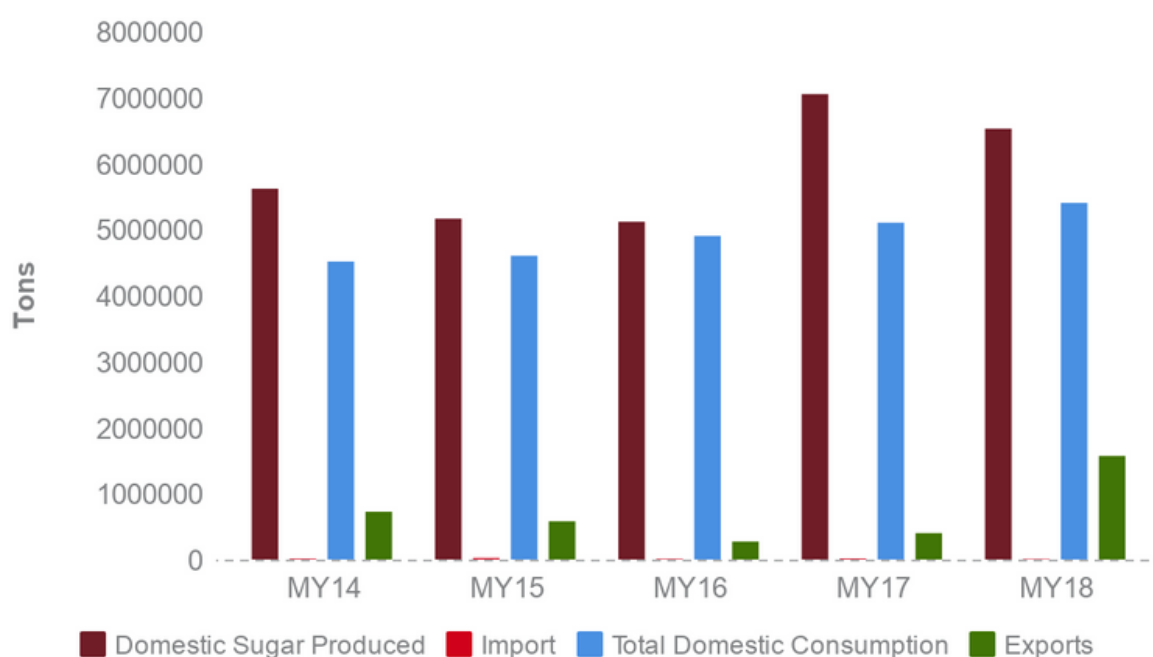


Source: PSMA, SBP and PBS

# SUGAR

## Mills

Total cane crushed in MY17 was around 71 Mn Tons which is a record and almost double from a few years ago. In terms of recovery rates, as the ecological makeup is more suitable for sugarcane cultivation in Sindh, the recovery rate of sugar is better than that of in Punjab and KPK.



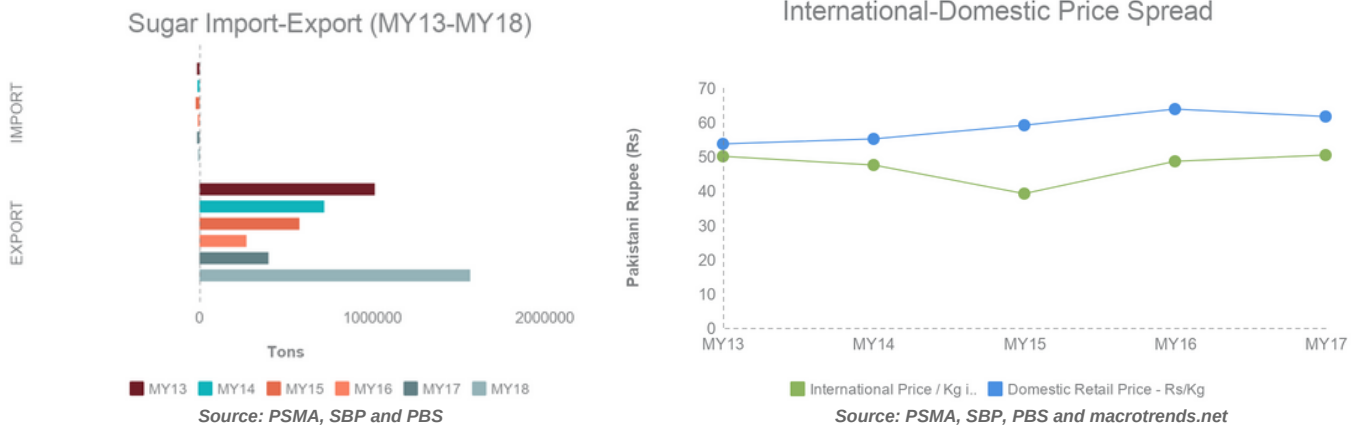
Source: PSMA, SBP and PBS

An increased area under cultivation of sugarcane due to higher indicative pricing, a modest increase in domestic consumption and ad hoc export quota related policies of the government has resulted in sugar millers carrying higher inventories. International prices have not shown a positive trend as well and have been continuously falling making exports not feasible without hefty subsidies. As of Sep 2018, a surplus stock of around 1.9 Mn tons of sugar is reported to be available with the mills out of which 1.1 Mn tons of exports were allowed in the current marketing year by the ECC.



# SUGAR

## Export - Import



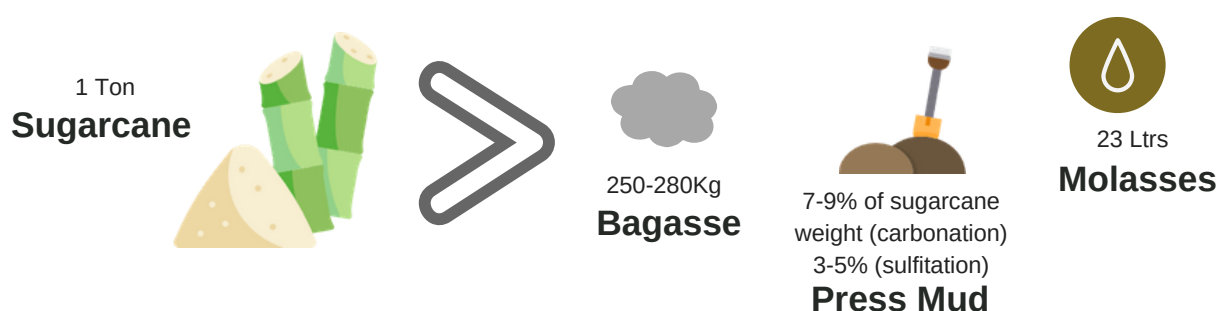
Depending on the production and requirement for domestic consumption the government of Pakistan decides on the import-export of sugar. Since FY12, Pakistan has been self-sufficient in sugar and in fact been producing an exportable surplus. The local industry is also protected by 40% import tariff. In the past few years due to rising sugarcane production, high utilization levels and lower domestic demand a buildup of sugar inventory lead to a record export of around 1.5 Mn tons in FY18. Major export markets are Afghanistan, African countries and the Middle East. However, this record export was heavily subsidized by the government by around Rs 30 Bn, as sugar production cost in Pakistan has been higher than other sugar producing countries due to low sucrose recovery rates and hence exports were not viable without a subsidy.

In the domestic market, the price of sugar has on average been 20%-25% higher than the international price PKR equivalent. In the last two marketing years, Pakistan has produced around an average of 7 Mn tons/annum and local demand has been around 5 Mn tons/annum leaving an excess of around 2 Mn tons. In a bid to create surplus stocks last year the government extended export quota from 0.5 Mn Tons to 2.0 Mn tons with hefty subsidies. The MOIP (Ministry of Industries and Production) worked out the cost of sugar production to be around Rs52.46/kg and based on international sugar price then of \$376.60 PMT the subsidy was worked out to be Rs10.70/kg. Later on, the Sindh government gave an additional subsidy of Rs 9.30/kg based on the rationale that production cost is Rs 64.19/kg. Currently, the international price is around \$338/ton which translates into a PKR equivalent per kg price of around Rs 45.59 and export quota based on ECC's decision stands at 1.1 Mn tons.

# SUGAR

## By products

In addition to being a major source of sucrose for sugar production, it is possible to obtain around 6-7 additional products and by-products some of which are of high economic value. Baggase, Molasses and Press Mud are the 3 high-economic value by-products while others such as green-leaves and tops, trash, boiler ash and effluent generated by the industry and distillery are of low economic value.



### Bagasse

One ton of sugarcane produces around 250-280kg of Bagasse, which in the composition is 50% fibre that serves as an alternative to wood. Baggase is primarily used as a fuel source by the sugar industry to fulfil its energy requirement. Pulp and paper, boards and animal feed are the main products which can be obtained from bagasse which is not used as fuel.

### Molasses

It is the final leftover liquor after the crystallization of sugar and comprises 30-35% of sugar and 15-20% of reducing sugar. Main commercial products which are made using molasses include ethyl alcohol, citric acid, lactic acid, baker's yeast etc. An average of 23 Ltrs of molasses is produced per ton of sugarcane.

### Sugar Press Mud (SPM)

It is a residue of impurities from the filtration of raw cane juice and is rich in organic nutrients such as silicon, iron, manganese, calcium etc. Due to this, the SPM post composting (aerobic digestion through pilling) can be used as an effective organic fertilizer and animal feed. It also has industrial use i.e. building lime after the calcination process. SPM is produced at a rate of 7-9% of total weight of sugar cane in carbonation industries and 3-5 % in sulfitation industries.

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# SUGAR

## By products

### What the world is doing with sugar byproducts?

By an estimation, one hectare of sugarcane produces 100 tons of green matter, its dry matter has a fuel equivalency of about 10-20 tons of oil and it can potentially deliver around 75,000 calories each year for animal feed which is at least 8 times higher than the yield of any other fodder crop. The world recognizes these abilities and over the years has invested more towards creating downstream value-added products from the by-products of sugarcane processing.

### Molasses

Brazil has reduced its oil dependency by focusing on sugarcane ethanol production which is produced by fermentation of sugarcane juice and molasses. This focus has helped Brazil replace 42% of its gasoline needs with ethanol. The country is now working on cellulosic ethanol – a new scientific technique to extract ethanol from leftover plant material.

The UK has developed a process to produce citric acid which is used in jams, juices and confectionary from molasses. Molasses is also used as cattle feed in the US by making urea-molasses blocks popularly known as animal chocolates. It is also the main raw material for the production of different types of yeast which is mainly used in bread making.

### Bagasse

To boost forest conservation and use less wood, many countries are setting up bagasse based particle board and fibre-board plants to replace wood-based boards that can be used for making office racks, table tops, wall partitions and ceilings. Bagasse post-hydrolysis treatment is being used on a commercial scale by the Caribbean and Latin American countries for digestible animal feeds.

### Sugarcane Wax

It is used in making polishes, varnishes, grease, manufacturing carbon paper among other things. Refined wax has many industrial uses such as waterproofing emulsion for particle board and textile treatment, hot melting glues, removers of casting from fibreglass moulds and precision casting. The oil fraction of sugarcane wax is used for making poultry feed and anti-foaming agents in extinguishing powders.

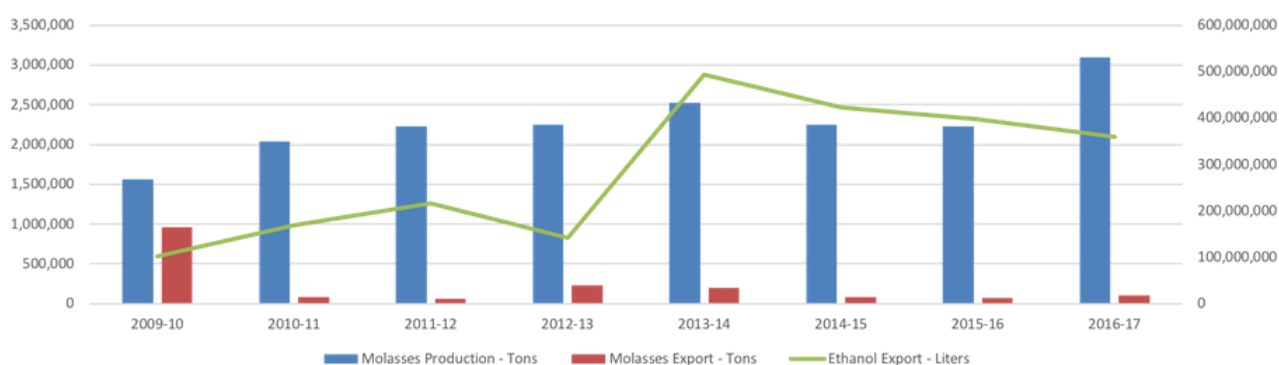
# SUGAR

## By products

### What Pakistan is doing with sugar byproducts?

In Pakistan, sugar byproducts are still not being effectively used for their full economic potential. The major reason is financial flexibility as sugar mills are usually in a liquidity crunch and hardly have any room for investing in value addition. It is also a matter of business understanding, as smaller millers do not generally understand how they can establish an integrated setup by efficiently using the byproducts which can potentially lower their sugar production cost and diversify earnings. Lack of government focus is another major reason as the government is usually only involved in sugarcane pricing and export quota without effectively incorporating the value addition aspect towards incentivizing the industry.

### Molasses



Source: PSMA, SBP and PBS

It is one by-product against which most of the value addition has occurred as there are now around 19 distilleries in the country converting molasses into ethanol. Traditionally molasses was exported at lower prices without converting it into a higher margin product i.e. ethanol, between 2000-2009 16.5 Mn Tons of molasses was produced out of which 9.2 Mn tons was exported and only 237 Mn Ltrs of Ethanol was exported while between 2010-2017 18.1 Mn Tons of molasses was produced out of which only 1.7 Mn Tons was exported and a substantial 2.2 Bn Ltrs of Ethanol was exported. There is still a huge potential for Pakistan for more ethanol production as the typical yield of ethanol per ton of molasses is 5:1, which means 3 Mn Tons of molasses should yield around 600,000 Tons or around 800 Mn Ltrs of Ethanol which is almost 2 times of what we exported in MY17.



# SUGAR

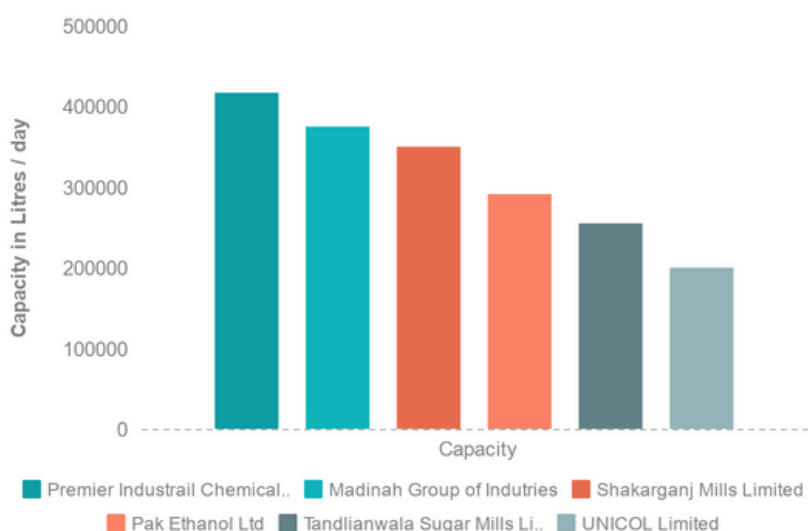
## By products

### What Pakistan is doing with sugar byproducts?

#### Ethanol Distilleries in Pakistan

There are 19 distilleries operating in the country as per PEMA (Pakistan Ethanol Manufacturer's Association) producing different grades of ethanol with a total capacity to produce around 600,000 Tons per annum. Out of the total 11 distilleries are located in Punjab, 7 in Sindh and only 2 in KPK. Some of the sugar mills have set up these distilleries on their own while other's have created Joint Ventures with other sugar mills. As there is not much ethanol use domestically, much of the ethanol produced is exported. As per transparency market research global demand for ethanol stood at \$71.8 bn in 2017 and is expected to cross \$100 bn by 2022. The demand is emanating from multiple end-use industries specifically automobile and alcoholic beverages. Due to its export potential, local distilleries are also expanding their capacities. Our channel checks suggest that last marketing year the industry produced around 400,000 tons of ethanol and this year a 15-20% growth is expected even though the prices have come down significantly since last year and currently trading around \$630-640 / metric ton (FOB Karachi bulk - ENA anhydrous).

Top 6 Ethanol Producers - Pakistan



Source: EMA and Individual company websites

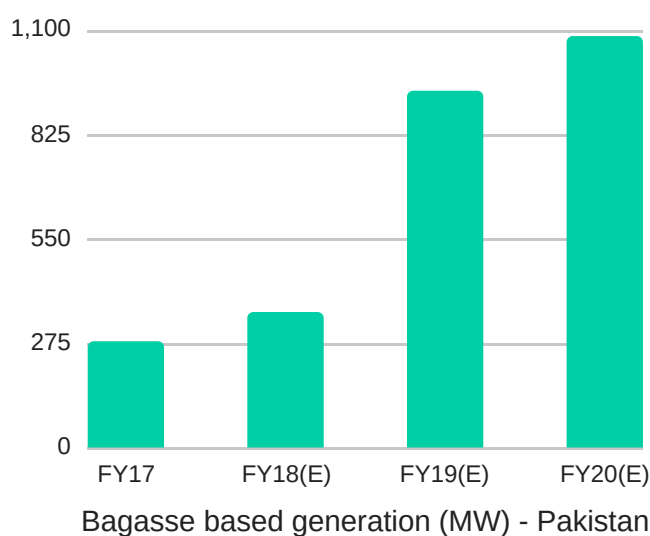
# SUGAR

## By products

### What Pakistan is doing with sugar byproducts?

#### Bagasse

Bagasse is an extremely rich renewable source for power generation and for a country like Pakistan where energy mix is still heavy towards imported fuel proper utilization of bagasse can help save a lot of foreign exchange. As of 30th of June 2017, total installed capacity of bagasse-based generation was only 280 MW which is around 1.06% of the total energy mix and 19.11% of the renewable energy mix of Pakistan.



Source: NEPRA

Most of the bagasse produced in Pakistan is used by the sugar mills to fulfil their energy needs and only a few sugar mills have setup co-generation plants and supplying electricity to the grid. For Pakistan, bagasse-based generation has three major advantages a) as it is internally sourced there is no need for foreign exchange to be spent on its procurement b) cost of production is lower as bagasse is a byproduct and c) Bagasse-based generation can be directly provided to settlements near the sugar mill thereby not making it go through the inefficient distribution system. As per NEPRA, total bagasse-based generation will increase to over 1,000 MW by FY20 which is still lower than the actual potential.

#### Other byproducts

Other byproducts processing such as press mud composting to be sold as a rich organic fertilizer is done at a decent scale at some mills but the overall quantum is low.

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## CASE IN FOCUS: BRAZIL

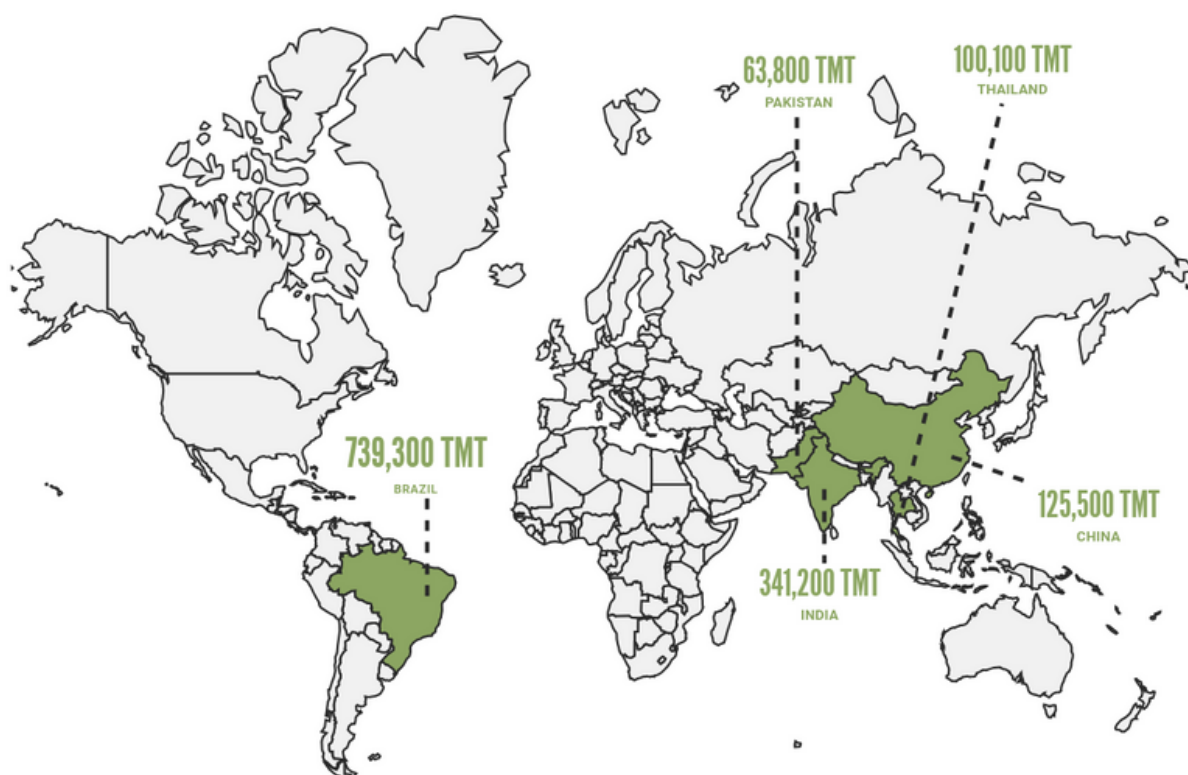


Brazil is not just the number one producer of sugarcane in the world but has also become a case-study for other sugarcane producing countries in terms of efficient use of sugar by products to create a significant economic impact. Brazil is a pioneer in using ethanol as a motor fuel with annual production now in excess of 30.23 billion litres. The country has been using ethanol as motor fuel since 1920's but since 2003 the pace picked up significantly with introduction of flex fuel vehicles which run on gasoline and pure ethanol. Due to increasing consumer demand in less than 15 years, the country revolutionized this space and now more than 70% of LCV in Brazil are flex fuel vehicles.

The country has replaced 42% of its gasoline needs with sugarcane ethanol making it a key component of its energy mix. Ethanol reduces carbon emissions by 90% on average and is a high octane fuel which reduces engine knocking. Brazilian consumers have a choice at the pump and most of them are choosing ethanol because of its lower price point and environmental benefits. The country is now going one step further, as the process of making ethanol only taps one-third of the energy sugarcane can offer, the remaining two-third is trapped in the cane fiber i.e. bagasse. Brazilian scientists have discovered new techniques to produce ethanol called cellulosic ethanol from bagasse.

# GLOBAL DYNAMICS AND OUTLOOK

## TOP SUGER PRODUCERS



Global production of sugar is dominated by Brazil, India, China and Thailand which constitute around 40% of the total world production. Countries with high growth rates in the population are working more aggressively to increase their production through working on the increasing area under production and improving yields.

Like any commodity world, sugar prices are dependent on the demand-supply balance. From the past two years, world sugar cycle has been in a surplus state which is expected to wear off in the MY 2018-2019 and may even create a marginal deficit in MY 2019-2020 as per the latest forecast by International Sugar Organization (ISO). The organization has forecasted global production in 2018/2019 to be around 180 Mn Tons which is almost 8% lower than the previous year.

# GLOBAL DYNAMICS AND OUTLOOK

Major drag will be due to lower sugar production in Brazil – due to lower yields and more sugarcane being diverted towards ethanol production, Thailand – due to lower yields on account of lower-than-expected precipitation and lower consumption from industrial sector due to new sugar excise tax on beverages, India – lower yields due to lower rainfalls and grub infestations, Pakistan – due to reduced area as farmers have shifted to other crops with better prices and faster return on investment and modest growth in consumption. ISO has said that such large-scale downward adjustments cannot be offset by smaller increases for other producers.



International sugar prices in the past one year made a low of \$0.1009 per pound and then increased to \$0.1401 per pound and now consolidating near \$ 0.1290 level. The dampen outlook of sugar production will positively affect prices going forward and if as forecasted by ISO a deficit is created of around 2 Mn tons between global demand-supply in 2019-2020 the prices may then follow a similar upward trajectory as in 2016 when a 3-4 Mn tons deficit lead to prices rising from \$0.1044 per pound in August 2015 to a high of \$0.2342 per pound in Oct 2016. As prices increase, export of sugar will become a competitive space as all major producers have devalued their currencies by at least 20% against the greenback in the past 1 year.



## FINDING VALUE IN LISTED SUGAR MILLS

There are around 26 mills (active) listed on the Pakistan Stock Exchange representing around 29% of total mills and around 30% of the crushing capacity in the country. Most of the mills listed are based out of Sindh and Punjab. Total cane crushed and sugar produced by the listed sector was 32.5 MT and 3.2 MT respectively in MY17. Total listed sector's market cap as of 26-12-2018 was Rs 77.9 Bn (\$556 Mn).

### Snapshot

S #	SYM	NAME	REGION	Capacity / TCD	Utilization	Recovery
1	AABS	Al-Abbas Sugar Mills Ltd.	SINDH	7,500	70.31%	10.7%
2	ADAMS	Adam Sugar Mills Limited.	PUNJAB	7,500	71.18%	9.2%
3	ALNRS	Al-Noor Sugar Mills Ltd.	SINDH	14,500	70.34%	9.7%
4	ANSM	Ansari Sugar Mills Ltd.	SINDH	8,000	38.57%	9.70%
5	CHAS	Chashma Sugar Mills Ltd	KPK	18,000	95.06%	9.2%
6	DWSM	Dewan Sugar Mills Ltd.	SINDH	8,000	81.26%	10.3%
7	FRSM	Faran Sugar Mills Ltd.	SINDH	10,000	71.98%	10.7%
8	HABSM	Habib Sugar Mills Ltd.	SINDH	7,000	96.60%	10.0%
9	HSM	Husein Sugar Mills Limited.	PUNJAB	6,500	67.26%	9.9%
10	HWQS	Haseeb Waqas Sugar Mills Limit	PUNJAB	8,000	30.76%	8.6%
11	JDWS	J. D. W. Sugar Mills Ltd.	SINDH/PUNJAB	44,000	119.98%	10.3%
12	JSML	Jauharabad Sugar Mills Ltd	PUNJAB	7,000	60.09%	9.9%
13	KPUS	Khairpur Sugar Mills Ltd.	PUNJAB	7,000	86.96%	9.8%
14	MIRKS	Mirpurkhas Sugar Mills Ltd.	SINDH	8,500	66.31%	10.7%
15	MRNS	Mehran Sugar Mills Ltd.	SINDH	11,500	69.06%	11.1%
16	NONS	Noon Sugar Mills Ltd.	PUNJAB	9,000	88.53%	10.2%
17	SANSM	Sanghar Sugar Mills Ltd.	SINDH	6,000	78.35%	10.1%
18	SHJS	Shahtaj Sugar Mills Ltd	PUNJAB	10,000	85.74%	10.1%
19	SHSML	Shahmurad Sugar Mills Ltd	SINDH	11,000	55.10%	10.8%
20	SKRS	Sakrand Sugar Mills Ltd.	SINDH	8,000	47.48%	9.2%
21	SML	Shakarganj Limited.	PUNJAB	20,000	54.36%	9.4%
22	PMRS	Premier Sugar Mills & Distille	KPK	3,810	45.53%	9.3%
23	SASML	Sindh Abadgars Sugar Mills Ltd.	SINDH	6,000	78.44%	10.4%
24	TICL	Thal Industries Corporation Ltd.	PUNJAB	21,000	90.50%	9.7%
25	BAFS	Baba Faried Sugar Mills Ltd.	PUNJAB	3,000	102.35%	9.1%
26	TSML	Tandliawala Sugar Mills Ltd.	PUNJAB	32,000	81.23%	9.3%

\*Utilization and Recovery are based on MY17

Source: Individual Company Financials and Abbasi Securities Research

Most of the listed sugar mills have a capacity of greater than the national average of less than 6,000 TCD. Higher recovery rates are evident in mills located in the province of Sindh, especially mills located near cane harvesting areas have a higher recovery and comparative advantage.

# FINDING VALUE IN LISTED SUGAR MILLS

## Snapshot

SYM	MY17			
	Sugarcane Crushed - MT	Sugar Production - MT	Sugarcane cost/kg of sugar	Fixed Cost/kg of sugar**
AABS	659,154	70,484	47.67	2.02
ADAMS	710,053	65,097	49.08	2.30
ALNRS	1,315,682	127,798	59.70	4.09
ANSM	425,803	41,304	46.14	9.93
CHAS	2,224,494	203,687	46.54	5.84
DWSM	507,088	52,020	54.80	5.21
FRSM	993,389	106,319	49.51	1.95
HABSM	865,530	86,316	48.07	1.01
HSM	660,136	65,024	46.34	2.91
HWQS	177,186	15,243	55.79	20.89
JDWS	7,918,847	813,406	46.09	3.11
JSML	546,857	53,972	46.15	4.06
KPUS	852,226	83,579	46.50	2.12
MIRKS	738,378	78,897	48.34	3.76
MRNS	1,056,198	116,780	45.79	2.63
NONS	1,115,492	113,308	45.34	2.40
SANSM	625,237	63,380	49.07	2.32
SHJS	1,148,874	115,754	45.38	1.17
SHSML	672,747	72,755	49.57	3.66
SKRS	459,573	42,320	49.71	2.25
SML	1,543,849	144,460	49.84	2.89
PMRS	268,864	25,003	47.00	6.28
SASML	593,036	61,670	50.42	5.05
TICL	2,869,699	279,308	46.73	2.24
BAFS	393,035	35,497	51.28	5.79
TSML	3,249,110	303,142	51.59	4.93

\*\*Fixed cost includes depreciation and finance cost

Source: Individual Company Financials and Abbasi Securities Research

Larger capacities enable mills to crush more sugarcane hence incurring lower cost per ton of producing sugar due to more spread over absorption of overheads. Sugarcane forms around 90% of the cost of producing sugar and as it is fixed by the provincial governments and the end price of sugar is largely driven by international price dynamics, higher fixed costs i.e. depreciation and finance costs can hurt millers more when end prices move in a downward trajectory. Mills located near cane growing areas benefit as they procure cane at comparatively better rates, while mills located further appear to pay a premium to lure farmers for their produce.



# FINDING VALUE IN LISTED SUGAR MILLS

## Investment Metrics

S #	SYM	EPS	BVPS	Market Price	P/E	P/B	Outstanding Shares / Mn	Free Float / Mn (Rs)	Market Cap/ Mn (Rs)	ADTV (TTM)
1	AABS	8.23	144.47	257.63	31.30	1.78	17.36	2.6	4,472	3,819
2	ADAMS	(0.17)	43.91	25.84	(149.68)	0.59	17.29	4.32	447	480
3	ALNRS	(1.48)	75.07	48.38	(32.67)	0.64	20.47	8.19	990	1,003
4	ANSM	1.12	37.21	11.1	9.93	0.30	56.14	3.66	623	762
5	CHAS	3.21	50.90	44.02	13.71	0.86	28.69	4.3	1,263	1,320
6	DWSM	(11.36)	(11.83)	5.21	(0.46)	(0.44)	91.51	16.63	477	476
7	FRSM	(7.36)	63.79	72	(9.78)	1.13	25.01	7.5	1,801	1,851
8	HABSM	3.72	46.56	37	9.96	0.79	150	37.5	5,550	5,400
9	HSM	8.06	23.22	21.4	2.65	0.92	25	10	535	538
10	HWQS	(17.68)	(53.62)	4.06	(0.23)	(0.08)	32.4	12.96	132	146
11	JDWS	26.98	141.01	300	11.12	2.13	59.78	8.97	17,934	16,738
12	JSML	1.17	45.16	44	37.71	0.97	28.44	6.18	1,251	1,280
13	KPUS	(5.84)	(4.03)	12.5	(2.14)	(3.10)	16.02	0.8	200	128
14	MIRKS	(22.01)	137.87	90	(4.09)	0.65	12.27	5.52	1,104	1,161
15	MRNS	4.11	69.25	103.5	25.18	1.49	32.03	8.01	3,315	3,171
16	NONS	8.73	35.84	76	8.70	2.12	16.52	5.78	1,256	1,305
17	SANSM	(24.04)	16.24	23.73	(0.99)	1.46	11.95	7.76	284	293
18	SHJS	11.90	105.25	55.5	4.66	0.53	12.01	4.8	667	625
19	SHSML	0.34	53.57	149	432.95	2.78	21.12	9.5	3,147	3,062
20	SKRS	4.42	(6.40)	24.48	5.54	(3.83)	44.62	11.48	1,092	1,074
21	SML	1.69	11.71	72.96	43.26	6.23	125	43.75	9,120	8,906
22	PMRS	(39.25)	31.49	99.22	(2.53)	3.15	3.75	0.5	372	391
23	SASML	(38.43)	(31.00)	22.5	(0.59)	(0.73)	10.43	2.08	235	226
24	TICL	47.15	152.00	173.52	3.68	1.14	15.02	0.17	2,606	2,606
25	BAFS	3.13	(111.00)	38	12.14	(0.34)	9.45	0.29	359	359
26	TSML	4.00	52.50	139.65	34.91	2.66	117.71	5.89	16,438	16,421

Source: Individual Company Financials, Abbasi Securities Research and PSX

There are multiple reasons for low interest in this sector from the investment industry's standpoint, we highlight some of these below:

- **Industry dynamics** - As much of the industry earnings are dependent on government policies which remain inconsistent in terms of sugarcane price control and untimely decision on exportable surplus creates uncertainty for any forecast of earnings
- **Industry perception** - one of the key perceptions about the industry is weak corporate governance practices and high involvement of politicians rather than professionals which keeps investors away
- **Investable float and Access** - as depicted in the table above free float of most of the listed mills is less than 10 Mn shares and investable float is much lesser, which is why Average Daily Traded Volume (ADTV) is extremely low for this sector. Moreover, unlike other sectors, there are hardly any analyst briefings or presentations by the industry to create more understanding about the current and future dynamics amongst the investor community which makes sugar industry one of the least covered sectors and hence the low probability of any reasonable price discovery

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# FINDING VALUE IN LISTED SUGAR MILLS

## Our Filter

Based on our understanding of the industry dynamics both globally and locally, we have applied the following filters to short-list sugar mills which we find to offer the highest value:

- **Crushing capacity** – it is one of the most important criteria as mills of lower crushing capacity will always have higher fixed cost/ton which becomes specifically challenging in times of lower sugarcane cultivation as utilizations are lower. We have only selected companies which have a crushing capacity higher than 7,000 TCD
- **Capacity utilization** – Higher capacity utilization leads to lower cost/ton and firms who have consistently increased their utilization with the increasing availability of sugarcane have passed through the second filter of our analysis
- **Recovery rates** – sugar recovery rates are a significant factor when it comes to producing sugar, a mill which is achieving higher recovery rates either based on its location or better technical efficiencies will always have a lower cost of production. Our benchmark is sugar mills with recovery rates of 10%+
- **Cost control** - in an industry where the biggest cost of production cannot be controlled and passing on cost increases is not much of an option, the remainder costs require very prudent management to enhance margins. Lower procurement cost and fixed cost per ton is an essential filter especially in a rising interest rate environment whereby high finance costs can potentially eat up any improvement in the top line
- **An aggressive focus on value addition** – Our understanding of the sugar industry is that diversification of earnings is very essential for any sugar mill as commodity-based earnings are always subject to price risk. Our final filter is of firms which have consciously and consistently made efforts towards better utilization of by-products either by converting molasses into ethanol and earning export based earnings or efficiently using bagasse and generating additional power to be sold outside.

# NOON SUGAR MILLS LIMITED

## About

Noon Sugar Mills Ltd. commenced sugar production in 1966 with a cane crushing capacity of 1,500 TCD and over the years the company has increased this capacity to 9,000 TCD. The company realized the value in by-products processing early on and had set up alcohol distillery in 1986 with a capacity to produce 50,000 LPD and since then has expanded this capacity to currently 130,000 LPD. The company is owned by Noon Group of companies which has stakes in textiles, power and engineering among other interests. The mill is located in Bhalwal, District Sargodha in Punjab.

KATS Code	NONS
Reuters Code	NOON.KA
Market Price	Rs 75.16
Target Price	Rs105.90
Recommendation	BUY
Market Cap	Rs 1,241.64 Mn (\$8.9 Mn)
Free float Market Cap	Rs 434 Mn (\$3.1 Mn)
1-Yr Avg. Daily Vol. (mn)	1,305
1-Yr High/ Low	Rs 86.7/51.55
Estimated free float(mn)	5.78
Share outstanding (mn)	16.52



Source: Reuters

## Financials

Noon Sugar Mills Ltd.					
Income Statement (Rs in 000)	2019E	2018A	2017A	2016A	2015A
Sales	6,042,000	6,273,476	4,836,588	2,588,546	3,027,265
Cost of Sales	(5,599,868)	(5,562,171)	(4,264,805)	(2,353,460)	(2,902,182)
Gross Profit	762,683	711,305	571,783	235,086	125,083
Distribution Cost	(106,619)	(104,464)	(85,348)	(26,043)	(54,327)
Administration Cost	(165,623)	(135,209)	(132,580)	(105,224)	(105,839)
Other Income	60,000	68,720	53,359	39,530	89,031
Other Operating Expenses	(12,546)	(18,513)	(12,546)	(4,992)	(3,541)
Operating Profit	537,895	521,839	394,668	138,357	50,407
Finance Cost	(204,721)	(251,655)	(204,721)	(86,576)	(122,113)
Share of Profit & Loss from Associate	0	0	-	-	(15,878)
Profit Before Tax	333,174	270,184	189,947	51,781	(87,584)
Tax	(99,952)	(59,399)	(45,680)	(11,660)	(27,987)
Profit After Tax	233,222	210,785	144,267	40,121	(115,571)
Ratios					
EPS (Rs)	14.12	12.76	8.73	2.43	(7.00)
Sugar Cane Crushed (M.Tons)	1,115,789	1,088,945	1,115,492	401,084	439,402
Sugar Produce (M.Tons)	106,000	98,655	113,308	39,015	41,665
Sugar Recovery (%)	9.5%	9.1%	10.2%	9.7%	9.5%
Molasses Recovery (%)	7.8%	6.1%	7.8%	9.6%	12.3%
Gross Profit (%)	12.6%	11.3%	11.8%	9.1%	4.1%
Distribution % of sales	1.8%	1.7%	1.8%	1.0%	1.8%
Administration % of sales	2.7%	2.2%	2.7%	4.1%	3.5%
Interest Cover (times)	2.63	2.07	1.93	1.60	0.41
Effective tax rate (%)	30.0%	22.0%	24.0%	22.5%	-32.0%
Net Profit (%)	3.9%	3.4%	3.0%	1.5%	-3.8%
Current Ratio (times)	-	-	0.92	0.66	0.76
D/E (times)	-	-	0.72	0.15	0.08
Gearing (times)	-	-	4.45	1.38	1.24

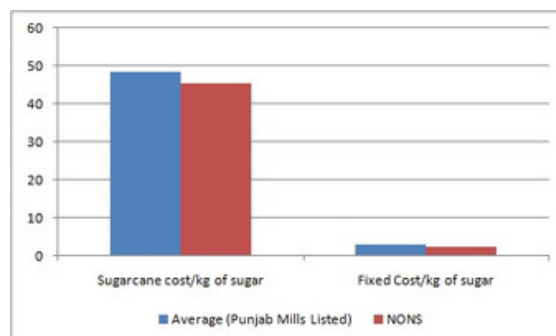


# NOON SUGAR MILLS LIMITED

## Investment Hypothesis

Lower costs against other listed provincial competitors

Noon sugar's sugarcane procurement cost/kg in MY2017 was one of the lowest in Punjab amongst the listed mills and fixed cost per kg was also lower than the average fixed cost per kg of the listed mills in Punjab.

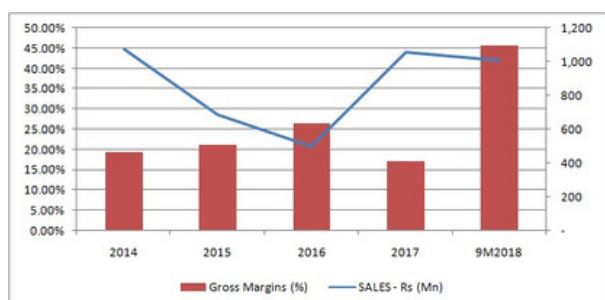


Further cost saving efforts to bode well for sugar division

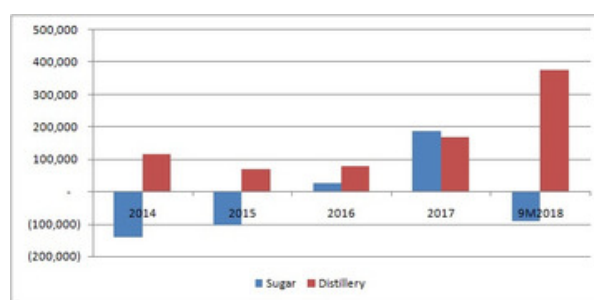
The company has been making continuous efforts towards enhancing capacity utilization and other measures to bring per ton cost of sugar production down. As a result of these efforts, sugar production has significantly increased and cost per ton has gone down. Further specific upgradations in the production process such as the installation of Falling Film Evaporators which significantly contributes towards the steam economy and leads to energy savings and more efficient use of bagasse, and planned major up gradation in the process house will further rationalize the production cost.

Expansion in ethanol production – step in the right direction

Noon sugar is currently expanding its distillery division's capacity from 80,000 LPD to 130,000 LPD, this expansion is expected to be online within the current crushing season based on last reported results. Ethanol business has consistently supported the bottom line even in years when sugar business has made losses. Both rising ethanol fuel demand globally and PKR devaluation will bode well for the company's earnings from ethanol.



Ethanol Division - Sales and GM(%)



Contribution of Distillery and Sugar division in PBT and unallocated income and expenses

## Valuation

In our MY19 earnings estimate, we have kept the sugar business at break-even and most of the earnings are being generated through the ethanol business. We have valued NONS at 7.5x MY19 estimated earnings to reach a target price of Rs 105.90 offering around 40.89% upside from LDCP.

# MEHRAN SUGAR MILLS LIMITED

## About

Mehran Sugar Mills was established in 1965 with an annual crushing capacity of 1,500 TCD and since then has continuously increased its capacity over the years to 11,500 TCD currently. The mill is situated in the cane growing area of Tando Allahyar (Sindh) and is owned by the Hasham Group who has diversified interests in sugar, power, warehousing, real estate development, food and education. Under Mehran Sugar Mills the group has invested in Mehran Energy (100% owned subsidiary) – 26.5 MW Baggasse based co-gen power plant, Unicol Limited (JV – 33.33% holding) – 200,000 lpd ethanol plant, Unienergy Limited (JV – 20% holding) – 50MW wind power plant Unifoods Limited (JV – 24% holding) – packaged cakes plant.

KATS Code	MRNS
Reuters Code	MEHS.KA
Market Price	Rs 110.50
Target Price	Rs 133.24
Recommendation	BUY
Market Cap	Rs 3,539.31 Mn (\$25.3 Mn)
Free float Market Cap	Rs 885 Mn (\$6.3 Mn)
1-Yr Avg. Daily Vol. (mn)	3,213
1-Yr High/ Low	Rs 129.99/93.46
Estimated free float(mn)	8.01
Share outstanding (mn)	32.03



Source: Reuters

## Financials

Mehran Sugar Mills Limited					
Income Statement (Rs in 000)	2019E	2018A	2017A	2016A	2015A
Sales	5,720,000	4,790,790	5,500,836	7,113,226	4,361,360
Cost Of Sales	(5,018,750)	(4,201,110)	(5,232,832)	(6,370,347)	(3,681,453)
Gross Profit	701,250	589,680	268,004	742,879	679,907
Distribution Cost	(109,705)	(111,448)	(83,037)	(36,885)	(40,491)
Administration Cost	(291,388)	(276,265)	(243,237)	(197,438)	(173,380)
Other Operating Expenses	(69,392)	(69,392)	(9,357)	(41,206)	(27,738)
Other Income	176,800	169,541	362,735	183,025	161,176
Operating Profit	407,564	302,116	295,108	650,375	599,474
Share of profit in associates	390,934	340,016	100,113	116,259	93,969
Finance Cost	(223,030)	(212,409)	(196,675)	(98,626)	(146,566)
Profit Before Tax	575,469	429,723	198,546	668,008	546,877
Tax	(108,969)	(16,825)	(66,871)	(126,200)	(116,842)
Profit After Tax	466,500	412,898	131,675	541,808	430,035
Ratios					
EPS (Rs)	14.56	12.89	4.11	16.91	13.43
Sugar Cane Crushed (M.Tons)	956,522	1,043,403	1,056,198	940,626	946,871
Sugar Produce (M.Tons)	110,000	120,200	116,780	106,400	108,136
Molasses (M.Tons)	43,043	48,405	48,864	38,604	39,027
Sugar Recovery (%)	11.50%	11.52%	11.1%	11.3%	11.4%
Molasses Recovery (%)	4.5%	4.6%	4.6%	4.1%	4.1%
Interest Cover (times)	1.83	1.42	1.50	6.59	4.09
Gross Profit (%)	12.3%	12.3%	4.9%	10.4%	15.6%
Distribution % of sales	1.9%	2.3%	1.5%	0.5%	0.9%
Administration % of sales	5.1%	5.8%	4.4%	2.8%	4.0%
Effective tax rate (%)	18.9%	3.9%	33.7%	18.9%	21.4%
Net Profit (%)	8.2%	8.6%	2.4%	7.6%	9.9%
Current Ratio (times)	-	-	1.08	-	7.66
D/E (times)	-	-	0.20	0.13	0.15
Gearing (times)	-	-	0.71	0.13	0.25

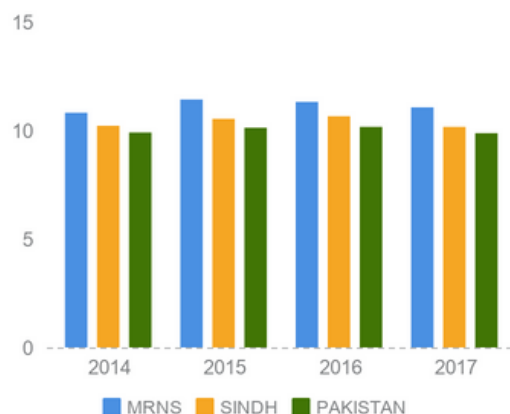
# MEHRAN SUGAR MILLS LIMITED

## Investment Hypothesis

High sugar recovery – a significant advantage against peers

Mehran Sugar has the highest sugar recovery rate in the country of more than 11% against Sindh's average of 10.16% in MY17 and Pakistan's average of 9.87% in the same year. Higher recovery is due to the sugar mills location which is situated amongst a dense sugarcane harvesting area in Sindh. This has led the company to consistently achieve lower production cost/ton compared to other mills in the region.

Sucrose Recovery (%)



Diversification in Ethanol and Foods business bearing fruits

The company has diversified into other businesses i.e. Ethanol, Foods and Power by forming JVs with other sugar players.

**Unicol Limited** - A leading manufacturer of ethanol from cane molasses with a capacity of 200,000 LPD and food grade CO2 supplier with a capacity of 18,000 metric tonnes. Entire ethanol sales are exports based on 70+ countries while CO2 is supplied to the local food and beverage industry. The company is a JV with Faran Sugar Mills and Mirpurkhas Sugar Mills. Unicol's contribution to MRNS's earnings was Rs 266 Mn in 9M18 (8.31/share) highest since the formation of JV.

	2013	2014	2015	2016	2017	9M18
Revenue '000	2,137,306	3,142,889	4,333,964	4,133,750	4,455,265	3,735,546.00
Gross Margins(%)	26	19	15	18	16	32.82
Profit Before Tax (PBT) ' 000	418,152	215,286	164,713	325,244	320,353	889,663
Profit Contribution to MRNS	139,370	71,755	54,899	108,404	106,784	266,872

**Unifoods Limited** - Mehran hold's 24% of the packaged cakes plant which has commenced commercial production in March 2018. In 9M18, Unifoods has contributed around Rs1.25/share (Rs 40 Mn) to Mehran's earnings. As marketing efforts are underway, over time we expect the sales to pick up.

Mehran Sugar also holds 100% of Mehran Energy which is a 26.5 MW bagasse based co-gen power plant and 20% of Uni-Energy which is a 50MW wind power plant. Both these projects are currently non-operational and under regulatory and tariff approval stage.

## Valuation

We have done SOTP based valuation of Rs 133.24 offering 20.58% from LDGP.



# HABIB SUGAR MILLS LIMITED

## About

Habib Sugar Mills was established in 1962 in Nawabshah Sindh with a crushing capacity of 1,500 TCD and over the years with multiple B.M.R activities the company has increased its capacity to 7,000 TCD. In 1976-78 ethanol distillery was established which currently has the capacity to produce 142,500 LPD. The company later diversified into textile and liquid storage terminal which handles bulk storage cargo such as molasses, edible oil and ethanol. The company also produces liquefied CO2 with a production capacity of 18,000 metric tons per annum. The textile division is engaged in manufacturing of terry towels and other value-added textile products.

KATS Code	HABSM
Reuters Code	HABS.KA
Market Price	Rs 37.00
Target Price	Rs 47.10
Recommendation	BUY
Market Cap	Rs 5,550Mn (\$39.6 Mn)
Free float Market Cap	Rs 1,387.5 Mn (\$9.9 Mn)
1-Yr Avg. Daily Vol. (mn)	3,213
1-Yr High/ Low	Rs 47.25/32.22
Estimated free float(mn)	37.5
Share outstanding (mn)	150



Source: Reuters

## Financials

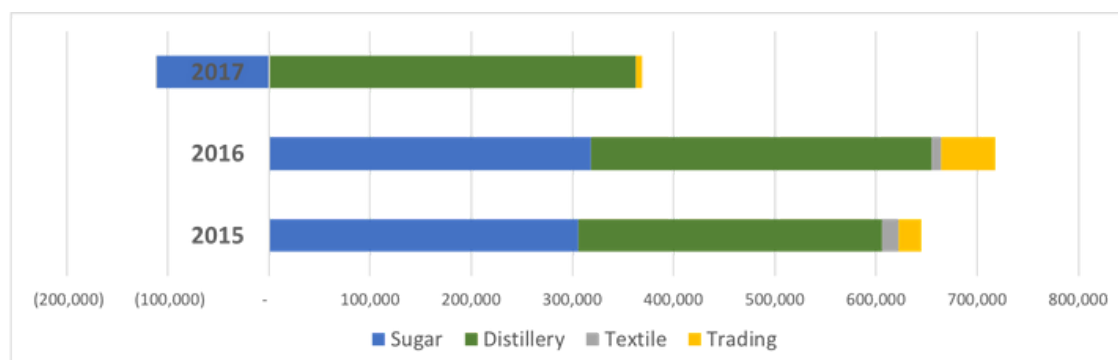
Habib Sugar Mills Ltd.					
Income Statement (Rs in 000)	2019E	2018A	2017A	2016A	2015A
Sales	8,630,218	7,758,520	7,134,930	8,517,094	8,197,388
Cost Of Sales	(7,515,366)	(6,484,368)	(6,544,790)	(7,499,710)	(7,222,293)
Gross Profit	1,675,705	1,274,152	590,140	1,017,384	975,095
Distribution Cost	(280,477)	(252,147)	(175,440)	(153,447)	(191,582)
Adminstration Cost	(170,992)	(176,524)	(157,764)	(146,174)	(138,593)
Other Operating Expenses	(56,883)	(56,883)	(32,054)	(54,350)	(67,585)
Impairment on AFS	-	(45,445)			
Other Income	220,546	162,419	246,099	253,120	360,694
Operating Profit	1,387,899	905,572	470,981	916,533	938,029
Finance Cost	58,637	53,204	26,436	54,429	32,201
Profit Before Tax	1,446,536	958,776	497,417	970,962	970,230
Tax	(144,654)	(57,500)	60,000	(146,000)	(155,000)
Profit After Tax	1,301,883	901,276	557,417	824,962	815,230
Ratios					
EPS (Rs)	8.68	6.01	3.72	5.50	5.43
Sugar Cane Crushed (M.Tons)	952,381	1,028,901	865,530	821,801	1,116,554
Sugar Produce (M.Tons)	100,000	106,005	86,316	88,271	116,513
Molasses Production (M.Tons)	180,952	135,285	182,774	175,538	163,846
Ethanol Production (M.Tons)	40,000	24,823	33,687	31,817	30,681
Sugar Recovery (%)	10.50%	10.3%	10.0%	10.7%	10.4%
Molasses Recovery (%)	19.00%	13.1%	21.1%	21.4%	14.7%
Ethanol Recovery (%)	18.30%	18.3%	18.4%	18.1%	18.7%
Gross Profit (%)	19.42%	16.4%	8.3%	11.9%	11.9%
Distribution % of sales	3.25%	3.2%	2.5%	1.8%	2.3%
Adminstration % of sales	1.98%	2.3%	2.2%	1.7%	1.7%
Effective tax rate (%)	10.00%	6.0%	-12.1%	15.0%	16.0%
Net Profit (%)	15.09%	11.6%	7.8%	9.7%	9.9%
Current Ratio (times)	-	-	1.96	2.23	2.42
D/E (times)	-	-	-	-	-
Gearing (times)	-	-	-	-	-

# HABIB SUGAR MILLS LIMITED

## Investment Hypothesis

### Diversified earnings base

Company's core earnings are generated from 4 divisions i.e. sugar, distillery, textiles and trading. 90% of the earnings compose of sugar and distillery division's performance out of which quality of distillery earnings is better. The mill's presence in Sindh enables it to achieve higher sucrose recovery rates, however depressed sugar pricing has been hurting the division's profitability. The company has recently increased the crushing capacity of the sugar division to 11,000 TCD through BMR which will enhance sugar production capacity and help lower sugar processing cost/ton. The textile division produces terry towels for exports but has been struggling for the past few years, however in 9MFY18 as reported by the company the division has earned an operating profit of Rs21.48 Mn (highest in 3 years) due to higher volumes, price and rebate availability for exporters under the textile package. We believe this division will continue to add support to the earnings base going forward. Trading division trades sugar and molasses and in a stable, to rising prices environment the division adds to the bottom line.



### Strong Investment Book

Company's investment comprises of HSM Energy Limited (100% owned subsidiary) – 26.5 MW Baggasse based co-gen power plant and a portfolio of financial assets which includes equity investment in Unifoods Limited (15.33% holding) - packaged cakes plant, Limited (12.5% holding) – 50MW wind power plant and listed securities portion which is valued at Rs16.77/share as on 31/12/2018.

HSM energy and Unienergy are not operational currently and under regulatory and tariff approval stage. Unifoods has turned profitable and over time we expect sales to pick up due to underway marketing efforts.

### Valuation

We have done SOTP based valuation of Rs 47.10 offering 27.29% from LDGP.





### About

Established in 1989, Sakrand sugar mill is located at Deh Tharo Unar, Taluka Sakrand District Shaheed Benazir Abad (Sindh) with a crushing capacity of 8,000 TCD. The company has recently ventured into by-product processing through organic compost fertilizer with an export focus.

### Change of management and focus

Since February 2017, the company has made multiple changes in personnel both at board level and at plant level with an objective to improve management. This led to stricter cost control and revenue maximizing measures.

**Debt reprofiling** – company paid the entire outstanding debt through equity right issue and a new syndicate long-term loan facility.

**Procurement cost control** – procurement cost of sugarcane/ton came down by 22% from 4,913.72/ton in Mar-2016 to 4,012.94/ton in Mar-2018.



KATS Code	SKRS
Reuters Code	SAKS.KA
Market Price	Rs 20.96
Target Price	Rs 29.94
Recommendation	BUY
Market Cap	Rs 935 Mn (\$6.6 Mn)
Free float Market Cap	Rs 240.62 Mn (\$1.7 Mn)
1-Yr Avg. Daily Vol.	252,991
1-Yr High/ Low	Rs 36.22/14.99
Estimated free float(mn)	11.48
Share outstanding (mn)	44.62

### Production efficiency and by-product processing to drive value

The company is currently working on achieving economies of scale through effective capacity enhancement by way of BMR and increasing total crushing capacity by expansion. These efforts will increase crushing capacity from 7,000 TCD to 12,000 TCD by MY20. We believe the effective capacity enhancement will be the game changer as the company will be able to crush more of cane and incur lower production cost of sugar/ton.

In an effort to diversify revenue base, the company in a recent notification to the bourse has informed about starting commercial production of organic compost fertilizer in the current crushing season and is targeting exports of 5,000-7,000 MT of fertilizer globally for use in organic farming. As per the notification, the company expects up to Rs 3/share addition to earnings from the said project. Though we see this as a positive development we have not incorporated this in our earnings estimate for MY19.



## Financials

Sakrand Sugar Mills						
Income Statement (Rs in 000)	2020E	2019E	2018E	2017A	2016A	2015A
Sales	6,245,653	4,996,522	2,347,521	2,347,921	1,528,013	2,613,738
Cost Of Sales	(4,716,350)	(3,712,600)	(1,725,812)	(2,343,397)	(1,703,121)	(2,616,494)
Gross Profit	1,529,303	1,283,922	621,709	4,524	(175,108)	(2,756)
Administration Cost	(209,186)	(198,178)	(88,861)	(78,639)	(257,280)	(143,853)
Distribution Cost	(15,389)	(8,980)	(8,663)	(3,194)	(3,765)	(4,283)
Other Operating Expenses	(5,125)	(5,125)	(33,220)	(15,126)	(8,667)	(372)
Other Income	1,889	1,889	287,807	331,616	3,040	1,776
Operating Profit	1,301,491	1,073,528	778,772	239,181	(441,780)	(149,488)
Finance Cost	(226,340)	(211,072)	(101,909)	(35,084)	(32,358)	(49,671)
Gain on loan Amortisation	-	-	-	19,850	15,341	8,580
Profit Before Tax	1,075,151	862,455	676,863	223,947	(458,797)	(190,578)
Tax	(322,545)	(258,737)	(134,817)	(26,687)	232,255	(37,582)
Profit After Tax	752,606	603,719	542,045	197,260	(226,542)	(228,160)
Ratios						
EPS (Rs)	16.87	13.53	12.15	4.42	(5.08)	(5.11)
Sugar cane crushed (M.Tons)	1,000,000	800,000	323,289	459,573	296,274	441,621
Sugar produce (M.Tons)	108,000	86,400	34,590	42,320	29,925	45,100
Molasses produce (M.Tons)	43,200	43,200	15,700	19,530	12,354	18,700
Sugar Recovery (%)	10.8%	10.8%	10.7%	9.2%	10.1%	10.2%
Molasses Recovery (%)	4.3%	5.4%	4.9%	4.2%	4.2%	4.2%
Gross Profit (%)	24.5%	25.7%	26.5%	0.2%	-11.5%	-0.1%
Distribution % of sales	0.2%	0.2%	0.4%	0.1%	0.2%	0.2%
Administration % of sales	3.3%	4.0%	3.8%	3.3%	16.8%	5.5%
Interest Cover (times)	5.75	5.09	7.64	6.82	(13.65)	(3)
Effective tax rate (%)	30.0%	30.0%	19.9%	11.9%	50.6%	-19.7%
Net Profit (%)	12.1%	12.1%	23.1%	8.4%	-14.8%	-8.7%
Current Ratio (times)	-	-	-	0.04	-	0.07
D/E (times)	-	-	-	0.41	0.40	0.29
Gearing (times)	-	-	-	0.46	0.62	0.44

## Valuation

SKRS's earnings in 9M18 were Rs9.10/share, our estimate for full marketing year 2018 earnings is Rs12.15/share. At the current price the stock is trading at 1.6x our estimated earnings, for a commodity stock with no current exposure in byproduct processing in order to arrive at a target price we have given a discounted multiple. Our target price for June 2019 is Rs 29.94 offering an upside of 42.87% from LDCP.

# KEY RISKS TO OUR ANALYSIS

## INDUSTRY

**Agricultural - climatic risk** – as sugar industry is heavily dependent on sugarcane yield and availability any detrimental impact on the crop due to change in climate can adversely affect sugar recovery levels.

**Regulatory risk** – as sugarcane pricing is controlled by the government any steep increase in the cane pricing mismatching subsequent increase in sugar pricing can lead to losses for the sugar mill as the cost of production increases beyond selling price.

**Unfavourable demand-supply dynamics** – as sugar pricing is driven by demand-supply dynamics, heavy supply side can keep sugar prices under pressure.

### Noon Sugar Mills (NONS)

- Higher procurement cost of sugarcane due to lower availability
- Increase in minimum support price (MSP) by the provincial government
- Delay in efficiency improvement measures
- A drastic decline in global ethanol prices
- PKR appreciation

### Mehran Sugar Mills (MRNS)

- Higher procurement cost of sugarcane due to lower availability
- Increase in minimum support price (MSP) by the provincial government
- Low sugar recovery
- Lower demand of CO2 in the domestic market
- A drastic decline in global ethanol prices
- PKR appreciation
- Lower demand for FMCG
- The dismal performance of the stock exchange may impact the value of the investment portfolio

### Habib Sugar Mills (HABSM)

- Higher procurement cost of sugarcane due to lower availability
- Increase in minimum support price (MSP) by the provincial government
- Low sugar recovery
- Lower demand of CO2 in the domestic market
- A drastic decline in global ethanol prices
- PKR appreciation
- Lower demand for FMCG
- The dismal performance of the stock exchange may impact the value of the investment portfolio

### Sakrand Sugar Mills (SKRS)

- Higher procurement cost of sugarcane due to lower availability
- Increase in minimum support price (MSP) by the provincial government
- Low sugar recovery
- PKR appreciation
- Delay in capacity expansion
- High-interest rates

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REP-091

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## Valuation Methodology

To arrive at the period end target price, Abbasi Securities uses different valuation methodologies:

- Comparable Method ( P/E, P/B etc.)
- Discounted Cash flow Method
- Equity and Asset-based valuation

## Rating

BUY Total Return more than 20% from the last closing of market price

HOLD Total Return is in between 10% and 20% from the last closing of market price

REDUCE Total Return is less than 10% from the last closing market price



GOT ANY  
QUESTIONS?

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