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Competition Assessment Study of Wheat Flour Industry

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COMPETITION COMMISSION OF PAKISTAN

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Acronyms

AARI	Ayub Agricultural Research Institute
ARCS	International Agricultural Research Centers
AVRDC	Asian Vegetable Research and Development Center
CCP	Competition Commission of Pakistan
CPEC	China Pakistan Economic Corridor
CRS	Crop Reporting Service
DCCs	District Consumer Courts
ECC	The Economic Coordination Committee
EPD	Exchange Policy Department
FAO	Food and Agriculture Organization
FEOD	Foreign Exchange Operations Department
FSC&RD	Federal Seed Certification and Registration Department
GDP	Gross Domestic Product
GIS	Geographic information system
HDI	Human Development Index
ICARDA	International Center for Agricultural Research In the Dry Areas.
ICT	Islamabad Capital Territory
IFPRI	International Food Policy Research Institute
IITA	International Institute of Tropical Agriculture
IRRI	International Rice Research Institute
ISO	International Standards Organization
MCPAT	Markets and Competition Policy Assessment Tool
MNFSR	Ministry of National Food Security and Research
PASSCO	Pakistan Agricultural Storage and Supplies Corporation
PCPA	Punjab Consumer Protection Act
PERI	Punjab Economic Research Institute
PFMA	Pakistan Flour Mills Association
PSQCA	Pakistan Standards and Quality Control Authority
SBP-BSC	State Bank of Pakistan, Banking Services Corporation
SEZs	Special Economic Zones
UNCTAD	United Nations Conference on Trade and Development
WBG	World Bank Group
WFF	Wheat Flour Fortification

COMPETITION ASSESSMENT OF THE WHEAT FLOUR INDUSTRY IN PAKISTAN

Executive Summary

As per Article 38 (d), the Constitution of Pakistan ensures provision of basic needs of life including food for the citizens of Pakistan. '*Roti/chapati'* i.e. traditional bread made with wheat flour is a major part of Pakistani's food. Average monthly consumption expenditure on wheat and wheat flour is 13% out of 17% on cereals. Thus, wheat has a high weight in the average household budget. This makes wheat flour a sensitive commodity. Price changes and availability has positive or negative impact on consumers, especially on the poor sections of the community.

In this Report, the selection of the flour milling industry benefited from using the World Bank Group (WBG) Markets and Competition Policy Assessment Tool (MCPAT)[1]. There are a huge number of buyers and sellers in the wheat flour market, which, in theory depicts a high level of competition. Yet, in practice, the competition in the market may be distorted. The MCPAT is used to identify and assess the potential anticompetitive effects of government intervention in markets and inform the development of effective strategies to promote competition. In this Report, the MCPAT has helped effectively align government interventions in the flour milling value chain with competition principles, considering inherent market features, to make mills strive for efficiency. The MCPAT has been used here to (i) understand what stifles effective competition dynamics in the industry, including how government shapes incentives of farmers and mills to compete and invest, (ii) identify and design competition enhancing actions, and (iii) work out competition policy interventions in order to prioritize reforms. In this backdrop, this study, aims to:

a) Assess the level of competition in this industry;

b) Identify anticompetitive conduct; and

c) Provide recommendations to improve competition in the industry, which may be through advocacy, enforcement, and modification of policies/procedures.

This Report looks into the value chain of the wheat flour industry in Pakistan from a competition perspective. It examines the production of wheat and food security issues including the provincial wheat production, long and medium term changes in national demand and supply, and price conditions. The specific issues at each stage of value chain such as problems of farmers, post-harvest losses, constraints to competition in the marketing and distribution system have also been identified.

Wheat is the leading food grain and being the staple diet, it occupies a central position in the agriculture sector.[2] According to Pakistan Economic Survey, 2018, during the last five years, the contribution of wheat to the value added in agriculture has declined from 10.3 percent in 2012/13 to 9.6 percent in 2016/17. In this duration, its contribution to the Gross Domestic Product (GDP) of Pakistan declined from 2.2 percent

[1] See Annex- II.

[2] http://finance.gov.pk/survey/chapters_14/02_Agriculture.pdf

to 1.9 percent. Despite all constraints, Pakistan was ranked eighth in the world ranking of wheat producers in 2017/18. This shows enormous potential to enhance yield and production.[3]

The contribution of Punjab in wheat production is 76%, Sindh 15%, KPK 5% and Balochistan 3%. More than 90% of the total wheat production area is irrigated by canals and channels. Sowing of wheat over 17 million acres has been completed in Punjab, which is about 76% of the total area under wheat cultivation for the *Rabi* season.

The wheat flour industry is facing a pressure due to surplus production capacity – the domestic demand is about 40 thousand tonnes as against installed capacity of 280 thousand tonnes per day. Several of the mills are out of business due to unsustainable losses incurred during the past few years especially in KPK where the number declined from 145 to 50 and in Baluchistan from 45 to 32. Also, there are countless one/two-person operated small milling units that are serving both urban and rural areas.

The support price mechanism has implications for income distribution. Small farmers seldom have surplus wheat, thus, the support price contributed to the income of big land owners. This has led to raise the gap in productivity and income inequality. This way, the support pricing has implications from political economy considerations. Raising support price affects food-inflation, hurting poor and fixed income earners. However, government's food subsidies serve as a shock absorber. It creates a dichotomous situation for public policy, when wheat price is increased by a higher support price, and then the government attempts to reduce flour price by subsidized wheat supply to the flourmills, and cheaper supply of wheat flour at the Utility Stores.

Competition Concerns

Section 4 of the Competition Act, 2010, covers the behavior of associations in case of their indulgence in prohibited agreements. The Act restricts associations from making decisions with respect to production, supply, distribution, acquisition or control of goods or services that have the object or effect of preventing or reducing competition within the relevant market.[4] Associations are required to be careful when taking up issues having commercial consequences for their members, which include any deliberation or decision on pricing and output, as associations are not business decision-making entities.

Since 2007, when the CCP was formed, it has been observed that a central role was played by the trade associations in shaping-up cartels in the sectors like cement and sugar. Considering this, the role of Pakistan Flour Mills Association (PFMA) has been reviewed in this Report.

The PFMA is a registered representative trade body of flour milling industry in Pakistan. The Association was initially constituted in 1949 under the name of Punjab Flour Mills Association that was later enlarged as a country-wide trade body in 1960. It was again re-organized in 1970. The Association discontinued

[3] https://www.statista.com/statistics/237908/global-top-wheat-producing-countries/
[4] Competition Act 2010. Available at: www.cc.gov.pk/

functioning in 1976 when this industry was nationalized. However, the flourmills were de-nationalized in September 1977 by the martial law regime.

The membership of the association has grown substantially over a period of five years. In 2013, 915 flourmills operating across Pakistan were a member of the PFMA, now it has 1171 members. The possibility of an anti-competitive practice in the flourmills industry can be gauged by reviewing the conduct of the Association for exchange of information, particularly for price fixing. Any information exchange system for sharing confidential information constitutes a breach of competition law; it is an indication of a cartel.[5] It has been found that the Flour Mills Association has been publicizing and sharing with its members the price of wheat products such as *maida, suji*, fine flour, wheat bran, etc.[6] According to the Association, this is the ex-factory price maintained by all the flourmills in the region. The involvement of Association should not be there to maintain price uniformity or price increases.

It appears that flourmills take a joint stance to revise their prices, irrespective of their production capacity and government allotted quotas.[7] This also helps maintaining parallel prices such as simultaneous and identical change in prices. However, the reason may be common across various mills but the role of association is there to determine the rate of price increase. The meetings organized by the Association are attended by the member mills, in which decisions relating to prices are taken. Flour prices were increased in the period immediately after the Association's meeting.

The above mentioned activities indicate participation in possible anti-competitive conduct that a trade association must avoid. In a competitive market-based economy, the trade associations are an important stakeholder - the members of associations suffer due to price-fixing of intermediate inputs or face predatory pricing, boycott, etc. Therefore, the trade associations can provide useful information about anti-competitive activity to the competition agency. Also, they can arrange programs for compliance with competition law and educate members about harms of engaging in anti-competitive conduct.[8] To stay away from anti-competition conduct, associations can institute a compliance program. At associations' meetings and gatherings, a conscious attempt should be made to refrain from discussion of sensitive

[5] In the *British Sugar Plc.* case, the European Court of First Instance held that an undertaking will be held liable for sharing confidential information with competitors as that eliminates uncertainty as to the future conduct of competitors on the market and those receiving the information will inevitably take into account, directly or indirectly, the information obtained in order to determine the policy they intend to pursue.

[6] See for instance, http://pfma.com.pk/pfma/index.php?option=com_content&task=view&id=52&Itemid=66

[7] Examples of such conduct are: in a meeting held in the office of PFMA on June 21, 2018, it was decided to increase flour bag rate by Rs20. Now the flour bag will be Rs735. Available at: https://www.thenews.com.pk/print/331833-flour-price-increased-by-rs20-per-bag, 'The News', June 21, 2018; and "In an emergency meeting held on Saturday, members of the Pakistan Flour Mills Association (PFMA) Punjab Chapter decided to increase the price due to high wheat rates, which crossed Rs1,100 per 40 kg in the open market. "The price increase is a must for us to survive as it is not possible for the mills to supply flour at old rates any more," said Asim Raza, an official of the association. The PFMA members also decided to sit together once again on August 28 and discuss further increase in prices. "It is possible that the price may be increased again in our scheduled meeting, but I cannot confirm it now," Raza said." Available at: http://tribune.com.pk/story/424009/commodity-flour-price-increased-in-punjab/.

[8] http://www.justice.gov/atr/public/speeches/0106.htm

issues, which eventually lead to cartel formation. The same is being adjudicated by the CCP for violation of Competition Act, 2010.

The advocacy agenda of a competition agency has to focus on producers' associations and groups, here the Flour Mills Association, to create awareness about the competition law and cartel formation. It is to be mentioned that the government may not 'negotiate' with the associations, which encourages anti-competitive conduct.[9] In the past, the CCP has observed the likely anti-competition impact of negotiating prices with the associations.[10] Therefore, in the case of wheat flour also, the Government should not involve in price negotiation with the Association, and should fix price of this essential commodity based on independent analysis of market situation.

A review of the regulatory framework indicates that the present system of wheat procurement and quota has generated excess production capacity and 'ghost mills' (which are actually not in production but sell their allocated government wheat quota to other mills). Besides the system is expensive and has inefficiencies. Its positive impact for both farmers and consumers i.e. for whom the whole system was designed, is questionable in the present day circumstances. The reason being that the implementation experience has made the industry less competitive internationally as well as providing costly flour to the national consumers. Mostly the outdated laws and rules made there-under for control of production and distribution do not facilitate and encourage establishment of modern mills, branding and marketing nor can optimize the role of the private sector engaged in the flour milling.

The Pakistan Standards and Quality Control Authority has not devised a standard for wheat flour. Punjab has prescribed programs of flour fortification to add iron and folic, so as to address malnutrition under international assistance. However, in the presence of a huge informal sector and inadequate monitoring system, there is no possibility of 'voluntarily' fortifying the flour, particularly when the concept of labelling is non-existent in the vast informal sector.

This Report presents a number of recommendations to enhance productivity and competition in the wheat flour market after a thorough analysis of value chain and the regulatory framework. The Report highlights the need for revisiting policies; introduce reforms in the governance system and institutions that shape the market.

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[9] See for instance: http://www.dailytimes.com.pk/default.asp?page=2013%5C01%5C09%5Cstory_9-1-2013_pg5_16

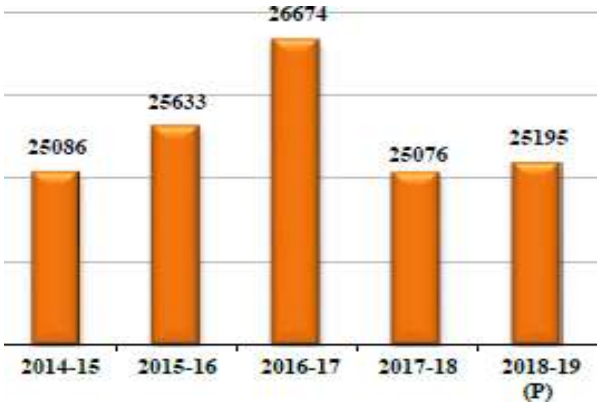
[10] The CCP issued Policy Notes to the relevant government functionaries in the case of sugar and fresh milk, available at: http://cc.gov.pk/images/Downloads/policy_notes/ActionsPolicy_Notes_Policy_Note_on_Sugar-Price_Fixing.pdf, and http://cc.gov.pk/images/Downloads/policy_notes/policy_note_2012.pdf

CHAPTER 1: INTRODUCTION

Wheat is Pakistan's most important agricultural crop. It is grown by about 75-80 per cent of all farmers, and covers about 40 percent of the total cultivated area. Per capita wheat availability for consumption has been estimated by some national and international organizations at 120-124 kg/year, which is among the highest in the world. Our estimate, after accounting for losses over the wheat flour supply chain is in the range of 65-67 kg/year. The whole wheat is not consumed, therefore, prior to estimation, it is important to consider the flow of processing.

Pakistan's wheat production in 2013/14 was estimated to be 25.98 million tons, which is about 4.4 per cent more than the previous year's harvest of 24.2 million tons. Wheat production was estimated at 25.63 million tonnes during 2016-17, showing an increase of 0.5 percent over the last year's production of 25.63 million tonnes. Slight increase has been noted in provisional figures of 2018-19 crop (Figure 1).

Figure 1: Wheat Production in Pakistan (000 Tonnes)



Source: Pakistan Economic Survey, 2019

The government of Pakistan intercedes in the wheat flour supply chain at various levels. It sets the procurement price for the wheat crop, which directly affects farmers' decisions. The wheat milling industry is privately owned, with more than one thousand flourmills.[11] In 2013, there were 759 flourmills in Punjab, 38 in Islamabad, 145 in KPK, 140 in Sindh and 45 in Balochistan, which met the consumption needs of about 40 percent of the population. Now in 2018, the number of flourmills has increased - 946 flourmills are located in Punjab, 143 in Sindh, 50 in KPK and 32 in Baluchistan whereas Islamabad has 41 flourmills. This clearly indicates that flour milling is a profitable business especially in Punjab as compared to other provinces as Punjab has a competitive advantage due to a high wheat crop. The number of mills in KPK has substantially reduced owing to a decreasing demand for exports to Afghanistan.

The disbursement of wheat to these flourmills is managed through a quota system, because the government owns the wheat stocks to ensure availability of wheat throughout the year. The role of the government in exports and imports is also decisive. For instance, when national wheat prices were higher than the world prices, the government subsidized wheat exports.[12] All these activities eventually affect the wheat flour market. Therefore, this Report reviews the implications of the government's actions from a competition perspective. Besides conducting an overall review of the industry, this detailed competition assessment particularly looks into the impact of support prices and the distortions due to government's

[11] Source: All Pakistan Flour Mills Association, Lahore. http://www.thepfma.com/
[12] Concerns have been raised about subsidy being a violation of the WTO's Agreement on Agriculture (AOA).

interventions. The Report also aims to highlight competition distorting provisions in the relevant procedures. For this purpose, the process of procurement of wheat and its supply to the flourmills through quotas has been examined thoroughly.

From a competition perspective, the study attempts to explore the market mechanism from farm to consumption to identify anticompetitive practices. The dynamics, structure and competitiveness of the entire supply chain has been analyzed. The study uses secondary data published by the relevant government organizations. Primary data was gathered through structured and non-structured survey questionnaires from various market sources and stakeholders, including industry association and consumers.

1.1 Rationale and Objective of Study

As per Section 28(1)(b) of the Competition Act, 2010 the CCP is mandated to conduct '*market studies to promote competition in all spheres of commercial economic activity*'. The research study on the 'Wheat flour' industry has been undertaken to analyze the state of competition, identify competition vulnerabilities and to present recommendations to enhance competition.

This research study examines and evaluates the 'Wheat flour' industry in Pakistan. The main objective is to identify and give recommendations to eradicate barriers to effective competition, both in the shape of public policy and in the presence of anti-competitive practices, such as cartelization by market players.

1.2 Significance of Assessing Flour Milling Industry

To ensure that the CCP uses its resources in a way that provides the largest beneficial impact on competition, the wheat flour industry was selected with reference to the following criteria:

1. **Staple food item**

   Wheat flour or '*atta*' is an essential commodity, which according to some estimates, provides 72 per cent of caloric energy in the average diet of Pakistanis. According to the Household Income and Expenditure Survey, the monthly consumption expenditure on wheat and wheat flour is 13% out of 17% on cereals (including wheat, rice and other grains). This indicates that the wheat has a high weight in the average household budget. The National Nutrition Survey, 2018 found that more than a third of the population is food insecure. Keeping in view Pakistan's statistics on food insecurity, inequality, poverty and demographics, it seems inevitable to work on productivity enhancement of wheat crop, reducing post-harvest losses and improving the supply chain of wheat flour. This diagnostic study will help identify distortions and suggest pro-competition reforms at each stage.

2. **Visibility of the industry**

The major factors for selection of wheat flour industry are: (i) the industry is visible to the public and policy makers, (ii) important to consumers in Pakistan, (iii) account for a significant proportion of Pakistan's GDP, (iv) allows for Commission's enforcement and advocacy work, and (v) the market,

which is being studied exhibits features that limit competition, particularly the regulatory interventions and the behavior of private sector industry players. The wheat flour supply chain is very complicated, e.g. the role of intermediaries. These criteria are broadly consistent with those used by competition authorities in other jurisdictions.

3. **Economic and political economy criteria**

The selection process also considered restrictions on competition that arise from structural market features and the behavior of private stakeholders, as well as those that arise from regulatory and legal impediments to competition. The selection of the industry also benefited from using the World Bank Group (WBG) Markets and Competition Policy Assessment Tool (MCPAT), which is used to identify and assess the potential anticompetitive effects of government intervention in markets and inform the development of effective strategies to promote competition in emerging economies. The MCPAT effectively aligns government interventions with competition principles, considering inherent market features, in order to make firms strive for efficiency and, ultimately, leading to increased welfare. In particular, the MCPAT provides a comprehensive tool to: (i) understand what stifles effective competition dynamics in specific markets, including how government interventions shape incentives for firms to compete and invest, (ii) design more effective competition strategy and (iii) assess the expected effects of competition policy interventions in order to prioritize reforms and provide evidence to overcome political economy constraints.

4. **Very Complicated supply chain**

Wheat is Pakistan's most important agricultural crop, which is grown by about 80 per cent of all farmers, and covers about 40 per cent of the total cultivated area. During 2012-2013, wheat production at the national level increased at the rate of 3% annually, with an improvement of 1.8% in the yield and 1.3% expansion in the cultivated area. However, this pace of growth could not be maintained in the later years. In fact, there was a major setback in 2014-15, when production declined by -3.4 percent. In 2016-17, an increase of 0.5 percent was noted in wheat production. The total wheat availability in the country in 2016-2017 was about 31 million tons, based on production of 25.75 million tons and added stock of 5.02 million tons. The aggregate loss of wheat grain during several post-harvest processes in Pakistan has been estimated at about 10 to 15 per cent.[13] This wheat reaches the final consumer through a complicated supply chain, which is facing several issues relating to the role of intermediaries and regulation.

5. **Production and import pattern**

During 2016-17, wheat crop was sown on an area of 9052 thousand hectares witnessing a decrease of 2 percent compared to 9224 thousand hectares during the same period last year. Wheat production was estimated at 25.75 million tonnes during 2016-17 witnessing an increase of 0.5 percent over the last year's production of 25.63 million tonnes. The production increased due to better supply of

[13] The losses of food grain stock are as high as 30% in South East Asia, 25-55% in South America and 8-25% in India.

inputs, which contributed in enhancing per hectare yield. During the last five years, Pakistan imported wheat in small quantities, mostly the national production is sufficient to meet the demand.

Table 1: Area, Yield & Production of Wheat

Year	Punjab	Sindh	KPK	Balochistan	Pakistan
Area (Thousand hectares)					
2006-07	6432.8	982.2	754.3	385.1	8554.4
2007-08	6402	989.9	747.4	402.5	8541.8
2008-09	6836.2	1031.4	769.5	408.9	9046
2009-10	6913.5	1092.3	758.3	367.5	9131.6
2010-11	6691	1144.4	724.5	340.8	8900.7
2011-12	6482.9	1049.2	729.3	388.4	8649.8
2012-13	6511.3	1058.4	727.3	363.2	8660.2
2013-14	6901.4	1121.6	776.8	399.5	9199.3
2014-15	6979.5	1106.9	732.5	385	9203.9
2015-16	6913.9	1154.5	772.3	382.9	9223.6
2016-17	6660.2	1169.5	748.6	394.1	8972.4
Yield (kgs per hectare)					
2006-07	2775	3471	1538	2264	2723
2007-08	2438	3446	1434	2158	2454
2008-09	2694	3432	1565	2123	2657
2009-10	2592	3390	1520	1459	2553
2010-11	2846	3747	1595	2139	2833
2011-12	2736	3585	1550	2170	2714
2012-13	2855	3400	1714	2115	2794
2013-14	2860	3568	1755	2191	2824
2014-15	2763	3318	1720	2265	2726
2015-16	2824	3321	1813	2276	2779
2016-17	3073	3344	1824	2364	2973
Production (Thousand tonnes)					
2006-07	17853	3409.2	1160.4	872.1	23294.7
2007-08	15607	3411.4	1071.8	868.6	20958.8
2008-09	18420	3540.2	1204.5	868.2	24032.9
2009-10	17919	3703.1	1152.5	536.2	23310.8
2010-11	19041	4287.9	1155.8	729.1	25213.8
2011-12	17738.9	3761.4	1130.3	842.7	23473.3
2012-13	18587	3598.7	1246.7	768	24200.4
2013-14	19738.9	4002.1	1363.1	875.3	25979.4
2014-15	19281.9	3672.2	1259.9	872	25086
2015-16	19526.7	3834.6	1400.4	871.3	25633
2016-17	20465	3910.4	1365.1	931.8	26672.3

Source: Wheat Policy Analysis- 2018, Agriculture Policy Institute, Islamabad

6. Production and consumption shares of provinces

As far as provincial shares are concerned (Figure 2 and 3), during 2014 to 2017, Punjab has a share of about 75% in area and 76% in production. Sindh with a share of 12.5% in area produces 14.8% of the wheat. KPK has a share of 8.2% in area and contributes 5.2% in the overall production of wheat, followed by Baluchistan that has an area share of about 4% and produces 3.5% of the wheat. The wheat area, yield and production changes are shown in Table 2 increased slightly by 1% whereas in Sindh and KPK, the increase was 4 and 5 percent, respectively.

Figure 2: Area - Provincial Shares

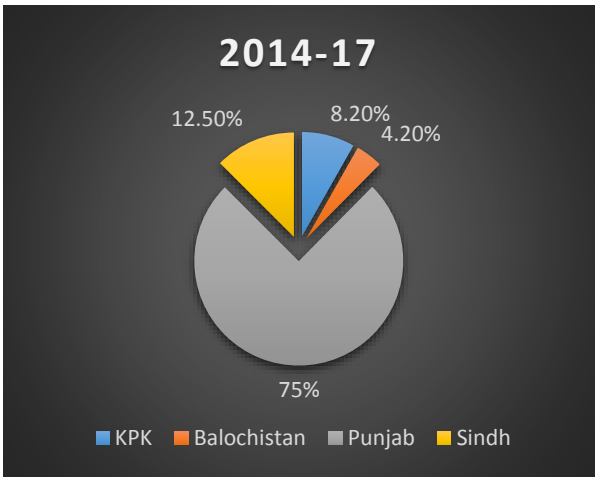
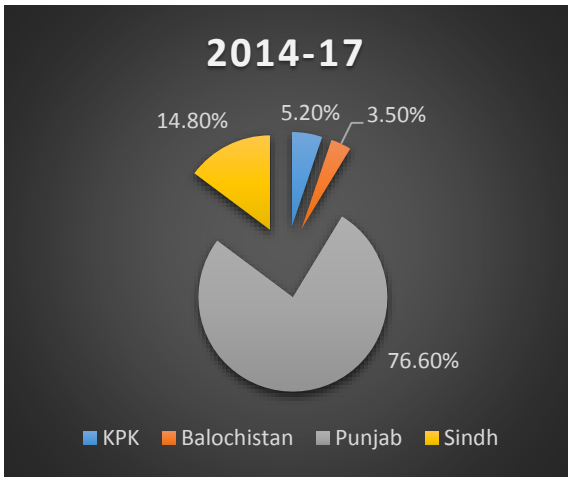


Figure 3: Production - Provincial Shares



Source: Wheat Policy Analysis- 2018, Agriculture Policy Institute, Islamabad

Table 2: Wheat - Area, Yield and Production

	Area		Change	Yield per hectare		Changes	Production		Changes
	2015-16	2016-17		2015-16	2016-17		2015-16	2016-17	
	000 Hectares		Percent	Kgs		Percent	000 Tonnes		Percent
Pakistan	9223.6	8972.4	-2.7	2779	2973	7	25633	26672.3	4.1
Punjab	6913.9	6660.2	-3.7	2824	3073	8.8	19526.7	20465	4.8
Sindh	1154.5	1169.5	1.3	3321	3344	0.7	3834.6	3910.4	2
KPK	772.3	748.6	-3.1	1813	1824	0.6	1400.4	1365.1	-2.5
Balochistan	382.9	394.1	2.9	2276	2364	3.9	871.3	931.8	6.9

Source: Wheat Policy Analysis- 2018, Agriculture Policy Institute, Islamabad

It has been estimated that Punjab consumes about 56% of the total wheat and wheat flour produced in the country. This is followed by Sindh with about 25%. KPK and Baluchistan consume 15 and 5 percent, respectively. Punjab, thus has a surplus in the wheat production, which is then supplied to other provinces.

7. **Support and consumer prices, and implications for competition**

70 days' consumption surplus is the minimum level to ensure food security. The quantity of wheat present on 1st May of each year is considered as the final quantity of wheat in the store as carry-over stock. Keeping in view the lack of the latest storage technology and non-availability of suitable storage facilities with farming communities, the consumption requirement stock in Pakistan is estimated to be a minimum of 40 days.

Market prices show that the growers have benefitted from the support prices, which were revised upward in 2014-15 to Rs 1300/40kg and remain the same till 2018. The support price helped approaching the targeted production during the subsequent years. This is reflected in declining imports as well. Annual wheat import during the period 1990-91 to 2007-8 ranged between 0.5 and 4.1 mmt, and averaged 1.87 mmt. During 1998-99, the import was exceptionally high, i.e. 4.11mmt. During 2013 and 2014, the imports remained 1.13 mmt. Afterwards, from 2015 to 2017, the imports declined to .052 mmt only. This was due to better crops in these years.

It has been estimated that the increase in support price benefits big landlords at the cost of small farmers. The reason being that the small farmers seldom have surplus wheat.[14] This has led to raise the gap in productivity and income of big and small farmers. Thus, the support pricing has implications from political economy considerations as well. It is understandable that raising support price affects food-inflation, which hurts poor and fixed income earners. However, government's subsidized wheat flour supply serves as a shock absorber. The same amount of subsidy across all income levels is bound to be inefficient and costly. It is interesting that the wheat price is increased through a higher support price, and then the government attempts to reduce flour price by subsidized wheat supply to the flourmills, and cheaper supply of wheat flour at the Utility Stores. This creates a dichotomous situation for public policy.

In 2013-14, the market price of 50 Kg wheat jumped to Rs. 1,600 from Rs. 1,300 in Khyber Pakhtunkhwa (KPK) due to the smuggling of large quantity of wheat. Wheat export to Afghanistan remained a permanent feature. However, during 2017 and 2018, a change was observed, as Afghan market is now being served by the cheap Indian wheat. This has affected the business prospects of wheat flourmills situated in KPK and Islamabad. During the last decade, wheat flour price increased by Rs.10. This shows limited prospects of profitability in flour milling, the industry has become a rent seeker through misuse of quotas, short period price hikes and resorting to anti-competitive practices like cartelization.

In this backdrop, this study, aims to:

- Assess the level of competition in this industry through examination of the supply chain covering farm operation to the supply of final product in the market;
- Identify anticompetitive conduct; and

[14] More than 50 percent of the farms are in the range of 2.5 to 5 acres.

- Provide recommendations to improve competition in the industry, which may be through advocacy, enforcement, modification of policies through policy note, etc.

1.3 Methodology and Data Collection

To conduct a dependable analysis, the framework of research has been formulated based on the World Bank's Competition Assessment Guidelines, 2018 for the CCP. The wheat flour industry is scattered all over the country, and the data is not readily available, particularly for flour-milling units that fall in the ambit of informal sector. Therefore, filling up the data gaps was a major challenge. Data has been gathered from secondary sources and by conducting a sample survey. Various online databases like FAO, UNCTAD, etc. have been used, besides interviews and meetings with various stakeholders including producers, associations, government organizations etc. for primary data collection. News reports, economic surveys and other research publications on the relevant industry were used for secondary data analysis.

1.4 Limitations of the Study

Wheat flour or *atta* is largely a homogenous commodity that is obtained by grinding wheat. The cost structure is similar for the production process regardless of location, once wheat enters the premises of the milling unit. Therefore, the study selected a small sample of mills to gather information about the production process, cost, issues, etc. nevertheless, this is a designs limitation due to the sample of mills selected for interviews, meetings and the data gathered. The study assesses competition in the wheat flour industry given the regulatory framework and the market dynamics. It does not apply quantitative techniques and econometric tests for determination of anti-competitive conduct.

CHAPTER 2: MARKET STRUCTURE OF FLOUR MILLING INDUSTRY IN PAKISTAN

2.1 Definition of the 'Relevant Market'

There are two fundamental dimensions of market definition, first is the product market, i.e. which products to group together; and second the geographic market, i.e. which geographic areas to be grouped together. Market definition considers both the demand and supply considerations. On the demand side, products must be substitutable from the buyer's point of view, e.g. corn flour is a distinct product from wheat flour that is not substitutable for several purposes. On the supply side, sellers must be included who produce or could easily switch production to the relevant product or close substitutes.[15] The location of buyers and sellers determines the geographic market - local, regional, national or international. If markets are defined too narrowly in either product or geographic terms, meaningful competition may be excluded from the analysis. On the other hand, if the product and geographic markets are too broadly defined, the degree of competition may be overstated. Too broad or too narrow market definitions lead to understating or overstating market share and concentration measures. In the case of wheat flour, the provincial boundaries in Pakistan determine the 'Geographic market'.

As far as 'Product market' is concerned, the 'use' of the product is the key to determine market. There are different types of flour that are used for various purposes. These include: all-purpose flour, cake flour, white bread flour, whole wheat bread flour, amaranth flour, barley flour, buckwheat flour, white rice flour, brown rice flour, arrowroot flour, corn flour, self-rising flour. However, the wheat flour for bread is quite different from the cake flour. Protein-rich gluten-free flour is different from protein-low gluten-free types of flour. Some types of flour are ideal for baking bread, others for baking cakes, yet others for thickening soups and so on.

Flour that is used in baking comes mainly from wheat, although it can be milled from corn, rice, nuts, etc. The type of flour used is necessary to prepare the required product. Different types of flour are suitable to prepare different products; and therefore, these flour types cannot be substituted for each other. To remain focused towards the targeted product, 'wheat flour' is considered a distinct product compared to corn or any other flour. Wheat Flour is a powder obtained by grinding hard wheat grains.[16] Hard wheat has high protein content, so dough made out of *Atta* is strong and can be rolled out very thin as traditional bread called *chapati* or *roti*.[17]

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[15] Glossary of Industrial Organisation Economics and Competition Law, compiled by R. S. Khemani and D. M. Shapiro, commissioned by the Directorate for Financial, Fiscal and Enterprise Affairs, OECD, 1993. http://www.oecd.org/dataoecd/8/61/2376087.pdf

[16] The wheat berry is made up of bran, germ, and endosperm. The bran contains fiber and minerals; it is the outer shell covering the berry. The bran has sharp edges, so it is removed during milling but is often added back. The germ is the part of the seed that becomes a plant; it is high in protein and vitamin B. It is removed while milling because its fat causes the flour to become rancid. The endosperm is the food that the seed consumes when becoming a plant; it is composed of starch and protein.

[17] There are six types of wheat; each is used for specific product. Wheat varieties are: 'clean', 'white' or 'brown'. With high gluten content, these are called 'strong' or 'hard', otherwise 'soft' or 'weak'. According to its type, the uses differ, e.g. hard red wheat is best for yeast breads; soft is used in cakes, pastries and other baked goods, etc.

Whole-wheat flour is made from milling the entire wheat berry or kernel or entire seed. It is brownish in color. Amongst the wheat-based flours, whole-wheat flour is the roughest and is considered unrefined. Containing the entire wheat kernel, this flour is rich in fiber and nutrients like potassium, magnesium and selenium. It has a relatively shorter shelf-life because of the oil in bran and wheat germ.

The type of flour also relates to extraction rate, which is the proportion of flour produced from the initial weight of wheat. If 100 kg of wheat is used to obtain 75kg of flour, the extraction rate is 75%. According to extraction rate, there are three basic types of wheat flour:

- *White*: most of the bran and germ are removed, along with fat and minerals, with a 75% extraction rate.
- *Brown*: some of the bran and germ is removed, with an 85% extraction rate.
- *Wholemeal* or whole-wheat or wholegrain: the whole of the grain is used without adding or removing anything, with a 100% extraction rate.

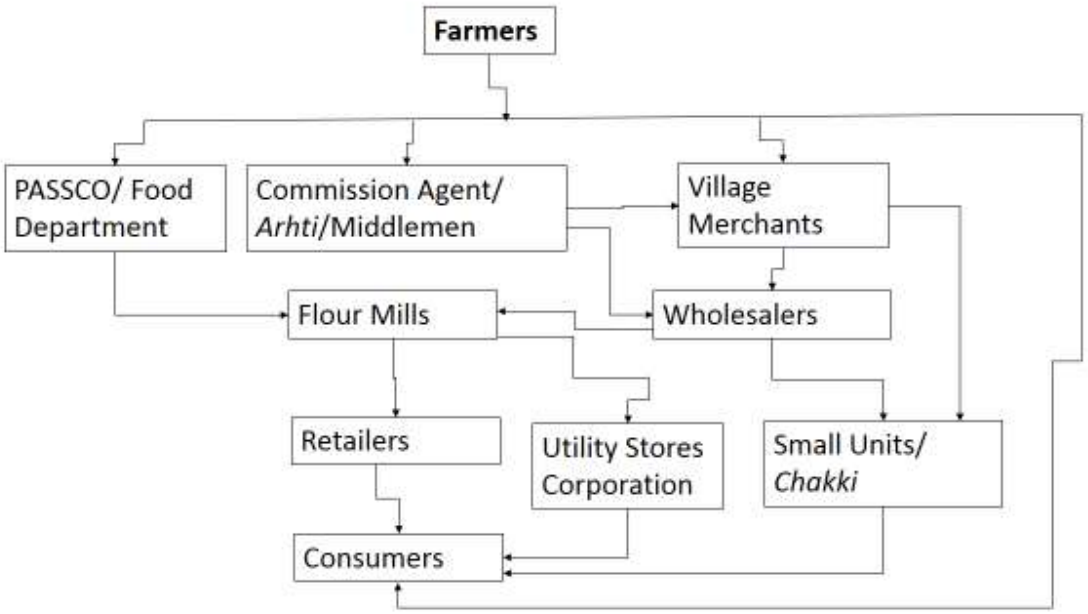
Wheat flour used in cooking and baking is divided into seven broad categories (Table 3).

Table 3: Types of Wheat Flour

No.	Type	Made from	Protein (gluten) content %	Usage
1	All-Purpose Flour	Blend of hard and soft wheat	8 -11	Bleached: Piecrusts, cookies, quick breads, pancakes and waffles. Unbleached: flour for yeast breads, Danish pastry, puff pastry, strudel, cream puffs.
2	Bread Flour	Hard, high-protein wheat	12 -14	Yeast products
3	Cake Flour	Soft-wheat flour	8 - 10	Baked goods with a high ratio of sugar to flour
4	Gluten Flour	Spring wheat	12 -14	Diabetic breads
5	Instant Flour	Granular and formulated to dissolve quickly in hot or cold liquids	--	Sauces and gravies
6	Pastry Flour	Soft wheat	9 - 10	Biscuits, pie crusts, brownies, cookies and quick breads
7	Whole-Wheat Flour	Whole kernel of hard white spring wheat	9 -11	Bread and baked products

The market structure of any product is determined by the number of firms and buyers in the market, the nature of product/service produced, availability of substitutes, availability of information to both the sellers and the buyers, and the entry barriers. The regulatory framework also plays an important role to shape the market structure. Figure 4 provides the market structure of the industry in Pakistan.

Figure 4: Market Structure of Wheat Flour Industry in Pakistan



Source: Survey of Stakeholders

There are three main channels in the marketing system through which the wheat produced by the farmers reaches the consumer in the form of wheat flour. To start with the small subsistence farmers, who keep their produce for themselves and use wheat to barter for other commodities from village shopkeepers and vendors. Here, these farmers do not get the due returns of their produce, and get only a nominal price. In general, farmers keep on getting daily use supplies from shops on '*udhar*' basis (loan) and pay back at the time of harvest in the form of wheat. This informal market is a key link to perpetuate poverty in small farmers.

Firstly, the wheat goes to the godowns after public procurement. At this stage, the farmers' representatives indicate the issue of non-availability or delayed distribution of jute bags. As a result, the farmers are forced to sell their produce at cheaper rate to the intermediaries. The reason being no storage capacity with the ordinary farmers.

The remaining wheat is brought to the village market – making it the second channel. The markets in villages are generally situated in close proximity to the farms or at specific places, where farmers and '*beopari*' (local village trader) bargain. These traders buy wheat directly from farmers, mostly at low rates, and sell the commodity in the city's market after keeping some margin as transportation cost and own

profit. This is the stage where farmers are exploited not only on account of low returns but also on the basis of impurities and under weighing of wheat. At times, farmers get loans from local traders and agents for seeds and fertilizer, which bound farmers to sell the produce only to them. As a result, farmers do not get better rates. The recent improvements in the road networks has improved accessibility of farmers to the nearby wholesale markets, situated in the district or towns – the third channel. Local traders and farmers bring wheat and interact with commission agents called *'Katcha Arhti'* (commission agent) and *'Pukka Arhti'* (wholesaler). The commission agent provides credit to the farmer for agricultural inputs like seeds and fertilizer, apart from finances for daily use items – this is more like informal credit system for '*udhar'* loan. The advance credit is settled at harvesting time. Here again the farmer is bound to sell wheat to *arthi*. The *arthi* deducts his commission (*arhat*) and sells the produce forward. After deduction of his loan advances and *arhat*, he gives some amount to the farmer and keeps the remaining with himself to meet farmer's future expenses. Thus, little money goes to the relatively smaller farmer, which reduces his ability to take economic decisions independently.

Pukka Arthi acts as an agent for traders of other markets, situated in the city. These are the markets, where regulations on market committees are enforced to control the functioning of these markets. The returns are higher in these markets as compared to the farm gate and village markets, due to being competitive. The next stage is that of terminal markets that are lesser in numbers but are bigger in size, which are situated in large urban city centres such as Karachi, Rawalpindi and Quetta. The commission agents supply wheat to these markets bought earlier from relatively smaller village or towns markets. From these open markets, the wheat is purchased either by domestic wholesalers or by the processing mills. The domestic wholesalers either supply the commodity directly to the market or sell it to the dealers. Dealers keep their margin and sell the commodity to retailers. All along the supply chain, the market participants are governed by various laws. At this stage, the market forces determine the prices themselves, yet there remains influence of government's support price. The returns at the terminal stage are higher due to bigger investment and deals, whereas, farmers' returns are comparatively lower due to exploitation by the middlemen.

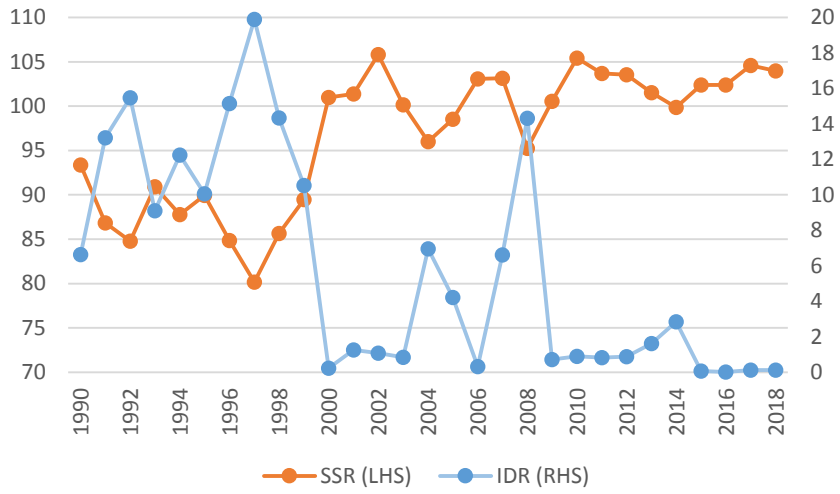
2.2 Demand Side

Generally, a Pakistani child starts eating wheat flour bread or '*Roti'* as a daily diet at the age of two years. The per capita wheat consumption in the country is about 120 and 124 kg per annum, according to MNFSR and USDA-FAS, respectively. Accordingly, wheat flour provides 72 percent of daily caloric intake in average Pakistani's diet.[18] With these, the estimated consumption for 2017/18 comes out to be about 25 MMT. These estimates should be taken with a caution, as will be shown in the section on wheat flour supply that there are various leakages along the flow of wheat available in the country into the supply of flour. Hence, Pakistani's wheat consumption may not be amongst the highest in the world. Based on the premise of hardly any imports, the perception that Pakistan has been producing sufficient wheat to satisfy the demand since 2010, also needs to be reconsidered. In 2017/18, the wheat production was 25.49 million

[18] Pakistan Grain and Feed Annual, GAIN Report Number: PK1907, Date:3/29/2019. Available at: https://gain.fas.usda.gov/Recent%20GAIN%20Publications/Grain%20and%20Feed%20Annual_Islamabad_Pakistan_3-28-2019.pdf

tonnes; carryover stock of the previous year was 4.5 million tonnes, the total wheat availability thus comes out to be about 30 million tonnes. However, there are issues relating to post harvest losses and storage that cause damage to the product and reduce the available supply. The inadequacy of storage facilitates is also a big issue. Therefore, bulk of the commodity is stored in open space, using primitive ways, as storage capacity is estimated to be about 5 million tonnes only. Punjab is in the process of construction and rehabilitation of silos of having about 148500 metric tonnes storage capacity in Faisalabad, Islamabad, Multan, Mana Hamsani and Kotla Mosa, Ahmadpur East.

Figure 5: Import Dependency and Self- sufficiency Ratios



Source: Author's calculations

Pakistan meets its requirements mainly with indigenous production and has a low import dependency ratio (IDR).[19] From 1990 to 2000, Pakistan had to import wheat; afterwards with the exception of a few years the Self-sufficiency Ratio (SSR) has remained very high, generally touching a hundred percent mark (Figure 5).

2.2.1 Factors affecting wheat flour demand

2.2.1.1 Demographic factors

The size, growth, trends, and the characteristics of population are key variables that affect wheat flour demand in Pakistan. In 2018, out of the total population of 207.77 million, the urban population is about (76 million) 33% of the total, which is largely confined to few big cities.[20] The urban population represents the base market for wheat produced in the rural areas, and the flour produced in the urban flourmills. The taste and preference of the consumers is changing due to growing urbanization. In urban areas and among well-off higher income groups, lower extraction flour is preferred over higher whole grain flour,

[19] According to the FAO, the Import dependency ratio (IDR) is defined as: IDR = imports x 100/(production + imports - exports). On the other hand, the Self-sufficiency Ratio (SSR) indicates the extent to which a country relies on its own production resources, i.e. the higher the ratio the greater the self sufficiency. The self-sufficiency rate (as defined above) cannot be the complement to 100 of the import dependency rate, or vice-versa. For details, see: http://www.fao.org/docrep/015/i2490e/i2490e05.pdf

[20] Source: Pakistan Bureau of Statistics

and from *Chapati* (traditional bread) to baked loaf bread and wheat cereals. However, demand for whole-meal flour or '*choker* (bran) *wala Atta*' is also on the rise amongst educated health conscious consumers, who prefer fresh *'khula chakki atta'*. Small 'chakkis' provide an opportunity to consumers to select available wheat of various categories to opt for already grinded wheat flour. The price of flour differs for different varieties of wheat. Also, the consumers can inspect the quality/neatness of wheat, this provides them a sense of satisfaction. Cashing this, the chakkis in urban areas charge a higher price per kg of flour as compared to commercial mills. In rural areas, the use of commercially grinded flour is on the rise.

Punjab (53%) is the most populous province, followed by and Sindh (23%). Karachi is the main urban area of Sindh whereas Punjab has the largest number of cities. 15% population lives in KPK and 6% in Baluchistan, Federal capital Islamabad and Federally administered Tribal Areas account for the remaining 3%. The majority of the population is naturally settled in concentrated pockets along the Indus river system; major urban markets emerged as a result of railway and the road network. The following table shows the characteristics of population that play an important role in determining the demand for wheat flour.

Table 4: Pakistan - Demographic Facts

	2010-11*	**2012-13***	**2017****
Total Population (million)	177.1	184.35	207.77
Urban Population (million)	65.3	69.87	75.58673
Rural Population (million)	111.8	114.48	132.1833
Total Fertility Rate (TFR)	3.5	3.3	2.62
Crude Birth Rate (Per thousand)	27.5	26.8	25.4
Crude Death Rate (Per thousand)	7.3	7	6.4
Population Growth Rate (Percent)	2.05	2	2.4
Life Expectancy (Year)			
- Females	65.8	66.5	67.5
- Males	63.9	64.6	65.5
Source: * Planning Commission, National Institute of Population Studies (NIPS) ** Pakistan Economic Survey			

The distribution of population indicates that the wheat flour demand will keep on increasing for the projected years of 2020 till 2030, with the growth of population especially in the age groups of 10 + (Table No. 5).

2.2.1.2 Income and employment

Income and employment are the direct drivers for food demand. There has been a consistent increase in the working age population, which grew from 116 million in 2006 to 135 million in 2014 (according to the latest available Labour Force Survey). During these years, the employed labour force grew from 43 to 57.42 millions. The labour force stood at 45% of the total population, of this 43% being employed persons.

In this duration, the employed labour force in urban area grew by 19% whereas there was an increase of 14% in the employed labour force in rural area. Besides agriculture, the labour force is mainly absorbed in mining, manufacturing, construction and trade.[21] In most of these activities, the laborious nature of work requires energy in the form of carbohydrate-based food, which, in the local markets is available as the wheat flour bread. Overall rising incomes also contribute to the demand. For instance, in the construction sector in major cities of the country, the wages of various types of workers, on average have increased by about 50% during 2012 to 2017. As a result, the demand for food has also gone up.

Table 5: Distribution of population by age group (million)

Age Group	1998	2011	2013	2015	2020*	2025*	2030*
00-04	19.59	22.02	22.40	22.76	23.28	22.44	20.35
05-09	20.72	20.40	20.87	21.33	22.35	22.95	22.18
10-14	17.14	19.94	19.56	20.07	21.24	22.28	22.88
15-19	13.73	20.27	20.78	20.12	20.01	21.19	22.24
20-24	11.88	17.72	18.72	19.8	20.05	19.95	21.14
25-29	9.76	15.25	16.16	17.13	19.71	19.98	19.89
30-34	8.24	12.95	13.85	14.72	17.04	19.62	19.91
35-39	6.32	10.83	11.57	12.4	14.62	16.94	19.53
40-44	5.89	8.90	9.69	10.36	12.27	14.49	16.81
45-49	4.68	7.32	7.85	8.49	10.2	12.01	14.31
50-54	4.26	6.01	6.44	6.88	8.26	9.95	11.84
55-59	2.86	4.83	5.16	5.53	6.57	7.93	9.6
60-64	2.72	3.78	4.03	4.31	5.13	6.14	7.45
65+	4.64	6.81	7.28	7.82	9.39	11.39	13.93
Total	132.43	177.03	184.35	191.72	210.12	227.26	242.06

Source: Pakistan Economic Survey

* Projections

2.2.1.3 Food security and nutrition concerns

The history of food security dates back to 1948 when the Universal Declaration of Human Rights recognized the right to food as a core element of standard of living. Since then, the concept of food security has been developing. There are more than 200 definitions and about 500 indicators of food security. Some of the definitions are:

"Food security is the people's right to define their own policies and strategies for the sustainable production, distribution and consumption of food that guarantees the right to food for the entire population, on the basis of small and medium-sized production, respecting their own cultures and the

[21] For details, see Table No. 12.11 on 'Distribution of Employed Persons of 10 Years Age and Above by Major Industries', Pakistan Economic Survey, Statistical Appendix. 2017-18.

diversity of peasant, fishing and indigenous forms of agricultural production, marketing and management of rural areas, in which women play a fundamental role.

Food security is defined as access by all people at all times to enough food for an active, healthy life, which includes at a minimum:

- the ready availability of nutritionally adequate and safe foods, and
- the assured ability to acquire acceptable food in socially acceptable ways (e.g. without resorting to emergency food supplies, scavenging, stealing, and other coping strategies.

"Food security" means that food is available at all times that all persons have means of access to it; that it is nutritionally adequate in terms of quantity, quality and variety; and that it is acceptable within the given culture. Only when all these conditions are in place can a population be considered food secure".

In 2011, Pakistan was among the 26 countries having alarming levels of hunger.[22] The Food Price Index had also been increasing at a substantially greater rate than the General Price Index since 2007-08. However, more recently, the poverty has declined both in terms of percentage and head count. According to Economic Survey, 2018 percentage of people living below the poverty line has fallen to 24% in 2015-16 from 50% percent in 2005-06. In Pakistan, wheat and its flour is crucial to food security. According to IFPRI estimates, wheat accounts for more than 55% of the total caloric consumption, and food expenditure on wheat is about 24% for poor households.[23] Therefore, wheat price changes have implications for consumers, who have to cut their budget on health or education to meet food requirements. This is reflected by the lowest expenditure elasticity for wheat at 0.58%, which means that wheat is not much expenditure responsive as compared to items like fruit, milk, meat and rice.[24] Keeping in view the poverty figures and the inequality, it is feared that a large segment of population, one-fifth according to some estimates, is under-nourished.

Pakistan is ranked 147 out of the 188 countries in the Human Development Index (HDI). The National Nutrition Survey, 2011 found that more than half of all households in Pakistan suffer from food insecurity, i.e. they are either hungry or face the threat of hunger along with malnutrition.[25] The situation though has improved in 2018, as this percentage declined to about 37% but still this is not satisfactory.[26] To overcome micronutrient malnutrition, wheat flour fortification (WFF) with iron and folic acid was identified as a strategy. A multi-sectoral nutrition policy guidance paper was prepared by provincial Planning and Development Departments.

The work on this project is ongoing. According to Punjab Food Authority Act, 2011 and Pakistan Standard PS 4782: 2008, wheat flour is subject to voluntary fortification. The shortage of power affects fortification

[22] Poverty increased from 34% in 2007 to 40% in 2012, International Food Policy Research Institute (IFPRI).
[23] Estimates by different organizations vary for this value e.g. MNFSR, FAS-USDA and Global Dietary Database.
[24] The elasticities greater than unity means that these items are highly responsive to expenditure changes.
[25] The 2011 NNS shows that the average consumption in rural areas was 306 g/day and urban 280 g/day.
[26] National Nutrition Survey, 2018, Ministry of National Health Services, Regulation and Coordination

process. The short term extraction rate significantly decreases due to sudden load shedding. This requires mills to have gravimetric micro feeders.

2.2.2 Long run demand and supply estimates

International Food Policy Research Institute (IFPRI) used the data of nationally representative household survey for projecting household demand under three different scenarios: a business-as-usual situation (assuming per capita income growth at a rate of 3% per annum); an optimistic situation (4% growth rate); and a pessimistic situation (2% growth rate). The results for wheat demand are shown in the following figures.[27]

Figure 6: Household demand for wheat (kg/capita/month), 2015–30

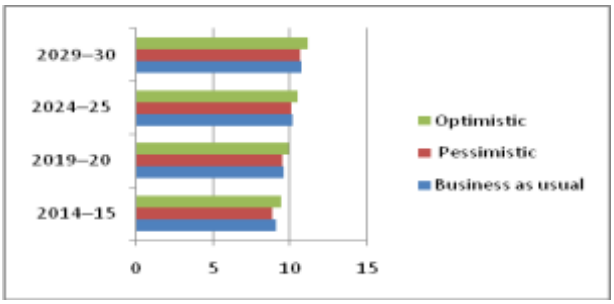


Figure 7: Household demand for wheat (000 tons/yr) with population growth 2%

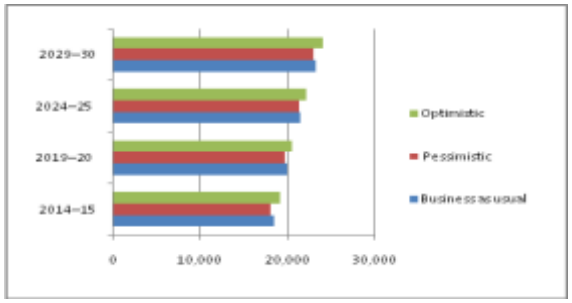


Figure 8: Household demand for wheat (000 tons/yr) with Population growth 2.42%

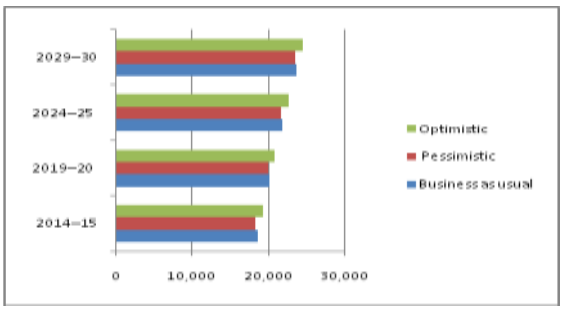
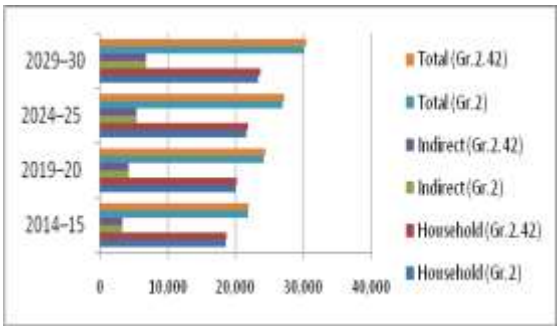


Figure 9: Projected demand till 2030 (000 tons)



Source: Based on estimates of Nazli and others

In the above figures, the projections of direct and indirect demand with population growth rates of 2% (as was in 2013) and 2.42% (the current rate in 2018 and the long-term growth rate based on decade of 2000) show that the demand for wheat will be more than doubled by 2030. The projections for supply show an increase in the output of wheat and rice by 2030. From 2008 to 2030, the demand for wheat will increase from 19 million tons to 30 million tons. Projection estimates of wheat supply based on the production

[27] 'Supply and Demand of Cereals in Pakistan: 2010-2030', Nazli, Hina & Haider, Syed Hamza & Tariq, Asjad, 2012, IFPRI, Islamabad. For projecting household demand, the Almost Ideal Demand System (LA-AIDS) was estimated. Cereal supply is projected using a short-run production function approach (with such variables as area and share irrigated fixed exogenously at observed levels). This projection is then used to estimate wheat produced from 2009 to 2030, with the projections of the exogenous determinants of production based on linear time trend models.

function technique show that by 2030, wheat output will reach 28 million tons. The demand for wheat is expected to be greater than its supply. In other words, Pakistan is likely to face a deficit in wheat. These results indicate that if production technology remains the same and the growth in production will be slower, the deficit of wheat will be much larger. Therefore, appropriate policy measures are needed to address the likely deficit in wheat. Enhancing crop productivity seems inevitable, keeping in view population growth and water shortage in the long run.

2.3 Supply Side

The domestic wheat flour supply estimates can be obtained through following two steps i.e., first estimating the wheat supply and then that of the flour:

Wheat production + imports - exports + changes in stocks (decrease or increase) = supply of wheat for domestic utilization.[28]

Step - I gives the following estimates for the availability of wheat from 1990 onwards:

Table 6: Wheat Supply in Pakistan (000 MT)

Year	Wheat production	(-) Farm usage*	(-) Farm off-take	(-) Post-harvest loss**	National supply	(+) Imports	(-) Official exports	(-) Smuggling ***	Total Supply
1990	14,429	2164	12,265	2453	9,812	1,026	0	1,626	9,212
1995	17,002	2550	14,452	2890	11,561	1,903	1	2,020	11,444
2000	21,079	3162	17,917	3583	14,334	50	253	2,120	12,011
2005	21,612	3242	18,370	3674	14,696	924	600	2,253	12,767
2010	23,311	3497	19,814	3963	15,851	200	1400	2,198	12,454
2015	25,086	3763	21,323	4265	17,058	19	600	2,472	14,006
2016	25,633	3845	21,788	4358	17,430	3	600	2,525	14,308
2017	25,750	3863	21,888	4378	17,510	30	1200	2,451	13,889
2018	25,500	3825	21,675	4335	17,340	30	1000	2,456	13,915

Notes: * For Seeds and fodder @ 15%, ** @ 20%, *** @ 15%
Source: Author's calculations

In Step – II, for wheat flour supply estimates, the losses at any stage, including at the stage of processing, will be subtracted. This gives the following results for Pakistan (Table 7).

[28] United Nations Food and Agriculture Organization, *Statistical Book 2012 of the United Nations Food and Agriculture Organization (FAO)*

Table 7: Wheat Flour Supply Estimates (000 MT)

Year	Total Wheat Supply	Flour Output (95% Extraction)	Distribution or Chain loss *	Flour Supply in the Market
1990	9,212	8751	875	7,876
1995	11,444	10872	1087	9,784
2000	12,011	11411	1141	10,270
2005	12,767	12129	1213	10,916
2010	12,454	11831	1183	10,648
2015	14,006	13306	1331	11,975
2016	14,308	13593	1359	12,234
2017	13,889	13195	1319	11,875
2018	13,915	13219	1322	11,897

Note: * @ 10%
Source: Author's calculations

Keeping in view the demographics and the above estimates of flour supply, the per capita availability comes out to be in the range of 65-67 kg per annum, which is far lesser than the other estimates e.g. of MNFSR. Therefore, productivity enhancement of wheat crop seems inevitable in the wake of a growing population and ensuring its food security.

2.3.1 Supply from the flourmills

The production of wheat flour is a relatively less sophisticated that is based on eight steps (Figure 10).

Figure 10: Wheat Flour - Manufacturing Process

Purifying the wheat: The wheat is graded and using a separator, wheat and other small particles pass through metal screen. Here, the objects like sticks and pebbles are removed. Small pieces of metal are removed using magnets. The disk separator moves wheat over several disks, which collect wheat and moves it down in a rapidly spinning cylinder.

Preparing the wheat for grinding: Purified wheat is spun dried after washing in warm water. At the conditioning or tempering stage, the outer layer of bran is removed during grinding.

Grinding: In Pakistan, the mills blend wheat of different colors/ grades to obtain the preferred color and kind of flour. Sometimes red and white imported wheat is blended. At the grinding point, the wheat moves between two metal rollers, called breaker rolls/bodies. These rollers and the spiral grooves crack wheat grains to separate interior from the bran. The output of the rollers is separated into three categories: a) middlings or farina; b) semolina; and c) pieces of interior attached to the bran. The middlings go to the middlings purifier and the other materials move to other rollers. The middlings moves over a vibrating screen, where air is blown to remove the lighter bran. The middlings is finely grounded into flour by pairs of larger and smooth metal rollers. Sieves of metal, nylon or silk are used to produce flours of different fineness - metal. for coarse flour and others for fine flour is fine. The variety of products are combined to make the final products as desired.

Quality control: As per requirements of the law, the equipment for use in milling is cleaned and sterilized. Also, the flour is tested for its suitability.

Processing the flour: Early rolls produce white flour, less white flour is produced in later rolls as the amount of bran particles is increased. Likewise, whole meal flour is obtained when all the milled products are mixed in original quantities. After mixing additives as needed, the flour is packed into cloth sacks.

2.3.2 Types and number of flourmills

Broadly, there are mills of two types – modern mills and traditional *Chakkis* further bifurcated as stone mill and China type or metal bladed. Mostly, the flourmills are manufactured locally in Pakistan and Miag (Buhler) brand mills made under license in the Ukraine but commonly known in the Pakistani market as Russian mills. The rolls of the mills are imported from Russia and Ukraine, and their parts are locally manufactured. Alapala is a well-known company that supplies machinery and turn-key milling facilities. However, the flour industry has all local and private investment.

The information about the spatial distribution of wheat flourmills is available from the Food Departments as well as from Pakistan Flour Mills Association (PFMA). The provincial distribution is as under:

- The number of flourmills in Sindh is in the range of 150 to 200. Karachi has the largest number of mills (72) followed by Sukker (55). Information available from the Food Department indicate that there are 140 flourmills.
- According to the Food Department, there are 894 flourmills in Punjab.[29]
- Islamabad has 41 mills with installed capacity from 40 to 360 MT per day.
- Baluchistan has 28 mills ranging from 40 to 240 MT installed capacity per day.
- KPK has 116 flour mills

[29] https://food.punjab.gov.pk/system/files/list%20of%20flour%20mills.pdf

From the above mills, 915 flourmills are registered with the Association, having a milling capacity of 77275 MTones/day. It is noted that the numbers available with Food Department and those of the Association are different. Industry stakeholders expressed the possibility of having ghost mills i.e. the ones that do not exist actually but earn money by selling their quotas allocated from the Food Department. Also, it may be due to the non-updating of information, as certain mills may have been closed down but not deleted from the record. For membership, the Association requires the following information, among others:

- Total Roller Bodies installed in the flourmill.
- Grinding capacity in 24 Hours.
- Copy of the approved Site Plan.
- Copy of the approved Electric Power.
- Copy of the Food Grain License.
- Verification from Two Flour Mills regarding installation of the Mill.

From the above, it seems that the existence of ghost mills is not possible in the absence of connivance of the relevant government functionaries, as they have to ensure the existence of the mill prior to approve quota and the consequent supply of wheat. The quota mechanism is based on the number of "bodies/ roller/roller stand"; each such body can mill 20 MT/day. The present number of approved roller bodies by the Punjab Food Department is more than eight thousand. Small mills of few roller bodies also get a quota. Therefore, this system has helped smaller mills to sustain in the market.

The milling capacity is no doubt more than the demand. However, the mills are not working on full capacity. The installed milling capacity measured in terms of roller bodies appears to overestimate the actual operational capacity, as this is constrained by the availability of power.

The wheat flour industry produces various wheat products and a variety of flours, which include Semolina/ *Suji*, Fine *Maida,* Special *Atta*/ flour and *Atta* – depending on the rate of extraction or refinement. The flour from mills is available in sacks of 20 and 10 Kgs, and that of *chakkis* is available in sacks of 5 Kgs in urban areas. *Khula*/ open flour, in any quantity, is available from *Chakkis* in both rural and urban areas. Generally, the *Chakki*s sell flour produced from their own procured/ self-grown wheat or grind a customer's own grain. There are China *Chakki* (hammer/pin type mill) and the Stone *Chakki* (rotating stone of local origin). Commercially operating small *Chakkis* in urban areas have a capacity to produce around 2 MT per day. There is a price differential in the commercial mills' produced flour and that of *chakkis* produced flour. The flour from *chakkis* is expensive by Rs. 10, as they procure relatively expensive wheat from open market.

2.4 The Cost of Production

Estimating cost of production faces numerous practical difficulties as variety of farming systems exist in Pakistan. These involve substantial variations in agro-climate conditions, patterns of cropping, input level, use of technologies vs. traditional practices, etc. These factors result in variable crop production and hence in variable unit cost of production. The cost of farm operations covers land preparation, seed and sowing processes, weedicides, irrigation, fertilizers, harvesting, threshing, land rent, etc.

Table 8: Total Cost per Acre - Punjab vs. Sindh

						(In Rupees)	Percentage change from 2012 to 2017
	2012-13	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**	
Punjab	33118	36070	39265	38496	40225	41888	26
Sindh	32120	34054	37543	35911	37400	38068	19

Source: Agriculture Policy Institute

The cost of these parameters for Punjab and Sindh shows that the cost is lesser in Sindh than Punjab (Table 8). This is because of lower cost of irrigation, harvesting, threshing and land rent in Sindh as compared to Punjab.

The detailed cost estimates for various farm operations in Punjab from 2012 to 2018 show major cost items in fourteen categories (Table 9). Accordingly, the total cost can be distributed as land rent (36%), harvesting and threshing (16%), fertilizer (13%), farm operations & inputs (11%), seeds and sowing (8%) and others (16%). A comparison over the last six years depicts that the cost increased for land rent (100%), Operations /Inputs (56%), Labour charges for irrigation and expenses on Farm Yard Manure increased by 93% and 87%, respectively. In the same duration, the cost-heads that underwent a decline include: fertilizer (-31), irrigation (-11%) and harvesting (-1%).

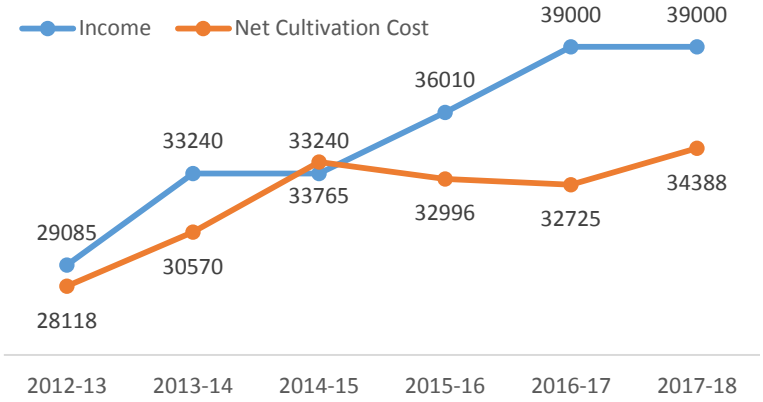
Table 9: Estimates of Production Cost

(Rs/Acre)

		2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	Change from 2012 to 2017 (%)
1	Operations / Inputs	3043	3286	3530	3748	4879	4746	56
2	Seed and Sowing Operations	3166	3251	3448	3533	3558	3184	1
3	Bund Making	181	192	208	218	200	200	10
4	Weedicides	512	551	630	708	658	650	27
5	Irrigation	2255	2462	2890	2878	2009	2013	-11
6	Labour: irrigation and water course cleaning (m.days)	466	466	544	544	866	900	93
7	Farm Yard Manure (50%)	400	400	500	600	732	749	87
8	Fertilizers	7880	8145	7942	8055	5454	5410	-31
9	Mark up on investment on item 1 to 8 excluding item 5 (1) @ ____ per annum for 6 months	1071.18 (@12%)	1122.17 (@15%)	1473.02 (@15%)	1507.42 (@13%)	1190 (@13%)	1157 (@14%)	8
10	Harvesting Charges (40kgs/acre)	2900	3468	3614	3644	3373	2875	-1
11	Threshing	2707	3131	3331	3354	3398	3595	33
12	Land Rent for 6 months	7500	8500	10000	8500	12500	15000	100
13	Average weighted land tax @ Rs 132/acre/annum for 8 months	66	66	66	66	66	66	0
14	Management charges for 6 months	971	1030	1090	1199	1343	1343	38
15	Total cost per acre	33118	36070	39265	38496	40225	41888	26
16	Value of wheat bhoosa	5000	5500	5500	5500	7500	7500	50
17	Net cultivation (item 15-16)	28118	30570	33765	32996	32725	34388	22
18	Yield per acre (kgs)	1108	1108	1108	1108	1200	1200	8
19	Cost of production at farm level (Rs/40kgs)	1015	1103	1219	1191	1091	1146	13
20	Marketing Cost (Rs/40kgs)	30	30	30	35	38	38	27
21	Cost of production at market/procurement centre (Rs/40kgs)							
21(a)	Including land rent	1045	1134	1249	1226	1129	1184	13
21(b)	Excluding land rent	774	827	888	919	712	684	-12
22	Price /Kg (Rs)	26	30	30	33	33	33	26
23	Income / acre (Rs)	29085	33240	33240	36010	39000	39000	34
24	Net Cost of Cultivation per acre (Rs)	28118	30570	33765	32996	32725	34388	22
25	Profit per acre Rs)	967	2670	-525	3014	6275	4612	377

Source: Agriculture Policy Institute

Figure 11: Cost of Production and Income (Rs/Acre)

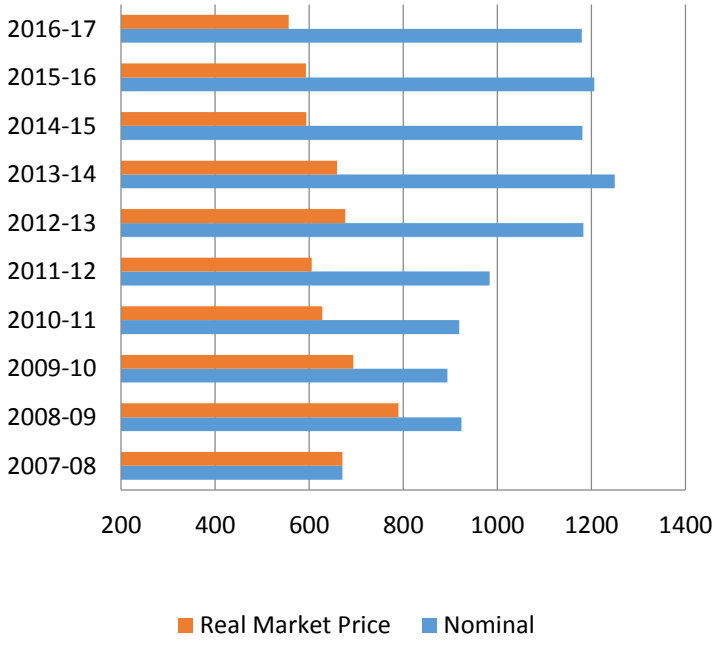


Source: Author's calculations based on API data

Pakistan's wheat crop faced the major challenge of low returns to farmers for their produce due to higher production costs. However, since 2014-15 onwards, the profit margins to farmers are increasing for production of wheat (Figure 11). According to the stakeholders, the rising cost during 2012 to 2015 was because of devolution, when the policy guidance committees and forums were dissolved and these could not be reconstituted in this duration. In the absence of a coordinated agricultural policy, the sector underwent stagnation of productivity and income. In 2014-15, the exceptionally low income was on account of decreased production as winter season prolonged and April and May witnessed unprecedented rains, which damaged grain at the harvesting time.[30]

Figure 12: Wheat Nominal & Real Price/40 Kg.

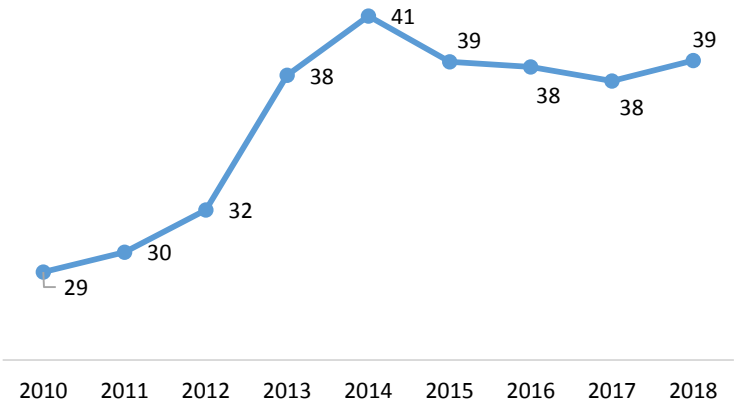
The approximate cost breakdown of commercially milled flour production is as follows: the cost of grain accounts for approximately 81% of the total cost of flour, followed by electricity cost (7%), labour cost (4.5%), and other costs (7.5%). Hence, flour millers' margins depend to a great extent on wheat markets that determine the cost of their raw material.



Source: Agriculture Policy Institute

[30] Pakistan Economic Survey 2014-15. Available at: http://www.finance.gov.pk/survey/chapters_15/02_Agricultre.pdf

Figure 13: Trend in Retail Price of Wheat Flour (Rs/Kg.)



Source: Pakistan Bureau of Statistics

While taking 2007 as base, the nominal market price of wheat increased by 76% whereas the real price declined by -17% (Figure 12). This shows depressed wheat prices in Pakistan. Over a span of a decade, wheat flour price increased by Rs.10 (Figure 13). This depicts limited profitability in flour milling, which may cause the industry to resort to rent seeking through misuse of quotas, short period price hikes and resorting to anti-competitive practices like cartelization. This situation serves as a disincentive to investment to improve quality of equipment and products.

CHAPTER 3: THE REGULATORY FRAMEWORK AFFECTING THE SUPPLY CHAIN

The regulatory framework of any sector plays an important role in shaping the market structure and the behavior of the market participants. Generally, the policy and regulatory framework is defined as the existence of the necessary infrastructure that supports the control, direction or implementation of a course of action, rule, principle or law. In fact, the laws create the legal framework for both standards and regulations. The regulations provide the food related authorities to be able to inspect and monitor the production, profiteering, hoarding and supply of wheat flour. Regulations also provide the authorities with the mechanism to devise and enforce the standards through inspection and corrective actions. The regulatory bodies that are involved in the wheat flour industry include the Ministry of National Food Security and Research for overall policy formulation, Ministry of Science & Technology for standard setting; and their line ministries and departments in the provinces. This chapter examines the regulatory framework from a competition perspective covering the value chain.

3.1 Government's Wheat Policy

In a historical perspective, from independence in 1947 to early 1980s, there remained government interventions in the form of ration shops supplying wheat flour at fixed prices. These had their own benefits and disadvantages due to malpractices and rent seeking. By the end of 1987, the ration shops were closed. Afterwards, as a trade liberalization measure, the private sector was allowed to import wheat. However, the wheat supply situation improved, when there was an increase in stocks as Pakistan had a bumper crop in 1999-00. At this juncture, the subsidized exports of stocks was started.

Crop shortfalls from 2001 to 2004 lead Punjab government to impose restrictions on inter-provincial/ district transport of wheat. Wheat production enhanced as farmers responded positively to increased procurement price. In the subsequent period, similar measures were taken as and when required.

As a first link in the wheat flour supply chain, the wheat policy of the government has a direct impact on the wheat flour industry. The major aim of the policy is to bring about a balance in the competing interests of growers and the consumers. The growers' interests are achieved through efforts to enhance yield e.g. by timely availability of quality inputs at reasonable prices, and ensuring suitable returns on the crop thus supporting growers' incomes. For consumers, the policy aims at price stability and availability of flour at affordable prices, thus enhancing food security. To fulfill the above-mentioned objectives, there are elaborate administrative mechanisms in place at the federal and provincial levels.

3.1.1 Wheat support price and public procurement

Farmers' interests are protected through procurement price and procurement quantity. The said targets are set at the federal level, with inputs from the provincial governments. These targets are then implemented by the provincial governments. Pakistan Agricultural Storage and Supplies Corporation (PASSCO) has a central role in this regard. Procurement targets are set keeping in view the demand and enough stock of the grain.

The government intervenes in the wheat market in the shape of support price. The value chain runs as follows: farmers, processors and millers, exporters, and suppliers in the domestic market. The middlemen and processors bargain with farmers on the basis of this support price. Farm price, therefore, depends on the price announced by the government for each year's crop. Therefore, the price formulation affects wheat production decisions of the farmers.

Text Box: About PASSCO

Established in 1973, PASSCO, is a parastatal in Pakistan, as a public limited company it has the following major functions:

- Provision of food security at national level, by maintaining strategic reserves of wheat and other specified commodities.
- Extend state welfare to farmers by providing support to farmers; stabilize prices by intervening in domestic market. Release wheat to deficit province as well as Armed Forces.
- Undertake import / export of different food grains when called upon.
- Construct modern storage facilities for good grains.
- Assist farmers in cultivation by supplying seeds, fertilizers and other released supplements when called upon.
- Carrying out agro business / trade activities to achieve sustainability.

To run its affairs, PASSCO arranges finances under Commodity Operations Financing (COF) arrangements from almost all leading financial institutions on commercial terms. Though, the financial arrangements are made in compliance with approval of Finance Division and State Bank of Pakistan. However, PASSCO has to fulfil social responsibilities, for instance management of strategic reserves and protecting interests of farmers. It is understandable that these socio-welfare responsibilities are not for profit in theory and practice. From 2016 to 2019, the government's subsidies to PASSCO have, on average, remained about 11% of all budgeted subsidies. Without compromising social objectives, strategies have to be adopted so as to redefine the role of PASSCO and transform it as a market oriented commercial enterprise operating in a competitive marketplace.

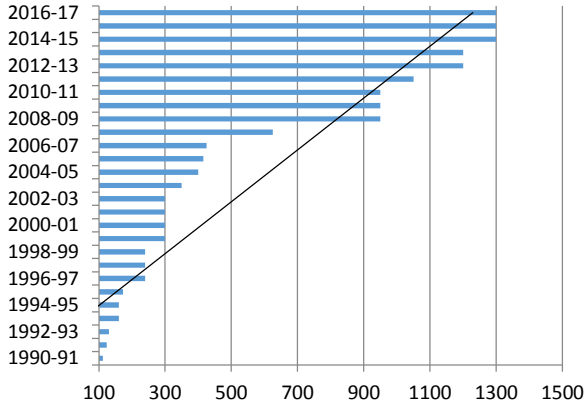
Determination of support price is a technical matter. The Agriculture Policy Institute, Islamabad (previously Agricultural Prices Commission) under the Ministry of National Food Security and Research examines ten years' trend of market price and real price. The Institute prepares a domestic balance sheet considering future simulations along with regional and international balance sheets. The national prices are calculated backwards at the farm-gate level. Examination of various parameters help determine support price. The relationship between market and farm-level prices is analyzed over the years considering domestic resource cost.

To work out wheat cost of production, there is a Cost of Production Committee at Provincial Level under the chairmanship of Director General, Agriculture (Ext. & AR), Punjab with Secretary / Member, Director of Agriculture, Crop Reporting Service (CRS). This Committee

- Works out and recommend Cost of Production of Crops
- Reviews prices viz-a-viz Cost of Production of Crops
- Collects Field Data on Cost of Production of Crops

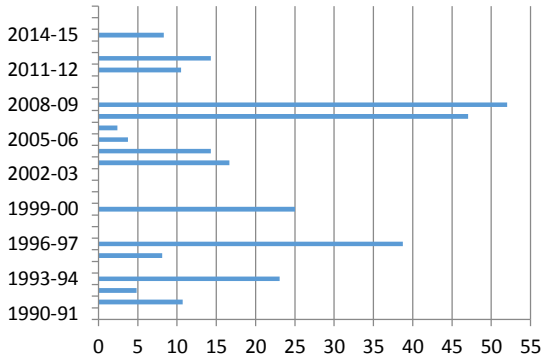
The CRS conducts survey in sample villages. The survey questionnaire covers all operations starting from pre-sowing to harvesting and marketing of the produce. On the basis of survey results, the CRS prepares working paper regarding estimates of production cost. In addition to its own estimates, the working by Punjab Economic Research Institute (PERI), Lahore and Ayub Agricultural Research Institute (AARI), Faisalabad is also used for comparison. The working paper prepared by the Director Agriculture (CRS) is thus the most important document to decide the future course of entire value chain. The recommended Support Price for the whole country, and the production cost worked out by the committee is sent to the Government for approval and afterwards for reconciliation with provinces.

Figure 14: Trend in Support Price (Rs per 40 Kg)



Source: Pakistan Economic Survey

Figure 15: YoY Percentage Increase in Support Price



Source: Author's calculations based on Economic Survey

Table 10: Procurement, Releases and Stocks of Wheat

(000 tonnes)

Year	PKR/100 KG	Procured	Release	Balance Stock*
2000-01	300	8582	5537	3552
2001-02	300	4081	3376	3683
2002-03	300	4045	5130	992
2003-04	350	3514	4104	161
2004-05	400	3939	4500	350
2005-06	415	4514	2088	2107
2006-07	425	4422	6003	501
2007-08	625	3918	6320	136
2008-09	950	9200	5784	822
2009-10	950	6715	5985	4223
2010-11	950	6150	6404	3186
2011-12	1050	5792	5820	3506
2012-13	1200	7910	6363	1681
2013-14	1200	5948	6452	1177
2014-15	1300	6131	3957	3351
2015-16	1300	5806	4468	5016
2016-17	1300	7050	..	5714

Note: * As on 1st May of the respective year

Source: Punjab Food Department

To counter allegedly constantly increasing production cost, Pakistan Agriculture Storage and Supplies Corporation (PASSCO) sets up procurement centers to purchase wheat from growers across the identified growing areas of the country.[31] The objective of such intervention is reported to minimize the role of middlemen, and to provide better price to farmers (Figures 14 and 15). PASSCO thus serves as maintain strategic reserves of wheat as an essential commodity, which is released on need basis to the flourmills.

Table 11: From Farm to Mill/ Mandi - Costing for Support Price Fixation

Years	Cost/Acre	Farm level Cost (Per 40 Kg)	Harvest Prices	Mill/Mandi Gate Cost (Per 40 Kg)	Indicative Price Recommended	Support Price fixed by Federal Govt.
2007-08	13052	507	729	521	651	625
2008-09	17702	667	917	685	857	950
2009-10	20853	794	873	814	1017	950
2010-11	21081	794	873	814	1017	950
2011-12	25277	882	951	906	1132	1050
2012-13	26963	932	1107	960	1200	1200
2013-14	29290	985	1175	1015	1268	1200
2014-15	30115	1003	1182	10143	1300	1300
2015-16	28816	960	na	994	1243	1300

Source: Government of Punjab[32]

3.1.1.1 The role of the food departments

The provincial and Islamabad Capital Territory (ICT) food departments oversee flourmills. They regulate the business of food grains including purchases, storage, sales, transfer, milling and quality control. This is done through issuance of licences to installed/ opened mills, coordination between mills and food department for wheat releases as per quota and monitoring the functioning of flourmills. They keep a check through spot visits for checking quality, weight, and rates of wheat and its products. They conduct raids; take samples and institute cases for violations. The Food Departments handle wheat that is about 20% of the national production. They also have an effective role in the distribution system for ensuring equitable distribution of flour to the wholesale dealers and retailers in rural and urban areas to maintain uninterrupted availability. The health departments and food authorities control the milling units that are not subject to licence by the food departments. The provincial food departments play a central role in setting a maximum retail price for flour. In 2008, a pricing formula was devised for setting maximum ex-mill and retail price, keeping in view the cost of inputs and millers' margin. For monitoring market price, the entire province is divided into zones, for instance Sindh has five Food Regions. Each region is headed by the Deputy Director Food. The Director and the Secretary (Food) offices in Karachi control and implement the policies of procurements, allocations and distribution of wheat. The Food Departments highlight to increase wheat storage capacity keeping in view the growing requirements.

[31] http://passco.gov.pk/

[32] https://crs-agripunjab.punjab.gov.pk/system/files/Cost%20of%20Production%20%2010%20years-1.pdf

3.1.2 Release of wheat

The provincial governments release wheat procured by PASSCO, for which a quota system is maintained for the flourmills as per their production capacity. It is observed that distortions are created due to this intervention in the market, as government generally releases wheat to the flourmills at less than the prevailing market price. This action creates economic rents. The price at which wheat is released to the mills is called the issue prices. There is an element of subsidy in the issue price, as it does not cover the full procurement cost (whether the wheat is procured nationally or is imported), and other costs like handling and storage. And whether the wheat is released within the province or from Punjab, which has surplus wheat, to other provinces. As a result of this practice, the food subsidies remained huge. This practice of wheat release is a factor behind over capacity in the industry. This allows mills to sustain only on government-released wheat and make profits in a few months (generally during November to April). The reason being that a homogenous commodity is produced and marketed at the same price, despite having different cost of production based on the source of wheat.

In fact, this government intervention affects all the stakeholders in the value chain. Other than the subsistence farmers, the wheat growers benefit from increased incomes because of any increases in procurement quantity and price. The flour millers purchase wheat from the open market, when it is cheaper than the government release rate. As price increases in the open market when supply diminishes, the millers take wheat from government, which becomes relatively cheaper. The flourmills get the advantage of the differential between the higher market price and the governments' low issue price. The result for the consumers at the end of the value chain somewhat remains mixed. As the millers using government released wheat also price their product the same as those who use costly wheat from the open market. Therefore, the millers are able to enhance their net benefit rather than passing it on to the consumers. However, the price stabilization effect remains there, which does not allow the price of the product to increase substantially (Figure 13). In addition, the availability of the product is ensured. Despite this generalization, price increase is noted during short periods, which is mostly reverted after negotiations between government and the millers' association. From the millers' side, such negotiations aim at increasing the price of wheat flour. The government on the other hand insists on a lower price. Whatever, the outcome, such negotiations are against the spirit of competition in the market.

The analysis over the years shows that the present procurement of wheat and its subsequent distribution is expensive and inefficient for a number of reasons. These include: below cost release of wheat to the flourmills, the element of non-targeted subsidy is expensive by definition. The burden on the fiscal resources increase especially when international wheat price is higher, making imports costly. The benefit of the subsidy is limited to the millers and the traders only. This important link in the value chain is occupied by the public sector, which procures about 20 per cent of the wheat crop. Over the years, excess capacity has developed to get benefit from the cheap wheat releases from the government.

3.1.3 Restrictions on the transport of wheat

To ensure that the officials of the provincial Food Departments procure the targeted wheat quantity at the district level, restrictions on the movement of wheat have been imposed by the government of

Punjab. Such restrictions were more often until the mid-1990s but were subsequently rarely used e.g. in 2004-05 and 2008-09. The Food Department cites two reasons for this: a) generally, during the procurement period, the stockists and hoarders become proactive and, on the apprehension, that the provincial government would not meet procurement target, the inter-provincial ban on the movement of wheat and wheat flour is imposed; b) the price of wheat flour is relatively less in Punjab due to subsidy; therefore, the provincial government imposed the ban on the transportation of subsidised wheat flour.

For supply of wheat, the Food Department, Punjab has an elaborate 'Transportation Policy'.[33] To supply within district, division, inter- division and inter-provincial, the transport contract is awarded on tender basis. However, contractor registered with the Food Department can participate in the tendering process.

3.1.4 Wheat trade

In the case of shortage of wheat production due to unfavorable weather conditions, the federal government takes the decision on the import of wheat to augment provincial grain stocks and maintain price level. However, for the last decade, Pakistan is self-sufficient in wheat supply. But Pakistan is not able to compete well in the international market for wheat or wheat-based products, due to a huge cost disadvantage.

Up till 2007, Pakistan was exporting wheat while making use of availability of surplus quantity. Afterwards, an interplay of international, regional and domestic factors made Pakistan net importer of wheat, and domestic prices also started increasing. More recently, the situation has improved as a result of favourable crops. The factor that is important from competition perspective is that the government provides subsidies on the export of wheat and wheat products.[34] The Economic Coordination Committee (ECC) of the Cabinet is the apex body that approves the subsidies on the recommendation of Ministry of National Food Security and Research (MNFSR). The ECC specifies the products and the period during which exports can be made. After the notification of the MSFSR, the State Bank of Pakistan issues directive to the presidents/chief executives of all authorized dealers in foreign exchange. The subsidies are allowed only to those exporters who have lifted the wheat from godowns of Food Departments of respective provincial governments prior to the specified dates, and the products like flour, fine flour, *suji and maida* have been produced from that wheat.

The exporters of wheat/wheat products are required to approach Foreign Exchange Operations Department (FEOD) of the SBP, Banking Services Corporation, head office, Karachi or respective field office of SBP-BSC, through their authorized dealer claiming the subsidy by the specified deadline.

It is added here that the Foreign Exchange Operations Department (FEOD) is responsible for the repatriation of export proceeds, granting approvals for commercial, private and government foreign exchange remittances, processing of applications under various subsidy schemes introduced by the

[33] Available at: https://food.punjab.gov.pk/system/files/Annex_B_0.pdf

[34] One such example is SBP's EPD Circular Letter No. 18 of 2017 dated September 13, 2017. Available at: http://www.sbp.org.pk/epd/2017/FECL18.htm

Government for exporters, etc. The FEOD operates under the Foreign Exchange Regulations Act 1947, Foreign Exchange Manual 2002 and various instructions/circulars issued by the Exchange Policy Department (EPD) of SBP.

The EPD prescribes the applications, which are to be submitted for each shipment separately. Prior to this, the applications are to be verified by the Food Department of respective provincial government. The disbursement of the subsidy against the approved claims is subject to submission of verified lists of exporters by MNFSR from Provincial Food Departments. Exporters term this to be a cumbersome and time consuming process to fulfill the requirements. Apparently, the purpose of this subsidy is to enhance the competitiveness of the costly domestic products in the global market, where other suppliers are marketing at relatively lower prices.

Another area of concern is the fact that functions relating to 'agriculture' have been devolved to the provinces. Now, Pakistan's food imports are regulated by the Federal government whereas food safety standards are regulated by the provincial governments. The synchronization mechanism has yet to evolve.

3.2 Laws Relating to Production and Distribution

Pakistan has a set of laws that deals with various aspects of the wheat flour supply chain i.e. production of wheat, flour production, its distribution, supply, profiteering and hoarding, and ensuring food safety and quality. As stated earlier, the wheat flour industry is segmented into small milling units *'chakkis'* and the flourmills. Small mills have a substantial share, which according to some estimates is in the range of 42 to 47 percent of the total flour produced in the country. An overview of the laws is presented below.[35]

The following laws regulate the marketing of agricultural commodities including wheat:

i. The Agricultural Produce Markets (West Pakistan Amendment) Ordinance, 1970[36]
ii. Balochistan Agricultural Produce Markets (Amendment) Act, 2004[37]
iii. The NWFP Agricultural and Livestock Produce Markets Act, 2007[38]
iv. The Sindh Wholesale Agricultural Produce Markets (Development and Regulation) Act, 2010[39]

[35] The review here does not cover certain other laws that the market players have to comply with such as 'West Pakistan Shops and Establishment Ordinance, 1969'. This law does not relate directly to production or distribution rather it deals with labor conditions e.g. wages, overtime, leave, etc. The establishments have to register themselves with the deputy chief inspector for the area. This law has been devolved on the provinces by virtue of the Constitution (Eighteenth Amendment) Act 2010. The Act is required to be adapted by the provincial assemblies in terms of clause 6 of Article 270AA of the Constitution. Accordingly, the amended legislation was enacted in 2014 in Punjab. Available at:
http://www.punjabcode.punjab.gov.pk/public/dr/PUNJAB%20SHOPS%20AND%20ESTABLISHMENTS%20(AMENDMENT)%20ACT%202014.doc.pdf

[36] http://www.khyberpakhtunkhwa.gov.pk/Gov/files/v7_0012.htm

[37] http://www.pljlawsite.com/html/Statuteview.asp?ID=484. The Act of 1991 is available at: http://cmsdata.iucn.org/downloads/balochistan_agricultural_produce_markets_act__1991.pdf

[38] http://www.pakp.gov.pk/index.php/mediacenter/ntf/en/19/270

[39] http://www.pas.gov.pk/uploads/acts/Sindh%20Act%20No.XIV%20of%202010.pdf

v. Punjab Agriculture Markets Regulatory Authority (PAMRA) Act, 2018 replaced the Punjab Agricultural Produce Markets (Amendment) Ordinance, 2001[40] and General Rules, 1979[41] made under the Ordinance of 1978

A review of these laws indicates that most of these laws and rules made there-under did not facilitate and encourage establishment of modern markets, branding and marketing nor could optimize the role of the private sector engaged in the flour milling value chain. The case study of Sindh, conducted during this report, shows that the Directorate of Agricultural Marketing, under the Sindh Agriculture Department, has an important role to play in the agriculture marketing system. The Directorate was implementing the Agricultural Produce Market Act, 1939 for a long period.[42] The provincial government used to issue a license to establish agriculture product markets. The market committees, composed of government-appointed registered commission agents, had a monopolistic control over the wholesale transactions of produce in any given area. These committees determined the dealers and brokers, who could operate in the markets. There was evidence that rent seeking and corruption were prevailing in the collection of market fees, issuance of trader licenses, and allotment of shops. The officials of Agriculture Department were directly administering markets; it is understandable that the administrative role was quite weak. Sindh had 71 such markets, with six operated by committees and the remainder administered by Agriculture Department officials. The amended legislation i.e. the Wholesale Agriculture Produce (Development & Regulation) Act, 2010 introduced (i) the removal of exclusive territory protection for APM, and (ii) private sector establishment and management of APMs after incorporation of public APMs as companies. Also, ambiguities have been pointed out regarding the lack of legal/statutory authority of the Market Committee; threshold/criteria for "Dealers" engaged in buying and selling of the "Agriculture Produce" and the criteria used for constituting the Market Committee in Karachi.

Considering heavy regulation for opening up new markets, the role of the private sector remained negligible or absent altogether. However, under the Sindh Wholesale Agricultural Produce Markets (APM) (Development & Regulation) Act 2010, now the private sector can open new markets in Sindh. According to this, the existing notified markets would be transferred to a limited company. However, this is subject to a proviso that the government shall continue to exercise powers under the APM Act, to ensure that the statutory functions are performed by the notified markets until the same are transferred to the market companies.[43] The government is opening the market but due to the strong hold of government functionaries, the state of affairs has not changed substantially. There hardly appears any enthusiasm from the private sector for several reasons.

Presently, the license fee and other charges are being determined on the basis of APM Rules. Apart from the sale of the commodity, there are separate fees and charges for every actor in the distribution chain

[40] http://legaladvicepk.com/punjab-agricultural-produce-markets-amendment-ordinance-2001-2020.html. The Punjab Agricultural Produce Markets Ordinance, 1978 is available at: http://cmsdata.iucn.org/downloads/the_punjab_agricultural_produce_markets_ordinance__1978.pdf

[41] http://www.agripunjab.gov.pk/~agripunj/uploaded/file/Legislation/PUNJAB%20AGRICULTURAL%20PRODUCE%20MARKETS%20_GENERAL_%20RULES,%201979.pdf

[42] http://www.sindhagrimarketing.gov.pk/APMAct.pdf

[43] http://sindhlaws.gov.pk/setup/publications_SindhCode/PUB-16-000209.pdf

that consists of: warehouse, storage and *godown*; *Mal nigran*; Broker; Weighman; Measurer; Surveyors; Changers; and a few others.[44] Each stage contributes in the exchequer through certain fee, as well as in the price paid by the final consumer. Therefore, it seems appropriate if these regulations are revised to decrease time and transaction costs.

The Bureau of Supply and Prices was revived in 2008. It was declared as an Independent Department called "Supply & Prices Department".[45] In 2013, the Supply & Prices Department was merged with the Agriculture Department and called Agriculture, Supply & Prices Department.

Acts at the disposal of Bureau of Supply and Prices

- The Sindh Essential Commodities Price Control & Prevention of Profiteering & Hoarding Act, 2005.
- The Sindh Registration of Godowns Act, 1995
- The Sindh Standard Weights & Measures (Enforcement) Act, 1975

Like Sindh, the markets in other provinces are also regulated under the Market Committee Acts administered by the provincial agricultural departments. There have been amendments in the laws but the regulatory infrastructure essentially remains outdated and non-supportive to the private sector. Actually, through these Acts, governments heavily intervene in the functioning of markets by controlling governance structure, location, rent and space in the market, etc. Limiting private sector's options and the way of doing business resulted into a lack of private sector's participation and a low level of competition in the market.

Khyber Pakhtunkhwa Agricultural and Livestock Produce Markets Act, 2007, the new marketing policy and Agricultural Marketing (Regulation & Development) 2015[46], once fully operational will pave the way to increase competition in agriculture produce markets, and provide new avenues to the farming community.

In Punjab, the previous law and rules were very restrictive that discouraged competition. It will take some time to fully implement PAMRA Act but it is expected that competition will increase in the agriculture produce markets. Through PAMRA Act, the new wholesalers, agents and distributors including the corporate sector and multinational companies can enter the market with ease.

Besides the above, the retail and wholesale businesses are required to get registered under the Companies Act or the Shop Act, dealing with labor conditions.[47] It was found in the survey of Rawalpindi that small flour milling units and shops are working without getting a registration. This reflects a lack of

[44] http://www.sindhagrimarketing.gov.pk/revised_licenced.php
[45] vide SGA&CD Notification No:-SORI(SGA&CD)3-1/2002 Dated: 11th, February, 2008 and vide Sindh Government Notification No: SORI(S&GAD)3-1/2002 Dated: 31st, March, 2009, respectively.
[46] under process with Law Department for vetting - See more at: http://agriext.kp.gov.pk/page/agriculture_marketing#sthash.Mvk6fUmh.dpuf
[47] The Act is available at: http://punjablaws.gov.pk/laws/230.html

awareness on the part of market players, and a lack of enforcement by the inspectors appointed in the relevant government department.[48]

3.2.1 North-West Frontier Province (Supply of Wheat to Flour Mills) Act 1999

The Act states that production of Wheat in the North-West Frontier Province is not sufficient. While the allocation of Wheat quota by the Federal Government is limited, and at the same time the number of flourmills is multiplying which is making it impossible to supply wheat to the flourmills to run as economically viable concerns and to maintain regular minimum supply of wheat to sustain the flourmills. Presently functioning and to make available wheat flour to general public at reasonable price. It is note-worthy here that the limited supply of the raw material – wheat – to the flourmills has been causing issues in the effective operation of the flourmills which might tend to lead towards the cost-push inflation.

3.3 Distribution System of Wheat Flour

3.3.1 West Pakistan Border Area Foodstuffs (Control) Order, 1958

There are certain other laws that deal with foodstuff. For instance, according to the West Pakistan Border Area Foodstuffs (Control) Order, 1958 "Foodstuffs" means, among others wheat, wheat *atta*, *maida, rawa and suji*, and such other commodity or class of commodities as may be declared by Provincial Government, by a notification, to be foodstuffs for the purposes of this Order. The provinces have their respective Foodstuff laws e.g. N.W.F.P Foodstuffs (Control) Order, 1975 and the Punjab Foodstuffs (Control) Act, 1958.[49] The laws empower the government to control the supply, distribution, movement of, and trade and commerce in, foodstuffs. Through these laws, the government aims at maintaining supplies of any foodstuff, including flour, or for securing its equitable distribution and availability at fair prices, and also provides for regulating or prohibiting the storage, movement, transport, supply distribution, disposal, acquisition, use or consumption thereof and trade and commerce therein. The Food Stuff Law describes actions through which these objectives could be attained, such as for:

- controlling the prices at which any foodstuffs may be bought or sold;
- regulating by licenses, permits or otherwise, the storage, transport, distribution, disposal, acquisition, use or consumption of any foodstuff.

The law provides for search and inspection of premises, records, etc. In the case of contravention, imprisonment up to three years, or fine or both can be imposed as penalty. The law aims to help government stabilize price of flour and other wheat products.

[48] Few indicated that the lack of documentation is a result of corruption, whereby it is allowed to carry on business after bribery.

[49] W. P. Act XX of 1958

3.3.2 The Foodstuffs (Control) Act (XX of 1958)

This law tends to control the price of wheat and wheat products and disallows the selling and buying of food stuff at a price higher than that fixed by the authorities. Furthermore, this Act empowers provincial governments to fix ex-mills price of wheat flour.

3.3.3 The Flour Mills (Control) Order, 1959

This order gives powers to the Director of Food as "Controller" to wheat flour producers whether using rollers of chakki for grinding of wheat to a) procure or purchase wheat from such sources or such places or area as may be specified; b) to manufacture/ not to manufacture such wheat products or to limit the manufacture thereof to such quantities or varieties as may be specified; c) to supply such wheat products to such area, market, person or class of persons or organization in such quantities and in such manner as may be specified; (d) to charge for cleaning or milling of wheat at such rates as may be specified; and (e) generally to regulate production, sale and delivery of wheat products.

3.3.4 The Pure Food Ordinance, 1960

All provinces have adopted the Pure Food Ordinance, 1960 that aims at ensuring purity of food being supplied in the market and, thus, provides for checking adulteration. The cantonment areas have a similar law, namely the Cantonment Pure Food Act, 1966. Under this law, the rules have been prescribed to label packed food and precautionary measures that are to be taken during storage, stocking and packing. There are differences in provincial adaptations of the law e.g. the penalties of the same offence differ across provinces.

The milling segment both in small units and the flourmills have to comply with the wheat flour standard defined in the Pure Food Rules, 1965. Although, for small units there is effectively no government quality control. The pressure from buyers serve as a deterrent to maintain certain quality and price. In Punjab, the Pure Food Ordinance, 1960 was revised as Punjab Pure Food (Amendment) Ordinance (XXVI of 2015) to provide for more elaborate enforcement, monitoring and rationalization of punishments.[50] The Local Authority is the local government as defined in the Punjab Local Government Act 2013 (XVIII of 2013), whereas in a cantonment, the regulating authority is local cantonment board. This law relating to the supply side, did not provide for compensation or damages to consumers but later on compensation for death or injury on account of using unsafe food was added.

The law also covers, among others, false, misleading and deceptive labelling and false advertisement, which is also covered as 'deceptive marketing' in the Competition Act, 2010. This is an area where the CCP can outreach effectively through cooperation with local authorities.

[50] Available at: http://www.punjabcode.punjab.gov.pk/public/dr/PUNJAB%20PURE%20FOOD%20(AMENDMENT)%20ORDINANCE%202015.doc.pdf

3.3.5 Wheat, Wheat Atta, Maida and Suji Movement (Control) Order 1976

The Order addressed the movement and distribution of wheat and related products for marketing purpose outside the boundaries of certain district unless permitted by the Director of Foods. The Order defines the eligibility criteria for the attainment of a Ration Depot. Currently, there are no Ration Depots and the Ration Cards. A Martial Law Order invoked this Order; presently it is no more implemented.

3.3.6 Price Control and Profiteering and Hoarding Act, 1977

Government's prerogative to intervene in the market is reinforced by the Price Control and Prevention of Profiteering and Hoarding Act, 1977 that allows government to fix price of wheat flour as an essential commodity. Accordingly, maximum prices of essential commodities as per different localities or for different classes or categories of commodity are fixed. No person is allowed to sell or re-sell any essential commodity at a price higher than the maximum fixed price. An elaborate system has been devised, which requires that the proposed changes in prices be accompanied by reasons of price increase and the latest annual audited accounts of the dealers, importers or producers. This is then looked into by the Controller General of Prices and Supplies. The contravention to this law is penalized by up to three years imprisonment and with fine up to one hundred thousand rupees. From a competition perspective, a heavy legal framework on distribution system does not encourage price competition on the basis of product quality e.g. branding and product differentiation. All the provinces enforce 'Price Control and Prevention of Profiteering and Hoarding Act'. They have similar laws but differ in implementation. For instance, the Government of Sindh while taking notice of price hike in essential food items revived the Bureau of Supply & Prices in 2008 and later created a Department namely 'Supply & Prices Department' in 2009 to ensure smooth supply of essential commodities on reasonable prices.[51] The Department has the following broad responsibilities: -

1. Control on price and distribution of civil supplies.
2. All matters connected with Profiteering and Hoarding as provided in:
    i. The Sindh Registration of Godowns Act, 1995, and rules thereunder;
    ii. The Sindh Essential Commodities Price Control and Prevention of Profiteering and Hoarding Act, 2005[52]; and
    iii. The Sindh Consumer Protection Ordinance, 2007.
3. To administer the Sindh Standard Weights & Measures (Enforcement) Act, 1975 and Rules framed thereunder.

[51] The Sindh Essential Commodities Price Control and Prevention of Profiteering and Hoarding Act, 2005 Sindh Act No. IX of 2006. Available at: the Sindh Essential Commodities Price Control and Prevention of Profiteering and Hoarding Act, 2005 Sindh Act No. IX of 2006

[52] Sindh Act No. IX of 2006.

The Department also collects, analyses and disseminates information regarding production, trading movement and prices of essential commodities. It conducts production and market cost studies of essential commodities to ascertain economic price level and recommend measures to keep prices at a reasonable level. It also aims to identify bottlenecks in the supply, movement and storage of essential commodities.

3.3.7 Pakistan Standards and Quality Control Authority (PSQCA), 1996

Working under the Ministry of Science & Technology, the PSQCA formulates standards under Pakistan Standards and Quality Control Authority Act, 1996. The Authority conducts inspection and testing of food products for their quality during use, and for import and export. In 2017, the National Assembly Standing Committee on Science and Technology advised PSQCA to include Wheat Flour in the list of mandatory items so that appropriate activities are initiated to ensure the supply of quality wheat flour to the consumers. PSQCA is also undertaking the standard preparation on 'Fortified Wheat Flour'. The Agricultural and Food Products Divisional Council of the PSQCA approves standards for implementation throughout the country.

3.4 Laws to Protect Consumers

There are laws that protect consumers' interests by monitoring the quality of goods produced and sold such as Pure Food Ordinance and PSQCA Act. Others deal with availability and affordability e.g. Profiteering and Hoarding Act. However, these laws do not target addressing consumers' concerns and providing them with suitable compensation. Despite this, the survey findings indicate that the flour market is working well for consumers as far as availability is concerned. Consumers are not facing any shortage nor have major quality related apprehensions. Sometimes when flour quality is poor, the shopkeepers replace it conveniently.

Provinces have their respective consumer protection frameworks. The Punjab Consumer Protection Council looks into the consumers' concerns under the Punjab Consumer Protection Act (PCPA), 2005 has reported that it has resolved a few complaints relating to quality during the last five years. Other than Punjab, consumer protection mechanisms whereby consumers could raise their concerns against quality/ standard, price, shortage, etc. are relatively nascent. In Punjab, the mechanism established under the Act, i.e. District Consumer Courts (DCCs) and Authority (DCO) is complainant driven. Therefore, the consumers have a major role to utilize this legal instrument for their benefit. 'Public monitoring' from consumer groups can prove useful to highlight any issues as well as to push governments to effectively enforce consumer protection laws.[53] Punjab Food Authority (PFA) takes action on its own and takes daily action in bazaars and eateries/ hotels/ restaurants against adulteration in districts. Also, there is a KPK Food Safety and Halal Food Authority established under the KPK Food Safety Authority Act, 2014.[54] The Sindh Food Authority Act, 2016 was enforced in April 2017. The Authority has started functioning; however, so far no

[53] None of the consumer groups, contacted for this report, received any compliant relating to wheat flour nor did they conduct any market survey or study.

[54] http://kp.gov.pk/uploads/2016/03/3._Food_Safety_Authority_Act,_2014_.pdf

action has been taken relating to wheat flour or quality of bread, etc. Baluchistan does not have a similar mechanism. The competition and consumer protection agencies can collaborate to eradicate deceptive marketing, and to improve standard of products available to consumers.

Here, it is pointed out that the laws relating to consumer protection enhance competition in the market. Likewise, competition is hampered if such laws are non-existent or are not well implemented. An example may be cited regarding the Islamabad Consumer Protection Act that was passed in 1995. However, this law has never been implemented to address consumers' grievances. To enhance competition by protecting consumers against sub-standard products, etc. it is imperative that the said law be made functional to achieve 'consumers' sovereignty' in a competitive market.

CHAPTER 4: CONSTRAINTS TO MARKET DEVELOPMENT AND COMPETITION IN THE INDUSTRY

In order to assess as to what extent, the flour milling industry is competitive in Pakistan, the first step is to identify entry barriers and constraints to market development. The reason being that a mill can only compete in the market, when it is able to enter the flour milling industry. In simple words, an entry barrier could be anything hindering market entry and eventually having the effect of reducing or limiting competition. The identification of entry barriers is crucial for competition assessment because it is necessary to analyze market power. At any stage of value chain, the market's normal functioning to control or check market power can be reduced or entirely prevented as a failure to pull potential competitors. These barriers restrict competition in the market and protect incumbent firms. Hence, these can create /aid monopolies and market power. Here, it is not out of place to mention that identifying and examining entry barriers is more relevant in competition cases of assessing dominance or effects of a merger than examining the case of a hard-core cartel. To identify the entry barriers, the more practical questions are whether, when, and to what extent there is the likelihood of market entry. Here, the assessment goes beyond identifying barriers, and covers the constraints to market development along the entire value chain. While conducting this study, it was observed that the milling stage of the industry ought not to be seen in isolation to the earlier stages of wheat production and its supply. In Pakistan, the yield and wheat production need due attention considering the challenges emanating from climate change and population growth.

To start with the entry barriers - broadly, for any market the entry barriers can be categorized as: a) natural or structural; b) regulatory or administrative; and c) strategic.

Structural barriers have more to do with the basic industry conditions such as cost, demand, economies of scale and network effects.

Regulatory or administrative entry barriers are unnecessarily created by government regulation. In some cases, these regulations may be created by lobbying of incumbent firms to protect their business interests from entry. In regulated sectors, territorial restrictions, licensing, safety standards, and other legal requirements may delay or deter new entry.

Strategic barriers relate to the tactical actions taken by incumbent firms. These are intentionally created or enhanced by incumbent firms in the market to deter entry such as exclusive dealing, predatory pricing or other anti-competitive practices. Depending on the facts of a case, these barriers can fall into either of these categories. Regulatory/ administrative/ statutory barriers, for example, could be considered either strategic or structural depending on if the incumbent firms persuaded government to create these barriers. Likewise, sunk costs are generally structural but could be strategic when incumbent firms may have played a role to create or enhance them. For instance by vertically integrating production and thus forcing potential entrants to follow the same by incurring additional cost in order to enter market.

In Pakistan, the wheat flour market meets several conditions of being perfectly competitive – by and large homogeneous product, large number of sellers and buyers, etc. Still being a highly regulated market, the market forces of demand and supply do not determine the price of wheat or the wheat flour. This chapter

identifies the barriers and constraints to effective competition at every stage of the value chain and the issues they raise for policy makers.

4.1 Natural or Structural Barriers

Natural or structural barriers limit entry into an industry due to the very nature of the product/ service. These barriers can be purely on account of natural factors as is the case with agricultural commodities, or high capital investment, high sunk costs, economies of scale, specific human skills, or due to control of essential inputs, etc.

4.1.1 Climate change

The natural barriers to entry in the wheat flour industry are those that affect the first stage of value chain i.e. wheat production - floods, water shortage and climate change. Climate change is generally referred to a "change in climate due to natural or anthropogenic activities and this change remain for a long period of time".[55] By its very nature, agricultural productivity is affected by a number of factors of climate change, such as changes in temperature, rainfall pattern, sowing and harvesting schedule, availability of water, and evapotranspiration[56] and land suitability.[57] The adverse impact of climate change on agriculture includes diminishing of output and shortening of growth period for crops.[58]

The increase in temperature is disastrous to wheat yield as higher evapotranspiration process leaves less period available for kernel formation. The overall water demands of the agriculture crops increase significantly, necessitating greater supply of irrigation water. The vulnerability of crops to floods and droughts is expected to increase in future as such events are increasing in frequency and intensity. Therefore, there is a need for systematic effort to mitigate negative impact of climate change.[59]

In recent decades, high temperatures have been observed in Asia and the Pacific regions. In these regions, agriculture sector is more vulnerable as 37 percent of the total world emissions from agriculture production are accumulating from these regions. The climate change has been estimated to stress wheat

[55] Intergovernmental Panel on Climate Change (2007)

[56] This is the process through which water is transferred from the soil to the atmosphere by evaporation from the soil and by transpiration from plants.

[57] Harry M. et al 1993

[58] Warrick (1988) studied for USA, UK and Western Europe that increased temperature shortens the growth period duration of wheat crop and this becomes more severe regarding yield losses if it occurs during the canopy formation. Drier conditions cause decrease in productivity. Wetter conditions are beneficial for wheat yield whereas drier are harmful and cause to decrease the productivity. Iqbal and Goheer, 2009; Sultana et al., 2009

[59] Pakistan has a varied type of climate ranging from sub-zero temperatures in the north to above 50°C in the South, a diversity of ecosystems, and a large farming sector with a high level of dependence on irrigation, the impact of changing climate can be wide ranging. The climate change particularly an increase in temperature with a decrease in precipitation will have negative impacts on the production of major agricultural commodities in most parts of the country. 'Climate Change Impacts on Agriculture and Building Resilience in Pakistan' by Mohsin Iqbal (GCISC), available at:
http://www.adbi.org/files/2013.08.29.cpp.sess7.7.country.ppr.pakistan.pdf

yield in South Asia region.[60] Pakistan is included in the countries that are the most vulnerable to climate change.[61] In Pakistan, wheat is sown in winter season, preferably in November. The water available for cultivation of wheat in Pakistan is 26 million-acre feet, which is about 29% less than the normal requirement of water.[62] The decline of gross per capita water availability for South Asia from 1820 cubic meters in 2001 to 1140 cubic meters in 2050, the cereal yield could decrease up to 30% in South Asia, including in Pakistan. Water is already scarce in several wheat growing areas in Pakistan, therefore, a further decrease in water can result in sharper decline in productivity.[63]

The impact of increasing temperature on wheat growing season length was studied for Shangla, Islamabad, Faisalabad and Bahawalpur. The results show that the increase in temperature reduces the growing season length but at a faster rate in mountainous region compared to the arid and semiarid plains. The yield would increase in the mountainous region but would decrease in the sub-mountainous, arid and semi-arid regions. These results were also confirmed for Swat and Chitral 960 meter and 1500 meter above the sea level, respectively.[64] To cope with the challenge of expected rising temperature, high yielding varieties have to be introduced for warmer areas of northern region to increase production.[65] The agriculture research institutes need to develop location-specific seed varieties.

4.2 Constraints Hampering Effective Competition

In the case of wheat flour industry, the key informants reported various procedural requirements such as obtaining wheat quota from Food Department, license to establish a mill, etc. The regulatory framework examined in this Report shows that improvements in certain regulatory areas can help enhance competition. This calls for revisiting policies, governance system and institutions that shape the market. The market participants face several hurdles that affect business activity.[66] Besides natural constraints in increasing wheat produce, a number of factors reduce effective competition, which are covered below.

[60] Countries in the tropical and sub-tropical regions would face callous results compared to temperate zones that would benefit.

[61] Asian Development Bank, 2009

[62] Rosegrant et al, 2008

[63] 4th Intergovernmental Panel on Climate Change (IPCC) Report

[64] Prospects for Wheat Production Under Changing Climate in Mountain Areas of Pakistan – An Econometric Analysis, Hussain Syed Sajidin, Mudasser Muhammad, 2007

[65] It was investigated whether increase in temperature up to 3 Degree Centigrade would decrease the growing season length of the wheat yield in Pakistan. The result showed that increase in temperature would create positive impact on Chitral district due to high altitude, and negative impact on Swat because of low altitude. An increase in temperature up to 1.5 Degree Centigrade would create positive impact on Chitral and would enhance the yield by 14 percent and negative effect on Swat by decreasing its yield by 7 percent. A further increase in temperature up to 3 Degree Centigrade would decrease the wheat yield in Swat by 24 percent and increase in Chitral district by 23 percent. 'Impact of Climate Change on Wheat Production, A Case Study of Pakistan', Pervez Zamurrad Janjua, Ghulam Samad, and Nazakat Ullah Khan, available at:
http://www.pide.org.pk/psde/pdf/agm26/day3/Pervez%20Zamurrad%20Janjua.pdf

[66] Strikes, looting of shops, payment of protection money '*bhatta'* and kidnapping of businessmen for ransom relate to law and order, which makes situation unpredictable for any type of business.

4.2.1 Farm level constraints

The institutions involved in agricultural research and developing crop varieties play an important role. According to the wheat experts at Pakistan Agriculture Research Centre, Islamabad and Ayub Agricultural Research Institute (AARI), Faisalabad, the following factors limit productivity level:

i. Non-attainment of yield potential due to low plant population/hectare and low quality of seed
ii. Shortage of water and drought
iii. Declining fertility and low organic matter in the soil
iv. Increase in soil salinity
v. Poor quality of underground water
vi. Pests
vii. Losses during harvest and post-harvest periods

The research institutions are involved in the development of plant varieties and enhancing productivity. However, agriculture in general and wheat in particular is facing multi-dimensional issues, which go beyond research. However, all the above issues can be handled by introducing effective implementation of relevant policies, and by introducing appropriate measures. During the course of this study, it was observed that there are serious gaps at the policy level - the agricultural policy, environment protection policy and water policy are crucial to address major concerns identified.

4.2.2 Farm to market constraints

4.2.2.1 The distribution of jute-bags

The Food Departments procure wheat from farmers in specific jute-bags. These bags are distributed amongst farmers by the Food Departments. Times and again farmers have raised their apprehensions in the distribution of these bags. According to jute bag distribution policy in Punjab, the bags are distributed in a month – 50% in first 10 days, 30% in next 10 days and 20% in the last 10 days. This creates a situation of uncertainty amongst farmers throughout the month as to whether they will get the bags of not. This situation can be averted if farmers are provided with an opportunity to indicate their demand for jute bags prior to start of procurement by Food Departments. This could help ensuring better returns to smaller farmers. In Sindh, the judiciary monitored distribution of jute bags to farmers. The reason being non-transparency and lack of capability of administrative machinery there. Another malpractice that hurts farmers is asking for additional grain by the Food Department's officials. Farmers are asked to bring 51 kg grain, as 115 grams is deducted on 50 kg's plastic bag. Thus, additional 885 grams of wheat is taken per plastic bag. Likewise, farmers are required to bring 101 kg weight but they are demanded 1.5 kg more for jute bags.[67] This is a hitch in the value chain.

[67] An empty plastic bag weighs 115 grams and a jute bag having a capacity of 100kg weighs 1 kg.

4.2.2.2 Wheat storage

Owing to low investment in the storage business, such storage facilities are not built where temperature and humidity are controlled for storage of wheat according to grain variety. The modern storage facilitates have computer-linked sensors fitted with storage bins to monitor storage conditions and keep the grain at a suitable temperature and moisture level. Such storage facility could serve several processing units.

The storage is very important for Pakistan's wheat crop and the food security, as large quantities are stored for domestic use throughout the year. Government being the major procurer and that the trade is also controlled, consequently the participation of private sector in investment in storage facilities remains negligible. There is a room for considerably increasing the role of the private sector in procurement, storage and export. There are a large number of wheat processors and millers, and small sized retailers and wholesalers, who store the quantity of wheat required for their business at their own or rented storage area. They did not indicate facing any major issue.

Still there are certain issues for the development of wheat storage as a business activity based on scientific lines. A study has indicated that unclear policies of the government and abrupt interventions in trade make the private investment in this area difficult.[68] For example, private sector will store the commodity and get the benefit when prices rise. In case, government intervenes to stabilize prices and allows imports, then this storage business will lose attraction. Likewise, the private sector's pursuit for profit making from higher national or international market prices will fail, if government imposes an export ban. Though, justified on the public interest ground, such a move by the government, in fact distorts incentives. Therefore, for setting up storage facilities in the private sector, policies should be designed with predictable outcomes.

In the public sector, construction of substantial storage capacity is in the pipeline under the Government of Punjab's initiative. Accordingly, storage silos are being constructed in Faisalabad, Islamabad, Mana Hamdani and Kotla Mosa. Whereas, a complex of 10 silos having 38000m ton capacity is being rehabilitated.

A major step in this direction was taken in 2014, when the State Bank of Pakistan (SBP) developed a framework for the Warehouse Receipt (WHR) financing mechanism. Afterwards, the Securities and Exchange Commission (SECP) formulated the Collateral Management and Warehousing Regulations 2017. These were approved by the Federal Cabinet in May 2017. The system will enable credit disbursement to farmers and traders against commodities stored in licensed warehouses. This will serve three essential functions, firstly, post-harvest losses will reduce; secondly, farmers' losses due to distress sales to middlemen will be eliminated; and thirdly, the efficiency of the distribution system will enhance. However, to make the system functional, it is necessary that the secondary legislation is finalized and implemented.

[68] Ministry of Commerce, 'Regulatory Issues in Domestic Commerce', 2007, page No. 6. Available at: http://www.aktransport.pk/books/regulatory_issues.pdf

4.2.2.3 Transportation infrastructure

Roads play a major role in promotion of competition through transportation of goods within and across cities. The communication networks are not supportive to business growth. The non-availability or bad-shape of farm to market roads compels farmers to sell their produce to the intermediaries (middlemen) at low prices in the vicinity; costly transportation also adds to the cost of doing business. Government of Punjab implemented a farm-to-market road programme under the Khadim-e-Punjab Rural Roads Programme under which 6,698 km of roads were constructed at a cost of Rs 67.26 billion. For FY 2017-18, another Rs. 17 billion were proposed to be allocated for further improving connectivity of rural areas.[69] However, in Sindh the quality of roads and road safety are areas of concern. Security to transportation through trucks is another issue, as looting of grain-laden trucks or godowns has also been reported. This discourages potential new entrants to start business. Using geographic information system (GIS) techniques, particular areas can be identified to build roads and develop storage facilities and markets.

4.2.2.4 Ghalla mandi/grains market infrastructure

The provincial governments regulate the *Ghalla mandi* or grains wholesale markets under the Market Committee Act. All types of infrastructure need overhaul, may it be legal, administrative or relating to provision of sewerage, waste management and water supply. The city/local governments are required to take actions.

4.2.2.5 Electricity

High tariff rates along with load-shedding irk businesses in flour milling. Delayed maintenance of faults and low quality of service is another related issue. The wheat millers indicated that severe electricity breakdowns in summer season reduce their milling capacity to less than half. This is also a factor behind the presence of excess milling capacity in the country.

4.2.2.6 Credit

Access to funds seems to be a hurdle to diversify and explore new avenues at every stage i.e. at farm level to retail marketing. Most farmers and businesses do not explore the possibility of getting credit and loans from banks. This is due to the perception that they cannot fulfill the requirements for documentation and guarantees. Therefore, they finance through own savings and informal borrowings. Some millers who intended to supply flour to Utility Stores Corporation also indicated that delayed processing of payments make it difficult for them to do so.

4.2.2.7 Un-documented businesses

Some levies increase the cost of doing business in the formal sector such as minimum wages and social protection. On the other hand, a large portion of the wheat flour industry is in the un-documented

[69] Finance Department, Government of Punjab (2017), White Paper on Budget, June 2017. For details: https://finance.punjab.gov.pk/system/files/WhitePaper17-18.pdf

informal sector. This situation promotes unfair competition as well as restricts competition based on investment, innovative branding and quality improvement. The competition related implications are: firstly, the informal sector is out of the tax net, hence it gets undue advantage over those who pay tax. Secondly, the benefits of remaining 'hidden' do not let the businesses enter into formal sector for brand marketing, etc. thirdly, quality improvement e.g. flour fortification, which is feasible and easier while involving commercial mills. This situation needs to be reversed to the advantage of taxpayers, consumers as well as to develop the market.

4.2.2.8 Ease of exit

Competition allows ease of market entry and exit. The flourmills situated in Islamabad are facing difficulty in exit. Several mills termed business climate as unfavorable but as per rules, they cannot use the land taken from the Capital Development Authority (CDA) on lease for any other purpose than the flour milling. To retain the land use, they continue to run the business and, on the sidelines, have been using the premises for certain other businesses e.g. warehousing.[70] Initially, when mills were established, say in I-9 Industrial Area of Islamabad, flour milling was a profitable business as Pakistan was meeting the flour demand of Afghanistan through KPK route. The mills in Islamabad used to purchase wheat from Rawalpindi Food Department and that flour was then marketed to KPK and onwards. Over the years, this situation has changed as well as the land has become very expensive in the Industrial Area. Owing to this, the industrialists intend to retain the land but want to change the trade or use existing plot for multiple uses. The millers informed that the revision in the CDA bylaws and the Islamabad Manufacturing Industry Area Zoning Regulation, 1963 was approved in 2015 board meeting. Even without notification of these amendments, the CDA's Building Control Section (BCS) received the new building drawings and the pay orders in the form of amendment fees for permission to change the drawings. The amendments and the new drawings are still pending approval from the CDA.[71]

To shed the excess milling capacity, it may be considered that the bylaws may allow certain provision to provide ease of exit to the flourmills. This would facilitate the resources to be used for more productive purposes, which is in line with the spirit of competition.

4.2.2.9 Converting Special Economic Zones into an opportunity

Some flour millers expressed their apprehensions about the government's initiative to establish Special Economic Zones (SEZs) with incentives to industry and agriculture. As a result of China Pakistan Economic Corridor (CPEC), there is a possibility that Chinese investors may opt to establish flourmills while vertically integrating corporate wheat farming. Only a couple of Chinese mills will be able to oust a sizeable number of Pakistani mills due to their technical efficiency and capacity. In that case, there is a possibility of

[70] Owners of industrial plots have CDA's permission to have a canteen for their workers, storage area, showroom, office block and a sale point. But portions of the industrial plots are misused to run call center, restaurant or other commercial activities.

[71] Notification for fee revision is available at: http://www.cda.gov.pk/documents/docs/trade-change-fee.pdf

potential entry barrier in future. In the present circumstances, sufficient excess capacity deter new entry. By identifying potential avenues for exports, the SEZs could be converted into an opportunity; the key elements of an export strategy would be production as per international standards at competitive rates.

4.3 Anti-competitive conduct

The possibility of cartel and collusion increases in industries where the commodity is homogenous and there is little room for increasing market share based on product differentiation – cement, sugar and wheat flour are no exceptions in Pakistan. Manufacturers' groups and Associations generally facilitate collusive activity as providing a forum for price fixing.

In Pakistan's flour industry, Pakistan Flour Mills Association (PFMA) is a legal representative trade body of the industry. The Association was constituted in 1949 under the name of Punjab Flour Mills Association. In Sindh, Pakistan Flour Mills Association (South Zone) was established in 1972. After the enforcement of New Trade Organization Ordinance in June 2007. This Association has granted license No.III dated November 3, 2008 as existing Trade Organization by the Ministry of Commerce. This Association is affiliated with the Federation of Pakistan Chamber of Commerce and Industry Karachi. PFMA has a Central Executive Committee and four zonal committees – two each in Northern and Southern Zone namely Punjab and KPK in Northern Zone, and Sindh and Balochistan in Southern Zone.

During 2015 and 2016, the CCP noticed several news items indicating an unusual hike in wheat flour price on a regular basis across Pakistan. The CCP conducted an Enquiry under Section 37(1) of the Competition Act 2010 for alleged price fixing, which is a violation of Section 4 i.e. prohibited agreements. After an inspection of the office of Pakistan Flour Mills Association (PFMA), the CCP gathered evidence of *prima facie* flour price fixing cartel. The CCP has issued a show cause notice to the parties to the cartel. Under the Competition Act, the parties are being provided an opportunity to place their views before the CCP.

4.4 Statistical Analysis

To gauge the impact of various variables on the wheat price, Ordinary Least Square (OLS) technique was applied to estimate the coefficients of the variables. It was estimated that wheat price explains about 65% change in the wheat flour price. Therefore, in the analysis, wheat price was taken as dependent variable whereas explanatory variables included domestic consumption, wheat production, nominal support price, real support price and the production cost.

S. No.	Variable	Coefficient	t-value	P-value
1	Wheat Production	0.004	4.09	0.004
2	Domestic Consumption	0.0083	6.58	0.0001
3	Nominal Support Price	1.20	6.641	0.0002
4	Production Cost	0.045	8.44	0.00006
5	Real Support Price	-1.49	-0.91	0.39

The results exhibit that one unit increase in wheat production causes wheat price to increases by 0.004 units. The standard economic theory suggests a decline in price as a result of increased production. Here, it may reflect the unsaturated demand in the market besides the higher procurement price fixed by the

Government; both of these do not let the price go down. This is confirmed by the domestic consumption that results into 0.0083 units increase in the price, which shows that the market demand passes on a signal through corresponding price change to the producers. An important implication of this result may be that the producers' margin can be improved even if Government intervention to do the same is phased out or reduced. To confirm this, the impact of nominal support price was estimated. It came out that wheat price increases by 1.20 units as a consequence of one unit increase in the nominal support price. This eventually makes the subsequent value chain of wheat and wheat products non-competitive by artificially raising the cost where wheat is used as an input or raw material including exportable flour and confectionary items. The real support price was found to be insignificant (as the p-value is greater than 0.01). The wheat price rises by 0.045 units as a result of one unit increase in production cost. The exact impact of increasing cost is not passed on to the market as farmers lack storage capacity and sell their produce at lower rates soon after harvesting. The farmers are bound in contract with the middlemen to sell their produce, as they mostly take loans for agricultural inputs from middlemen. The expenses on personal affairs like marriage/construction also force farmers to get whatever price available to fulfill their social obligations, for which they keep waiting whole year through. This situation reduces farmers' incentive to enhance production and limits their financial capacity to improve, say through investment in technology improvement. Also, perverse incentives are set to reduce cost of production because farmers do not have to fear that the demand will reduce consequent to rising prices. The fact remains that wheat being an essential commodity has a relatively inelastic demand.

MARKET AND COMPETITION POLICY ASSESSMENT

REGULATORY FRAMEWORK AFFECTING THE SUPPLY CHAIN

SUPPLY CHAIN

Government's Wheat Policy

Laws Relating to Production and Distribution

Distribution System of Wheat Flour

Laws to Protect Consumers

Market Actors and their Roles

Procurement Price→Agriculture Policy Institute, MNFSR (set by Federal Govt with input from Provincial Govt) → Implemented by provincial Govt
Cost of Production (COP) Committee (work out) →COP Committee at Provincial Level + (Comparison of working by PERI + AARI) → Recommend support price, sent to Govt for approval and afterwards for reconciliation with provinces

PASSCO (sets up) → Procurement centers (target quantity)

Role of Food Departments:-
Provincial + ICT Food Departments → Purchase/storage/sales/transfer/checks/distribution
Provincial Food Department → sets maximum Retail Price under a formula and sets a margin of profit for the flour mills

Release of wheat:-
Provincial Government → release wheat procured by PASSCO

Restrictions on transport of wheat:
Implemented by Provincial Govt→ to reach procurement level

Wheat Trade:-
Subsidy approved by ECC on recommendation of MNFSR
Notification of MNFSR → SBP issues directives to authorized dealers
Exporters → FEOD – SBP → to claim subsidy
FEOD → operates under Foreign Exchange Regulation Act 1947 and various instructions and circulars by Exchange Policy Department
Food imports → Federal Government
Food Safety Standards → Provincial Government

Practices affecting Competition

- Support price is not related to supply shortcoming and quality of wheat produced
- Issue price doesn't cover full procurement and storage cost
- Marketed at same price despite of different COPs
- Middlemen is not excluded
- Private sector not coming towards storage
- Ghost mills exist due to malpractices
- Huge cost disadvantage

Effects

- Farmers lack incentive to reduce cost-
- Inequality and productivity gap increases between big land holders and small subsistence farmers, as bigger ones get advantage
- Govt. has to bear cost of holding, storage - expenditure on subsidies and interest payments
- Economic Rents on issue price distort competition
- Loss to the national exchequer
- Miss-allocation of quota
- Discourage modern markets, & branding

- Suboptimal role of private sector

REGULATORY FRAMEWORK AFFECTING THE SUPPLY CHAIN

SUPPLY CHAIN

	Market Actors and their roles	Practices affecting Competition	Effects
Government's Wheat Policy Laws Relating to Production and Distribution Distribution System of Wheat Flour Laws to Protect Consumers	**Sindh Agriculture Department:** Amended legislation i.e. Wholesale Agriculture Produce (Development & Regulation) Act, 2010 introduced → (i) the removal of exclusive territory protection for APM, and → (ii) private sector establishment and management of APMs after incorporation of public APMs as companies. Regulations are revised to decrease time and transaction costs. Supply & Prices Department → Merged with Agriculture→ Agriculture, Supply & Prices Department. Markets in other provinces→ regulated under→ Market Committee Acts administered by the provincial agricultural departments. Regulatory infrastructure → essentially remains outdated and non-supportive to the private sector. Governments (through these acts) → heavily intervene in the functioning of markets. Limiting private sector's options and the way of doing business resulted into a lack of private sector's participation and a low level of competition in the market. **Khyber Pakhtunkhwa Agriculture Department:** Not fully operational new marketing policy and Agricultural Marketing (Regulation & Development) 2015 New marketing policy and Agricultural Marketing (Regulation & Development) 2015, once fully operational will increase competition in agriculture produce markets, and provide new avenues to the farming community. **Punjab Agriculture Department:** Not fully implemented PAMRA ACT Implementation of PAMRA Act → Competition will increase in the agriculture produce markets. Through PAMRA Act, the new wholesalers, agents and distributors including the corporate sector and multinational companies can enter the market with ease. **North-West Frontier Province (Supply of Wheat to Flour Mills) Act 1999** Allocation of Wheat quota by the Federal Government is limited - the number of flourmills is multiplying which is making it impossible to supply wheat to the flourmills to run as economically viable concerns and to maintain regular minimum supply of wheat to sustain the flourmills. Limited supply of the raw material → (leads to) cost-push inflation.	• Strong hold of government functionaries • Did not facilitate and encourage establishment of modern markets, branding and marketing nor could optimize the role of the private sector engaged in the flour milling value chain. • Unregistered businesses leading to increase size of informal economy • Lack of awareness on the part of market players about changes in the regulations • Lack of enforcement by inspectors appointed in relevant govt departments	• Monopolistic behaviour of Govt. functionaries hinders private sector participation • Weak regulatory and administrative framework • Bribery & corruption

REGULATORY FRAMEWORK AFFECTING THE SUPPLY CHAIN

SUPPLY CHAIN

	Market Actors and their roles	Practices affecting Competition	Effects
Government's Wheat Policy Laws Relating to Production and Distribution Distribution System of Wheat Flour Laws to Protect Consumers	**West Pakistan Border Area Foodstuffs (Control) Order, 1958** The provinces have their respective Foodstuff laws e.g. N.W.F.P Foodstuffs (Control) Order, 1975 and the Punjab Foodstuffs (Control) Act, 1958. Government to control the supply, distribution, movement of, and trade and commerce in, foodstuffs. The Food Stuff Law describes actions through which these objectives could be attained, such as: • controlling the prices at which any foodstuffs may be bought or sold; • regulating by licenses, permits or otherwise, the storage, transport, distribution, disposal, acquisition, use or consumption of any foodstuff. **The Foodstuffs (Control) Act (XX of 1958)** Control the price of wheat and wheat products Empowers provincial governments to fix ex-mills price of wheat flour. **The Flour Mills (Control) Order, 1959** Gives powers to the Director of Food as "Controller" to wheat flour producers. **The Pure Food Ordinance, 1960** To ensuring purity of food being supplied in the market and, thus, provides for checking adulteration. **Wheat, Wheat Atta, Maida and Suji Movement (Control) Order 1976** **M**ovement and distribution of wheat and related products for marketing purpose outside the boundaries of certain district unless permitted by the Director of Foods. The Order defines the eligibility criteria for the attainment of a Ration Depot. Currently, there are no Ration Depots and the Ration Cards. A Martial Law Order invoked this Order; presently it is no more implemented. **Price Control and Profiteering and Hoarding Act, 1977** Allows government to fix price of wheat flour as an essential commodity. Collects, analyses and disseminates information regarding production, trading movement and prices of essential commodities. It conducts production and market cost studies of essential commodities to ascertain economic price level and recommend measures to keep prices at a reasonable level. It also aims to identify bottlenecks in the supply, movement and storage of essential commodities. **Pakistan Standards and Quality Control Authority (PSQCA), 1996** Ministry of Science & Technology → PSQCA → conducts inspection and testing of food products for their quality during use, and for import and export.	• For small units there is effectively no government quality/price control. • Quality control is only for the major units	• Absence of regulation to the small units gives unfair competition to the larger units, who have to fulfill several liabilities-thus discouraging private investment impetus • Small mills acting independently without any checks leads to poor quality of product → affecting consumers • Restricted movement → lack of access to market

REGULATORY FRAMEWORK AFFECTING THE SUPPLY CHAIN

SUPPLY CHAIN

	Market Actors and their roles	Practices affecting Competition	Effects
Government's Wheat Policy	Pure Food Ordinance, PSQCA Act, Profiteering and Hoarding Act, etc. • These laws do not target addressing consumers' concerns and providing them with suitable compensation • Provinces have their respective consumer protection frameworks. • Punjab Consumer Protection → Punjab Consumer Protection Act (PCPA), 2005 • In Punjab, the mechanism established under the Act, i.e. District Consumer Courts (DCCs) and Authority (DCO) is complainant driven. • Punjab Food Authority (PFA), KPK Food Safety and Halal Food Authority are functional and take suo-moto action • The Sindh Food Authority Act, 2016 has started functioning; however, so far no action against wheat flour or quality of bread, etc. • Baluchistan does not have a similar mechanism	• There is a strong relationship between competition and consumer protection – the lack of/ or weak consumer protection mechanisms hinder the benefits of competition to reach consumers	• Exploitation of consumers in terms of quality and pricing • The quality control law is federal but quality control is with the provinces • There is no standard yet devised for wheat flour
Laws Relating to Production and Distribution			
Distribution System of Wheat Flour			
Laws to Protect Consumers			

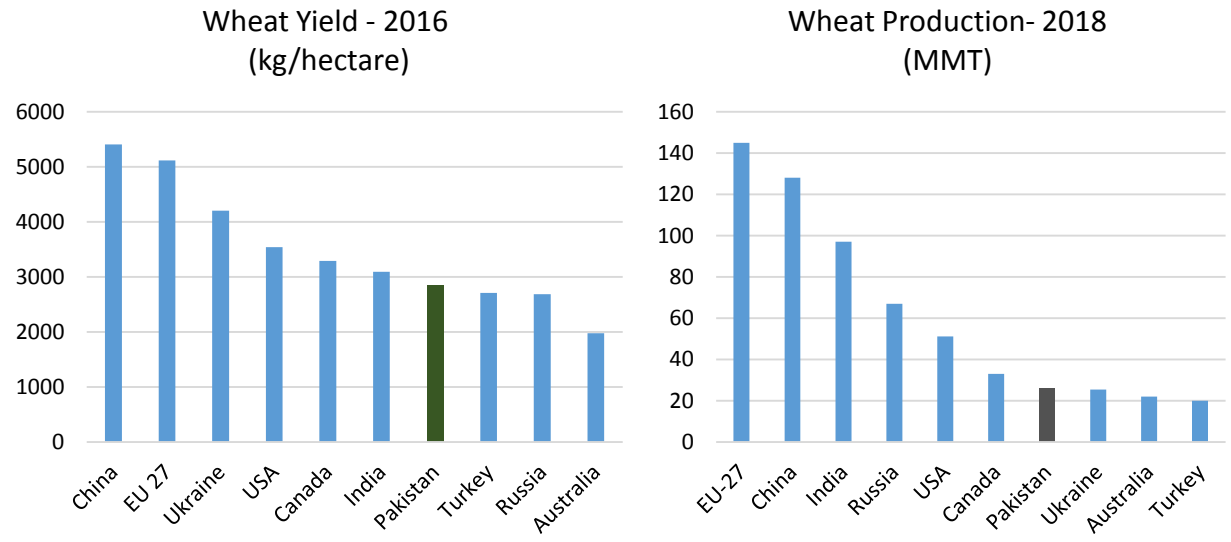
CHAPTER 5: INTERNATIONAL WHEAT SITUATION, POLICIES AND ENFORCEMENT ACTIONS

This Chapter covers the international wheat situation, governments' policy measures relating to wheat and wheat products, and antitrust cases in various jurisdictions. The discussion here would be helpful to draw lessons for Pakistan.

5.1 Pakistan Vs. Other Countries

Despite all the constraints identified in the previous chapters, Pakistan is ranked 7th in wheat production and yield in 2018 (Figure 16). This shows enormous potential to enhance yield through improved policies and market reforms to eradicate distortions.

Figure 16: Wheat Top Ten Countries



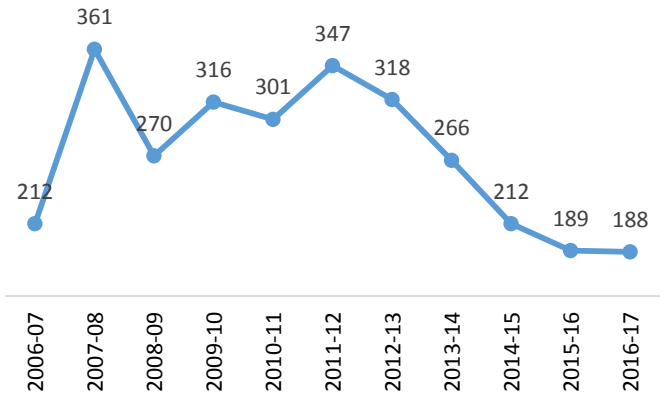
Source: https://www.indexmundi.com/agriculture/?commodity=wheat

Table 12: Wheat - International Key Statistics

M. tons	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17 (est.)	2017/18 (f'cast)	2018/19 (proj.)
Opening Stocks	172	198	193	190	172	192	208	226	242	261
Production	683	654	700	658	717	730	737	752	758	737
Imports	129	126	147	142	157	153	166	177	176	177
Availability	855	852	893	848	888	922	945	978	1000	998
Food	455	459	466	467	479	488	497	506	514	521
Feed	118	116	152	131	129	138	139	146	139	139
Industrial	21	21	21	21	22	22	22	23	23	24
Seed	36	36	36	36	36	36	37	38	36	37
Other	28	26	28	21	31	29	24	25	27	23
Consumption	657	659	703	676	697	714	719	737	738	743
Exports	129	126	147	142	157	153	166	177	176	177
Ending Stocks	198	193	190	172	192	208	226	242	261	256
Price	316	301	347	318	266	212	189	--	--	--

Source: USDA, Office of Global Analysis

Figure 17: Trend in International Price (FOB Gulf US$/tonne)



Contrary to Pakistan, the international wheat prices have a declining trend (Figure 17). As a result, Pakistan's wheat and wheat products are non-competitive in the international market. To export surplus quantity, the exporters demand, and sometimes are able to get, an export subsidy. But such a subsidy distorts competitive incentives besides being a burden on fiscal space. Therefore, effort should be to reduce cost of production in a sustainable manner at the farming level.

Source: USDA, Office of Global Analysis

5.2 Trade Changes in 2018/19

As a result of strong demand resulting from rising incomes, the global wheat trade for 2018/19 is forecast at a record high. Argentina, Australia, Canada, and the United States are projected to have slightly higher production. A reduced production is projected in the European Union and Black Sea region (mainly Russia). Therefore, to satisfy the growing demand, major exporters' stocks will also shrink. The analysis shows that after several years of record production and large carry-in supplies, major exporters' ending stocks will decline by about 25% percent from the last year's level. Russia has large stocks, hence is forecasted to be the top exporter despite having a smaller crop. On the contrary, the United States is expected to hold large stocks due to stiff competition of low-priced wheat from the European Union and the Black Sea area. The emerging situation is as under:

Table 13: Attributes of Trade Movements

(1,000 MT)

Country	Attribute	Previous	Current	Change	Reason
Australia	Exports	17,000	**16,500** ↓	**-500**	Smaller production and more domestic feeding
Canada	Exports	23,500	**24,500** ↑	**1,000**	Increased competitiveness
China	Imports	4,000	**4,500** ↑	**500**	Domestic crop quality problems
Euopean Union	Exports	29,000	**27,500** ↓	**-1,500**	Smaller crop and less feeding
Indonesia	Imports	12,500	**11,500** ↓	**-1,000**	Less wheat feeding
Kazakhstan	Exports	8,000	**8,500** ↑	**500**	Strong import demand from Central Asia
Kenya	Imports	2,400	**2,200** ↓	**-200**	Adjustment based on 17/18 trade data
South Korea	Imports	4,600	**4,100** ↓	**-500**	Increased corn feeding reduces wheat imported for feed use
Russia	Exports	35,000	**34,000** ↓	**-1,000**	Smaller crop
Thailand	Imports	3,100	**3,400** ↑	**300**	Stronger domestic use
Ukraine	Exports	17,000	**16,500** ↓	**-500**	Smaller production
United States	Exports	26,000	**27,000** ↑	**1,000**	Reduced international market competition
Vietnam	Imports	4,500	**4,800** ↑	**300**	Strong demand for flour based products
Yemen	Imports	3,400	**3,100** ↓	**-300**	Adjustment based on the previous year

Source: Foreign Agricultural Service/USDA, July 2018, Office of Global Analysis

Table 14: World Wheat, Flour, and Products Trade

July/June Year, Thousand Metric Tons

	2014/15	2015/16	2016/17	2017/18	2018/19 Jun	2018/19 Jul
TY Exports						
Argentina	4,200	8,750	12,275	13,600	13,500	13,500
Australia	16,575	15,780	22,061	16,000	17,000	16,500
Canada	24,883	22,118	20,235	22,600	23,500	24,500
China	803	729	748	1,000	1,200	1,200
European Union	35,455	34,686	27,319	23,300	29,000	27,500
Kazakhstan	5,507	7,600	7,250	8,500	8,000	8,500
Russia	22,800	25,543	27,809	41,000	35,000	34,000
Serbia	593	880	1,043	800	1,400	1,400
Turkey	4,135	5,605	6,177	6,200	6,000	6,000
Ukraine	11,269	17,431	18,107	17,500	17,000	16,500
Others	12,657	11,073	9,723	9,159	9,168	9,118
Subtotal	138,877	150,195	152,747	159,659	160,768	158,718
United States	23,023	21,817	29,319	23,200	26,000	27,000
World Total	161,900	172,012	182,066	182,859	186,768	185,718
TY Imports						
Afghanistan	2,000	2,700	2,700	2,600	3,500	3,500
Algeria	7,257	8,153	8,414	8,200	7,500	7,500
Bangladesh	3,929	4,720	5,556	6,400	7,000	7,000
Brazil	5,869	5,922	7,788	6,700	7,500	7,500
China	1,926	3,476	4,410	4,000	4,000	4,500
Colombia	1,627	2,032	2,110	1,900	2,000	2,000
Egypt	11,300	11,925	11,175	12,000	12,500	12,500
European Union	5,979	6,916	5,299	5,600	5,500	5,500
Indonesia	7,477	10,045	10,176	10,500	12,500	11,500
Iraq	2,253	2,218	2,446	4,300	3,600	3,600
Japan	5,878	5,715	5,911	6,000	5,800	5,800
Kenya	1,507	1,634	1,774	2,200	2,400	2,200
Korea, South	3,942	4,420	4,667	4,400	4,600	4,100
Mexico	4,471	4,805	5,370	5,300	5,600	5,600
Morocco	4,086	4,503	5,191	3,700	3,000	3,000
Nigeria	4,244	4,410	4,972	5,200	5,500	5,500
Peru	1,922	1,879	1,961	2,075	2,100	2,050
Philippines	5,054	4,918	5,704	5,800	5,800	5,800
Saudi Arabia	3,499	2,931	3,716	3,300	3,400	3,400
Sudan	2,632	2,021	2,458	2,600	2,700	2,600
Thailand	3,492	4,872	3,689	3,300	3,100	3,400
Turkey	5,960	4,405	4,542	6,400	4,500	4,500
Uzbekistan	2,230	2,662	2,700	3,000	3,200	3,200
Vietnam	2,292	3,070	5,546	5,000	4,500	4,800
Yemen	3,245	3,332	3,278	2,900	3,400	3,100
Others	50,743	51,920	54,268	52,351	54,801	54,861
Subtotal	154,814	165,604	175,821	175,726	180,001	179,011
Unaccounted	3,097	3,351	2,951	2,833	3,067	3,007
United States	3,989	3,057	3,294	4,300	3,700	3,700
World Total	161,900	172,012	182,066	182,859	186,768	185,718

Note: TY stands for trading year
Source: USDA, Office of Global Analysis

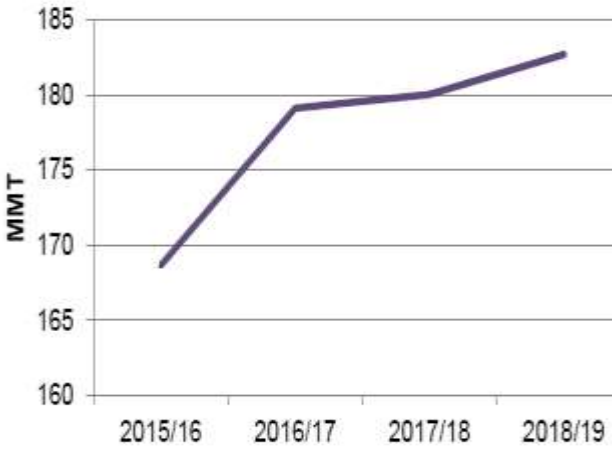
Figure 18: International Daily FOB Export Bids

Source: Foreign Agricultural Service/USDA

According to Pakistan Bureau of Statistics, in 2017-18, the average per tonne price of Pakistani wheat remained $198 as compared to $263 per tonne in 2016-17. The daily bids floated at international level keep on fluctuating and have been as high as $277 per ton (Figure 18). Keeping in view the improved price, in December 2017, the Government allowed exports of 2m tonnes of wheat and wheat products before June 30, 2018. The aim of this approval was to clear carry-over stocks in the wake of new crop. The Government provided an export subsidy of $120 per tonne by land and $169 per tonne for sea routes. Exports from Punjab were planned to be 1.5m tonnes while remaining from Sindh. Though, the exports increased substantially, yet this export target could not be achieved on account of several reasons explained below. More recently, in November 2018, the Ministry of National Food Security and Research moved a proposal to the Economic Coordination Committee (ECC) of the cabinet to seek approval for export of 3.1 million tonnes of surplus wheat by providing a $105 per tonne subsidy. The surplus wheat stock of over 10 million tonnes is available with the public sector. Therefore, all stakeholders consented to export 3.1 million tonnes including 2 million tonnes by Punjab, 0.6 million tonnes by Passco and 0.5 million tonnes by Sindh. The ministry proposed that ECC should allow exports till April 1, 2019 with a two-month extension in the exports period.

According to the summary moved to ECC, at the start of the food year on May 01, 2018, wheat availability was 31.45 million tonnes including production of 25.51 million tonnes and leftover stock of 5.942 million tonnes. The current wheat stock with the public sector included 6.193 million tonnes with Punjab 1.75 million tonnes, Sindh 0.212 million tonnes, KP 0.054 million tonnes, Balochistan 1.837 million tonnes, Passco.

Figure 19: World Wheat Imports



Source: Foreign Agricultural Service/USDA

The rising trend of world wheat imports (Table 14 and Figure 19) suggests that export opportunities are there for global market players. However, to compete effectively, it requires Pakistan to have surplus grain, clearance for market access on sanitary and phytosanitary grounds and price competitiveness. Pakistani wheat is non-competitive even for Afghanistan as compared to wheat products from Central Asian States. The position of regional demand and stock balances should also be studied carefully to identify potential markets for exports (Table 15).

Table 15: Regional Wheat Imports, Production, Consumption and Stocks

(Thousand Metric Tons)

	2014/15	2015/16	2016/17	2017/18	2018/19*	2018/19**
TY Imports						
North America	9004	8373	9167	10100	9800	9800
Central America	1834	1834	1993	1960	2065	2050
South America	13217	13437	16276	15385	16560	16410
European Union - 28	5979	6916	5299	5600	5500	5500
Other Europe	1760	1838	1986	1905	1900	1925
Former Soviet Union - 12	7678	7402	7338	8100	8705	8880
Middle East	26928	24499	22773	25605	24370	24220
North Africa	25430	27873	28273	27250	26275	26275
Sub-Saharan Africa	20894	22810	22167	25375	27090	26575
East Asia	14114	16226	17355	16920	16865	16930
South Asia	8164	8823	15469	11046	12171	12171
Southeast Asia	20576	25483	27761	27295	28850	28450
Others	3225	3147	3258	3485	3550	3525
Total	**158803**	**168661**	**179115**	**180026**	**183701**	**182711**
Production						
North America	88259	87475	98838	80865	85036	86505
South America	24587	21601	28835	25137	27654	27654
European Union - 28	156912	160480	145369	151581	149400	145000
Other Europe	4088	4359	4749	4039	4930	4930
Former Soviet Union - 12	112380	117902	130087	142216	123740	121240
Middle East	35414	42405	38791	41525	40860	40860
North Africa	17029	19976	14081	19246	21100	21100
Sub-Saharan Africa	7375	7694	7751	7354	7569	7569
East Asia	127673	131469	130195	131009	130315	129315
South Asia	130150	119663	120837	133099	129491	129491
Oceania	24157	22689	32278	21709	24460	22460
Others	187	199	181	136	131	131
Total	**728211**	**735912**	**751992**	**757916**	**744686**	**736255**
Domestic Consumption						
North America	47296	46913	50517	46117	48616	48389
South America	27065	27715	28645	28915	29310	29605
European Union - 28	124677	129850	128000	130400	128500	127000
Other Europe	4875	4940	5045	5040	5150	5190
Former Soviet Union - 12	74985	77700	78650	83955	78390	77890
Middle East	57240	58887	59061	60480	60830	60755
North Africa	42726	43666	44550	45175	45775	45875
Sub-Saharan Africa	27104	29144	29837	32189	33794	33449
East Asia	129546	125228	132302	130306	133717	135217
South Asia	132399	128915	139220	139055	141967	141967
Southeast Asia	19295	23131	26375	26630	28215	27215
Oceania	8564	8505	8840	8705	8955	9560
Others	3574	3582	3834	3905	4030	3995
Total	**699346**	**708176**	**734876**	**740872**	**747249**	**746107**
Ending Stocks						
North America	28290	32390	39913	36421	31663	32476
South America	8376	3990	4735	4063	3711	3616
European Union - 28	12697	15557	10906	14387	10474	10387
Other Europe	1321	1603	1970	1899	2049	1984
Former Soviet Union - 12	20670	16791	21145	19376	13231	11581
Middle East	20041	22158	18621	18236	15231	15426
North Africa	13216	16628	13890	14401	15077	15216
Sub-Saharan Africa	2979	3789	2968	3083	3244	2853
East Asia	79217	100404	114270	130263	141879	139444
South Asia	23109	21026	16656	20263	18448	18448
Southeast Asia	3921	5413	5857	5517	5652	5742
Oceania	4960	4115	5966	5200	5090	3315
Others	445	418	438	389	410	390
Total	**219242**	**244282**	**257335**	**273498**	**266159**	**260878**

NOTES: Imports are on a trade year basis, other data for local marketing years. * June, ** July

Source: Foreign Agricultural Service/USDA, July 2018, Office of Global Analysis

5.3 Policy Measures

A review of policy measures indicates that generally, wheat is considered as an important dietary component, and therefore governments procure wheat to maintain their strategic reserves. Minimum support prices are announced as an incentive to boost production and ensuring farmers' income. Unlike Pakistan, Russia has differential pricing for different varieties of wheat. China maintains import tariff to further protect its farm base. Almost all countries ban exports as and when required to meet domestic demand first. Pakistan gives subsidies to exporters in order to make wheat export competitive in the international market. India, more recently tried to increase storage capacity in rural areas whereas Russia targeted towards improving quality of equipment used by the farming sector.

Table 16: Policy Measures Adopted in Different Countries

Countries	Procurement	Support Prices	Import/Export	Others
1. Pakistan	Government procurement	Minimum Support Price	Export licenses, export subsidies and quantitative restrictions on import	Subsidies to farmers on fertilizer and food subsidy through Utility Stores
2. China	Government procurement	Minimum Support Price of white wheat	Import tariffs	Wheat sold from government Grain Reserve in auctions Subsidy to agricultural production
3. India	Government procurement	Minimum support price	Export ban	Subsidies to farmers on agricultural inputs, and financial support to private sector investment for creating storage capacity for food-grain in the rural areas. Wheat distribution to targeted poor.
4. Russian Federation	Government procurement	Minimum purchase price as per various classes of wheat	Export ban to stabilize market prices	Subsidized farm equipment leasing to promote the renewal of old machinery

Source: Agriculture Policy Institute

Table 17: Minimum Guaranteed Producer Prices in various Countries

	2013-14 *		2014-15**		2015-16***		2016-17****		
	US$/Tonne	PKR (40 kg)	US$/Tonne	PKR (40 kg)	US$/Tonne	PKR (40 kg)	US$/Tonne	PKR (40 kg)	Remarks
Australia	295	1232	270	1152	257	1077	232	972	Premium white Average Pool Return
Brazil	NA	NA	185	763	186	777	159	667	Producer's Equalization Payment Program
China	385	1610	385	1586	349	1461	344	1440	Winter wheat
India	220	919	228	939	231	968	239	998	Minimum Support Price
USA	252	1054	220	903	187	980	154	643	Hard Red Wheat
Pakistan	292	1200	316	1300	310	1300	311	1300	Support Price

Source: Australia: http://www.awb.com.au; Brazil and India: http://www.fao.org; China: http://www.platts.com
USA: USDA, Pakistan: API

Notes: NA stands for not available, * 1 US$=PKR104.417, **102.92, ***104.75, ****104.72

In Pakistan, the ability of millers to hedge the price risks is often limited due to a lack of grains' futures market. According to FAO, the transition economies suffer from poor contract enforcement in the spot grain and flour markets. In several countries, the private sector flour milling industry is regulated by the governments as flour and bread are socially sensitive food items. The regulations include administratively fixing price and maximum margins or giving input subsidies to reduce cost of wheat production. However, some glaring differences can be identified from the practices prevailing in Pakistan. As is clear from Table No. 17, the minimum prices have been revised upward or downward, depending on the need to incentivize farmers. The process of managing minimum prices is also interesting, for example, in Brazil the Producer's Equalization Payment Programme (Pepro) is used when market price fell below Government's guaranteed minimum prices. Government does not directly purchase wheat, rather it organizes auctions through CONAB (Companhia Nacional de Abastecimiento), and pays cooperatives or farmers the differential between its announced minimum price and the maximum price offered in wheat auction to the farmers, if the former is higher. These examples offer lessons for Pakistan to reform its management of the wheat market.

5.4 Cartel Cases in other Jurisdictions

There have been several competition law violations in the wheat flour market, some of the selected cartel cases are covered here.

In 2012, the Competition Protection Commission announced the findings of its sector inquiry into the vertically related markets of wheat, wheat flour and mass wheat bread in Bulgaria. Accordingly, the Commission found that the increases in the wholesale price of flour were related to increases in the price of wheat as a main raw material. The Commission considered that respective increases did not always correspond, which could be the result of a prohibited price agreement among participants in the wholesale flour market. Following this, the Commission opened an antitrust investigation against the Union of the Bulgarian Millers. Some members of the union are major participants in the wholesale flour market in Bulgaria. In September 2012 the Commission conducted a dawn raid at the union's offices to collect evidence (before announcing the sector inquiry findings).

To stimulate effective competition, the Commission recommended the following measures:

- increased transparency of pricing mechanisms in the wheat, wheat flour and bread chain;
- better use of quality standards;
- introduction of written agreements between grain producers and grain traders; and
- Equality among market participants should be increased. Small and medium-sized enterprises be encouraged by ensuring easy access to financing and by reducing the administrative burden in order to stabilize the market environment.

In Korea, in 2012 the court awarded damages to a local confectionery company (private individuals who suffered economic injuries) against a cartel of wheat flour companies.[72] In this wheat flour cartel case,

[72] The Private Competition Enforcement Review, Fifth Edition (2012). Chapter 17 on Korea by Sai Ree Yun, Kum Ju Son, In Seon Choi and Seung Hyuck Han. Available at: file:///C:/Users/kkhan/Downloads/YULCHON_T7BAiEoA.pdf. For details see: Seoul Central District Court (April 2009, 2006Gahap995657)

the Seoul Central District Court took into account the amount of damages passed on to indirect purchasers. Despite rejecting the argument for a pass-on defense on the basis that 'the excess price resulting from the cartel was already determinative of losses incurred by the direct purchasers' and that 'recoupment of losses through increase in price does not affect the calculation of damages'. The court recognised that it may take into account whether damages had been passed on, the extent to which they had been passed on and possibility of double payment through claims by indirect purchasers. This is considered as the most significant and influential case in which the Supreme Court awarded damages of USD 1.5 million to one of the largest bakery firms.

In Panama, four wheat companies were condemned for absolute monopolistic practices during the period November 1996 to September 1997. They were found involved in informally agreeing on the prices of wheat flour and exchanging information about prices through their industry association. The practice increased the retail price of bread. All agreements between the firms were declared void and each firm was fined US$100,000, the maximum allowed by Law 26/96.21.[73]

The South African flour cartel remained active from 1999 to 2007, and in this duration, it fixed the flour price and allocated customers. According to an estimate, the overcharges to independent bakeries ranged from 9 to 31 percent and the cartel profits were about two times higher during the cartel period.[74] As a background, it is noted that the wheat value chain was extensively regulated by the state till 1996. The Wheat Board was the main intermediary between the farm gate and the processing level of wheat products. Marketing of wheat was thus regulated through a single channel marketing system. The Wheat Board was sole buyer and seller of wheat at predetermined prices. It also controlled wheat and flour imports and exports. With liberalisation, instead of competing, the millers replaced state regulation with their private regulation. The wheat flour milling is highly concentrated with the largest four firms (Pioneer Foods, Premier Foods, Tiger Brands and Foodcorp) all vertically integrated along the wheat-to-bread value chain and accounting for more than 90% of the national supply of wheat flour. The flour cartel was uncovered in 2007, when Premier Foods, one of firms involved in the cartel applied for and was granted corporate leniency in terms of the Competition Commission's leniency policy.

In September 2008, the El Salvador Superintendency's Board of Directors discovered and sanctioned an agreement between the two major producers of wheat flour to share total sales in the market on a 55%-45% basis. Pursuant to the cartel agreement, the parties periodically exchanged sensitive, confidential information on sales and their participation in the market. They also devised a mechanism to compensate one another in situations in which a party did not achieve its allocated share. The Board imposed fines on the two parties slightly more than USD 4 million. The fines, the highest imposed thus far by the Superintendency, were the first calculated under a new provision in the law, added by the 2007 amendments, authorising higher fines in "particularly grave" offences. The fines were calculated as 3% of the parties' total sales in 2007. The case is also notable as being the first in which the Superintendency

[73] OECD (2010), Competition Law and Policy in Panama: A Peer Review. Available at: https://www.oecd.org/daf/competition/46587096.pdf

[74] The South African Wheat Flour Cartel: Overcharges at the Mill, by Liberty Mncube. Available at: file:///C:/Users/kkhan/Downloads/mncube-l.pdf

conducted dawn raids and found conclusive evidence of the agreement to allocate market shares. Recently, the Supreme Court has also decided the proceedings of this cartel. This case shows 'judicial efficiency' as an important area where the advocacy efforts of the competition agency should be directed. The wheat flour cartel case was under judicial review for almost nine years after the date of the Competition Superintendence's decision. Such prolonged court cases significantly harm the deterrence effect of the competition law. The reason being that the final payment of the fine and the enforceability of the injunction is postponed for a long time. Therefore, the companies can significantly discount the potential losses of an adverse judgment despite paying substantial litigation costs, which in fact depict how much they value the delaying of the final judgment. Also, the lengthy proceedings have financial and human resource costs for the competition agency, which could affect its other enforcement work.[75]

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[75] OECD (2008) El Salvador - Peer Review of Competition Law and Policy. Available at: https://www.oecd.org/countries/elsalvador/41597078.pdf

CHAPTER 6: RECOMMENDATIONS TO ENHANCE PRODUCTIVITY AND COMPETITION

'*Roti/chapati*' i.e. traditional bread made with wheat flour is a major part of Pakistani's diet. Demand is also growing for food items, which have some form of wheat flour such as baked breads, cereals, cookies, cakes, crackers, pasta, macaroni, etc. Average monthly consumption expenditure on wheat and wheat flour is 13% out of 17% on cereals (including wheat, rice and other grains). Thus, wheat has a high weight in the average household budget.[76] This makes wheat flour a sensitive commodity. Price changes and availability has positive or negative impact on consumers, especially on the poor sections of the community. That is why wheat flour gets a portion of food subsidies through the regular supply of flour at the Utility Stores, and is a part of annual '*Ramzan'* relief package.[77]

In fact as per Article 38 (d), the Constitution of Pakistan ensures provision of basic needs of life including food for the citizens of Pakistan. According to this article: "*The State shall provide basic necessities of life, such as food, .., for all citizens, irrespective of sex, caste, creed or race,…".*

In this background, this Report presents recommendations to enhance productivity and competition in the wheat flour market after a thorough analysis of value chain and the regulatory framework. The Report highlights the need for revisiting policies, governance system and institutions that shape the market. Here are the specific recommendations.

6.1 Farm level Improvements

6.1.1 Agriculture policy

After the National Agricultural Policy, 1991, there have been some documents, which provided useful information about the agriculture sector in Pakistan. Worth stating are the 1988 Report by the National Commission on Agriculture, Medium-Term Development Framework and Vision 2030. However, these cannot be termed as an agriculture policy of the country. There have been some other policies, which affect agriculture such as the sectoral support price policies, Zarai Taraqiati Bank's agriculture credit policy, fertilizer policy, etc. The fact remains that Pakistan was without a suitable agriculture policy for decades. Though agriculture became a provincial subject under the 18th Constitutional Amendment, yet the country needs a holistic agriculture policy. This gap has been filled to some extent, when quite recently, in May 2018, the MNFS&R has got approved a National Food Security Policy.[78] The Policy covers essential elements relating to productivity enhancement, agricultural inputs – seeds, fertilizer and sectoral perspectives. The Policy also identifies the roles of Federal and Provincial governments. Besides, this Policy by the MNFS&R, there are provincial agriculture policies as well - 'The Agriculture Policy a Ten Years Perspective' for Khyber Pakhtonkhwa (2015-2025)[79], Punjab Agriculture Policy, 2017 (notified in 2018),[80]

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[76] Household Integrated Economic Surveys (HIES) 2015-16. Available at: http://www.pbs.gov.pk/sites/default/files//pslm/publications/hies15-16/TABLE_17n.pdf

[77] *'Sasti Roti'* Scheme (Cheap bread) was an initiative of Punjab Government to provide bread at cheaper rate. The scheme was popular amongst people but was not sustainable economically.

[78] Available at: http://www.mnfsr.gov.pk/userfiles1/file/National%20Food%20Security%20Policy%20%202018%20(1).pdf

[79] kp.gov.pk/uploads/2016/07/KP_Policy_Agriculture.doc

[80] http://www.agripunjab.gov.pk/system/files/Punjab%20Agri.%20Policy.pdf

and Sindh Agriculture Policy (2018 – 2030)[81] by the Sindh Planning and Development Department.[82] The implementation of policies in Punjab and Sindh is at a nascent stage. Therefore, it is relatively early to comment on the effectiveness of these Policies. KPK is also in the process to develop mechanism and procedures to implement the objectives underlined in the Policy. Some steps have been taken for land levelling and rehabilitation.[83] However, at any level, one can readily identify the absence of much needed land reforms, which continue to hamper development of the agriculture sector in Pakistan.[84]

6.1.2 Agricultural research and its dissemination

Mutation-breeding research is conducted in the laboratories of the agriculture research centers of Pakistan like National Agricultural Research Centre and Atomic Energy Commission, which introduced improved varieties. Pakistan keeps contacts with relevant International Agricultural Research Centers (IARCS). So far, more than 60 varieties have been released by the FSC&RD and PSC. However, the benefit of such research are not reaching the farmers due to the illiteracy of the farmers and a weak network to disseminate awareness about the utilization of research. Though, improved ways have been introduced to contact farmers through smart phones. Still, the capability of farmers is limited to find out the desired nutrient level, soil fertility status and various fertilizer combinations required.

Besides the above, several factors that limit productivity need to be reduced and eliminated by concerted efforts. Considering the practices prevailing in other countries, the wheat experts suggest the following the specific areas requiring actions:

i. Efforts to abridge the yield gap through coordinated efforts of institutions involved in training and information dissemination. Availability of high quality inputs and credit are necessary for meaningful efforts.
ii. Enhancing yield potential by increasing plant population/hectare by using quality seeds
iii. Development of verities requiring less water, and use of water conservation irrigation methods such as drip and sprinkler irrigation
iv. Sharing of research's results for integrated nutrient management to control declining fertility and low organic matter in the soil, soil salinity, pests, poor quality of underground water
v. Use of modern technologies and mechanization of harvest and post-harvest work to reduce losses

The agricultural policy, environment protection policy and water policy are crucial to address major concerns identified. Therefore, the need to implement an integrated agricultural policy is reiterated.

[81] http://www.wsip.com.pk/documents/publications/Sindh%20Agriculture%20Policy%20(2018%20-%202030).pdf
[82] The Federally Administered Tribal Areas (FATA) have a policy of their own for the period 2015 -2024. Available at: https://fata.gov.pk/cp/uploads/downloads/14147536475453480a016a4.pdf
[83] http://insaf.pk/public/insafpk/tabdeeli-ka-safar/agriculture-department-kpk-performance-report-2013-2018
[84] In Punjab, the landholding structure and the presence of high number of subsistence farmers contributes to low productivity. It is estimated that about 42% of the farms are less than 2.5 acres, which is 9% of the total farming area. Whereas, 22% farms are in the range of 2.5 and 5 acres, these account for 13% of the area. Therefore, rationalizing farm sizes and land holdings is a difficult but essential area of reforms.

6.1.3 Quality of seeds

To enhance yield, seeds related issues have to be addressed. PARC has estimated loss from using diseased and seeds of mixed varieties. Farmers mostly use previous crop seeds or procure uncertified seed from informal sector. They sow early variety seed either late or at medium time and vice versa. Government allowed duty free import of seed-processing machinery and income tax exemption to encourage private sector into the business. Still there is a room to improve seeds as per occurrence of climate change.

The Federal Seed Certification and Registration Department under MNFSR has been performing seed regulatory functions under the Seed Act, 1976, Seed (Amendment) Act, 2015, through 27 seed testing laboratories/offices in various ecological zones.[85] The Punjab Seed Corporation is meeting less than 10% seeds' requirements of farmers. The Seed Act puts onerous and restrictive requirements of seed testing and certification. There is a need to first specify standards, to which the private sector has to comply with. In addition, the competition agency should be watchful for a possibility of abuse of dominance, as Plant Breeders' Rights Act, 2016 may result in creating seed monopolies. Also, under the regime, reusing saved seeds could no more be practiced. Thus, adding another layer to farmers' dependence, and making them pay royalty to the owner of Certificate of Protection, who could otherwise initiate legal action for infringement of protected rights.[86]

6.1.4. Digitizing information systems

In several countries, the use of mobile phone keeps farmers well aware for weather forecast for agriculture input application such as fertilizer and pesticides. The mobile phones have saved energy and time of farmers, and ultimately have improved their income. The farmers communicate directly with market brokers and customers to sell their product at good price. In Pakistan too, the Telenor Pakistan and Inbox Business Technologies collaborated to launch the Connected Agriculture Platform Punjab (CAPP) in December 2017, as part of the Government of Punjab's 'Empowerment of Kissan through Digital & Financial Inclusion' initiative. Under CAPP, a set of applications were launched in Urdu, Punjabi and Saraiki including CAPP Registration, Zarrai Mushwara, Zarrai Jantri, Mukaami Mosam and Kisaan TV. It is necessary that this program be continued and expanded in coverage and scope. The applications such as Crop Calculator, Subsidy, Farm Supplies, and Mandi applications, which are under development be launched with additional features of marketing. Better returns to the farmers will ultimately help upgrade the social attributes such as health and education that are directly linked to productivity enhancement.

6.2 Farm to Market Improvements

6.2.1 Wheat procurement and storage

The 'support Price' fixation and the procurement by the government involves competition issues. The former creates an anti-competitive situation while the later tends to reduce or distort competition by controlling the market and disproving the government's policy objective of encouraging the private sector

[85] The public sector could not meet the total seed requirement; so, privatization promotion policy was adopted in early 1980s. The total number of private seed companies now has risen to 213, of which four are multinationals. Cargill Monsanto Seeds, Lahore, ICI Seed Lahore, Novartis Seed Pak Ltd. Lahore and Pioneer Seed are the four MNCs.
[86] Daudpota Faisal, 'Pakistan – Understanding its Law on Plant Variety Rights'. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2949755

and operation of free market. Instead of maintaining differential pricing, it may be considered to procure and release wheat at or close to the market rate. This will help eliminating rent seeking by using government's wheat quotas. This will also decrease profits from smuggling subsidized wheat flour and wheat hoarding. Competition can be enhanced once there is transparency and predictability about the government's actions in the entire value chain relating to procurement, storage, distribution, price maintenance and trade.

The concerns about distribution of jute bags have to be addressed in Sindh and Punjab. The reason being non-transparency and lack of capability of administrative machinery there. This situation can be averted if farmers are provided with an opportunity to indicate their demand for jute bags prior to the start of procurement and by ensuring timely distribution.

The millers point out quality losses e.g. infestation, dampness and mould in government's storage. Despite allowing the private sector to participate in trade and storage for more than a decade now, the government still remains the major player in the procurement and storage. Private sector keeps lobbying for subsidies to export while its participation in storage is not encouraging. Private sector will not invest in storage, if it is not able to reap benefit of price fluctuations. Though public sector storage capacity is being enhanced, yet this is not enough keeping in view the growing demand. To improve the state of storage facilities, there is a need to effectively adopt the model of running these facilities on a corporate business basis. This will also reduce Government's fiscal burden, as government's wheat release price does not cover full storage cost and involves an element of subsidy. This situation is not sustainable to develop a vibrant competitive market. Therefore, corrective measures need to be taken involving both the Federal and provincial governments.

The Warehouse Receipt Financing framework was developed in 2014. Whereas, the Cabinet approved the Warehousing Regulations only a year ago. This lag hindered collateral management. The primary legislation providing the structural framework are there but secondary legislations for collateral management companies and warehouse operators are needed to be developed and implemented. These relate to, among others, transfers of warehouse receipts, establishing transactional and operational procedures. Once developed, post-harvest agricultural finance will go a long way to boost competition in in the country.[87]

6.2.2 Regulation of the value chain

Wheat flour being an essential commodity faces strong regulation. The laws and regulations implemented so far were there for the last several decades, which breed and perpetuate inefficiency. During the recent past, market friendly reforms were introduced. However, little change is visible at the market place. The awareness about the new laws governing markets is negligible. The business is being carried out on the way it was being done traditionally. The same people, whose monopoly over the markets was broken through the new law, are running the markets due to their strong hold. A working group needs to be

[87] Warehouse Receipt Financing in Pakistan, Uptake Study, 2017.

formed involving market regulators, to review the situation, otherwise promotion of competition will remain a far cry.

6.2.3 Credit

Most farmers and businesses do not explore the possibility of getting credit and loans from banks. This is due to the perception that they cannot fulfill the requirements for documentation and guarantees. Practical issues also deter them, for instance a high interest rate of about 40% appears unaffordable for them. Though, in 2019, government has announced to bring down interest rate to 20%. In any case, farmers finance through own savings and informal borrowings. The outreach of the formal sector financial institutions requires awareness creation efforts that funds are available even to those farmers who do not have adequate collateral.[88] Some millers who intended to supply flour to Utility Stores Corporation also indicated that delayed processing of payments make it difficult for them to do so. The processes need to be speedy.

For 2017-18, the SBP has assigned disbursement target of Rs. 1,001 billion. During July-May 2018, the banks have disbursed 85% of the overall annual target. It is estimated that the formal financial institutions would meet approximately 75% of agriculture credit demand. However, the majority loans relate to livestock/ dairy and poultry. With targeted efforts, millions of hectares of cultivatable waste land can be cultivated to increase wheat production as well as other crops. In December 2017, the World Bank approved $300 million to reform agriculture in Punjab.[89]

6.2.4 Infrastructure for market development

Figure 20: Proposed Supply chain

Using geographic information system (GIS) techniques, particular areas can be identified to build roads, develop storage facilities and markets. This will also address security to transportation, as looting of grain-laden trucks or godowns discourages potential new entrants.

All types of infrastructure in *Ghalla mandi* or grains wholesale markets, need overhaul, may it be legal, administrative or relating to provision of sewerage, electricity, waste management and water supply. The city/local governments are required to take actions. There is a need to institute a mechanism to quickly resolve issues of businessmen involved in any stage of

[88] For instance under the SBP's Credit Guarantee Scheme for Small and Marginalized Farmers (CGSMF). Punjab government launched the Connected Agriculture Platform that provides a digital ecosystem for farmers. Smartphones will give access to weather updates, crop advisory services, loans, subsidies and markets. However, no information was available about effectiveness of this service.

[89] Under the 'Strengthening Markets for Agriculture and Rural Transformation' (SMART) Project. The project notes that the farm policies of extensive but inefficient and ineffective subsidies have hardly changed in the last 50 years.

the value chain. The CCP has proposed to the National Price Monitoring Committee, an alternate and more competitive supply chain (Figure 20)

6.2.5 Agricultural Futures Market

Almost a year ago, the Securities and Exchange Commission of Pakistan (SECP) approved listing of wheat futures contracts on Pakistan Mercantile Exchange Limited (PMEX). Wheat futures contracting was launched as a pilot project in some districts of Punjab. However, the wheat volumes traded are relatively low. As investors in Pakistan generally invest in internationally liquid commodities such as gold, silver, crude oil, and to a limited extent in wheat. Farmers are not able to get the right price of their produce due to the middlemen and inefficient traditional markets. A well-functioning commodity exchange can help create a marketplace where producers of agricultural commodities could meet potential buyers and get benefit from fair transactions. However, the farmers in Pakistan lack capacity to use the opportunity of marketing and investment through futures market. Commodity exchange serves as a transparent trading platforms for the growers. However, there is a need to create awareness about the functioning of futures trading. In addition, the adequacy of mechanism for insurance, performance guarantees and indemnity funds be ensured to align domestic and international parameters.[90] Once in place, the system will improve documentation of the informal business dealings.

6.2.6 Documentation of milling businesses

A large portion of the wheat flour industry is in the un-documented informal sector. This situation promotes unfair competition to the advantage of un-documented milling due to avoidance of taxes and social security. The competition based on investment, innovative branding, fortification and quality improvement, is thus restricted to a disadvantage of consumers.

Likewise, the existence of ghost mills point towards flaws in the administrative mechanism, which in fact is not possible without the connivance of the relevant government functionaries. In the present set up, the inefficient mills continue operations while getting cheaper wheat on quota. There is an elaborate mechanism for monitoring of quotas but the system has loopholes. Consequently, non-operative/ ghost mills receive a quota and sell it to other millers. The installed capacity data has discrepancies. Therefore, the quota system requires overhaul targeting phasing out of inefficient interventions, minimizing price differentials and more focus towards maintaining strategic reserves.

6.2.7 Ease of exit

Enhancing competition requires ease of market entry and exit. The flour millers in Islamabad informed that the revision in the CDA bylaws and the Islamabad Manufacturing Industry Area Zoning Regulation, 1963 was approved in 2015. Even without notification of these amendments, the CDA's Building Control Section (BCS) received fees to change the drawings. The amendments and the new drawings are still pending approval from the CDA. Owing to this, the present resource allocation is suboptimal. To shed the

[90] Punjab government has launched subsidized crop insurance scheme (Takaful) to protect the income of farmers against unfavorable circumstances. This applies to cotton and rice in the first phase. In the second phase wheat will also be included.

excess milling capacity, it may be considered that the bylaws may allow certain provision to provide ease of exit to the flourmills. This would facilitate the resources to be used for more productive purposes, which is in line with the spirit of competition.

6.2.8 Converting Special Economic Zones into an opportunity

Special Economic Zones (SEZs) with special incentives to industry and agriculture is an essential step under the CPEC. China has huge food imports of about US$500 billion. Therefore, Pakistani industry needs to convert SEZs into an opportunity, instead of taking SEZs as a threat, by identifying potential avenues for exports. The key elements of an export strategy would be production as per international standards at competitive rates.

6.3 Promoting the Rights of Consumers

The competition framework looks into the 'deceptive marketing' from fair competition perspective. The provincial food authorities check the practice for consumer protection aspect. For instance, the Punjab Pure Food (Amendment) Ordinance, 2015 covers false, misleading and deceptive labelling and false advertisement, which is also covered as 'deceptive marketing' in the Competition Act, 2010. This is an area where cooperation and exchange of information between the relevant agencies could promote consumers interest. The strength of consumer protection frameworks boosts competition. Therefore, the Federal Government may take necessary steps to ensure effective implementation of Islamabad Consumer Protection Act, 1995.

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Annex I: – Spatial Distribution and Capacity of Flourmills

	Punjab - Cities	No. of Mills	Range of Capacity (MT)
1	Attock	33	80-320
2	Gujrat	48	40-240
3	sargodha	18	12-240
4	Shekhupura	5	60-240
5	Kasur	15	80-300
6	Lahore	71	40-400
7	Faisalabad46		40-320
8	Toba Tek Singh	4	160-240
9	Okara	11	80-300
10	Sahiwal	15	100
11	Pakpattan	4	140-260
12	Bahawalnagar	15	60-240
13	Lodhran	9	120-240
14	Bahawalpur	35	60-280
15	Rahimyar Khan	61	60-240
16	Layyah	10	100-240
17	Jehlum	22	100-280
18	Mianwali	11	100-280
19	Bhakkar	4	80-120
20	Jhang	31	60-320
21	Vehari	17	40-280
22	Khanewal	20	40-240
23	Dera Ghazi Khan	26	40-240
24	Muzaffargarh	14	40-240
25	Rawalpindi	69	80-400
26	Sialkot	12	80-240
27	Gujranwala	68	40-420
28	Multan	60	20-240
KPK - Cities			
1.	Swat	5	140
2.	Mardan	11	120-240
3.	Mansehra	8	120-160
4.	Nowshehra	6	100-280
5.	Abbotabad	13	80-280
6.	Haripur	10	120-160
7.	Swabi	6	80-160
8.	Karak	3	120-160
9.	Bannu	4	140-200
10.	Peshwar	33	120-340
11.	Charsadda	7	120-160
12.	Dir	4	120-160
13.	Dera Ismail Khan	6	120-140
Sindh - Cities			
1.	Sukkur	39	80-240
2.	Hyderabad	16	120 – 240
3.	Karachi	82	60-280

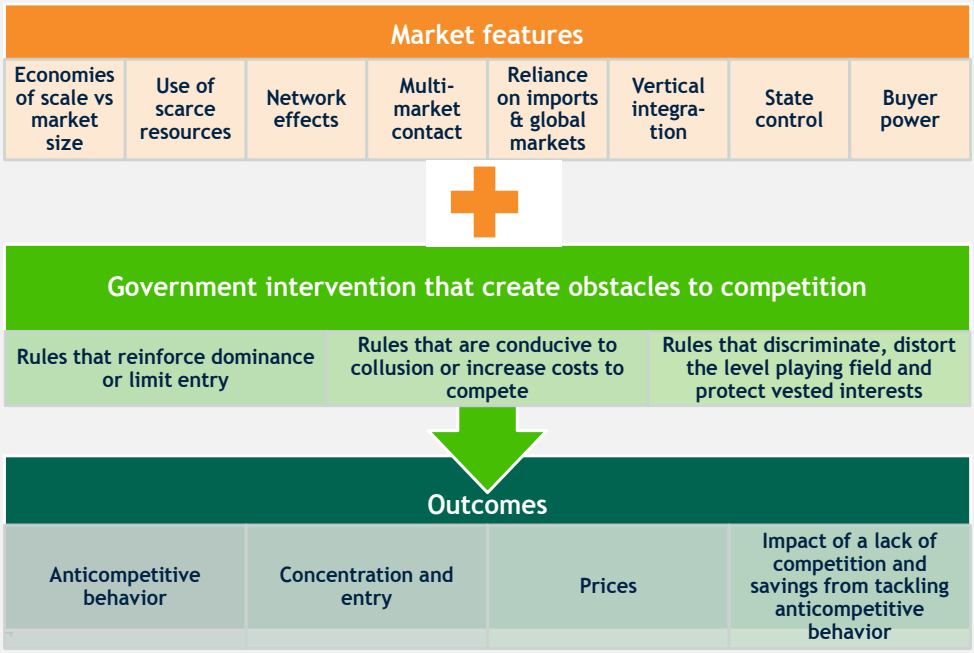
Annex II: The MCPAT Framework

Box: The World Bank Market and Competition Policy Assessment Tool (MCPAT)

The MCPAT is a methodological instrument of analysis developed by the WBG Markets and Competition Policy team to identify specific problems at the market level and prioritize competition tools accordingly—markets to be prioritized as well as the tools vary by country – and in some cases, complement each other. Having a practical nature and a focus on implementation, this methodology has been developed based primarily on the experience of the WBG Markets and Competition Policy Team implementing pro-competitive reforms in more than 45 developing countries. Therefore, The MCPAT provides a standardized and comprehensive tool with which to understand i) competition dynamics created by market feature (including supply-side characteristics and buyer characteristics) and ii) identify and assess the potential anticompetitive effects of Government intervention in markets. The interaction between these two elements can then be analyzed to determine the risk of anticompetitive behavior, both in terms of collusion and exclusionary abuse of dominance.

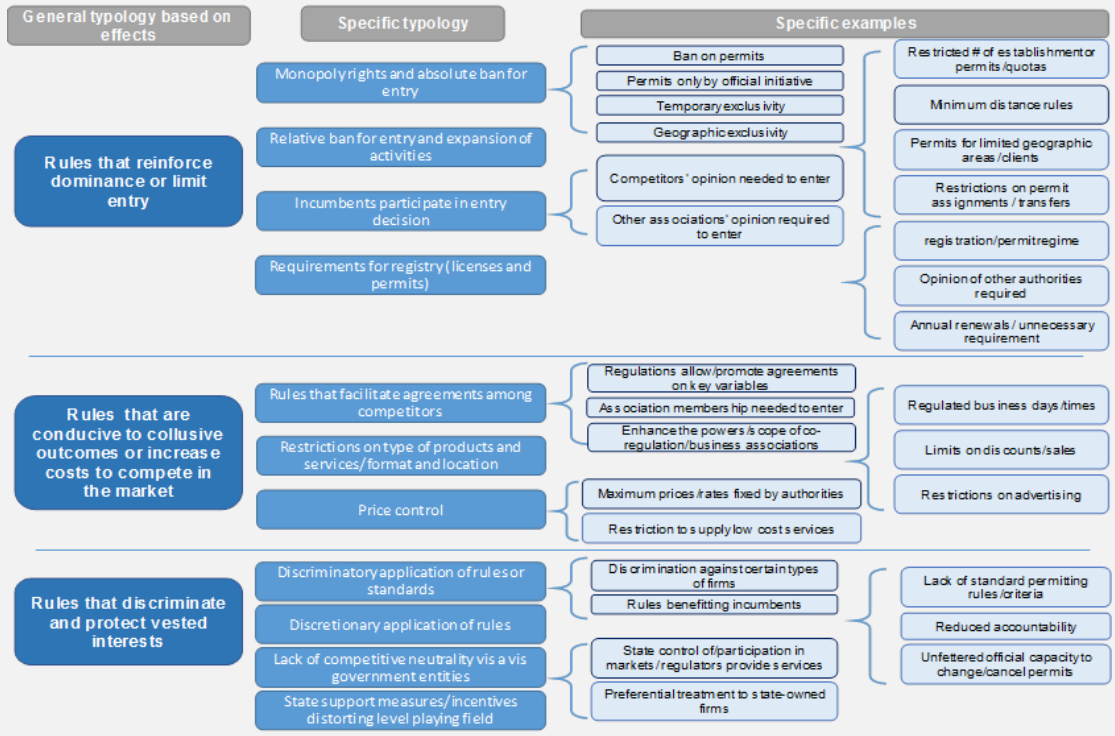
This assessment can then inform the development and prioritization of effective strategies to promote competition through changes in policies, regulations, and rules.

Figure 21: High level overview of the MCPAT approach



As described in Figure 22, the MCPAT builds on the identification of those rules and regulations that may have anticompetitive effects on the basis of the following typology:
(1) Rules that reinforce dominance or limit entry;
(2) Rules that are conducive to collusive outcomes or increase costs to compete in the market;
(3) Rules that discriminate and protect vested interests.
Within each of these categories, specific sub-typologies of rules have been identified and illustrated with specific examples. This typology feeds into a holistic step-by-step methodology to promote competition reforms.

Figure 22: MCPAT Typology of competition restrictions



Source: World Bank Group's Market and Competition Policy Assessment Toolkit