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Model of Management of Food Industry Production Supply and Consumer Costability

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Abstarct: ***Based on the econometric models used in stabilization and prediction of food and foodstuff consumption in Uzbekistan, with a high level of cost-effectiveness and impact factors accurate predictions are important. This article describes a model of stabilization of consumer spending and developed scientific conclusions and recommendations.***

Keywords: stabilization of consumption costs, prediction, extrapolation method, coefficients of correction and regression, subspecies method, intense contact.

1. Introduction

Any forms of entrepreneurship, in particular the food industry, are primarily due to the liberalization of the economy and the creation of a competitive environment. At the same time, it can develop in a society based on market relations, in a legally-guaranteed system. Free economy is, in essence, a stimulus for the comprehensive development of production. In addition, in order to increase the purchasing power of the population for food and daily needs, the domestic consumer market should be replenished regularly with goods and services produced locally. In order to solve this task it is expedient to increase the share of consumer goods in the total volume of industrial production by 60% in the next five years. This requires further improvement of the mechanism for stimulating the development of consumer goods production sectors and enterprises in the national economy.

From the point of view of economic doctrine, "the most advanced economic system is a system that provides people with the highest satisfaction that they need most" (Gelbreit K. John, 1979). However, doing so requires the achievement of economic growth based on the efficient allocation of resources, which requires a full and effective employment and full-scale production.

Thus, the effectiveness of entrepreneurial activity is largely dependent on the rate of economic growth, the growth of living standards of the population, the reduction of unemployment and inflation, and the improvement of working conditions. However, the functioning of the market economy, on the one hand, is the inadequacy of the society and, at the same time, limited resources, thus creating a cost-effective and rational use of rational reserves. On the other hand, the existence of modern production factors and the need to optimize them by appropriate technologies create a problem of increasing the cost-effectiveness of entrepreneurial activity. At the same time, economic efficiency will be achieved only if production volume is higher than the production level.

2. Analysis of Subject Matters

Before evaluating entrepreneurship efficiency and forecasting through econometric models in the food industry, it is necessary to respond to the concept of efficiency.

In some surveys, entrepreneurial efficiency is seen as the entry and exit of enterprises into the market, while others are seen as an increase in the number of businesses. In particular, L.Lapper, L. Laeven, R. Rajan and D. Jankov studied the effectiveness of entrepreneurial activity in the market entry of enterprises (Klapper, L., Laeven, L., and Rajan, R., 2004, Djankov, S , La Porta, R., Lopes De Silanes, F. and Shifler A., 2002).

M.Desai, P.Gompers and J. Lerner have suggested the following indicators to determine the effectiveness of entrepreneurial activity in their scientific works (Desai, M., Gompers, P., and Lerner, J., 2003): Entry and Exit coefficients, the average size of the enterprise, the average age of enterprises and the size of enterprises. At the same time, achieving efficiency results in the development of the country, which is reflected in: achieving economic growth (an increase in gross domestic product); increase in welfare of the population (national income increase); strengthening of social protection of the population (increase of the state budget revenues); satisfaction of population's needs in goods and services; achieving effective employment, reducing unemployment; Decrease in inflation; improvement of working conditions; expansion of domestic savings, a powerful source of investment, etc.

In the case of T.Ovaska and RS Sobel, the effectiveness of implementing activities was characterized by an increase in the number of patents and trademarks of new enterprises. These figures are related to economic growth, wealth and high technology patents. In their research, the effectiveness of entrepreneurial activity in the post-communist countries has been studied, which suggests that the growth of new enterprises is characterized by a low level of corruption in government agencies, many have found that ease of access to credit resources and a healthy financial-crediting system have a positive impact. It was suggested that direct foreign direct investment would have a strong impact on the increase in the number of trademarks and patents, while the low level of corruption and the simplicity of state control

could have an impact on the number of enterprises (Ovaska, T., Sobel, R.S., 2004).

Correspondingly, institutional and social barriers to the entry of new competitors into the market are highlighted by Robinson and GBFairchild (Robinson, J., Fairchild, GB, 2002): Institutional barriers include formal, cultural and barriers. Formal barriers include adverse processes in government, law, finance, and credit organizations. Cultural barriers include language, ethics, and culture. Legal barriers are whether the activities of businesses are in line with the valid values and the laws adopted by society.

S. Kaya and Y.Ukdogruk have mainly studied the effectiveness of entrepreneurial activity in the Turkish economy's processing sectors on a new methodology (Kaya, S., Ucdogruk, Y. 2002). They calculated the ratio of enterprises entering the market and their market exit rates to the total number of enterprises for the analysis. The following indicators were assessed: profit size, wealth rate, growth rate, productivity, average salary, intensity of advertising activity and capital capability.

The results obtained by S. Kaya and Y.Ukdogruk are as follows: When the enterprises enter the market, the benefits, the growth rates, the wealth rising, and the production capacities play a positive role, 'the level of growth, the growth rate, and the capacities of production.

3. Analysis and results

This article examines models for assessing and forecasting the effectiveness of entrepreneurial activity in the food industry of Uzbekistan and foreign economists.

A cost-effective model of stabilization of consumer spending is offered for local conditions. The main idea of the model is to study the factors affecting the consumption of foodstuffs and to develop recommendations for consumption stabilization by quantifying them. We recommend a model of stabilization of consumer spending in households:

$$Ln(IX) = \beta 0 + \beta 1 * \text{Ln(IO)} + \beta 2 * \text{Ln(OIS)} + \beta 3 * \text{Ln}(1 - \text{FS}) + \beta 4 * \text{Ln}(1 - \text{INI}) + \beta 5 * \text{Ln}(1 + IHD) + \beta 6 * \text{Ln}(1 + TD) + \beta 7 * \text{Ln}(1 + ITD) + \beta 8 * \text{Ln(AS)} + \mu$$

Where:
IX - stabilization of consumer spending on households;
Growth Rates of IO-GDP;
OIS - Growth Rates of Food Production;
FS - average annual interest rate on short-term loans;
INI - Consumer Price Index;
IHD - earnings from household wages;
TD - entrepreneurial and other income of households;
ITD - income from households in the form of social benefits;
AS - Growth rate of permanent population;
- Regression coefficients;
- The average error rate for the selection of indicators.

In the model households are considered to be only consumer spending. Household expenditures did not include growth of savings and increase of funds by the population. Economic growth and food production rates and interest rates on short-term loans are indirect income generating factors for households. The Consumer Price Index is a factor that indirectly affects the generated income and consumption. Household income is included in earnings in the form of additional earnings and social benefits as a result of wages, entrepreneurship and other types of labor.

In order to determine the level of these indicators, it is recommended to employ formula calculations (Table 1).

Table 1: Formulas for calculating the level of indicators representing the competitiveness of the food industry enterprises

Indicators	ReportingFormula	Conditionalcharacters
Scope of activity of food industry enterprises of the republic	$\text{OOSK}_{OK1000} = \frac{FKOOSK_{OK}}{AS}$	*OOSK1000 - average number of food industry enterprises per 1,000 population;* *FKOOSKOK - number of operating food industry enterprises;* *AS - Number of population.*
Share of the enterprises of the food industry in the volume of the basic sectors of the economy	$TICHU_{OK} = \frac{\sum_{i=1}^{m} \frac{OK_i}{U_i} \times 100}{m}$	*TICHUOK - share of food industry enterprises in the volume of production of sectors of economy;* *OK - the production capacity of the food industry in the i-branch of a certain economy;* *Ui - production capacity of all food industry enterprises in the i-network of a particular economy;* *i - sectors of the economy;* *m - number of sectors in the economy.*
Participation in the activity of food and food markets of the republic	$TI_{OK} = \frac{MTO_{OK}}{FKOOSK_{OK}}$	*TIOK - average size of sales of products, works and services per one food industry;* *MTOOK - receipts from sale of products of the food industry of the republic.*
Coefficient of lending by the food industry enterprises	$KBTD_{OK} = \frac{OKAK_{OK}}{FKOOSK_{OK}}$	KBTDOK - average size of loan allocated to one food industry; OKAKOK - Total amount of credit allocated to the food industry enterprises.
Coefficient of supply with the main production assets of the food industry enterprises	$AIFTK_{OK} = \frac{AFK_{OK}}{FKOOSK_{OK}}$	AIFTOKOK - the average value of the main production funds per single food industry; AFKOK - The value of the main production funds available at the food industry.
Participation of the food industry in the export process	$OSKEJ_{OK} = \frac{EXX_{OK}}{FKOOSK_{OK}}$	*EXCOC - average export volume per one livestock producer;* *AFKBB - Export volume of food industry enterprises.*

Source: author's development.

In addition to benchmarking performance indicators, economic-mathematical modeling and financial analysis methods, entrepreneurial activity assessments include correlation-regression analysis of food production and production parameters, expert assessment and "time trend" the levels of indicators representing the competitiveness of the food industry enterprises can be utilized.

The analysis of the structure of household consumption expenditures of the Republic of Uzbekistan is presented in Table 2. The cost of purchasing foodstuffs in households between 2003 and 2017 was 62.5% in 2003, 60.1% in 2007, 58.2% in 2015, and 55% in 2017.

The table below illustrates that the cost of purchasing foodstuffs in households was 62.5% in 2003, while in 2017 this figure was 55%. In addition, in 2017, 3.9% of household spending on foodstuffs will be spent on milk and dairy products and eggs, 16.6% in bread and bakery products, 9.1% in potatoes, vegetables, fruits, 12,6% - meat and meat products, 4.8% - sugar and confectionery products, 8.0% - vegetable oils and other fats, 16.6% - other food products . Analyzes show that in 2003, the cost of purchasing foodstuffs in households was 62.5 percent and in 2017 it was 55.0 percent. The main reason for the decline in demand for other types of non-food products is the increase in consumption expenditures.

Table 2: Structure of Household Consumer Expenditures in the Republic of Uzbekistan (in% to total)

Indicators	Years							
	2003	2004	2007	2012	2014	2015	2016	2017
TotalConsumptionExpenditures	100	100	100	100	100	100	100	100
Including:								
Costs for the purchase of household food products	62,5	61,8	60,1	59,3	58,1	58,2	56,6	55,0
Also:								
Breadandbakeryproducts	12,6	12,9	13,2	13,6	14,1	15,3	16,8	16,6
Potatoes, vegetables, fruits	14,2	13,8	13,2	12,7	11,7	11,2	9,3	9,1
Meat and meat products	15,2	14,9	14,5	14,1	13,8	13,5	13,1	12,6
Milk and dairy products and eggs	5,9	5,7	5,3	5,1	4,9	4,6	4,3	3,9
Vegetable oil etc.	9,9	9,7	9,4	9,1	9	8,9	8,1	8,0
Sugarandconfectioneryproducts	4,7	4,8	4,5	4,7	4,6	4,7	5	4,8
Otherfoodproducts	12,6	12,9	13,2	13,6	14,1	15,3	16,8	16,6
Out-of-home consumption expenses	37,5	38,2	39,9	40,7	41,9	41,8	43,4	45,0
Outside the home (kitchens, cafés) expenses for food	3	3	3,4	3,5	3,1	3,4	2,3	2,5
Alcoholic Drinking Costs	3	2,8	3	3,2	3,9	4	3,8	4,1
Expenses for the purchase of non-consumer goods for personal consumption	0,3	0,3	0,25	0,3	0,3	0,4	0,5	0,7
Payments for services rendered	20	20,4	21	21,2	22,1	21,7	21,4	23,1

Source: Uzbekistan v sifrax 2003. Stat. sankik -T .: 2004, -S. 61, Sozialnoerazvitie i urovenjizninaseleniya v Uzbekistane 2007. Stat. sankik -T .: 2008, -S. 71., Uzbekistan всапах 2012. Stat. sankik -T .: 2013, -S. 56, Sozialnoerazvitie i urovenjizninaseleniya v Uzbekistane 2017. Stat. sankik -T .: 2018, -S. 243

The major share of consumer spending in the country is the cost of purchasing foodstuffs. Household budget revenues for the years 2003 to2017 show that expenses for bread and bakery, sugar and sugar products are growing.

However, the cost of vegetable oil, meat products, potatoes, vegetables, fruits, dairy and dairy products and eggs decreased. The reason for this is the increase in the share of expenditures on out-of-home food, due to the increase in the population's income.

4. Conclusions and recommendations

Based on the results of the developed indicators, the following conclusions were made:

For the development of production and competitiveness of the food industry enterprises, it is desirable to use the following key indicators:

- Scale of the food industry enterprises of the republic;
- Their share in the volume of basic sectors of the economy of the republic;
- Participation in the activity of food and food markets of the republic;
- Loan coverage ratio of the food industry enterprises;
- Level of availability of basic production funds;
- Participation of food industry enterprises in export process.

These indicators demonstrate the role and place of the food industry in the national or sectoral economy, as well as their development potential. Consistent segregation of national and network based on these characteristics will enable them to evaluate their competitiveness objectively.

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