

Sugar Sector

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Sugarcane is one of the most important cash crops of Pakistan; it is a key input for sugar production along with paper and board industry. Pakistan belongs to the top 10 largest sugar producers in the world. Over the years, domestic sugar consumption has grown from 0.5m metric tons (MT) in 1975 to 4.7m MT in 2015 on the back of population growth. Per capita consumption of refined sugar in Pakistan was estimated at 25kg in FY15, notably higher vis-à-vis other Asian countries such as India and Bangladesh¹. Demand is interlinked with growth in processed food sectors such as candy, ice cream and soft drink manufacturers; they account for almost 60% of total domestic sugar consumption². Meanwhile, absence of major substitutes for sugar results in inelastic demand for the commodity.

Sugar manufacturing comprises several procedures including cleaning, slicing, extraction, evaporation and crystallization. On arrival of sugarcane at mill yards, it is passed through water and combing drums. Following the cleaning process, a machine shreds the cane into pieces. The shredded pieces move through a series of heavy-duty rollers which extract juice from the pulp. Lime and heat are used to remove impurities from the juice. Juice is then evaporated through a vacuum resulting in a syrupy extract. About two-thirds of water is removed through this evaporation. The syrup is then boiled at lower temperatures under vacuum and processed into crystals; it is sent to a centrifuge which spins and dries the crystals into raw sugar. Sugar crystals are re-purified for removal of molasses and other minerals. Lastly, evaporation and drying process is performed following which the final product is packaged and shipped.

Major by-products of sugar production are molasses and bagasse fiber. Local sugar millers process molasses into ethanol through their own distillery plants or sell it to local distilleries and exporters. Pakistan's sugar sector has the capacity to produce over 2.5m MT of molasses³. Moreover, sugar manufacturers mainly utilize bagasse for paper and chip board manufacturing and also as a raw material for in-house power generation.

Sugar production is primarily dependent upon its main raw material i.e. sugarcane. In Pakistan, a few firms purchase sugarcane from their own farms which may offer higher yields vis-à-vis national average. Moreover, sugar can be produced using sugar beet plant. Sugar beet is currently grown in Khyber Pakhtunkhwa (KP) and its area under cultivation as well as yield has been continuously declining. However, with relatively higher yield compared to sugarcane, sugar beet can be used as a substitute for domestic sugar production.

¹ Journal of Management and Social Sciences

² The Lahore Chamber of Commerce & Industry (LCCI)

³ PSMA Annual Report

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On a provincial basis, highest sugarcane production was contributed by Punjab followed by Sind and KP during FY15. As per provisional data, total sugarcane production declined to 63.2m tons (FY14: 67.4m tons). The decline was largely due to reduced cultivated area and flood damages during the year in Northern zone. However, sugar production is projected to increase to 5.4m MT (crushing season, 2014/15: 5.2m MT) during crushing season, 2015/16. Given the rise in output levels, surplus situation in sugar is expected to continue with domestic demand projected to witness a growth of 4.2% (FY15: 4.4%) in FY16. The table below depicts province-wise sugarcane production:

Province	Area (000s Hectares)			Production (000s Tons)		
	FY14	FY15 (provisional)	FY16 (projected)	FY14	FY15 (provisional)	FY16 (provisional)
Punjab	756	700	750	43,710	41,000	43,000
Sindh	298	310	300	18,360	16,670	17,500
NWFP	117	119	117	5,360	5,500	4,940
Balochistan	1	1	1	30	30	30
Total	1,172	1,130	1,168	67,460	63,200	65,470

Source: Provincial Agricultural Departments and FAS/Islamabad

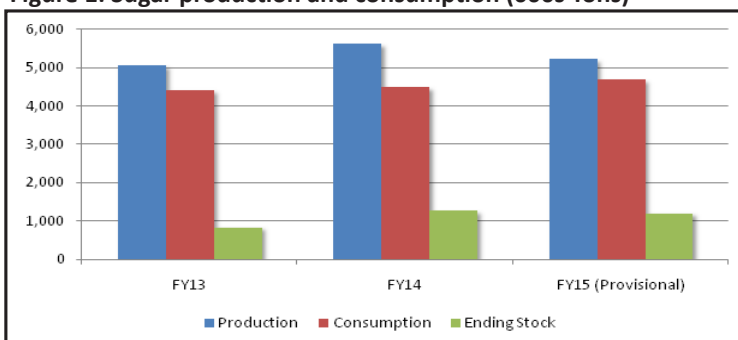
Figure 1 depicts the domestic sugar production and consumption pattern. Being the second biggest agro-based industry, sugar industry employs more than 1.5m people as direct or indirect labor. Employment is usually higher in the crushing season depending on availability of sugarcane. In addition, hundreds of indirect opportunities are created in the form of daily wage-based work and transportation contracts.

A total of 86 sugar mills are present in the country. Sugar mills in Pakistan are pre-dominantly owned by the private sector. Out of 86 sugar mills, 44 mills are located in Punjab, 33 mills in Sind and remaining mills are located in KP. About 43% of sugar mills in Pakistan are listed on Karachi Stock Exchange (KSE).

Given that prices for processed sugar are usually determined by market forces, government control is more stringent in setting up support prices of sugarcane. However, the government may also intervene in imposing trade controls over import and export of sugar and controlling sugar supply either by purchasing or selling sugar. More than 20% of world demand is represented by sugar trade. During FY15, sugar exports from Pakistan declined to 0.6m MT (FY14: 0.7m MT) while imports remained low at 0.1m MT.

The regulated environment often results in a cost-price mismatch where increase in retail sugar

Figure 1: Sugar production and consumption (000s Tons)



Source: USDA Foreign Agriculture Service

prices is not commensurate with increase in raw material costs including sugarcane, energy, labor etc. Over the past four years, sugarcane prices increased by CAGR of 7.5% while average retail sugar price registered an overall decline. Given the slow pace of inventory turnover, sugar producers generally experience a weak liquidity position to make timely payments to growers and banks, thereby incurring additional finance cost. Some players in the sector are diversifying their revenue base by initiating power projects, which would help in supporting margins.

Table 2: Comparison of sugarcane procurement prices (Rs.) by provinces with average retail price of sugar (Rs.)

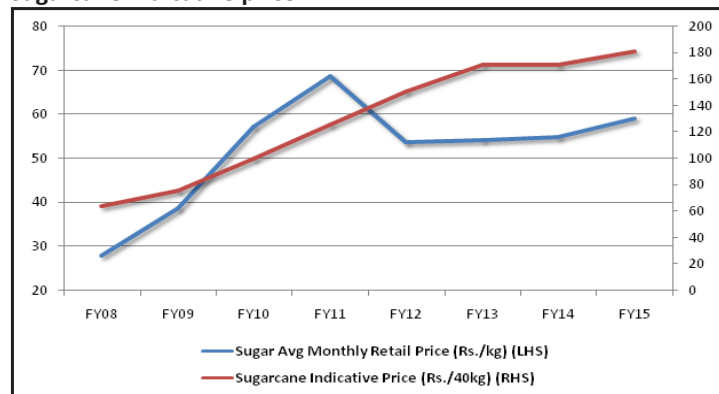
Year	Punjab*	Sindh	KP	Avg. Sugar Retail price/Kg**
FY11	125	127	125	64.5
FY12	150	152	150	56.5
FY13	170	172	170	53.4
FY14	170	172	170	54.2
FY15	180	182	180	59.0***

* Price is per 40kg
 ** season average monthly retail prices
 *** for the period Jan-Aug 2015

Source: USDA Foreign Agriculture Service

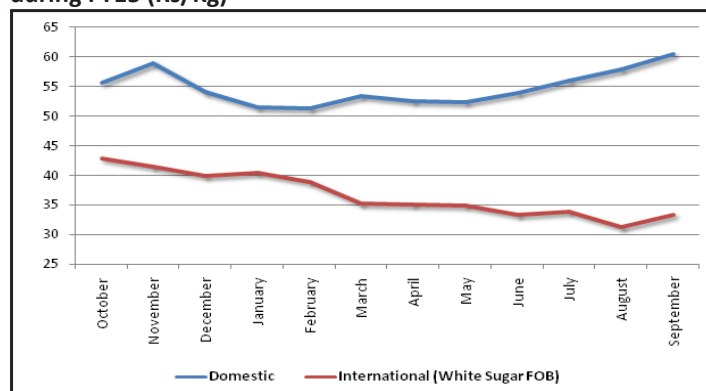
Variation in sucrose recovery rate in sugarcane across the country has a direct impact on cost of manufacturing and profit margins amongst different producers. Recovery rate of sugar is primarily dependent upon favorable weather, availability of water, type of sugarcane seed and soil conditions. Given suitable conditions, Sindh and Southern Punjab generally have better recovery rates as compared to other parts of the country. Despite the recovery rates, all sugar mills incur the same cost of raw material. As a result, mills operating in high recovery area have a competitive advantage over others on account of differential in manufacturing cost per unit.

Figure 2: Comparison of average sugar monthly retail price with sugarcane indicative price



Going forward, sugar prices are largely expected to be determined by competitive forces in the local market. Government measures including establishment of an export quota and subsidy to support additional exports could be rendered ineffective in FY16 given the large gap between domestic and international sugar prices. Meanwhile, imposition of 40% import tariff by Government in June 2015 is likely to provide support to domestic sugar millers.

Figure 3: Average sugar monthly domestic vs. international prices during FY15 (Rs/Kg)



Pakistan is the world's sixth largest producer of sugarcane in terms of acreage and the eighth largest producer of sugar. However, per hectare yield of sugarcane in Pakistan is significantly low vis-à-vis global averages. Recovery rate has also ranged between 9-10% over past couple of years compared to developed countries where average recovery rate is over 10%. Trends in this respect are tabulated in Table 3 below.

Year	Cane Area (Hec)	Cane Prod. (Tons)	Cane Yield (Ton/Hec)	World Avg. Cane Yield	Sugar Yield (Ton/Hec)	Sugar Recovery
FY13	1,111	59,240	53.3	70.6	5.4	9.7%
FY14	1,178	63,354	53.8	70.8	5.3	9.9%
FY15	1,101	58,800	53.4	70.9	-	-

Source: USDA Foreign Agriculture Service

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