



Current state and development trends of the flour-milling industry in the Republic of Kazakhstan

Estado actual y tendencias de desarrollo de la industria harinera en la República de Kazajstán

Zhanat ALTAIBAEYVA [1](#); Shynar MUTALLYAPOVA [2](#); Serik BEKHOZHIN [3](#); Sairagul DARIPBAYEVA [4](#); Gulmira KUTTAYAKOVA [5](#)

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ABSTRACT:

This paper analyzes the current state of flour production in the Republic of Kazakhstan and considers its perspectives and development trends. The authors believe that one of the development trends of the flour-milling industry is the growth of small-scale mills that can quickly orient themselves to flour production at the customer's request. Kazakhstan has a significant grain and flour export potential, which is important for the country's agro-industrial sector, and its economy as a whole. The study presents an assessment of the volume of Kazakhstan's flour export, proving that flour export has more priority than grain export. The paper also analyzes the problem of the pricing of flour-milling products suggesting that an important condition for the enterprise's effective functioning is the formation and development of an effective pricing mechanism that takes into account the laws of supply and demand.

Keywords Flour-milling industry, flour production, agro-industrial sector, pricing, flour export.

RESUMEN:

Este trabajo analiza el estado actual de la producción de harina en la República de Kazajstán y considera sus perspectivas y tendencias de desarrollo. Los autores creen que una de las tendencias de desarrollo de la industria de la molienda de harina es el crecimiento de los molinos de pequeña escala que pueden orientarse rápidamente a la producción de harina a petición del cliente. Kazajstán tiene un importante potencial de exportación de cereales y harinas, que es fundamental para el sector agroindustrial del país y su economía en su conjunto. El estudio presenta una evaluación del volumen de la exportación de harina de Kazajstán, demostrando que la exportación de harina tiene más prioridad que la exportación de cereales. El documento también analiza el problema de los precios de los productos de molienda de harina que sugieren que una condición importante para el funcionamiento efectivo de la empresa es la formación y el desarrollo de un mecanismo de fijación de precios eficaz que tenga en cuenta las leyes de oferta y demanda.

Palabras clave industria de la molienda de harina, producción de harina, sector agroindustrial, precios, exportación de harina.

1. Introduction

Flour-milling enterprises in the Republic of Kazakhstan have been privately owned since 1991. At the end of the 1990s, there were 1,000 flour mills throughout the country. Currently, there are ~250-300 of them. The majority of mills in Kazakhstan have a low yield of flour, which on average is ~70-75%, distributed as follows:

1. ~ 15-30% of high-grade flour;
2. ~ 36-50% of first-grade flour;
3. ~ 4-8% of second-grade flour.

The country's flour-milling industry is going through the process of consolidation, and in the coming years, according to experts in the industry, only 40-50 large flour-milling companies will continue their activities.

The consolidation of the industry is accompanied by modernization and integration/diversification of the largest flour-milling facilities. They are characterized by the continuity and streamlining of the technological process, high coefficients of power availability per worker and labor mechanization. Most of them combine several types of activities,

and during the last period there is a process of dynamic production combination. The number of combined enterprises, carrying out procurement and industrial activities, is constantly increasing. In addition, the newly created flour mills are diversified, i.e. conduct the subsequent processing of finished products until the release of pasta, packaged cereals, etc. (Dzholdasbayeva, 2006, p. 142).

The flour-milling industry is an example of the effective development of a specific area of the food industry in conditions when the market for this product is in demand and, at the same time, domestic legislation allows this sector to develop actively (Information agency Kazakhzerno, 2017).

The dynamics of flour and baked goods production in the Republic of Kazakhstan is presented in Table 1.

Table 1. Dynamics of flour and baked goods production in the Republic of Kazakhstan for 2011-2015 (thousand tons)

Product name	2011	2012	Deviation of 2012 from 2011	2013	Deviation of 2013 from 2012	2014	Deviation of 2014 from 2013	2015	Deviation of 2015 from 2014
Flour from cereal and vegetable crops	3846,5	4009	162,5	3880,6	-128,4	3883	2,4	3741,2	-141,8
Fresh bread	731,7	721,7	-10	742,5	20,8	726,1	-16,4	722	-4,1
Macaroni, noodles, similar flour products	145,7	145	-0,7	147,2	2,2	152,5	5,3	146,2	-6,3
Note. Compiled by the authors based on data from the Committee on Statistics of the Republic of Kazakhstan [9]									

There is no significant growth or decrease in the amount of flour and baked goods production for the analyzed period. On average, about 4 million tons of wheat flour are produced annually.

Large, medium, small flour mills, peasant farms and sole entrepreneurs are engaged in flour production. In recent years, small enterprises have accounted for the greatest share in the production of flour from cereal and vegetable crops. In 2012, medium enterprises produced 19% of flour, and small enterprises – 36%. The share of peasant farms was 17% and sole entrepreneurs – 28%. In 2014, small enterprises accounted for 68%. The share of peasant farms decreased by 14% relative to 2012 and amounted to 3%. The share of sole entrepreneurs was 29%.

One of the development trends of the flour-milling industry can be the growth of small-scale mills that are able to quickly orient themselves to flour production at the customer's request.

It cannot be said that geographically flour-milling enterprises are connected only with the region that produces grain. For flour mills located in the northern region, the advantage is the proximity to the raw materials base and the availability of grain, and the weakness is the low level of population concentration and, as a consequence, the dispersed and small domestic sales market. Their main market is southern regions (Dzholdasbayeva, 2006, p. 143). For example, the South-Kazakhstan region is running second to the Kostanay region in flour production (Table 2).

Table 2. Production of flour from cereal and vegetable crops in the context of the regions of the Republic of Kazakhstan for 2011-2015

Region	Flour from cereal and vegetable crops; fine mixture; thousand tons														
	2011 thousand tons	2012			2013			2014			2015			share in %	ranking
		thousand tons	share in %	ranking	thousand tons	share in %	ranking	thousand tons	share in %	ranking	thousand tons	share in %	ranking		
1	2	3	4	5	6	7	8	9	10	11	12	13	14		
Akmola	293,2	357,8	8,92	5	339,1	8,74	4	382	9,84	4	369,6	9,88	4		
Aktobe	136,3	116,9	2,92	9	102	2,63	11	92,8	2,39	11	107,9	2,89	9		

Almaty	221,9	201,4	5,02	6	175,3	4,52	7	111,3	2,87	8	116,3	3,11	8
Atyrau	289,3	2,4	0,06	15	2	0,05	15	2,3	0,06	15	2,3	0,06	14
West-Kazakhstan	104,9	94,6	2,36	10	112,7	2,91	10	100,8	2,60	10	107,7	2,88	10
Jambyl	40,4	43,6	1,09	13	52,4	1,35	12	47,6	1,23	13	48,3	1,29	13
Karaganda	426,8	417,3	10,41	3	450,4	11,61	3	557,7	14,36	3	444,6	11,88	3
Kostanay	911,7	1028,7	25,66	1	992,8	25,58	1	925,5	23,83	1	938,9	25,09	1
Kyzylorda	985	711	0,02	16	0,6	0,02	16	0,1	0,00	16	1,1	0,03	15
Mangistau	17,5	10,1	0,25	14	13,6	0,35	14	17,4	0,45	14	30,6	0,82	13
South-Kazakhstan	733,1	871,5	21,74	2	815,6	21,02	2	847,1	21,82	2	858,7	22,95	2
Pavlodar	90,7	61	1,52	12	25,3	0,65	13	49,2	1,27	12	51,2	1,37	12
North-Kazakhstan	368,9	391,8	9,77	4	323,1	8,33	5	313,4	8,07	5	273,6	7,31	5
East-Kazakhstan	232,1	193,1	4,82	7	190,6	4,91	6	184,9	4,76	6	156,8	4,19	6
Astana city	145,5	151,1	3,77	8	160,4	4,13	8	143,5	3,70	7	148,1	3,96	7
Almaty city	119,5	67	1,67	11	124,5	3,21	9	107,4	2,77	9	85,6	2,29	11
Total for the Republic of Kazakhstan	3846,5	4009	100	-	3880,6	100	-	3883	100	-	3741,2	100	-

Note. Compiled by the authors based on data from the Committee on Statistics of the Republic of Kazakhstan [9]

Only 40% of the grain produced in the country for flour (4,800.0 thousand tons) is handled by industrial processing, provided that the capacities of enterprises allow processing more than 50% of the grain produced. A significant portion of the flour-milling industry's potential is not used. The capacities of Kazakhstan's flour-milling enterprises are 3 times higher than the country's domestic needs. Table 3 presents the balance of flour production and consumption in the Republic of Kazakhstan for five years.

Table 3. The balance of flour production and consumption in the Republic of Kazakhstan for 2011-2015, thousand tons

Product name	2011	2012	Deviation of 2012 from 2011	2013	Deviation of 2013 from 2012	2014	Deviation of 2014 from 2013	2015	Deviation of 2015 from 2014
Production	3846,5	4009	162,5	3880,6	-128,4	3883	2,4	3741,2	-141,8
Import	7,3	2,4	-4,9	1,5	-0,9	2,5	1	9,6	7,1
Total	3853,8	4011,4	157,6	3882,1	-129,3	3885,5	3,5	3750,9	-134,7
Import ratio, in %	0,19	0,06	-0,13	0,04	-0,02	0,07	0,03	0,26	0,19

Consumed in the domestic market	1951,9	1792,8	-159,1	2006,3	213,4	2041,3	35	1941,9	-99,4
Export	1901,8	2218,6	316,7	1875,9	-342,7	1844,2	-31,6	1809	-35,2
Total	3853,8	4011,4	157,6	3882,1	-129,3	3885,5	3,3	3750,9	-134,7
Export ratio, in %	49,35	55,31	5,96	48,32	-6,99	47,46	-0,86	48,23	0,77

Note. Compiled by the authors based on data from the Committee on Statistics of the Republic of Kazakhstan [9]

2. Method

When studying the problem, the authors investigated domestic and foreign sources of literature, as well as statistical data on the Republic of Kazakhstan for 2011-2017.

3. Discussion and Results

Flour production considerably exceeds the country's domestic needs. In order to provide the annual demand of the population for bread and flour products, flour-milling enterprises of the Republic of Kazakhstan need to process about 2 million tons of grain for food purposes.

The high competitiveness of Kazakhstan's flour in foreign markets is confirmed by the Competitive Advantage Index (CAI), which assesses the competitiveness of the goods in foreign markets. In terms of flour production, it was at the level of 7.5 units according to the Concept for Improving the Image of Agricultural Products of Kazakhstan, prepared under the World Bank and the Ministry of Agriculture of the Republic of Kazakhstan "Increasing the competitiveness of agricultural products in Kazakhstan". Good milling properties of Kazakhstan's grain and quality indicators of Kazakhstan's flour are highly valued in many countries of the world.

Kazakhstan has a significant grain and flour export potential. Flour export is important for the country's agro-industrial sector, and its economy as a whole. The country is one of the six largest grain exporters in the world.

For the third consecutive year, Kazakhstan is the world leader in flour export. Flour export in the world market is about 11.5 million tons per year, where Kazakhstan occupies about 19% of this market. Kazakhstan annually exports 6-8 million tons of wheat on average, including about 2 million tons of flour, which is 2.8 million tons in terms of wheat (Khodzhayeva, 2015).

When processing grain into flour, the added value of one ton is about 50 USD. The amount consists of wages paid to employees of grain-processing enterprises, transportation and other costs, flour storage, flour delivery (electricity, gasoline, diesel fuel) and others. Accordingly, these are new jobs, the guaranteed sale of grain purchased by grain processors, and the expansion of the feed base in the country (approximately 25% of the processed grain remains in the country in the form of shorts).

The priority of flour export in comparison with grain export is determined by the following factors: the added value chain and foreign exchange and tax revenues are increasing, and the loading of domestic mills is being provided. Table 4 shows the volume of Kazakhstan's flour export.

Table 4. Wheat and wheat-rye flour export from the Republic of Kazakhstan by countries for 2011-2015

Country	2011		2012		2013		2014		2015	
	Volume, thousand tons	Thousand USD								
1	2	3	4	5	6	7	8	9	10	11
CIS countries	1540,64	443845	1702,85	425621	1447,29	431340	1202,76	336985	1024,2	258165
Azerbaijan	0,14	63	0,83	230	0,04	23	0,20	113	0,1	49
Belarus	-	-	0,02	6	-	-	-	-	-	-

Kyrgyzstan	99,02	28372	111,51	28728	133,67	38900	51,41	13915	32,1	8002
Moldova	0,46	277	1,32	582	0,96	567	1,24	659	1,2	501
Russia	0,26	81	4,49	1287	44,95	16315	16,08	5094	3,2	853
Ukraine	-	-	-	-	-	-	-	-	-	-
Tajikistan	310,10	91803	299,22	84936	231,67	78599	181,25	62025	137	42445
Turkmenistan	32,05	12049	63,39	24184	52,08	23883	54,61	23472	32,5	12569
Uzbekistan	1098,62	311200	1222,06	285668	983,92	273053	897,97	231707	818,1	193746
Rest of the world	361,20	107347	515,72	175011	428,56	148893	641,45	224469	784,9	232617
Afghanistan	354,41	104498	506,79	171407	420,56	144734	634,99	221637	778,7	230668
China	0,08	21	0,06	16	-	-	0,81	424	1,9	743
Korea	-	-	0,84	400	-	-	-	-	-	-
Mongolia	6,46	2754	7,96	3148	6,80	3597	5,43	2288	3,8	1076
Georgia	-	-	0,05	35	1,20	562	0,17	100	0,4	130
Iraq	-	-	0,02	5	-	-	-	-	-	-
Iran	0,20	58	-	-	-	-	-	-	-	-
United Arab Emirates	-	-	-	-	-	-	0,04	13	-	-
Netherlands	-	-	-	-	-	-	0,02	7	-	-
Lithuania	0,04	16	-	-	-	-	-	-	-	-
Total	1901,85	551192	2218,56	600632	1875,85	580233	1844,21	561454	1809	490782

Note. Compiled by the authors based on data from the Committee on Statistics of the Republic of Kazakhstan [9]

The fall in the volume of flour export is not due to seasonal fluctuations, but due to the protective measures taken by the countries importing grain.

Flour exporters, against the backdrop of the development of grain export to their markets, are taking active steps to reduce the volume of flour export:

- Uzbekistan builds a number of high-performance mills on the border with Afghanistan, has introduced a 15 percent excise tax on imported flour, which led to a decrease in supplies to the country;
- Tajikistan has established VAT rates on imported flour to the country in the amount of 18 percent, and on imported grain – 10 percent, reduced import duties on wheat and develops its own flour milling;
- Kyrgyzstan has launched an anti-dumping investigation in relation to the growth of Kazakhstan's flour export and introduced import duties in the amount of 70 USD per ton;
- Afghanistan has imposed restrictions in the form of a 16 percent duty on the customs value of imported flour (Atoyants-Larina, 2014).

The resolution of this situation requires certain comprehensive measures on the part of the state. It is necessary to adhere to the strategy of promoting processed agricultural products oriented to foreign markets. The system of promoting products to foreign markets must be provided with the system of protective measures.

An important condition for the enterprise's effective functioning is the formation and development of an effective pricing mechanism that takes into account the laws of supply and demand.

Prices play an important role in the development of agricultural processing enterprises. The economic efficiency of production, expanded reproduction, payment and material stimulation of labor, the rational correlation of proportions in the development of industries depend on the level of prices. The price should reflect not only product costs or value, but also conditions for the exchange of goods, market conditions, product quality, tax policy, and product marketability.

As a result of the above market factors, the price in Kazakhstan fluctuates around the cost, sometimes rising, sometimes falling. The average prices of flour and bread in the Republic of Kazakhstan are presented in Table 5.

Table 5. Average prices of flour and bread in the Republic of Kazakhstan (KZT per 1 kg)

Food product name	2011	Deviation from 2010	2012	Deviation from 2011	2013	Deviation from 2012	2014	Deviation from 2013	2015
1	3	4	5	6	7	8	9	10	11
High-grade wheat flour	99	6	111	12	114	3	131	10	133
First-grade wheat flour	75	4	78	3	80	2	95	5	105
Bread from high-grade wheat flour	144	17	151	7	156	5	174	10	192
Bread from first-grade wheat flour	78	2	80	2	81	1	85	4	103

Note. Compiled by the authors based on data from the Committee on Statistics of the Republic of Kazakhstan [9]

In general, for five years there has been an increase in the price of flour, and, consequently, of bread. Prices of wheat and, as a result, of flour are subject to seasonal fluctuations, falling with new crop harvesting and rising by the end of the season, when stocks are minimal. In the period of high growth of grain prices, the cost of flour also increases, although the price of bread, as a socially important product, should remain unchanged. During this period, bread-making plants do not have profit; some of them are loss making, using the available stocks of raw materials in the warehouse (Dzholdasbayeva, 2005, p. 101).

State officials, fearing that social tension among the population will increase, which may be caused by rising prices of important food products, are trying to solve problems by putting strain on producers, dictating their prices to them. The price recommended by the state often does not take into account the level of the cost price of grain and its processing. Artificially restrained prices of bread on the part of the state make it impossible to conduct strategic business management in general, which ultimately causes damage to consumer quality and product versatility.

The problem of the pricing of flour-milling products arises from the fact that the interests of grain producers, grain processors and the state do not coincide. Grain producers expect that the price of grain should justify all costs and contain certain benefits in the form of margins. Grain processors want to buy raw materials at a favorable price and meet the prices of their products dictated by the state. The market price does not satisfy the interests of grain processors because of the imbalance in supply and demand for grain.

This problem cannot be solved by simple pressure – it requires a comprehensive approach with respect to the interests of grain producers, grain processors, and the population of the Republic of Kazakhstan. The state should defend the interests of the population in the opportunity to buy inexpensive, high-quality flour-milling products. If this is done to the detriment of producers, they will cease to function.

In Kazakhstan, there are no normative legal acts from the government or executive bodies, determining the price of such a socially important food product as bread. The government decree dated March 1, 2010, only recognizes wheat bread from first-grade flour as a socially important commodity. There is a government resolution dated June 20, 2014 "On the Allocation of Funds from the Reserve of the Government of the Republic of Kazakhstan to Stabilize the Price of Bread". It determines the cost and volume of flour distributed in the regions of Kazakhstan for the subsidy of bread-making plants (Yensebayeva, 2015).

"Rules of partial compensation to grain processing organizations of the cost of grain acquired by them from the state realizable and state stabilization resources of grain for the purpose of regulation of the domestic market", approved by Order No. 4-1/549 of the Minister of Agriculture of the Republic of Kazakhstan dated June 19, 2015, provide for the allocation of funds for the partial reimbursement of costs to processors to stabilize the prices of flour and bread (Order of the Minister of Agriculture of the Republic of Kazakhstan, 2015). These funds are allocated by the local executive

body on a tender basis in accordance with the legislation of the Republic of Kazakhstan. An obligatory condition for admission to participate in the tender for the definition of grain processing organizations for the sale of grain of the state realizable and state stabilization resources of grain for the purposes of regulating the domestic market should be the acceptance of obligations for the targeted use of grain by grain processing organizations.

4. Conclusion

The state makes subsidies and compensations as well as conducts commodity and purchasing interventions of grain. To ensure a favorable situation in the market of grain products, it is necessary to maintain a rational balance between purchasing, wholesale and retail prices in the food chain: the price of grain supply – the price of grain storage and processing – the wholesale price of flour – the retail price of bread (Razakova, 2017). In order to create a sustainable parity of prices, there is a need for the state regulation of pricing processes, excluding significant fluctuations in certain types of resources, as well as the creation of conditions that provide the development of reproductive processes.

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1. Innovative University of Eurasia, Pavlodar, Kazakhstan. E-mail: Zhanat.ka@mail.ru
2. Saken Seifullin Kazakh Agrotechnical University, Astana, Kazakhstan
3. JSC Academy of Finance, Astana, Kazakhstan
4. Saken Seifullin Kazakh Agrotechnical University, Astana, Kazakhstan
5. Saken Seifullin Kazakh Agrotechnical University, Astana, Kazakhstan

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