

REFORMING STATE-MARKET NEXUS IN PAKISTAN'S SUGAR SECTOR: ANALYSIS, RECOMMENDATIONS AND ROADMAP



By Tuaha Adil & Ali Salman

ABOUT PRIME

Policy Research institute of Market Economy (PRIME) was established in January 2013 in Islamabad as an independent economic research and advocacy organization by economist Ali Salman. It is the leading voice for open trade and economic freedom in Pakistan. PRIME has played a lead role in national debates on public debt, open trade, tax reforms and business regulations. It is included in Asia-Pacific top 100 think tanks by the University of Pennsylvania's Think Tank Index.

The report titled "Reforming State-Market Nexus in Pakistan's Sugar Sector: Analysis, Recommendations and Roadmap" evaluates the performance of sugar sector in Pakistan by analyzing the trends in key indicators, government policies and trade potential. The report tries to debunk the market perception of sugar mafia manipulating the sector for personal gains and highlights the existential distortions emanating from excessive government regulations. The report provides a roadmap to carry out reforms for better performance of the sector.

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EXECUTIVE SUMMARY

In 2020, the Government of Pakistan conducted an inquiry into the sugar industry. The inquiry committee found irregularities in the sugar mills and claimed the prevalence of cartelization by sugar mills. Later the government constituted a committee to suggest recommendations for the overhaul of the sector and promote price stability. The committee also acknowledged the prevalence of excessive regulations and their contribution to the distortions and recommended removal of the excessive administrative footprint.

This report by PRIME is an attempt to reform state-market nexus in Pakistan by analyzing sugar sector, which cuts across our agriculture and industrial sectors and presents a rich case study of how regulations influence outcomes. The report analyzes the sugar market for a period of 10 years from 2011 to 2022, assesses the laws and policies related to the sugar sector, and puts forth the necessary reforms.

The sugar industry comprises 6 percent of the manufacturing sector and 13 percent of crop economy. The sugar sector provides direct employment to 1 million people and has a market size of Rs. 501 billion as of 2021.

The government has continuously increased the support price on sugarcane from Rs. 126/40kg in 2011 to Rs. 300/40kg in 2022 to incentivize farmers to increase sugarcane production. Since 2011, sugar production in the country has shown a cumulative growth of 36 percent compared to a 42 percent growth in the demand for sugar.

The report recognizes that the sugarcane cultivation as a percentage of the total cropped area increased from 4.3 percent in 2011 to 5.0 percent in 2021. However, the total cropped area in the country has remained stagnant for the last 4 years while the sugarcane cultivation area has declined recently.

The report highlights the following issues:

- Government footprint is everywhere in the sugar market- from support price to price ceiling include restrictions on import and export.
- The domestic price of sugar in Pakistan has historically remained higher than international prices with some exceptions.
- Farmers face delays in payments and low income due to lower price of sugarcane paid by the mills as compared to the support price announced by the government.
- Sugar mills' owners are concerned about liquidity crunch and possibility of default due to export restrictions on the mills to sell the sugar stock in the international market.

These issues call for a redesigning of the structure of the sugar market and contemporary policies to remove the underlying bottlenecks and outlining necessary reforms. While acknowledging improvements in the sectoral growth, the transformation of the sugar sector for better performance and efficiency requires the following reforms on the domestic and external fronts:

1. The incentive structure should be re-designed for competitive returns, which is linked to the quality of the crop to encourage farmers to improve the quality of crop and earn higher incomes.
2. The retail price of sugar should also be determined by the market forces depending upon the supply and demand of the commodity.
3. The government should ensure the implementation of laws and sugar mills should be forced to make timely payments to the cane growers without any deductions.

4. The export of sugar should be allowed throughout the year to prompt cane growers and mills to not only focus on domestic demand but to increase their production for meeting international demand.
5. The productivity and yield of the crop could be enhanced by ensuring access to capital for farmers to minimize their dependence on informal market and sugar mills.
6. The requirement of licensing for the expansion of mills should be removed to increase the manufacturing capacity of mills and encourage competition.
7. The government should also devise a mechanism for accurate and timely collection of data for better monitoring of available stocks and better policy formulation.
8. The government needs to ensure the continuity of policies and remove uncertainty created by policy changes through frequent SROs.
9. The import of raw sugar should be opened on a permanent basis by lowering the tariffs and taxes to ensure the availability of sugar in the country and promote price stability.
10. In case of significant shortages and/or maintain a check on tendency of cartelization, the government should allow commercial import of refined sugar.

1. INTRODUCTION

Sugar is an important daily use household ingredient in Pakistan¹. The importance of sugar can be illustrated by the fact that Pakistan is ranked 7th in the world in terms of sugar production and 8th in consumption², average per capita consumption of sugar is 25 kg³. Domestic sugar consumption hovered around 5.8 million tonnes (MT) in 2021 while domestic sugar production was 5.7 MT. Furthermore, the sugar industry encompasses 6 percent of the manufacturing sector, provides direct employment to around 1 million people⁴ and indirect employment to around 5 million people, while the market size increased to Rs. 501 billion in 2021 from Rs. 355 billion in 2020.

The sugar sector receives a lot of media attention because of its importance and impact on the consumption patterns of the people. Sometimes, the consumers face price fluctuations and at times, shortages. All the stakeholders in the supply chain of the sector complain about inefficiencies and distortions. The literature on the topic encompasses research usually on the performance of the sector and trends in variables. However, the literature lacks attention to actually analyze the bottlenecks emanating from the policy and government regulations. This calls for a comprehensive analysis of the present market structure and a need to reform policies better suited to local dynamics, which are sustainable and result oriented. This report intends to draw attention to the laws governing the sector, regulations at the federal and provincial levels, and administrative controls adopted by the governments to ensure consumer welfare. The

questions regarding distortions in the entire sugar sector emanating from policy viewpoint will be addressed in the report.

This report comprises following sections; section 2 will focus on the performance of sugar sector by analyzing the trends in variables, section 3 will focus on laws and regulations, section 4 will revolve around the inquiry carried out by the government into the sector, section 5 will highlight the recommendations of sugar sector reforms committee, section 6 comprises reforms to improve the performance of the sector, section 7 will provide a roadmap to implement the reforms and section 8 will highlight the short-term and long-term implications of the reforms.

¹ Acknowledgements: Authors are grateful to Mr. Muhammad Amin (Chief, Agriculture Policy Institute), Ms. Shaista Gilani (Former Member, CCP), Mr. Asim Ghani Usman (Chairman PSMA), Mr. Zaka Ashraf (Chairman PSMA Punjab), Mr. Iskandar Muhammad Khan (Senior Vice Chairman, PSMA), Dr. Uzma Zia (Senior Research Economist, PIDE), Chaudhry Muhammad Anwar (President, Pakistan Kissan Itehad), Mr. Aamer Hayat Bhandara (Director, Hayat Farms), Rana Iftikhar (Chairman, Research and Development Board Sugarcane Research Institute Faisalabad), Mr. Abdul Wajid Rana (Program Leader, International Food Policy Research Institute) and several other individuals for providing valuable feedback on the report and during consultation.

² The Sugar Industry of Pakistan—Understanding Structural and Regulatory Underpinnings of the Current Sugar Crisis, PIDE

³ Sugar Sector Report 2021, Pakistan Credit Rating Agency (PACRA).

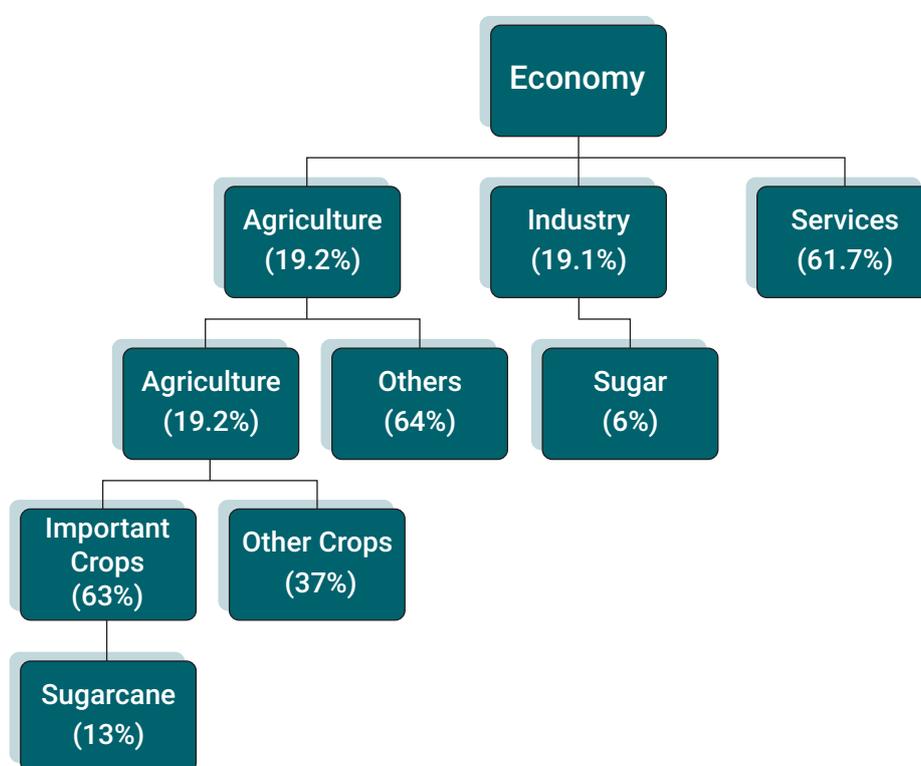
⁴ Sugarcane cluster feasibility & transformation study 2020, Ministry of Planning and Special Initiatives.

2. OVERVIEW OF SUGAR MARKET

The economy of Pakistan is classified into Industry, Agriculture and Service sectors. The contribution of sugarcane and sugar in economy is illustrated in Figure 1. In agriculture sector, crops have a share of 36 percent among which important or cash crops have a share of 63 percent while other crops have a share of 37 percent. The contribution of sugarcane in

important crops is around 13 percent. Whereas, in the industrial sector, the contribution of sugar is around 6 percent. The production of sugarcane accounted for 3.4⁵ percent in agriculture's value addition and 0.7⁶ percent in GDP in 2021.

Figure 1: Contribution of Sugar in Economy



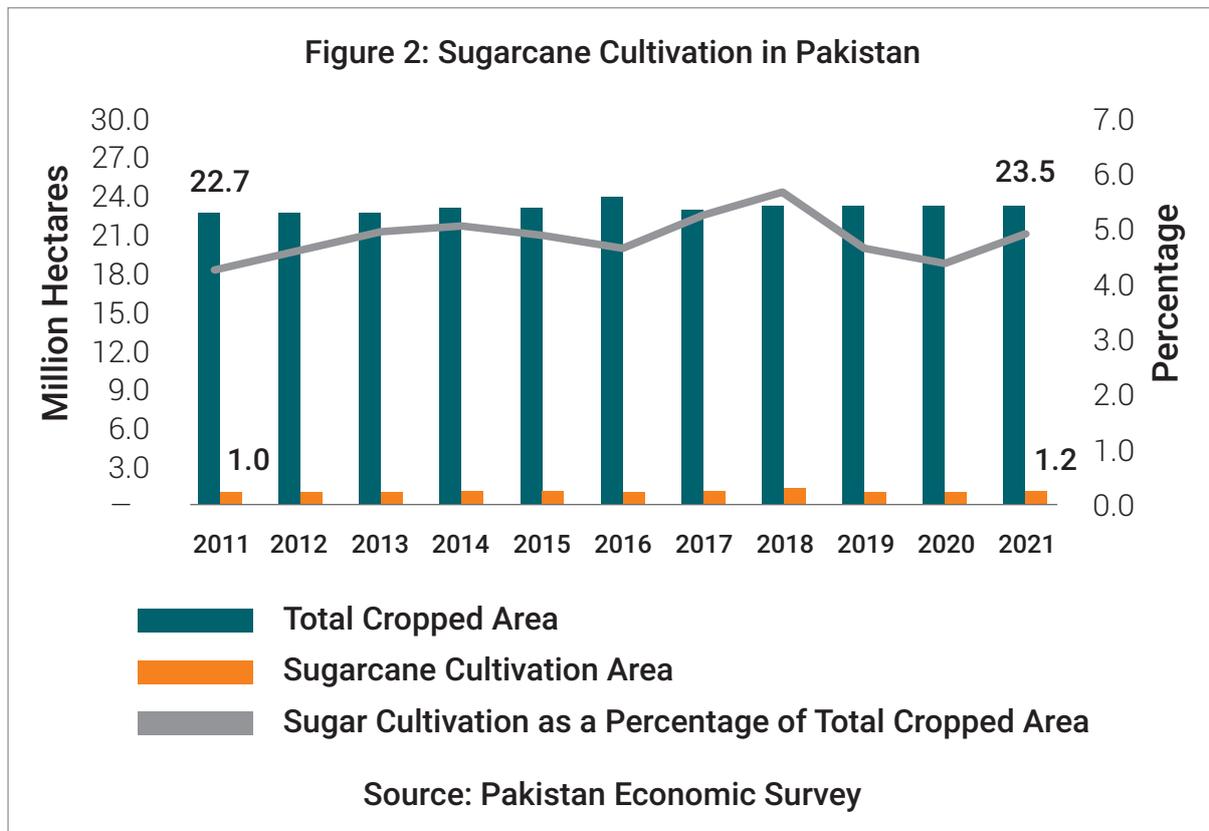
⁵Source: Pakistan Economic Survey 2021.

⁶Ibid.

2.1. Sugarcane cultivation area and production

The output of the agriculture sector in Pakistan has not shown any significant improvement due to stagnancy in the cultivation area (Figure 2). The total cropped area of Pakistan has remained the same from last four years, stood at 22.7 million hectares (Mha) in 2011 and increased to 23.5 Mha in 2021. Furthermore, the sugarcane cultivation area increased from 0.9 Mha in 2011 to 1.2 Mha in 2021. The sugarcane cultivation area reached its

maximum of 1.3 Mha in 2018. The sugarcane cultivation area as a percentage of total cropped area was 4.3 percent in 2011 and rose to 5.0 percent in 2021. However, the percentage dropped in 2019 and 2020 to 1.1 percent and 1 percent due to fall in sugarcane cultivation area where total cropped area has remained the same.



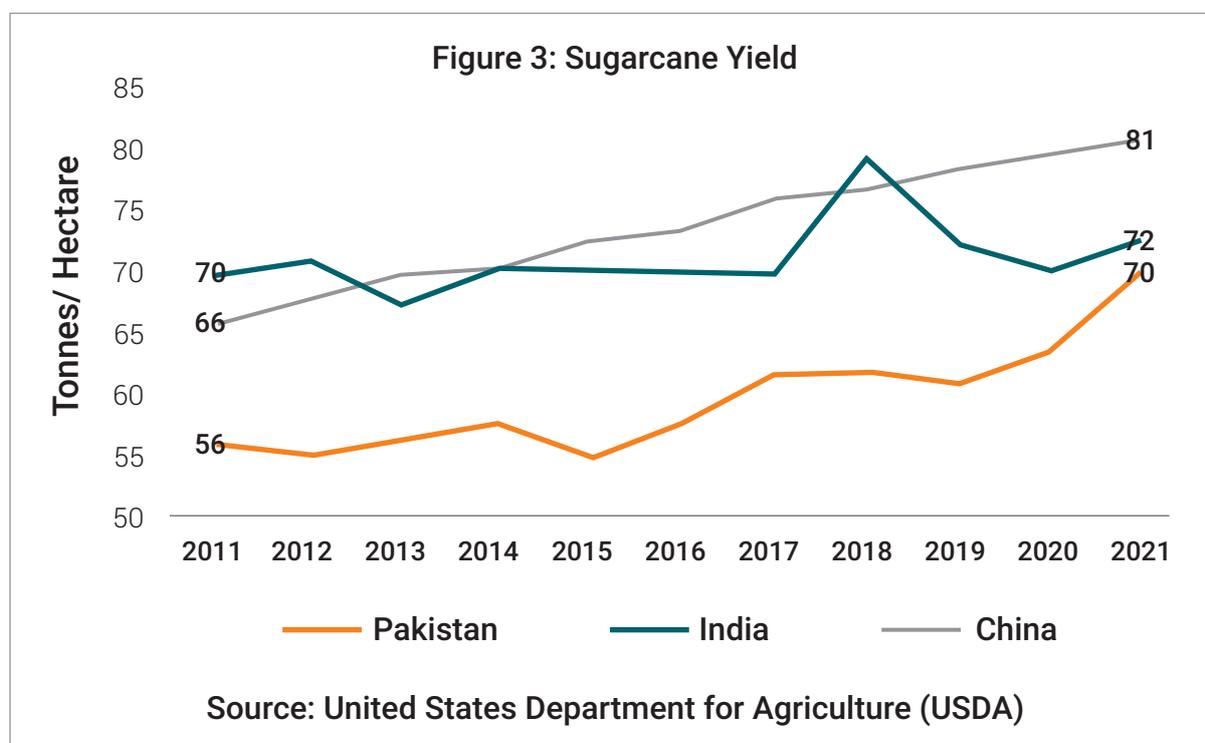
2.2. Sugarcane yield in Pakistan

The sugarcane yield is an important indicator which illustrates the performance and efficiency⁷ of the agriculture sector. Higher the crop yield, higher will be the efficiency and food security. The sugarcane yield in Pakistan stood at 56 tonnes per hectare (T/H) and rose to 70 T/H in 2021 (Figure 3). In contrast, the sugarcane yield in India and China was 66 T/H and 70 T/H in 2011 and increased to 72 T/H and 81 T/H in 2021. Although the sugarcane yield in Pakistan has shown an improvement of 25 percent in last decade, yet it is much lower than the China, which indicates lower efficiency and higher potential for improvement.

The improvement in the crop yield and increase in sucrose recovery are contingent upon the availability of better quality seeds, efficient farming methods and efficiency of sugar mills, which depend upon access to capital. Majority of sugarcane growers have small land holdings thus implying scarcity of capital and inability to purchase better quality seeds and adopt modern farming techniques. The government collects tax as Sugarcane Cess Fund for the development of

sugar market. The Cess amount collected from 2015-2018 was Rs. 780 million and collected from 2018-2020 was Rs. 700 million. However, these funds remained under-utilized and sometimes remained unutilized due to lack of coordination, planning and decision making⁸.

The sugarcane crop development and research has been slow in the country due to climatic issues and lack of funds. The Sugarcane Research Institute, Faisalabad is the leading research body in Punjab and has developed 4 varieties in last 10 years i.e. CPF 246, CPF 247, CPF 248 and CPF 249. The National Sugar and Tropical Horticulture Research Institute is the leading research body in Sindh and they have developed 3 varieties in last 10 years i.e. Thatta 2109, Thatta 326 and Thatta YT-55. Moreover, the Crop Research Institute, Mardan is the leading research body of KPK province and has developed 4 varieties i.e. Israr Shaeed SC, Abdul Qayum, Mardan 2021 and Gul Rehman.



⁷The yield represents the amount of crop produced per unit of the land area

⁸Sugarcane Policy Analysis 2021-22 Crop. Agriculture Policy Institute, MNFS&R.

2.3. Water utilization and efficiency

Sugarcane is cultivated in the irrigated land, and it is a highly water intensive crop. The amount of water used to cultivate sugarcane crop commensurate to 100 litre/day, which is sufficient to cover 42 percent of the water requirement of the total population of Pakistan (Anjum and Zia, 2020). The water efficiency of crop could be reflected by analyzing the revenue generated from one liter of water used in sugarcane production as compared to the competing crops. The amount of water used to generate Re 1 from sugarcane production generates Rs. 1.7 from rice production and Rs. 3 from cotton and maize production

(Qureshi, Siddiqui and Zia, 2020). The estimation indicates that water use efficiency of rice, maize and cotton is greater than the sugarcane. Pakistan being a water scarce country needs to promote efficient use of water, which may require shift towards other crops and implementation of pricing mechanism. Currently, nonexistent water pricing mechanism lacks to discourage cultivation of water intensive crops and contributes to lower agriculture sector productivity.

2.4. Access to capital in Sugar Market

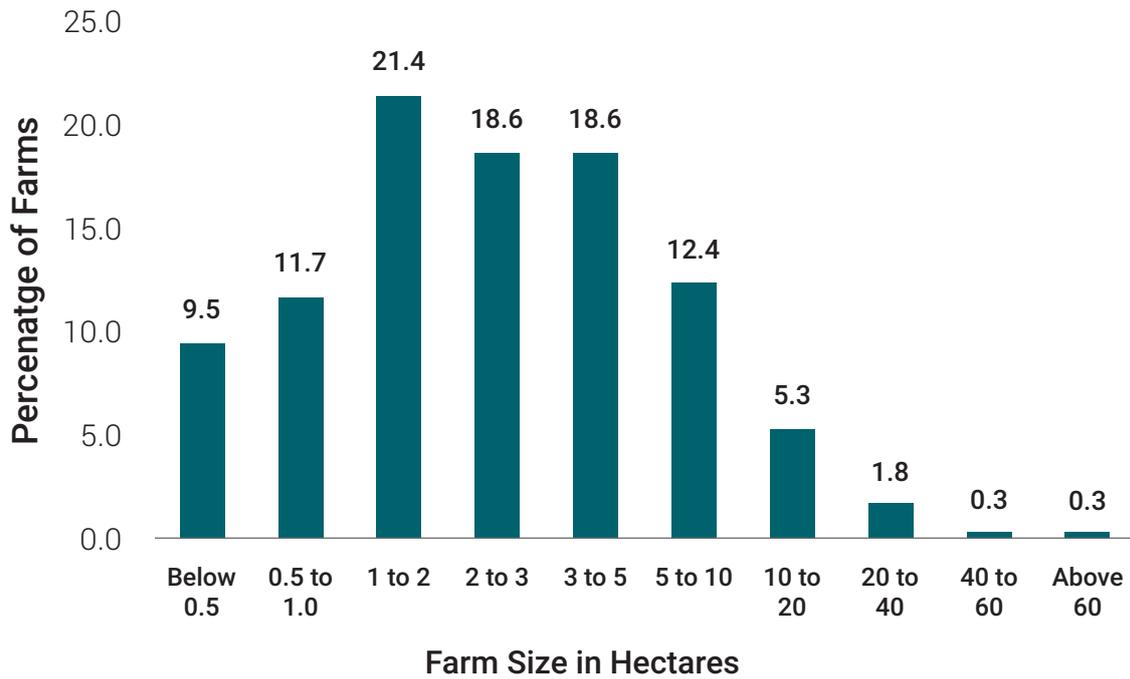
The analysis of the access to capital first requires knowledge of the distribution of sugarcane farms based on size to better understand the market dynamics. The sugarcane farm holdings are mostly small in Pakistan (Figure 4)⁹. The majority of small farm holdings illustrates scarcity of capital to wider segment of sugarcane growers. In Pakistan, 80 percent of the farms are less than or equal to 5 hectares while the proportion of farms greater than 5 hectares is around 20 percent. Majority of the sugarcane growers do not own the required capital to cultivate the crop and needs to borrow money from banks, middlemen/arties or sugar mills.

The access of farmers to formal banking channels and financial institutions is limited and higher interest rates makes it more difficult for farmers to borrow funds from banks. The outstanding credit to sugarcane growers declined from Rs. 39 billion in June 2019 to Rs. 32 billion in December 2021 (Figure 5). Resultantly, farmers have to resort to informal credit sources to cultivate sugarcane. In contrast, the sugar mills, with higher resources

and more outreach, have greater access to formal credit. The outstanding credit to sugar manufacturers stood at Rs. 280 billion in June 2019 and slightly declined to Rs. 273 billion in December 2021. The limited availability of capital to farmers prevents them to acquire better quality seeds, adopt modern farming techniques and increase the yield of the crop.

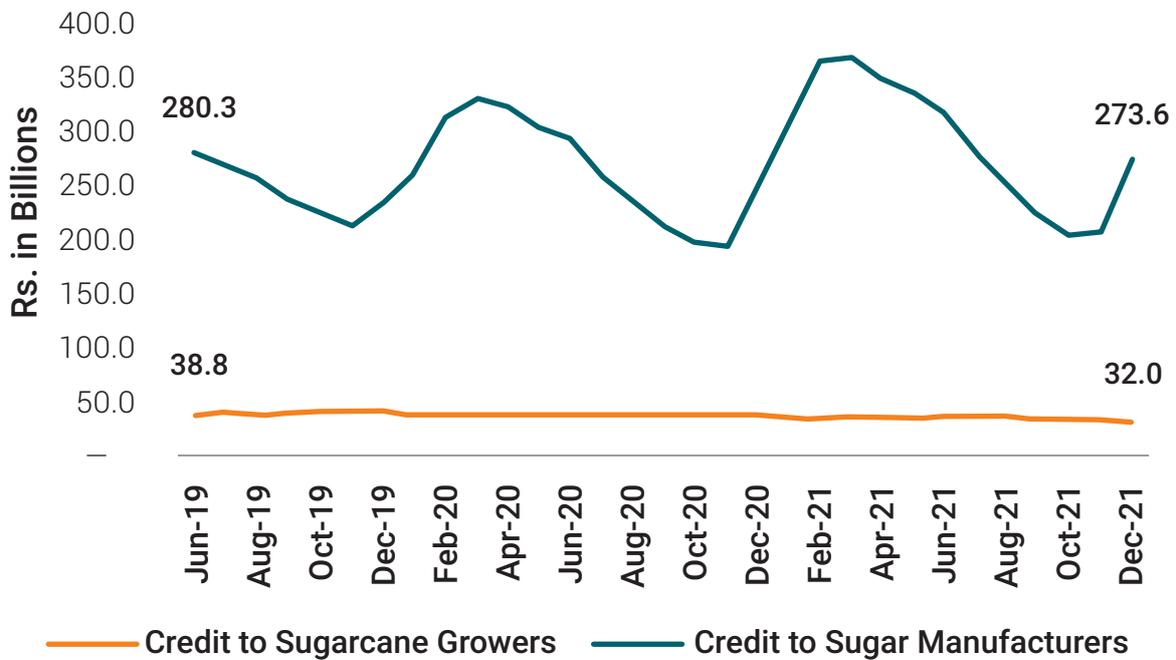
⁹ The data on farm size has been taken from Agriculture Statistics of Pakistan Report 2021, MNFS&R. However the data reported in the report is from Agriculture Census 2010 after which no census has taken place to determine the sugarcane farm sizes.

Figure 4: Distribution of Sugarcane Farms



Source: Agriculture Statistics of Pakistan 2021, MNFS&R

Figure 5: Outstanding Credit to Sugar Sector of Sugarcane Farms

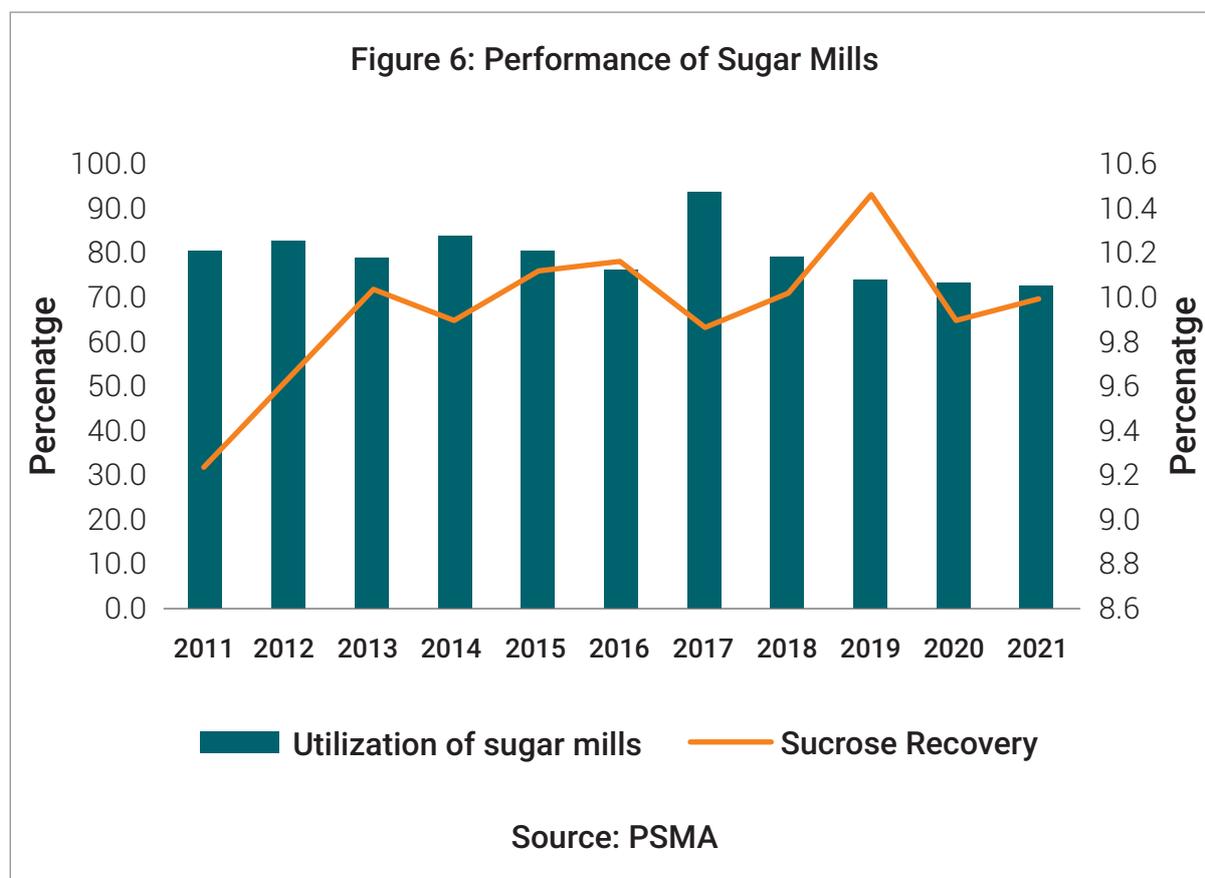


Source: State Bank of Pakistan

2.5. Efficiency of sugar mills and sucrose recovery

The analysis of the performance of sugar mills is imperative to assess the efficiency of the sugar market. The utilization of sugar mills and sucrose recovery are illustrated in Figure 6. The utilization of sugar mills was 80 percent in 2011, reached its maximum of 94 percent in 2017, and declined to 76 percent in 2021. The low utilization of sugar mills results from shortage of sugarcane and illustrates the fact that sugar mills encompass the capability to increase the production given the availability of more sugarcane. Another important indicator is the sucrose recovery rate, which represents quality of crop cultivated. The sucrose recovery rate ranged from 9.3 percent to 10.5 percent; it was 9.3 percent in 2011, reached its maximum of 10.5 percent in 2019 and declined to 10 percent in 2021 (Figure 6). In contrast, the recovery rate in India is around 11 percent from previous 5 years average of 11.5 percent. However, the government of India encourages the

improvement in recovery through additional payment of INR 2.9 per quintal for every 0.1 percent recovery greater 10 percent and deduction of INR 2.9 per quintal for every 0.1 percent recovery less than 10 percent¹⁰. Moreover, the recovery rate in China ranges from 12 percent to 13 percent¹¹. The recovery rate in Pakistan is slightly less than India and China. The low sucrose recovery rate implies the use of low quality seeds resulting in lower production of sugar; however, it can also result from the delay in crushing as the level of moisture declines with the delay. Therefore, the country has the capability and infrastructure to enhance the production of sugar but attention is required to increase the production of sugarcane with the use of better quality seeds.



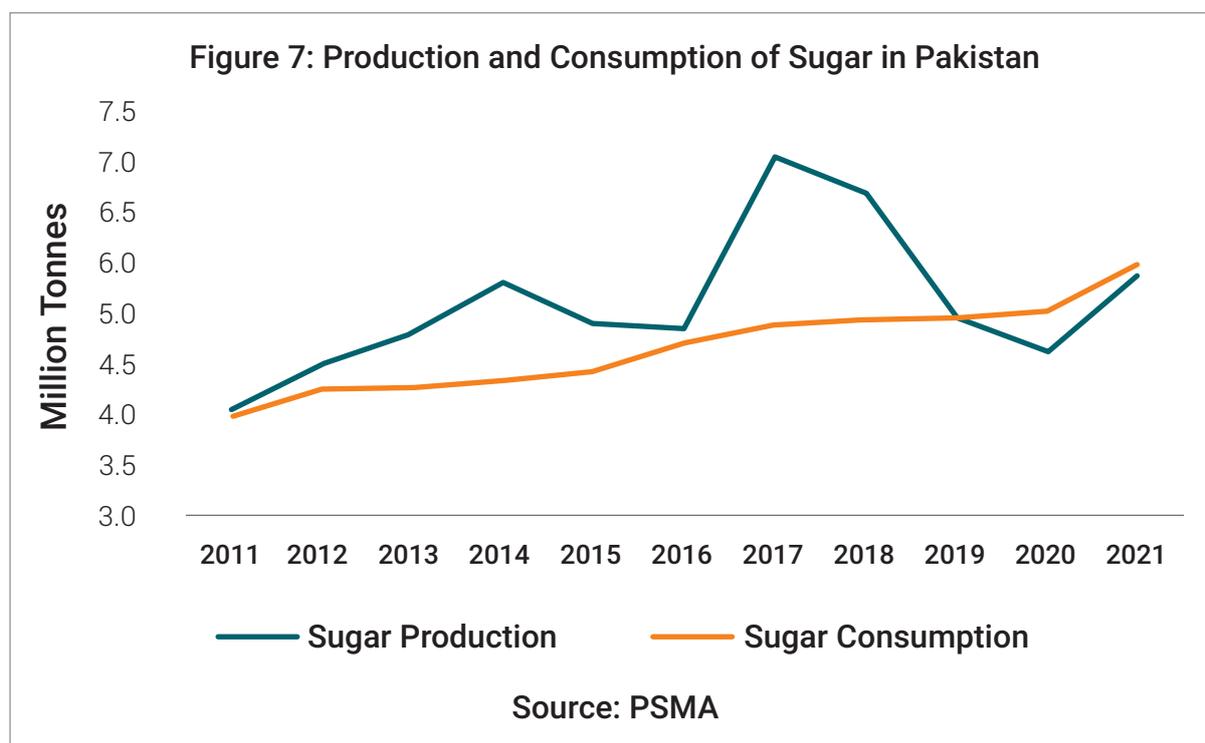
¹⁰ Sugar Annual India 2021 by Ankit Chandra. United States Department of Agriculture (USDA).

¹¹ Sugar Annual China 2022. United States Department of Agriculture (USDA)

2.6. Production and domestic consumption trends of sugar

The consumption of sugar is not high in Pakistan compared to the world as the average per capita consumption of the country is around 25 kg¹² compared to the world average of 48 kg. The production and consumption trends of sugar in Pakistan is illustrated in Figure 7. The production of sugar stood at 4.2 MT in 2011 while it reached maximum of 7 MT in 2017 and declined to 5.7 MT in 2021, a growth of 36 percent in 11 years. In contrast, the consumption increased from 4.1 MT

in 2011 to 5.8 MT in 2021, a growth of 41.5 percent. Although the production of sugar has remained high in the country as compared to the consumption, yet the trend changed in 2019 when consumption surpassed the production in the country. Moreover, the growth in consumption is last 11 years is also greater than the production, which highlights the underlying reason of shortage in the country.



¹² Source: Sugar annual report 2021, Pakistan Credit Rating Agency.

2.7. Price fluctuations

Price is an important indicator as it regulates the production and consumption behaviors, at least in open markets. The support price of sugarcane, which is indicative, and the retail price of sugar are determined by the government. The government has implemented support price mechanism for sugarcane in the country to ensure decent returns to the farmers. The support price of sugarcane stood at Rs. 126 per 40 kg in 2011, and with frequent raises, it reached Rs. 201 per 40 kg in 2021, an increase of more than 59 percent in last 11 years (Figure 8). The higher price of sugarcane increases the input cost of sugar mills, and thereby, contributes to higher retail price of sugar, which is also determined by the government. The domestic price of sugar stood at Rs. 74 per kg in 2011 and increased to Rs. 98 per kg in 2021, an increase of 33 percent in 11 years (Figure 9). The domestic and international price comparison of sugar is done in dollar per tons. It can be seen that

domestic price of sugar has remained higher than the international price in most of the years; domestic price was higher by \$65 in 2011, \$91 in 2016 and \$101 in 2021. The price difference has increased gradually in the period under review. The reason behind higher increase in domestic price of sugar as compared to the international price is higher costs of inputs and low efficiency of the sector.

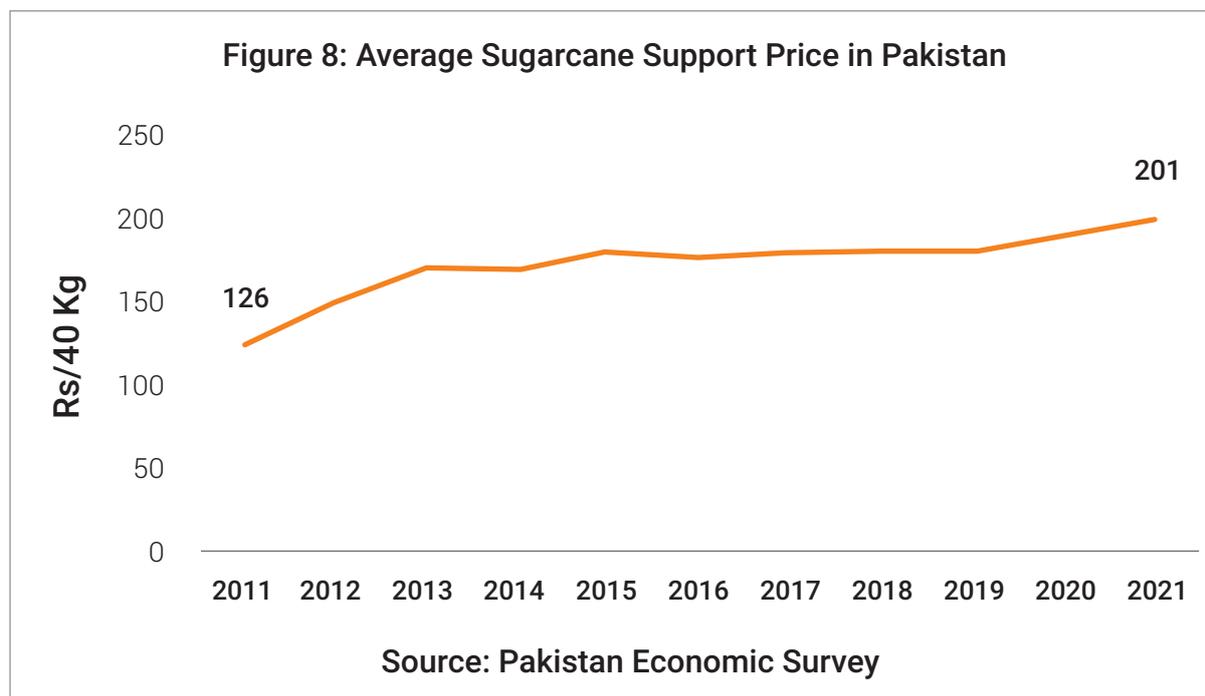
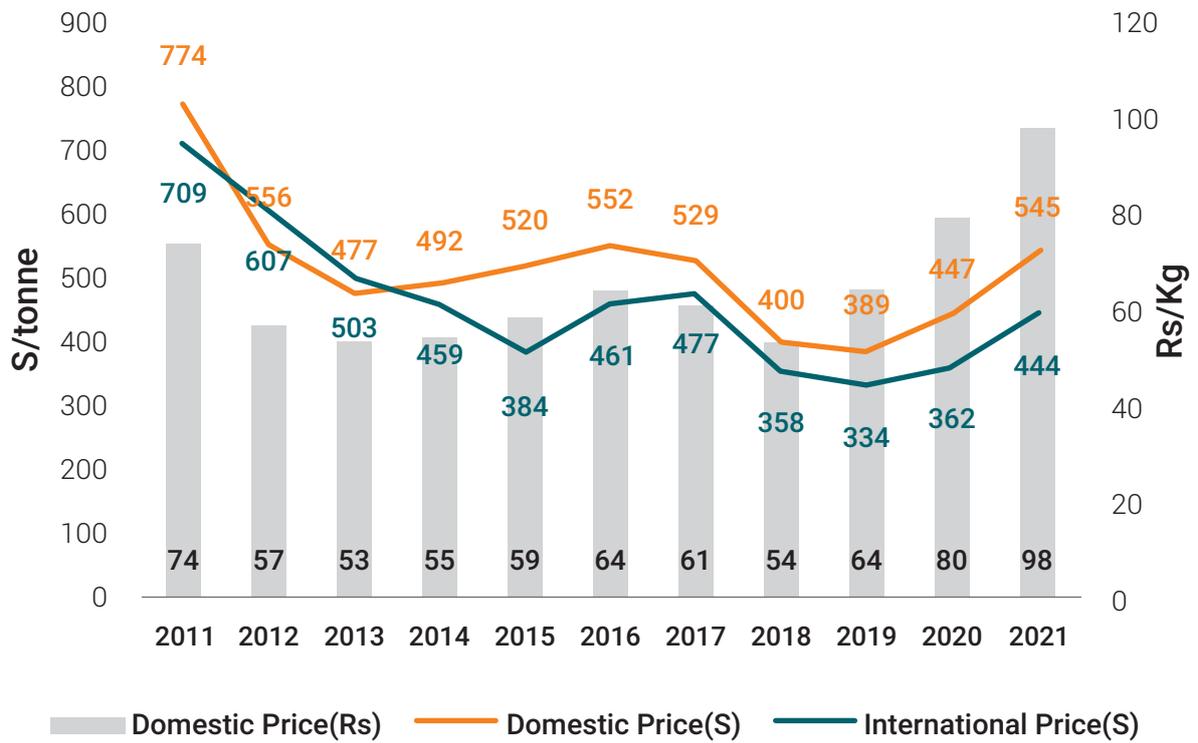


Figure 9: Domestic and International Prices of Sugar

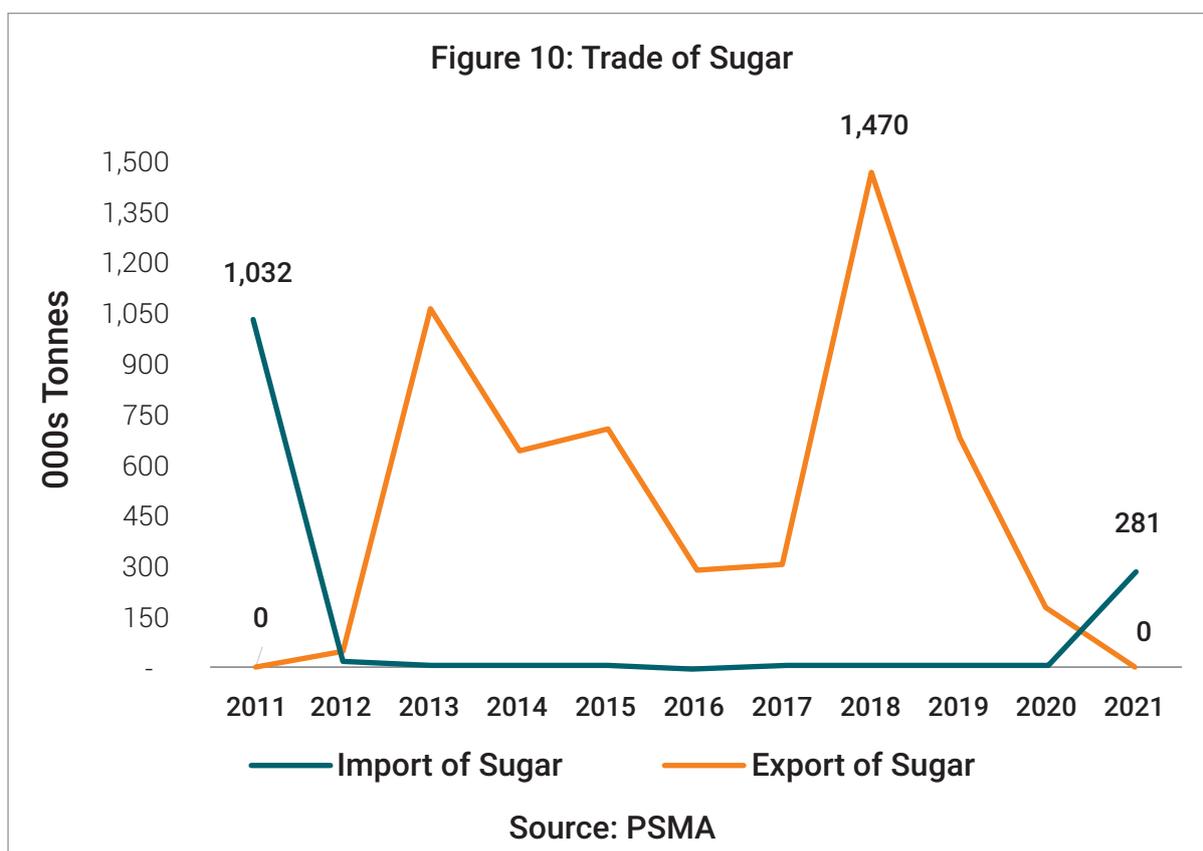


Source: PSMA

2.8. Trade pattern

The international trade of sugar is restricted in the country. When there is a shortage of sugar in the country, the tariffs and regulatory duties are rescinded through Statutory Regulatory Orders (SROs) applicable for specific time period to carry out imports after the approval from the government. The import of sugar has been low compared to the exports. Pakistan imported 1 MT of sugar in 2011 and then the import dropped significantly (Figure 10). In contrast, export of sugar has remained volatile depending upon the production and available stocks in the country. Pakistan exported 1 MT of sugar in 2013, exported highest of 1.4 MT in 2018, and since then, exports

declined to nil in 2021. The main reason behind unsustainable exports is sector's inefficiency and higher domestic price of sugar as compared to the international price; therefore, the government has to pay subsidy to the mills to cover their costs. The total subsidy provided by government in last five years was Rs. 29 billion¹³.



¹³ The subsidy data has been taken from Forensic Audit Report of Inquiry Commission.

3. POLICY ANALYSIS

The country's sugar policy to date revolves around the four objectives: ensuring self-sufficiency, affordability of sugar for consumers, protection of farmers and profits for mills. To achieve self-sufficiency, the government has maintained support prices of sugarcane and provided protection to the native sugar industry by imposing restrictions and tariffs. Moreover, the government has administered the marketing of white sugar including its rationing at fixed prices to maintain its prices low for consumers.

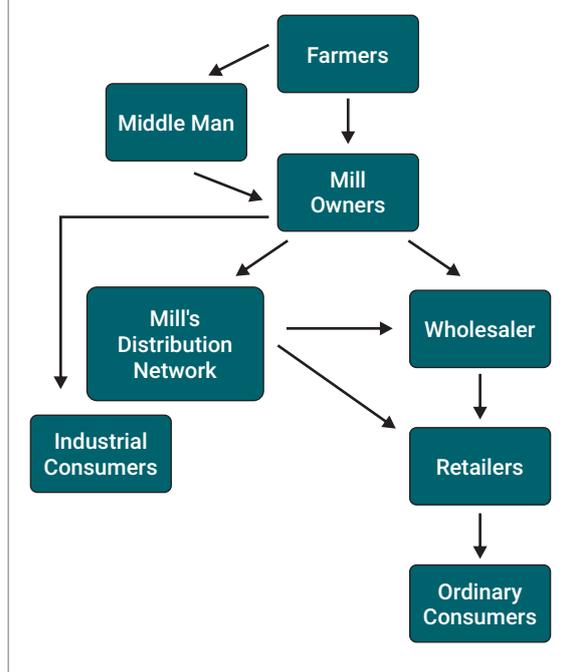
The analysis of policy requires the understanding of sugar supply chain, as manifested in Figure 11. The sugar market in the country is regulated by federal and provincial governments where majority of regulations are made and carried out by provincial governments as a result of 18th Amendment to the Constitution of 1973 because the agriculture sector was made a provincial subject.

This section will analyze the laws and regulations promulgated by the governments throughout the supply chain from cultivation of sugarcane to the distribution of sugar in the retail market.

3.1. Sugarcane cultivation and pricing

In Pakistan, sugarcane production varies depending on how the level of government support influences farmers' planting decisions, and crop yields. The sugarcane marketing year (MY) is from October to September and harvesting takes place from October or November to April or May, which is announced by the provincial governments. The Punjab province accounts for 66 percent of sugarcane production, Sindh 26 percent, Khyber Pakhtunkhwa (KPK) 8 percent and Baluchistan less than one percent¹⁴. There is also a small volume of sugar beet production in the more temperate higher elevations of KPK. Farmers generally opt to plant sugarcane in the

Figure 11: Sugar Sector Supply Chain



autumn or spring; with autumn planting providing better results due to the longer growing season. Punjab and KPK farmers mostly plant sugarcane in the spring and harvest eight to ten months later. In Sindh, most planting is in the autumn, allowing growth for up to 16 months, which helps to marginally increase the plant's sucrose contents, thereby potentially netting them a better price from sugar mills. Per hectare yields of sugarcane in Pakistan are relatively low. Water shortages, a lack of high yielding varieties, and uneven fertilizer and pesticide applications contribute to lower yields.

¹⁴ United States Department of Agriculture Sugar Report 2021 for Pakistan.

Price is the cardinal component in the decision making process regarding cultivation of sugarcane. Sugarcane and wheat are the two crops whose production decision is influenced by the minimum support price (MSP) mechanism. Article 7 of the Sugarcane Act, 1934 empowers the provincial governments to regulate the market and provides mechanism regarding purchase of sugarcane by the mills. The provincial governments determine procurement prices for sugarcane in consultation with the representatives of sugar industry, farmers' organizations and on the recommendations from Ministry of National Food Security and Research

(MNFSR). Sugar mills are typically bound to purchase sugarcane at the set prices; however, it has been observed that mills frequently buy sugarcane below or above the support prices. When there is higher production of sugarcane, then mills buy sugarcane at a price lower than the support price and when there is lower production of sugarcane, then farmers demand price higher than the support price¹⁵. Furthermore, the prevalence of support price has rendered the price of domestic sugar higher than the international price of sugar, thereby making our product internationally uncompetitive.

3.2. Licensing for establishment of sugar mills

The construction of sugar factories or the expansion of existing factories is contingent to the approval from the provincial governments and any activity without prior approval will be liable to punishment. The Article 2-A of Sugarcane Act, 1934 regulates the construction of building to be used for factory or any extension of the plant of an existing factory which is likely to increase its

capacity for crushing cane. No person can undergo aforementioned activities without the license from provincial governments. The Article 3-E of Sugarcane Act, 1934 promulgates penalties against those found in contravention. A person wishing to construct or expand the factory requires license from the provincial governments.

3.3. Mechanism for acquisition of sugarcane by mills

The procurement of sugarcane by factories is a complex process involving several approvals from the government. Previously, the Article 3 of the Sugarcane Act, 1934 and Article 6 of the Sugar Factories Control Act, 1950 were used to declare the area of crop reserved for the particular sugar mill. However, the rule regarding the zoning was rescinded in the Sugar Policy 1987-88; therefore, sugarcane growers can sell the crop to any sugar mill located in the vicinity. Furthermore, the sugarcane growers are also allowed to sell crop to mills in distant localities; however, the distance and larger time of transportation result in loss of moisture of the sugarcane and lower sucrose recovery.

The farmers can sell the crop directly to the sugar mills or to the intermediaries, who will then sell the crop to the sugar mills. The Sugar Factories Control Ordinance 2020 regulated the payment method for the purchase of sugarcane from farmers by the mills. The Ordinance acknowledged the problem of delayed payments by the sugar mills and enforced the mills to clear payments within 15 days of the transaction. Moreover, the Ordinance gave power to the government to declare the period for crushing of sugarcane. The delayed payment or delayed crushing will result in 3 years imprisonment and fine of Rs. 5 million. The Ordinance aimed to protect farmers and ensure timely crushing of sugarcane.

The farmers can sell the crop directly to the sugar

¹⁵ Report of the inquiry committee constituted by Prime Minister of Pakistan regarding increase in sugar prices. The report can be accessed at : <https://www.app.com.pk/pdf/Commission-Reports/Sugar/Sugar-Inquiry-Committee-Main-Report-dated-24.03.2020.pdf>

The Punjab government promulgated the Sugar Factories Control Amendment Act, 2021 under which November 30 was declared as the last date for the start of crushing of sugarcane¹⁶. The Act allowed sugar mills to clear their dues by June 30 against the requirement of clearing of dues in 15 days of the purchase of sugarcane. Resultantly, the penalties for the delay in payment and crushing of sugarcane, as envisaged in the Ordinance, were repealed by the Act. Later on the protest of the farmers, the amendments introduced in the Sugar Factories Control Amendment Act, 2021 were withdrawn.

3.4. Development of Sugar Market

The government collects money as tax from the growers and the millers under Pakistan Sugarcane Development Cess Rules, 1964 to carry out research for developing better quality seeds and upgrading infrastructure in the vicinity of the mills. A proportion of Cess is collected from growers and remaining from the millers. The fund is meant to cover the expenditure incurred on the development of the sugarcane crop and provision

3.5. Price determination of sugar

The ex-factory price of sugar is determined by the federal government after examination of the price of sugarcane, operational and input costs of sugar factories and cost of transportation. The Controller can fix the price or maximum price of sugar or sugar related products after the approval of the Federal government under Article 6-1 of the Sugar and Sugar Products Control Order, 1948. When the price has been fixed, then the sale or purchase of sugar below minimum price or above maximum price is restricted. The Article 3 of Sugar and Sugar Products Control Order, 1948 authorizes the Controller or any person authorized

The problem with mechanism of procurement of sugarcane by mills is that sugar mills continue to delay payments despite of the law enforcing them to make timely payments. In normal or higher production years and at the start of the season, payments are made on time but as the season progresses, the payments are delayed by months and in some cases by seasons. To overcome the issue of delayed payments, farmers sell the crops to intermediaries to get the cash immediately, but they receive lower price as compared to what announced by the government.

of infrastructure like the construction of farm to market roads and bridges. The amount is also meant to be spent on research so that better sugarcane varieties are developed, with high yield of cane and sucrose content. The funds are collected regularly but the utilization of funds is not efficient and sometimes the funds remained unutilized.

by him to check the accounts of sugar factory at any time to ensure the implementation of prices. Furthermore, the Controller can allocate quotas for the requirements of provinces with the approval of the federal government. The government has enacted Price Control and Prevention of Profiteering and Hoarding Act, 1977 to ensure the implementation of determined prices and to overcome profiteering and hoarding by the merchants, which results in artificial increase in the retail prices after artificial shortages.

¹⁶ Shocking controversy in parliamentary history: Sugar Act 2021 draft bill changed secretly to benefit mills: minister. Dawn News, May 21, 2021. The article can be accessed at : <https://www.dawn.com/news/1624934>

3.6. Trade restrictions

The price and manufacturing of sugar is controlled by the provincial governments; whereas the trade policy of sugar falls in the federal government's domain. Government has imposed restriction on the trade of sugar for the private sector to ensure availability of sugar for domestic consumers and protect sugar factories from international competition. The export of sugar is prohibited and the commodity has been placed in Schedule I of the Export Policy Order, 2020, which comprises commodities that are not allowed to be exported. In case of higher production and excess supply, the federal government assigns quota to the factories to export sugar in the determined amount. The sugar factories receive subsidy from government as the price of domestic sugar is sometimes greater than the international price of

sugar due to support price on sugarcane and loweryield.

Similarly, the import of sugar has been also subjected to embargoes and private sector faces high tariffs. The customs duty on the import of white crystalline cane sugar is 20 percent and white crystalline beet sugar is 20 percent as envisaged in the Pakistan's Customs Tariffs 2021. The import of sugar is facilitated in the specific amount after the approval of federal government on the advice of Sugar Advisory Board and the MNFSR. Whenever the domestic supply of sugar falls short of the required amount then the government, and Economic Coordination Committee allow the import of sugar through special regulatory order (SRO).

3.7. Consequences of excessive regulations, government footprint and trade restrictions

The sugar industry of Pakistan is a highly regulated industry with significant government footprint where approval from relevant government officials is required at every step of the supply-chain. Despite the prevalence of laws, government's oversight and monitoring, and support price for sugarcane, neither the country has been able to achieve self-sufficiency nor the stability in the prices. The consequences of current policies are volatile domestic price of sugar compared to international price, burden on the government in the form of export subsidies, seasonal shortages at home, price hikes, exploitation of famers and abnormal profits for sugar manufacturers. A policy is only effective if it encompasses local dynamics and implemented at the fullest; however, the existential sugar policy has failed to reap its objectives because of the government's inability to bring efficiency into the sector.

Paradoxically, a highly regulated market has given rise to market failures which are beyond the government's control. To begin with, the benefits of support price on sugarcane is not passed on to the farmers who are exploited by sugar factories to sell sugarcane at a price below than the determined by the government. In addition, government controls licenses for establishment of factories to provide protection to existing mills, ensure significant supply of sugarcane to the mills and meet self-sufficiency of sugar. Moreover, when the government determines the price of sugar not keeping in view actual cost of production then it encourages sugar manufacturers to adopt other avenues for profit maximization like exploiting famers, maneuvering accounts, artificially raising costs, and creating shortages, which raises the retail price of sugar.

The efficient allocation of resources ensures higher productivity and better performance. Pakistan being a water scarce country is currently directing significant proportion of water to the crop that has lower economic gains because of non-existence of pricing mechanism. In context of crop productivity, farmers lack access to formal capital and had to resort to informal sources of capital that makes it impossible for the farmers to adopt modern farming techniques and use better quality seeds. Historically, the sugar mills used to have research and development wings aimed to promote use of better quality seeds, help farmers to adopt modern farming techniques and efficient allocation of existent resources for higher productivity. However, the research activities by sugar mills have been halted after de-zoning thus resulting in stagnation in crop development and farmers use crop as seed without its treatment against diseases¹⁷.

In our view, the most import reason behind the distortion in the market is restriction on trade of commodity internationally. The restriction on trade bounds domestic consumers to purchase expensive sugar as compared to cheap sugar available in the international market, country experiences seasonal shortages, and the protection keeps sugar manufacturers inefficient as manifested by their low recovery rates. The government also bears the burden by paying sugar manufacturers subsidy on exports to cover their losses because domestic sugar is costlier than the internationally available.

¹⁷ Sugar Policy Analysis for 2021-2022 Crop. Agriculture Policy Institute, MNFS&R.

4. HIGHLIGHTS FROM GOVERNMENT'S SUGAR INQUIRY REPORT

The Government of Pakistan constituted a committee¹⁸ to probe the sugar price hike and shortage in the country in 2020¹⁹. The investigation was carried out due to shortage and subsequent price hike in 2019 and 2020. The report assessed every aspect of the entire supply chain of the sugar sector to highlight the problems and inefficiencies in the sector. The report examined the relationship between production of sugarcane and the production of sugar; the production of sugarcane was lower compared to previous year but carryover stocks were sufficient to meet the domestic needs and therefore price hike was unjustified. Moreover, the efficacy of support price was evaluated to view its impact on the cropping decision but the delay in the announcement of the support price by provincial governments did not encourage farmers to increase the cultivation of crop. It was observed that sugar mills delayed the purchase of sugarcane from the farmers and also delayed the crushing of the sugarcane. The committee explored the price setting mechanism of the government and observed lack of availability of accurate data put forth by the mills to assess the actual cost of the mills. The perception in the media regarding cartelization was studied in detailed and committee highlighted that mills hold power to influence the operation of the sector. The report also highlighted the impact of government's approval to export sugar and subsidy given by the government to the mills.

¹⁸ Government directed the Ministry of Interior to set up an inquiry commission to probe the increase in sugar prices by investigating records of sugar mills and highlight any mal practices found in a detailed report.

¹⁹ The details on the mandate and findings of the committee is given in table 1 in annexure.

5. SSRC RECOMMENDATIONS

Keeping in view frequent shortages and price fluctuations, the federal government constituted Sugar Sector Reforms Committee (SSRC) in June 2020 under the Chairmanship of the Minister of Industries and Production. The mandate of the committee was to review existing policies and suggest measures to eliminate cartelization,

profiteering and market manipulations to guard the interest of public. The committee reviewed the policies and reforms in the developed world and in the neighboring countries of Pakistan to make the solution sustainable and in conformity with the world.

Table 1: Reforms Proposed by Sugar Sector Reform Committee

| Sr. No. | Identification of Problem | Recommendations |
|---------|--|--|
| 1 | Zoning of crops to restrict crops in particular areas to avoid change in cultivation area of other crops. | <ul style="list-style-type: none"> The zoning of crops though intended to maintain the cropping pattern actually deprives farmers from the choice of what to cultivate and is a hindrance in the way of market competition. Therefore, laws related to zoning if adopted by provinces should be abolished and farmers should be free to cultivate any crop, they seemed fit. |
| 2 | Government's determination of indicative prices of sugarcane distorts market and influences cropping decisions of farmers. | <ul style="list-style-type: none"> The practice of indicative prices determined by the government will be abolished. The price of sugarcane should be determined on the basis of sucrose content to prompt farmers to cultivate better quality of sugarcane. Provincial governments will set up laboratories for the testing of sucrose content of sugarcane. |
| 3 | Absence of pricing of water results in the inability to calculate actual cost of sugarcane. | <ul style="list-style-type: none"> Legislation by provincial governments is required on the supply of water in cropping areas. Adequate pricing mechanism should be adopted on water usage to address market failures and enable the actual cost accounting of sugarcane. |
| 4 | Establishment or expansion of sugar factories required licenses from provincial governments thereby making the acquisition of necessary approvals difficult. | <ul style="list-style-type: none"> Abolition of Sugar Factories Establishment and Enlargement Act by the Provinces to enable the up-gradation and expansion of infrastructure and reduce government's regulations. |
| 5 | Low quality seeds and cultivation techniques require government's investment. | <ul style="list-style-type: none"> MNFS&R and provincial governments should initiate programmes for the improvement of seeds to enhance sucrose content in the sugarcane and increase per hectare yields. Research should be done to promote efficient utilization of water and reduce its wastage. |
| 6 | The unavailability of accurate data posts obstacles in the policy formulation and maintaining stability in the sugar market. | <ul style="list-style-type: none"> SUPARCO and provincial crop reporting departments need to collaborate and employ modern techniques to report accurate data about sugarcane crop production to the federal government. |

| Sr. No. | Identification of Problem | Recommendations |
|---------|---|--|
| 7 | Trade restriction has resulted in frequent shortages and price fluctuations. | <ul style="list-style-type: none"> • Import of sugar will be opened for the private sector at all times without the requirement of government approval. • The export of sugar will be allowed if there is a stock of 1.5 million tonnes in excess of domestic consumption requirement. The decision will be taken by Sugar Advisory Board. • The subsidy on exports will be eliminated. |
| 8 | Forward contracts / Satta creates distortion in the market and contributes to exploitation of public. | <ul style="list-style-type: none"> • Sugar mills will provide the forward contract reports on a daily basis, specifying the quantity of sugar; its booking price and maximum lifting time be 15 days. • The inspection regime would be strengthened to ensure that no sugar remains unlifted after the expiry of the forward contract. |
| 9 | Prevalence of benami sales and undocumented transactions. | <ul style="list-style-type: none"> • FBR will implement the IT based Track and Trace system. • There should be mandatory registration of brokers, sugar dealers, wholesalers with NTN & STRN linked to their bank accounts with mandatory registration of godown and automated online inventory management system. |
| 10 | Late crushing of sugarcane results in loss of sucrose content, lower output, delays in the supply and price hikes due to shortages. | <ul style="list-style-type: none"> • Provinces will made amendments in the Sugar Factories Control Act 1950 in which dates of crushing have been specified. • Financial penalties for late crushing will be increased up to Rs. 5 million along with the imprisonment of 12 months. |

Source: Sugar Sector Reform Committee Report 2021, Ministry of Industries and Production

5.1. Issues in the proposed reforms

Economic activity based on the principle of contestability promotes efficiency and ensures consumer protection. The reforms proposed by the government address majority of existential issues. However, there are some points that need revision to ensure the success of reforms²⁰.

The export of sugar is only allowed at the time of high production through allocation of quota. This proposal will lead to similar problems as in the past. A combination of low international prices and surplus stock at home will necessitate government subsidizing exports to bring

inventories at a level where factories have an incentive to undertake production.

The reform report notes that the import of sugar is open for private sector. But, governments impose restrictions time and again thereby requiring approval from government.

The current proposal restricts forward contracts to a maximum of 15 days. The forward contracts play an important role in reducing the volatility of the spot price. These further allow businesses to hedge against risks, and as a result, incentivize firms to increase their investments.

²⁰ Source: Press Release: EAG reviews SSRC reforms agenda. EAG is an independent Economic Advisory Group, set up by PRIME Institute. [<https://eag.org.pk/eag-reviews-ssrc-reforms-agenda/>]

6. PRIME'S RECOMMENDATIONS ON SUGAR MARKET REFORMS

The sugar market in the country remains inefficient thus resulting in welfare losses for the public. Therefore, following recommendations are in order.

1. The expansion of factories should be liberalized by ending the requirement of approvals from the provincial governments. This will eliminate bureaucratic hurdles for the mill owners. The policy for establishment of new mills could be put on hold for some time depending upon the need for new mills.
2. The government should ensure the implementation of laws regarding timely payments to farmers by the millers to minimize the presence of intermediaries, who make upfront payments but deduct some amount in the form of different charges.
3. The crop yield and sucrose recovery could be augmented by providing low cost and easy capital to the farmers through formal banking channels to end the exploitation of farmers at the hands of informal lenders.
4. There should be no restriction on the export of commodity at all times. The opening of exports will influence sugarcane growers to increase the production because of potential higher international demand of sugar, which was previously limited due to the focus on meeting domestic needs.
5. The export restriction should be lifted as it results in the loss of at least \$1 billion of foreign exchange annually despite maintaining buffer stock for domestic consumption for the next year.
6. The farmers and millers could be encouraged to increase sucrose recovery from current level of around 10 percent through additional returns linked to amount of higher recovery.
7. The impact of support price should be assessed as it removes incentives for farmers to improve crop yield because of guaranteed returns, increases the input cost of mills and encourages farmers to cultivate sugarcane, which is a water intensive crop with low economic returns and substitutes cultivation of crops with better returns.
8. The government can undertake initiatives like crop insurance schemes for small farmers to protect them from adverse shocks and then link it to the recent initiative of the Kissan Card.²¹
9. The government needs to rescind the policy of subsidizing exports because deregulation of the sector and market based pricing of sugar will push the stakeholders to improve their efficiency and become more competitive internationally. The government's reform committee has although recommended the opening of imports; however, history has been ripe of frequent interventions and import barriers through tariffs. Therefore, this interventionist loophole should be addressed to create certainty in policies.
10. The opening up of imports of raw sugar for the private sector by reducing tariffs will ensure the availability of sugar in the country and safeguard from price fluctuations.

²¹Crop insurance programs have been operational in developing and developed economies. USA, China, India and Brazil have decades old crop insurance programs to safeguard farmers from natural calamities, cater impact of climate change and ensure returns to farmers. Another purpose of crop insurance is food security. The agriculture insurance programs in USA work in the form of public-private partnership; whereas, in China and India, they are operated by mostly central and provincial governments.

Crop Insurance in India: Key Issues and Way Forward. Paper can be accessed at: https://www.think-asia.org/bitstream/handle/11540/8052/Working_Paper_352.pdf?sequence=1.

Developing Successful and Sustainable Agricultural Insurance Programs. The article can be accessed at: <http://repiica.iica.int/docs/B3118i/B3118i.pdf>

11. In case of significant shortages and/or maintain a check on tendency of cartelization, the government should allow commercial import of refined sugar.
12. The criteria for the pricing of sugarcane should be the sucrose recovery to prompt farmers to cultivate better crop by using higher quality seeds.
13. The government should also move away from fixing prices and using administrative controls to keep prices stable, and let market forces determine the price.
14. Pakistan is a water scarce country and there is no mechanism of pricing to ensure conservation and efficient utilization. Resultantly, water is being used to cultivate crops with low economic returns. An efficient water pricing mechanism should be devised and implemented in the country.
15. A mechanism should be devised for the accurate and verifiable reporting of transactions to overcome the issue of benami sales, allow only registered agents to carry out transactions, and implement the Track and Trace System to maintain record of the availability of the stock.
16. Forward contracts should not be restricted to 15 days rather increased to full season to reduce the volatility of the spot price, allow businesses to protect themselves from risks and help them to plan their investment.
17. The role of regulator holds cardinal role in maintaining competition in the market and eliminating practices that promote cartelization after removing excessive government regulations and bureaucratic barriers. Therefore, capacity development of regulator is pertinent in this regard.

7. ROADMAP TO SUGAR SECTOR REFORMS

The sugar sector reforms require a multipronged strategy to address the complex issues involving problems faced by all stakeholders. The promotion of efficiency in the sector involves reducing the government's footprint and enabling stakeholders to take decisions keeping in view market dynamics. Therefore, the following steps are in order

- **Minimum Support Price Determination:** The protection of farmers is imperative but the support to farmers should not impede their motivation to improve and innovate. The government can continue the support price for farmers along with the incentive of higher returns for farmers. India is an ideal example in this regard where farmers are encouraged to improve the quality of crop and higher recovery results in higher returns. Pakistan should also set a benchmark for farmers beyond which every percentage increase in sucrose recovery will result in a determined additional return. This will end the discrimination between good crop producing farmers and low quality crop producing farmers and encourage all farmers to improve. Currently, quality premium put in place in Sindh is a good initiative to improve the quality of crop and sucrose recovery and it should be implemented in other provinces also.
- **Expansion of Mills:** The licensing requirement for the mills for the upgradation of infrastructure should be rescinded so that mills can continuously innovate and improve their efficiency.
- **Pricing of Sugar:** The consumption of sugar by households is merely 20 percent while the rest is used by the industry. Furthermore, the proportion of the consumption of sugar in everyday food items is minuscule and any increase in sugar price will not put any significant burden on household budgets. The government needs to move away from setting the ceiling price of sugar and stop using administrative controls to implement those prices. If the government aspires to provide relief to households and industry, then the 17 percent sales tax should be either eliminated or reduced to as low as 5 percent.
- **Trade of Sugar:** The government should open the export of sugar throughout the year to create an incentive for the millers to operate at the maximum potential and sell their sugar stocks in time to make timely payments to the farmers. On the other hand, the government should open the import of raw sugar by eliminating tariffs to provide necessary inputs to the mills. There might be a possibility of a low international price of raw sugar which will hurt domestic farmers in a season or two but the policy should focus on long-term goals and benefits.

8. POLICY IMPLICATIONS OF TRADE OPENNESS IN THE SHORT AND LONG RUN

The departure from the existing excessive interventionist policies of the government is inevitable to remove distortions and promote efficiency in the sugar market. The opening of sugar market will have consequences in the short

run and long run; therefore, it is important to assess the possible implications emanating from opening up of the sugar sector and the economy.

8.1. Short term implications

The removal of government interventions and opening of the sugar market will entirely change the dynamics of the industry. To begin with, the opening up of the trade will create a disruption in the market for cane growers as the decision of the amount of sugarcane cultivation was dependent on the support price. With the inclusion of incentives with the support price, the cane growers will make the crop cultivation decisions on the basis of prices of inputs, availability of water, demand of the crop and their profitability, they may switch to another crop. The low yield and sucrose recovery will force the farmers to think of innovation, adopt modern farming techniques and utilize better quality seeds. However, the cane growers will be able to sell the produce at the best available price irrespective of the geography within the country.

The sugar manufacturers will also have to adjust their scale and scope of operation as they will be exposed to international competition because the domestic sugar was at times costlier than the internationally available, and they may see a significant drop in the prices and profits. The sugar mills will have to purchase the sugarcane at the market determined price, their ability to distort prices or exploit cane growers will diminish. However, the sugar manufacturers will be free to relocate, expand or build factories, and they will include export potential in their business decisions instead of merely focusing on domestic

demand. The prices of sugarcane and sugar will be determined by the market forces which may result in the volatility in prices and demand in the short term as market players adjust to open economy dynamics.

The deregulation of the sugar market has significant political implications. Most of the owners of the sugar mills' owners in the country have political affiliations or a part of federal or provincial assemblies. The sugar mill owners are also at the receiving end of benefits from the contemporary market structure where they sometimes pay the price of sugarcane below the support price and also get subsidies from the government for exports of sugar. Resultantly, the transformation of the sector becomes difficult. This is why the government has been unable to deregulate the sector because of political influence and encounters opposition in the way of reforms. However, the deregulation and adoption of a market-based pricing mechanism will eliminate the stronghold of millers not only in the sector but also in policy making. This will not only benefit farmers and consumers, but it will also help the industrial sector by weeding out uncompetitive firms and encouraging efficiency and innovation.

8.2. Long term implications

The sugarcane growers and the sugar manufacturers will become abreast of the market dynamics, domestic and global demand of sugar, potential profits from exports of sugar and sugar products, and will focus on expanding their scale of operation by augmenting efficiency. The farmers will increase the production of sugarcane keeping in view the ever-growing demand of sugarcane augmented by open exports. The sugar manufacturers will upgrade their infrastructure, move towards maximum utilization of mills due to uninterrupted supply of sugarcane and increase their production to meet the domestic and international needs. The ultimate benefit will be passed on to the domestic consumers in the form of continuous supply of sugar, price stability, and higher foreign exchange earnings from exports.

9. CONCLUSION

The unique feature of the sugar industry is that every aspect of the operation: licensing, capacity expansion, trade decisions, price of sugarcane, the beginning of crushing season, fixing of ex-factory and retail price- all require some form of government intervention or approval. The sugar market in country is overregulated on the back of numerous laws and government controls thereby making the operation of the market complex and regulation cumbersome. Using PIDE language, one can observe lot of sludge.

Resultantly, successive governments dealt with the issue by relying on temporary fixes like increasing administrative controls and interventions to regulate the market and protect consumer welfare. The interventions have been increased to such an extent where every decision in the entire supply-chain is controlled by the government.

The interventionist policies have proved to be futile, and prices continue to be unstable. The existential inefficiencies have contributed to a modest growth in the production of sugarcane, low returns for farmers, an insignificant increase in yield per hectare, low efficiency of sugar mills, and most importantly, prevalence of occasional market failures like hoarding and shortages. The powerful sugar mill owners with strong political background have influenced the governments and prevented them from bringing reforms. The trade restrictions, though intended to protect the domestic industry, have actually deprived the entire sector from efficiency and improvement.

Therefore, it is need of the hour to carry out reforms by opening up of the sector and removing excessive government footprint. Globally, price is a decisive factor of market operations and countries have gradually reduced regulations in their markets for sustainability. The policy makers in the country need to realize the gravity of issue, devise a comprehensive sugar market policy keeping in view reforms carried out by the developed world by removing excessive regulations and opening trade to promote efficiency and public welfare.

REFERENCES

- Aman, R., & Khan, A. R. (2021). *Strategic Alliance within the Sugar Industry of Pakistan: A Resource Dependence Perspective*. Asian Journal of Business Environment, 11(4), 31-38.
- Anjum, A., & Zia, U. (2020). Unravelling water use efficiency in sugarcane and cotton production in Pakistan. *The Pakistan Development Review*, 59(2), 321-326.
- Chandra, A. (2021). *Sugar Annual*. Foreign Agricultural Service, United States Department of Agriculture. IN2021-0050.
- Competition Commission of Pakistan. (2018). *Opinion: competition concerns in the sugar sector of Pakistan*. Government of Pakistan.
- Economic Advisory Group (2021). *EAG reviews SSRC Reforms Agenda*.
- Gulati, A., Terway, P., & Hussain, S. (2018). *Crop insurance in India: Key issues and way forward*. Indian Council for Research on International Economic Relations.
- Jamil, M. (2003). *Sugar Crops and Sugar Policy of Pakistan*. Quarterly Science Vision Vol.9 No.1-2 (Jul - Dec, 2003) & 3-4 (Jan - Jun, 2004)
- Khushk, A. M., Lashari, M. I., & Memon, A. (2008). *Political economy of sugar industry in Pakistan*. Pakistan Agricultural Research Council-Technology Transfer Institute, Tandojam, Sindh, 85-86.
- Larson, D. F. & Borrell, B. (2001). *Sugar Policy Reform*. Development Research Group, The World Bank.
- Lohano, H. (2020). *Pakistan's sugar policy needs reforms*. The Express Tribune. May 11, 2020.
- Lodhi, K., Forest, E. W., Mohammad, A. C., & Albert, G. M. (1988). *The Pakistan Sugar Industry: An Economic and Policy Analysis* (Vol. 1). Directorate of Agricultural Policy and Chemonics International Consulting Division for the Economic Analysis Network Project in collaboration with the Ministry of Food, Agriculture, and Cooperatives, Government of Pakistan and the United States Agency for International Development.
- Mansoor, M. A. (2020). PIDE Webinar: *Regulatory roots of the sugar crisis: asking the right questions*.
- Ministry of Interior. (2020). *Report of the Commission of Inquiry to probe into the increase in sugar prices*. Government of Pakistan.
- Nakhoda, A. (2020). *Analyzing the Likely Influence of Election Campaigning on Sugar Exports from Pakistan*. Institute of Business Administration, Karachi.
- Pakistan Sugar Mills Association. (2020). *Pakistan's Sugar Economy: A facts based presentation*.
- Pirzada, A. J., Shahid, N., & Ghauri, R. T. (2022). *The ongoing crisis in the sugar industry*. Pakistan Institute of Development Economics.
- Qureshi, M. G., Siddique, O., & Zia, U. (2020). *The Sugar Industry of Pakistan—Understanding Structural and Regulatory Underpinnings of The Current Sugar Crisis* (No. 2020: 12). Pakistan Institute of Development Economics.
- Rehman, S. (2021). *Sugar Annual*. Foreign Agricultural Service, United States Department of Agriculture. PK2021-0006.
- Sugar Sector Reforms Committee Report*. (2020). Government of Pakistan.
- Tauseef, S. & Rehman, M. (2021). *Sugar Sector Study*. Pakistan Credit Rating Agency.
- Tauseef, S. & Noor, A. (2020). *Sugar Sector an Overview*. Pakistan Credit Rating Agency.
- Turvey, R., & Cook, E. (1976). *Government Procurement and Price Support of Agricultural Commodities: A Case Study of Pakistan*. Oxford Economic Papers, 28(1), 102-117.

ANNEXURE

Table 2: Highlights of Sugar Sector Inquiry Committee Report

| Sr. No. | Subject of Inquiry | Findings |
|---------|---|---|
| 1 | Whether decline in the production of sugarcane contributed to lower output and subsequent hike in prices? | <ul style="list-style-type: none"> The production of sugarcane was higher but the production of sugar was relatively low compared to previous year. However, the carryover stocks along with the current produce were sufficient for domestic consumption. The retail price of sugar increased from Rs. 55.99 per kg in December 2018 to Rs. 74.64 per kg in January 2020. The committee could not find any relation between low production and an increase in prices. |
| 2 | Was the support price sufficient? | <ul style="list-style-type: none"> The support price of sugarcane is determined by the provincial governments to motivate farmers for higher production. The support price is usually announced before or at the start of sowing season; however, the provincial governments announced the support price at the start of crushing season. The announcement was much delayed and resultantly, support price had no impact on the cultivation decision of farmers. The representatives of the provincial governments were satisfied with the support prices while farmers remained unsatisfied and demanded further hike. |
| 3 | Whether mills purchased sugarcane at prices higher than the support price? | <ul style="list-style-type: none"> The market was expecting a shortfall in the production of sugarcane, and therefore, farmers were unwilling to sell sugarcane at the support prices, which resulted in the some growers selling sugarcane at 15 percent higher than the support price. |
| 4 | Reasons for delay in the purchase of sugarcane from the farmers. | <ul style="list-style-type: none"> The sugar mills ceased the operation claiming low availability of sugarcane; whereas, the sugarcane production was higher. This was done to bring down the price of sugarcane. The late purchase of sugarcane by mills brought down the price of sugarcane but the impact was not transferred to the customers as the mills showed higher costs but actually enjoyed higher profits. |
| 5 | How ex-mill price is determined? | <ul style="list-style-type: none"> The main determinants of ex-mill price are cost of sugarcane, overhead and financial charges, taxation and the recovery ratio of mills. An increase of Rs. 12 per kg was observed between December 2018 and June 2019 when there was no increase in taxes or the price of sugarcane. The committee found discrepancy in the costs data reported by sugar mills and the costs calculated by committee during inquiry. |

| Sr. No. | Subject of Inquiry | Findings |
|---------|--|---|
| 6 | Is there any truth in the existence of cartelization of mills in sugar market? | <ul style="list-style-type: none"> • Six groups control 51 percent of the sugar production in the country and have a strong political background. • Sugar mills have an association, PSMA, which directs policies to all sugar mills and the call for closure of sugar mills in Punjab in January 2020 also came from PSMA. • When utility stores Corporation called for tender to purchase sugar, all the mills quoted same price except one mill, which indicates existence of data sharing and cartelization. |
| 7 | Is there any impact of forward contracts on the prices of sugar? | <ul style="list-style-type: none"> • Forward contracts/Satta are a common practice in country's sugar market where advance purchase agreements are carried out to ensure sufficient stock by wholesale dealers and to prevent themselves from price fluctuations. • Satta is illegal in the country because rumors are spread about the shortage of sugarcane and lower sugar production, and then speculation through satta raises the price of sugar. |
| 8 | What was the impact of taxes on the price hike? | <ul style="list-style-type: none"> • Although the government claims that there is no tax on the sugar, yet GST is applied at the ex-factory stage. GST in FY2019 was 8 percent on filers and 11 percent on non-filers. • Since majority of wholesale dealers or purchase agents were non-filers, GST of 11 percent was charged and then GST was increased to 17 percent across the board in FY2020. • However, an increase in retail price occurred from December 2018 to June 2019 by Rs. 16 per kg when there was no increase in GST. Moreover, when GST was increased then retail price went up by Rs. 3.6 per kg from July 2019 to January 2020. |
| 9 | What was the impact of hoarding at sugar mill, wholesale or retail level? | <ul style="list-style-type: none"> • The sugar mills, wholesale agents or industrial brokers are required to maintain stock registers and provincial governments are responsible to implement this policy. However, no stock registers were maintained at every stage and government had to depend on the statistics provided by PSMA. • Due to absence of verifiable data on sugar stock position in the country, discrepancy in the data of sugar sold by mills and purchased by brokers/ wholesale dealers, it is likely that manipulation is present in raising price of sugar. |
| 10 | What was the impact of government's approval of export of sugar in 2019? | <ul style="list-style-type: none"> • The government allowed the export of sugar despite the prediction of lower sugarcane production in the country and resultantly, the price started increasing after the exports. • Exporters gained by getting subsidy on the exports and price hike of Rs. 16 per kg in the domestic market. • The export decision was believed to be a result of influence of powerful sugar lobby having political background. |

Table 3: Total Area under Cultivation and Sugarcane Cultivation

| Year | Sugarcane Cultivation Area (Million Hectares) | Total Cropped Area (Million Hectares) | Sugar Cultivation as a Percentage of Total Cropped Area |
|------|---|---------------------------------------|---|
| 2011 | 0.9 | 22.7 | 4.3 |
| 2012 | 1.1 | 22.5 | 4.7 |
| 2013 | 1.1 | 22.6 | 5.0 |
| 2014 | 1.2 | 23.2 | 5.1 |
| 2015 | 1.1 | 23.3 | 4.9 |
| 2016 | 1.1 | 24.0 | 4.7 |
| 2017 | 1.2 | 23.0 | 5.3 |
| 2018 | 1.3 | 23.5 | 5.7 |
| 2019 | 1.1 | 23.5 | 4.7 |
| 2020 | 1.0 | 23.5 | 4.4 |
| 2021 | 1.2 | 23.5 | 5.0 |

Source: Pakistan Economic Survey 2021

Table 4: Yield per Hectare of Sugarcane

| Year | Pakistan (T/H) | India (T/H) | China (T/H) |
|------|----------------|-------------|-------------|
| 2011 | 56 | 70 | 66 |
| 2012 | 55 | 71 | 68 |
| 2013 | 56 | 67 | 70 |
| 2014 | 58 | 70 | 71 |
| 2015 | 55 | 70 | 73 |
| 2016 | 58 | 70 | 74 |
| 2017 | 62 | 70 | 76 |
| 2018 | 62 | 80 | 77 |
| 2019 | 61 | 72 | 79 |
| 2020 | 64 | 70 | 80 |
| 2021 | 70 | 72 | 81 |

Source: United States Department of Agriculture

Table 5: Distribution of Sugarcane Farms

| Size in Hectares | Number of Sugarcane Farms | Percentage of the Size of Farms in Total Farms |
|------------------|---------------------------|--|
| Below 0.5 | 85,032 | 9.5 |
| 0.5 to 1.0 | 105,232 | 11.7 |
| 1 to 2 | 192,353 | 21.4 |
| 2 to 3 | 167,145 | 18.6 |
| 3 to 5 | 166,896 | 18.6 |
| 5 to 10 | 111,099 | 12.4 |
| 10 to 20 | 47,931 | 5.3 |
| 20 to 40 | 16,156 | 1.8 |
| 40 to 60 | 2,690 | 0.3 |
| Above 60 | 2,394 | 0.3 |

Source: Agriculture Statistics of Pakistan, MNFS&R

Table 6: Outstanding Credit to Sugar Sector

| Month | Credit to Sugarcane Growers Rs. in Billions | Credit to Sugar Manufacturers Rs. in Billions |
|--------|--|--|
| Jun-19 | 38.8 | 280.3 |
| Jul-19 | 39.4 | 268.2 |
| Aug-19 | 39.1 | 256.5 |
| Sep-19 | 39.3 | 237.6 |
| Oct-19 | 39.4 | 227.2 |
| Nov-19 | 39.7 | 214.8 |
| Dec-19 | 40.2 | 234.7 |
| Jan-20 | 38.7 | 260.9 |
| Feb-20 | 38.2 | 315.2 |
| Mar-20 | 38.1 | 329.7 |
| Apr-20 | 37.9 | 324.3 |
| May-20 | 37.6 | 307.0 |
| Jun-20 | 37.6 | 295.4 |
| Jul-20 | 37.7 | 259.7 |
| Aug-20 | 37.6 | 237.0 |
| Sep-20 | 37.8 | 213.1 |
| Oct-20 | 38.2 | 197.3 |
| Nov-20 | 38.4 | 194.3 |
| Dec-20 | 38.2 | 249.4 |
| Jan-21 | 35.1 | 307.3 |
| Feb-21 | 34.6 | 366.2 |
| Mar-21 | 34.8 | 368.4 |
| Apr-21 | 34.9 | 351.8 |
| May-21 | 34.6 | 338.1 |
| Jun-21 | 34.9 | 319.5 |
| Jul-21 | 35.0 | 280.2 |
| Aug-21 | 35.0 | 253.9 |
| Sep-21 | 34.5 | 225.4 |
| Oct-21 | 34.2 | 205.3 |
| Nov-21 | 33.5 | 206.0 |
| Dec-21 | 32.0 | 273.6 |

Source: State Bank of Pakistan

Table 7: Performance of Sugar Mills

| Year | Sucrose Recovery (Percentage) | Utilization of sugar mills (Percentage) |
|------|-------------------------------|---|
| 2011 | 9.3 | 80.5 |
| 2012 | 9.6 | 83.1 |
| 2013 | 10.0 | 79.0 |
| 2014 | 9.9 | 84.0 |
| 2015 | 10.1 | 80.9 |
| 2016 | 10.2 | 76.5 |
| 2017 | 9.9 | 94.0 |
| 2018 | 10.0 | 78.8 |
| 2019 | 10.5 | 74.1 |
| 2020 | 9.9 | 72.6 |
| 2021 | 10.0 | 76.0 |

Source: Pakistan Sugar Mills Association

Table 8: Production and Consumption of Sugar

| Year | Sugar Production (Million Tonnes) | Sugar Consumption (Million Tonnes) |
|------|-----------------------------------|------------------------------------|
| 2011 | 4.2 | 4.1 |
| 2012 | 4.7 | 4.4 |
| 2013 | 5.0 | 4.4 |
| 2014 | 5.6 | 4.5 |
| 2015 | 5.1 | 4.6 |
| 2016 | 5.1 | 4.9 |
| 2017 | 7.0 | 5.1 |
| 2018 | 6.6 | 5.2 |
| 2019 | 5.2 | 5.2 |
| 2020 | 4.8 | 5.3 |
| 2021 | 5.7 | 5.8 |

Source: Pakistan Sugar Mills Association

Table 9: Price Comparison of Sugar

| Year | Domestic Price of Sugar (Rs/Kg) | Domestic Price of Sugar (\$/ton) | International Price of Sugar (\$/ton) | Support Price of Sugarcane (Rs/ 40Kg) |
|------|---------------------------------|----------------------------------|---------------------------------------|---------------------------------------|
| 2011 | 74 | 774 | 709 | 126 |
| 2012 | 57 | 556 | 607 | 151 |
| 2013 | 53 | 477 | 503 | 171 |
| 2014 | 55 | 492 | 459 | 171 |
| 2015 | 59 | 520 | 384 | 181 |
| 2016 | 64 | 552 | 461 | 177 |
| 2017 | 61 | 529 | 477 | 181 |
| 2018 | 54 | 400 | 358 | 181 |
| 2019 | 64 | 389 | 334 | 181 |
| 2020 | 80 | 447 | 362 | 191 |
| 2021 | 98 | 545 | 444 | 201 |

Source: Pakistan Sugar Mills Association

Table 10: Trade of Sugar

| Year | Import of Sugar (000 Tonnes) | Export of Sugar (000 Tonnes) |
|------|------------------------------|------------------------------|
| 2011 | 1,032 | 0 |
| 2012 | 17 | 49 |
| 2013 | 7 | 1,064 |
| 2014 | 10 | 647 |
| 2015 | 10 | 708 |
| 2016 | 1 | 294 |
| 2017 | 9 | 307 |
| 2018 | 9 | 1,470 |
| 2019 | 8 | 692 |
| 2020 | 8 | 181 |
| 2021 | 281 | 0 |

Source: Pakistan Sugar Mills Association

ABOUT AUTHORS



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