
Trends and Forecast Parameters of the Development of Trade Services in the Bukhara Region

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Abstract: The article analyzes the dynamics of the main economic indicators of the trade sector in the Bukhara region in 2012-2023. When assessing the prospective dynamics of indicators related to trade activity, trend Analysis of socio-economic phenomena was used, a generalized comprehensive forecast model was developed based on thematic forecasts of indicators obtained separately. Based on these models, issues of developing optimistic and pessimistic forecast scenarios for 2025-2027 of the development of the industry are covered.

Key words: Trading services, trading turnover, regression equation, trend equation, optimistic forecast scenario, pessimistic forecast scenario.

Introduction. The modern method and methodology of forecasting in the world allow you to evaluate the main indicators of the selected object using trend models, as well as compare their interconnections between many set elements. Therefore, a special priority is given to the importance of trend models in assessing the innovative potential of the region in the innovative development of trade services by well-known economist scientists, the main emphasis is on setting the criteria for their choice. In recent years, the regional economy of the Bukhara region has grown 1.5 times, exceeded 53 trillion soums, and the per capita GDP has reached 26 million soums. To develop the trade sector, the tasks of directing entrepreneurs to export, reducing imports in the industry by \$ 150 million and bringing exports to \$ 400 million are relevant in the future to develop forecast parameters based on the current dynamics of the trade sector, to increase the level of accuracy of forecasting models.

Literature review (review of methodological materials. Issues of the use of trend models in the development of forecast parameters can be attributed to foreign scientists Ch.Day (Dai, C 2023) academic work has achieved a 15% increase in export volume forecast and actual sales by creating export volume forecast through neural networks, multi-factor and one-factor forecasting models, and the accuracy rate of traditional forecasting methods" N.N.The conclusions of Molchanov(Molchanov, 2019)are based on the fact that "it is advisable to use mathematical-statistical methods in forecasting sales volumes in small business entities, to use the ARIMA-model in checking time series and seasonality." L.A.The scientific work of Konoshenko (Konashenko,2012)proposed that "trading enterprises are studied as a system and forecast the volatility of the trading process with priority given to the method of chain forecasting." Research of models for assessing the potential of innovative development of service activities of commercial entities from scientists of our country, including issues of multi-factor econometric modeling of forecast indicators, F.D.Zhurayev (Zhurayev, 2021) " the trend of development of production of products in Agriculture of Uzbekistan on the basis of a comparative analysis in the indicators of the Republic and the Kashkadarya region, the trend patterns of the emergence of diversity in the country and its constituent regions in the dynamics of changes in the indicators of Land Fund use in agriculture, these quantitative differences are highlighted. Researcher J.Gafforov (Gafforov, 2024) developed predictive indicators of the causes of the origin of unemployment in the territory of the Kashkadarya region, its impact on society, its solutions and the level of

unemployment in the region. Based on the research of the development trend of living and catering services by Rakhimov (Rakhimov,2023), the assessment of the potential of the region on the main indicators and the presence of developmental laws in harmony with other related services was carried out using econometric modelling. In the scientific research of Makhmatkulovs (Makhmatkulov, 2023), the importance of the modelling method of trading entities in calculating the forecast indicators of the territorial key indicator, in particular, the advantage aspects of multi-factor econometric modelling, is highlighted,” the degree of relevance of trend Model selection criteria is analyzed in ensuring the accuracy of forecast values calculated using a multi-factor model.

Methodology

Induction and deduction, grouping, and logical analysis methods were used during the study. Tables were used to express the study results in a general holistic way. The research hypothesis is based on the fact that it is possible to develop an optimistic model of forecast parameters based on the generalization of the forecast trend of socio-economic processes obtained separately, a pessimistic forecast model based on mutual subtraction.

Result and Discussion

The determination of trends in the development of trade services in the Bukhara region and the development of forecast parameters on a basis is aimed at a comprehensive analysis and assessment of the trend of this network. In this process, it is envisaged to carry out the following: - determination of existing trends and pace of change in the development of trade services;

- solving the problems of increasing the standard of living and well-being, taking into account the size of the consumer market, commodity structure, resource supply, and trade culture of the population (Abdullayev, 2011);
- territorial features of the provision of trade services and identification and effective solution of problems;
- development of trade services; making adjustments to the socio-economic development programs of the region, depending on the per capita points of sale and the dynamics of the turnover period in the trade sector. In the process of forecasting, the economic content of indicators is theoretically studied deeply, and on this basis, a mathematical model is selected. "...by choosing which of the Earth's production functions is appropriate based on the specific features of the economic processes under study, an econometric model is chosen and Information is collected. Only after will forecasting actions be carried out and scientific and practical recommendations will be developed based on the final results”(Dosmuratova, 2014). In the studies carried out on our side, a regression analysis was carried out mainly. Based on the task set in the work, it consists in assessing the dependence of the conditional average value of the state of provision of trade services (the resulting variable)in the Bukhara region for the next 2025-2027. In the development of forecast indicators of the development of trade services in the Bukhara region, it is advisable to conditionally carry out the calculation work in three stages. Because the selection of indicators related to trading activities, the adequacy and reliability of the information collected are important. In the research work, 12 indicators related to the provision of trade services in the Bukhara region were selected and their statistical values for 2012-2023 were formed

Indicators	factors	2012 years	2013 years	2014 years	2015 years	2016 years	2017 years	2018 years	2019 years	2020 years	2021 years	2022 years	2023 years
dynamics of growth in the volume of retail trade turnover	X ₁	130,9	130,9	124,9	121,3	125,2	117,2	127,3	123,1	117,1	121,0	126,6	99,3
dynamics of growth	X ₂	117,6	129,1	122,9	119,4	123,2	115,5	125,7	121,2	115,5	119,3	104,6	116,3

in the volume of retail trade turnover per capital													
dynamics of the number of economic entities providing retail services	X ₃	125,2	117,2	127,3	148,4	114,8	97,9	104,0	91,2	156,7	81,0	103,6	100,1
dynamics of the level of supply of the population with trade facilities	X ₄	122,2	114,2	155,2	150,6	112,8	98,1	96,2	108,0	137,0	160,8	221,0	101,6
dynamics of the period of retail turnover	X ₅	150,0	110,0	110,1	130,0	120,0	130,1	160,0	160,0	120,0	50,0	110,0	110,0
Dynamics of wholesale trade turnover	X ₆	102,4	109,1	111,0	107,1	116,5	108,6	105,0	144,0	121,0	136,0	170,3	107,3

dynamics of the period of wholesale turnover	X ₇	142,2	108,6	118,0	118,9	121,5	118,6	115,7	131,7	122,4	66,8	125,7	104,5
Dynamics of the number of newly established enterprises	X ₈				48,0	116,0	118,5	76,9	60,2	99,6	91,4	444,6	70,7
Dynamics of imports of goods	X ₉	90,7	129,8	99,0	87,2	75,4	148,5	107,5	137,2	60,4	144,8	105,7	99,2
Dynamics of export of goods	X ₁₀	140,6	93,6	88,7	102,7	81,5	77,0	92,8	142,0	86,9	135,1	98,2	95,3
Dynamics of growth in the volume of commodity turnover of food products	X ₁₁	118,4	109,1	113,7	115,1	113,6	100,1	107,5	108,4	111,9	118,4	114,3	117,7
Dynamics of growth in the volume of commodity turnover of non-food products	X ₁₂	138,3	115,8	100,5	112,0	114,8	100,0	122,7	132,5	100,1	138,3	159,5	103,8

The survey was made by the author

Based on these indicators, it is necessary to deeply analyze the dynamics of each indicator associated with trade activity in order to determine the forecast indicators for the development of trade services in the Bukhara region in the future. To determine the dynamics of indicators related to trade activity, it is advisable to use trend analysis of socio-economic phenomena. It is the thematic forecast of separately obtained indicators that is very important in the development of a generalized comprehensive forecast model in the future. In the second step we represent the private regression equation of one factor

Trend equation of the main economic indicators of the activity of the trade sector in the Bukhara region

Indicators	Factors	Trend tenglamasi	R ²
dynamics of growth in the volume of retail trade turnover	x_1	$Y = -0,1175x^2 + 0,02x + 128,3$	0,433
dynamics of growth in the volume of retail trade turnover per capital	x_2	$Y = -0,958x + 125,42$	0,309
dynamics of the number of economic entities providing retail services	x_3	$Y = 0,0159x^6 - 0,6184x^5 + 9,2405x^4 - 66,441x^3 + 234,52x^2 - 369,76x + 318,51$	0,432
dynamics of the level of supply of the population with trade facilities	x_4	$Y = -0,2821x^4 + 7,2475x^3 - 60,64x^2 + 183,87x - 26,219$	0,634
dynamics of the period of retail turnover	x_5	$Y = 0,0019x^4 - 0,0508x^3 + 0,4375x^2 - 1,3784x + 2,4777$	0,587
Dynamics of wholesale trade turnover	x_6	$Y = -0,0079x^6 + 0,2876x^5 - 4,0541x^4 + 28,113x^3 - 99,058x^2 + 164,21x + 11,868$	0,742
dynamics of the period of wholesale turnover	x_7	$Y = -0,0622x^3 + 1,2058x^2 - 8,4733x + 137,52$	0,166
Dynamics of the number of newly established enterprises	x_8	$Y = -2,8405x^4 + 55,265x^3 - 354,77x^2 + 858,61x - 529,25$	0,584
Dynamics of imports of good	x_9	$Y = -0,0212x^6 + 0,8434x^5 - 13,031x^4 + 98,063x^3 - 368,41x^2 + 628,96x - 255,62$	0,314
Dynamics of export of goods	x_{10}	$Y = -0,4335x^3 + 9,04x^2 - 53,404x + 180,12$	0,451
Dynamics of growth in the volume of commodity turnover of food products	x_{11}	$Y = 0,0043x^6 - 0,1744x^5 + 2,7138x^4 - 20,439x^3 + 76,542x^2 - 131,62x + 191,39$	0,826
Dynamics of growth in the volume of commodity turnover of non-food products	x_{12}	$Y = -0,0096x^6 + 0,3402x^5 - 4,5819x^4 + 28,982x^3 - 84,785x^2 + 90,578x + 106,97$	0,699

It is known that dynamic models of socio-economic development serve to represent the upward (downward) trend of territory development with a nonlinear nature. Different expressions of the private trend equations indicate that the economic processes related to the trade sector in the Bukhara region also have different developmental characteristics, with different dynamics in the cross-section of the regions. In the third stage, based on private trend equations, a generalized forecast model of the development of the trade sector in the Bukhara region is formed. This model embodies an additive model consisting of the sum of private trend models:

$$Y = a + bx_1 + cx_2 + dx_3 + ex_4 + fx_5 + gx_6 + hx_7 + ix_8 + jx_9 + kx_{10} + lx_{11} + mx_{12} \quad (1)$$

Where: a, b, c, ... M-model parameters.

To interpret the parameters of the selected model, we form a generalized forecast model. This trend Model reflects the sum of the private trend models calculated according to the 12 indicators we see above:

$$Y = 130,24x_3^3 + 0,678x_9^5 - 12,269x_9^4 - 644,035x_9^2 + 1360,652x_8 - 0,019x_{12}^6 + 391,487 \quad (2)$$

According to the generalized forecast model, the Bukhara region is the main economic indicators affecting the trade sector, while the dynamics of growth in the volume of commodity turnover of food products (x_3), dynamics of the number of newly established enterprises (x_8), dynamics of import of goods (x_9) and dynamics of growth in the volume of commodity turnover of non-food products (x_{12}) are calculated. So: - the dynamics of growth in the volume of commodity turnover of food products by 1% leads to an increase in the volume of trade services by 130.2%; – an increase in the number of newly established enterprises by 1% will lead to an increase in the volume of trade services by 13.6 times; - an increase in imports of goods by 1% leads to a decrease in the volume of trade services by 6.5 times; -an increase in the volume of commodity turnover of non-food products by 1% leads to a decrease in the volume of trade services by 0.019%. Based on the above (1) model, we will draw up a pessimistic forecast scenario for the development of the trade sector of the Bukhara region. In this case, we get the smallest value consisting of the reciprocal of thematic models according to each factor presented in Table 2.3.3:

$$Y = 0,0503x_3^6 - 1,9152x_{12}^5 + 30,750x_3^4 - 262,126x_9^2 - 645,8x_3^3 - 1360,614x_9 - 134,887 \quad (3)$$

All factors selected according to the pessimistic scenario are considered as the main economic indicators affecting the development of the trade sector of the Bukhara region. According to this pessimistic scenario, these indicators are calculated as the dynamics of growth in the volume of commodity turnover of food products (x_3), the dynamics of import of goods (x_9) and the dynamics of growth in the volume of commodity turnover of non-food products (x_{12}). From this: an increase in the volume of commodity turnover of food products by 1% leads to an increase in the volume of trade services by 2.25 times; an increase in imports of goods by 1% leads to a decrease in the volume of trade services by 16.2 times; an increase in the volume of non-food goods turnover by 1% leads to a decrease in the volume of trade services by 1.915%. Analysis in optimistic and pessimistic forecast scenarios of the development of the trade sector in the Bukhara region, we can witness that food commodity turnover (x_3) is the main influencing factor in the import of goods (x_9) and non-food commodity turnover (x_{12}).

Conclusion and Recommendations

Based on the fact that in 2025-2027, the trend of growth in the volume of trade turnover in the Bukhara region by 18.5%, as well as an increase in the dynamics of wholesale trade turnover by 1% according to the developed forecast model, leads to an increase in the volume of trade services by 1624.9%, the “warehouse club” form of; in the structure of trade turnover, food products have significantly increased the standard of living in the territory, based on the trend of a steady decrease in turnover. Based on the calculated pessimistic forecast scenario, the possibility of a decrease in the volume of trade services in the Bukhara region by 12.7% is expected. To this end, measures aimed at eliminating the possibility of a decrease include: - In the Bukhara region, it is necessary to develop measures to increase the level of real wages of the population by 1.32 times for 2027; -the priority of imports in the regional trade sector should be emphasized on the factors of the extensive growth of the trade sector due to the expansion of the provision of additional trade services in the term of 2027, the improvement of the skills of employees of the public-private partnership in the future sphere, the promotion of trade culture; - It is advisable to develop networked structures, since priority has been given to the pace of intensive growth due to the increase in the number of economic entities of the trade sector during the period studied in the Bukhara region.

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