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ELASTICITY OF GROWTH OF KAZAKHSTAN INDUSTRIES

Abstract

The problem of structural changes in the economy is still urgent for a number of post-Soviet countries, including Kazakhstan. A country with huge reserves of resources has not yet moved away from the raw material orientation of development. The share of the manufacturing industry decreased drastic during the years of high economic growth (2000-2007). Even when the state has been providing substantial support in recent years, indicators such as labor productivity and the share of investments in the manufacturing industry have been declining. Therefore, research in the field of structural changes, from our point of view, does not lose relevance. One of the indicators of structural changes is the coefficient of elasticity of the growth of industries. The goal of the article was to analyze the elasticity of the growth of manufacturing industries in Kazakhstan from 1991 to 2020. The coefficient of elasticity of the growth of industries was calculated as the ratio of the growth of industries to the growth of industry as a whole. At the same time, the growth rate of industrial production and the growth rate of the manufacturing industry of Kazakhstan as a whole was taken into account. The category "industries with zero elasticity of growth" has also been added. Eventually, five categories are proposed. The authors have used the method of formal logic, comparative and factor analysis of indicators. In our opinion, the analysis shows changes in the relative dynamics of production growth in the manufacturing industries of Kazakhstan and could be used for further research in this area.

Key words: manufacturing industry, growth, elasticity coefficient, structure, industry, economy.

Introduction

Modern post-industrial development means the transition from the production of material goods to the production of services, a qualitative change in the role of theoretical knowledge, the priority of investments in human capital and the creation of intelligent technologies. In the field of production – the production of non-traditional energy, fundamentally new types of materials, communication and information processing systems, the use of high-molecular compounds chemistry, the development of the resources of the World Ocean and other sectors of the economy, where prevails the products with high added value, a more significant contribution is made to GDP production, environmental problems resolve and the quality of people's life is growing. This is a strategic way of developing the national economy, reflecting the global trend.

Elasticity as an economic term is widely used to determine the reaction of one indicator to another (for example, the well-known coefficient of elasticity of demand by price shows how many percent

the volume of demand will change when the price of a product changes by one percent). We used the coefficient of elasticity of growth of manufacturing industries to identify sectors that are drivers of growth of the non-resource sector.

Literature review

A review of the literature has shown that much attention is paid to the analysis of the elasticity of the growth of industries, mainly in foreign sources.

Chebotarev A.N. use as the ratio of the product of the growth rate of the i-branch to estimate the sectoral elasticity of growth of each i-th branch (for each branch of the region). And the share of i-branch products in the GRP volume of this region in the second period to the product of the growth rate of the i-branch and the share of i-branch products in the volume GRP of this region in the interim period (formula 1):

$$Ei = \frac{(GRI \cdot ShI)2}{(GRI \cdot ShI)intermediate} \qquad (1)$$

here:

E_i is the elasticity of growth of the i-industry,

GR_I is the growth rate of the i-industry,

Sh_I is the share of i-industry products in the GRP volume of this region [1].

Kiseleva N.N. considers the possibility to assess the nature of the dependence, for example, of the structure of exports on changes occurring in the structure of industrial production of regions, based on the coefficient of structural elasticity of exports, according to formula 2:

$$Ee = \Delta de / \Delta dp = \frac{a1 - a0}{a1 + a0} : \frac{b1 - b0}{b1 + b0} \qquad (2)$$

here:

E_e is the elasticity of the export structure according to the structure of industrial production;

Δd_e and Δd_p – changes in the share of each commodity group in the structure of exports and in the structure of industrial production;

a_1 and a_0 – the share of the industry in exports in the reporting and base period;

b_1 and b_0 – are the shares of the industry in the industrial production of an economic entity in the reporting and base period.

Characteristics of the position occupied by the industry in the export structure: growth +, risk -. The gradation of the values of the structural elasticity coefficient proposed by itself as follows: with an increase/decrease in the growth rate of the industry's production by 10, %, Ee value $1 \leq Ee \leq 3$, confidence zone $\pm$ 10-30%; $3 < Ee \leq 5$, balance (optimum) zone $\pm$ 30-50%; $5 < Ee \leq 7$, median growth/ risk zone above average $\pm$ 50-70%; $7 < Ee \leq 10$, accelerated growth/high risk zone $\pm$ 70-100%; $10 < Ee \leq 15$, rapid growth zone/hyper risk $\pm$ 100-150%; Ee > 15, explosive growth zone/ absolute risk $\pm$ more than 150% [2].

To identify industries developing within the innovation and technological corridor, as well as to determine the nature of deviations of industries from a given structural and dynamic process, I.K. Shevchenko, Yu.V. Razvadovskaya determined structural elasticity based on inertial and innovative components (formula 3):

$$E = \frac{N1}{N2} \qquad (3)$$

here:

N_1 is the inertial component,

N_2 is the advance component in the decomposition of the growth rate.

According to their opinion, part of the rate of growth or decline in the output of the system is associated with a decrease or non-increase in its constituent shares. This part could be called a structural delay (N1). Accordingly, another part of the growth or decline rate is responsible for the growth of increasing shares and is called structural advance (N2). The total value of structural lag and

structural advance is equal to the rate of change in the growth rate (N), and the coefficient of structural elasticity of output (E) shows how many percent of growth or decline associated with structural lag accounts for one percent of growth associated with structural advance [3]. To assess the intensity of structural changes in each given period, the indicator of sectoral elasticity of growth (ei) is used, which is calculated as the ratio of the growth rate of industrial output to the growth rate of total national production (formula 4):

$$ei = \frac{di}{d} \; ,$$ (4)

here:

d_i is the growth rate of industry output,

d is the growth rate of national output.

Depending on the value of the elasticity index, all industries are divided into four main groups: industries with high growth elasticity (ei > 1); industries developing at an average rate (ei = 1); industries with low growth elasticity (0 < ei < 1); industries with negative growth elasticity (ei < 0).

Structural changes in the economy characterized by a general pattern: large aggregates are more stable over time than small ones over relatively short time intervals. At intervals of considerable duration (10-20 years or more) patterns of changes in global intersectional proportions revealed [4].

Among developed countries, the first category (ei > 1) includes, first of all, knowledge–intensive industries, the third category (0 < ei < 1) – depressed industries. As a historical example, we can consider the experience of developed countries. Japan during the years of rapid industrialization, which showed that in electrical engineering in the 1960s and 1980s, production increased 12 times (with the contribution of technological progress amounting to 80%), whereas approximately in the same years, the volume of production in the manufacturing industry as a whole increased 8.5 three times (the contribution of technological progress was 25%). Industries related to the production of materials have also received significant development. Relevant indicators were in ferrous metallurgy – 10.5 and 25.7%; non–ferrous metallurgy – 10.6 and 39.6%; chemical industry – 10.9 and 48.6%; pulp and paper – 8.7 and 62%: the first three industries have traditionally been basic for the Japanese economy. Therefore, the emergence of new materials gave further impetus to the development of these industries and transition to cost-effective practical use of innovations [5].

The main factor of growth (and structural changes) is technological progress and labor productivity. Harrasova Julija evaluates the elasticity of substitution between capital and labor, as well as the pace of technological progress, which increases factors both in the economy as a whole and in individual industries in the UK and Scotland [6].

One of the factors affecting the structure of economies at the present stage in the global aspect is the development of digital technologies. The current situation is such that the 10 leading economies account for 90% of all patents issued in the world and 70% of all exports directly related to such technologies. Another 40 economies (followers) are actively working in this area, although much less intensively. In the rest of the world, there is very low activity (late economies) or a complete lack of participation in the global development and use of these technologies (lagging economies) [7, 8].

Kazakhstan ranked 32nd in the Digital Competitiveness Rating (IMD) 2021, which assesses the level of mastering digital technologies leading to the optimization of operations of public services, business and society as a whole, improving its position in terms of "Readiness for the Future" and "Technology" [9]. We believe this is important for changing the structure of the economy as a whole, and including the manufacturing industry.

In addition, a review of sources on the analysis of determinants of structural changes based on empirical facts of the economies of Europe, the USA, Asia, Latin America and Africa revealed such factors as changes in income, changes in relative (industry) prices, changes in the relationship between costs and output and changes in comparative advantages as a result of globalization and trade [10], sector-biased technological progress, nonhomothetic tastes, international trade and changing wedges between factor costs across sectors [11], the widespread reallocation of labor from agriculture to the services sectors, investments in education and economic infrastructure [12]. Oil price and affordability were also key factors influencing the dynamics of the manufacturing sector [13].

Materials and methods

The calculation of the sectoral elasticity of growth was carried out on the basis of official data of the Bureau of National Statistics of the Ministry of National Economy of the Republic of Kazakhstan.

Such research methods as the method of formal logic, comparative and factor analysis of indicators calculated based on the use of official statistics data were used, and then the coefficients of elasticity of growth of the manufacturing industries of Kazakhstan were analyzed in the article.

The elasticity coefficient was calculated as the ratio of the growth of industries to the growth of industry as a whole.

The study conducted in two stages. At the first stage, the growth rates of the manufacturing industry of Kazakhstan as a whole, and the industries included in this sector, were calculated in % compared to the previous year.

At the second stage, the coefficients of elasticity of growth of manufacturing industries were calculated on the basis of the data obtained.

We used the methodology of Bulgakova L.N., Bostanova K.A. [4] to calculate the elasticity of growth of manufacturing industries in Kazakhstan from 1991 to 2020. Formula 4 used in the study, while we adopted di as the growth rate of industrial production, d – the growth rate of the manufacturing industry of Kazakhstan as a whole. The category "industries with zero elasticity of growth (ei = 0) has also been added. That is, 5 categories are proposed in the final version: industries with high elasticity of growth (ei > 1); industries developing at an average rate (ei = 1); industries with low elasticity of growth (0 < ei < 1); industries with zero elasticity of growth (ei = 0); industries with negative elasticity of growth (ei < 0).

The analyzed period was 30 years (1991–2020) – the authors assumed that changes in industry do not occur quickly due to the following. The expansion of output and the creation of new production facilities require significant investments. In addition, a certain lag is the search for sales channels with sufficiently high competition in the world market, and then further retention of positions in the markets.

Main provisions

During 30 years of its existence, Kazakhstan with its massive resource potential has not yet moved away from the raw material model of development. Generally, the share of mineral resource industry and construction is high in the economy, with an insufficiently high share of manufacturing industries and agriculture, which was pronounced especially during the years of high economic growth in Kazakhstan (2000–2007), when the share of the manufacturing sector was declining. The share of the mining industry in the total volume of industrial production is still quite high (47.8% in 2021). For comparison, the manufacturing sector occupied 45.5% in 2021 [14].

A fairly high growth in the mechanical engineering sector was not accompanied by an increase in technological progress, since it is mainly assembly production, the degree of localization in this industry is low.

Concurrently, the growth rate of labor productivity in Kazakhstan has been steadily declining over the past twenty years. Thus, if the contribution of labor productivity to the overall GDP growth rate in the early 2000s was on average 6%, then in the early 2010s the average annual productivity growth rate decreased to 2%; and in 2014–2016 productivity growth became negative, decreasing by 2–3% per year [15].

The nature of economic investment determines the country's future. The volume of investments in fixed assets tended to grow steadily. However, despite the huge investments from the state, the mining industry remained the most attractive industry for investments, the share of which in the total investment volume increased by 2 times.

Taking into account the urgent need for a significant change in the structure of Kazakhstan's industry, we calculated the elasticity of growth of manufacturing industries over 30 years.

The analysis of the elasticity of production growth made it possible to find out existence of the sustainable industries – leaders in the manufacturing industry of Kazakhstan that could change the situation.

A literature review on this topic allowed us to choose a calculation method (with small transformations).

And the analysis of the elasticity of the growth of production in Kazakhstan from 1991 to 2020 can form the basis for further research in this area.

Results and discussion

The calculation of the growth rates of the manufacturing industry of Kazakhstan shown in Table 1 (p 26). As can be seen from Table 1, in general, the growth rates in the manufacturing industry were very high in 1992–1994, which explained by hyperinflation characteristic of the first years of the formation of the market economy of Kazakhstan. From 1998 to 2008, the growth rate averaged more than 10% – high growth rates are typical for the entire economy in these years, which is associated with the start of construction of Astana, the influx of foreign investment and favorable conditions in the energy market. Moreover, in 2003–2007, 2010–2011, 2016 the growth rate exceeded 20% (in 2003, the state program Strategy of Industrial and Innovative Development of Kazakhstan was adopted) [16]. The renovation of the program took place in 2010 and was implemented in three subsequent five-year plans of industrial and innovative development (2010–2014, 2015–2019, 2020–2024).

The results of the calculations of the coefficients of elasticity of growth of manufacturing industries are shown in Table 2 (p. 27).

According to table 2, the following can be stated. Negative elasticity of growth characterizes most industries in 1996–1999, especially in 1998. In the context of industries, most of all, by year – light industry; the production of wooden and cork products, straw products and materials for weaving; in furniture production. These same industries, as well as the tobacco industry, had negative elasticity most often during the years of recent industrialization (2003–2020).

Zero elasticity occurred rarely in various industries, as a rule, in one of the studied years, starting from 2006.

Single elasticity observed rarely, in different periods. Most often (in our case, 3 times) – in the printing industry, chemical, production of other non-metallic mineral products. We have classified industries with this value into the category of industries developing at an average pace.

As we could see, the elasticity above unity most often occurs – these are industries with high elasticity of growth or industries with low elasticity of growth, with an elasticity value ($0 < e_i < 1$).

High elasticity of growth (the value of the elasticity coefficient is greater than one) observed for most industries (9 or more, out of 16) in 1995, 2000–2003, 2005, 2012–2014 and 2019. As it is known, the dynamics of positive growth has been observed in Kazakhstan since 2000, therefore, high elasticity in industries is more often observed, mainly in the last two decades.

The analysis shows that for the entire period most often (15 times or more) high elasticity of growth refers to such industries as mechanical engineering, production of rubber and plastic products, beverage production, production of basic pharmaceutical products and pharmaceuticals, metallurgical production.

Special attention should be paid to mechanical engineering as a multiplier of the development of all spheres of the economy. In this case, it can be considered a positive trend – negative elasticity was observed here only once – in 1999, Mechanical engineering belongs to high-tech industries.

During the pandemic, the problem of the availability of medicines and the development of national production in this sector became acute – the elasticity of growth is more often high than low (negative value only in 1996 and 2009).

The high proportion of metallurgical production affects the growth rate of the manufacturing industry as a whole. At the same time, in the conditions of decarbonization and the environmental strategy of the development of the world economy, the elasticity of growth in this area should decrease.

Table 1– Growth rates of manufacturing industries in Kazakhstan, in % to the previous year

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Manufacturing industry	151	1194	752	1160	79	5	7	10	30	44	12	9	21	26	21	29	22	14	-12	31	25	13	7	4	-2	35	17	11	11	14
Food production	208	543	916	1195	72	-5	-8	115	11	33	15	-1	18	21	12	13	17	27	1	10	19	5	12	14	2	29	5	0	12	15
Manufacture of drinks	203	1001	608	1114	127	88	87	30	-1	54	17	23	3	20	38	16	32	6	5	24	2	19	11	15	-7	18	23	10	16	11
Production of tobacco products	71	806	1191	135	2031	152	43	1	6	42	18	13	22	16	14	13	22	7	4	-3	19	22	13	-7	-10	13	0	16	-9	88
Light industry	166	543	750	897	13	2	-17	-27	41	77	17	8	28	3	1	-1	-12	-16	2	23	16	35	21	-3	13	15	19	1	17	23
Manufacture of wooden and cork products, except furniture; manufacture of straw products and materials for weaving	79	803	2872	255	84	-20	-9	20	-8	74	17	42	-3	17	32	15	21	-3	-11	6	35	30	-8	26	7	14	-12	11	4	7
Production of paper and paper products	168	932	515	1966	86	53	57	-52	17	47	169	33	9	19	46	6	30	-2	-9	8	14	5	5	13	0	43	17	10	9	5
Printing activity and reproduction of recorded media	130	4491	658	1686	69	8	2	-23	51	28	28	9	41	6	21	0	11	29	-4	55	25	53	26	-29	-18	38	12	26	-7	-93
Production of coke and refined petroleum products	132	4568	658	1686	64	9	3	-24	52	28	30	10	42	6	21	0	10	25	0	54	25	54	26	-29	-18	39	12	25	-8	4
Production of chemical industry products	159	1698	402	1282	95	5	-21	-3	43	21	15	14	11	14	21	17	14	50	-19	22	42	21	4	24	5	18	17	20	18	0
Production of basic pharmaceutical products and pharmaceutical preparations	140	246	517	2298	152	-13	126	14	23	113	13	36	20	21	36	27	25	3	32	34	35	25	8	4	-2	27	53	8	18	53
Production of rubber and plastic products	68	1662	246	720	39	9	-8	48	2	80	50	37	48	49	50	29	49	9	-5	34	47	18	5	9	-5	24	21	-7	16	6
Production of other non-metallic mineral products	116	1192	1034	1036	69	-20	-24	-12	-31	66	74	33	42	58	55	37	65	-11	-17	11	31	21	25	12	-2	0	14	11	12	16
Metallurgical production	124	2817	619	1319	91	5	33	-12	65	46	-2	11	16	31	15	47	19	16	-23	48	22	1	-11	9	12	58	21	13	8	14
Production of finished metal products, except machinery and equipment	80	1195	1334	1051	86	-11	-19	35	-13	56	48	2	37	33	55	82	30	11	-9	-9	31	15	23	2	-2	33	0	2	10	10
Machinery	90	1003	996	917	93	10	-15	-19	-11	72	44	9	29	40	39	28	22	6	-7	34	43	28	25	5	-26	15	30	9	35	24

Note: Compiled by authors according to the source [14].

Table 2 – Coefficient of elasticity of growth of manufacturing industries in Kazakhstan

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Manufacturing industry	1,38	0,45	1,22	1,03	0,91	-1,00	-1,14	11,5	0,37	0,75	1,25	-0,11	0,86	0,81	0,57	0,45	0,77	1,93	-0,08	0,32	0,76	0,38	1,71	3,50	-1,00	0,83	0,29	0,00	1,09	1,07
Food production	1,34	0,84	0,81	0,96	1,61	17,6	12,4	3,00	-0,03	1,23	1,42	2,56	0,14	0,77	1,81	0,55	1,45	0,43	-0,42	0,77	0,08	1,46	1,57	3,75	3,50	0,51	1,35	0,91	1,45	0,79
Manufacture of drinks	0,47	0,68	1,58	0,12	25,71	30,4	6,14	0,10	0,20	0,95	1,50	1,44	1,05	0,62	0,67	0,45	1,00	0,50	-0,33	-0,10	0,76	1,69	1,86	-1,75	5,00	0,37	0,00	1,45	-0,82	6,29
Production of tobacco products	1,10	0,45	1,00	0,77	0,16	0,40	-2,43	-2,7	1,37	1,75	1,42	0,89	1,33	0,12	0,05	-0,03	-0,55	-1,14	-0,17	0,74	0,64	2,69	3,00	-0,75	-6,50	0,43	1,12	0,09	1,55	1,64
Light industry	0,52	0,67	3,82	0,22	1,06	-4,00	-1,29	2,0	-0,27	1,68	1,42	4,67	-0,14	0,65	1,52	0,52	0,95	-0,21	0,92	0,19	1,40	2,31	-1,14	6,50	-3,50	0,40	-0,71	1,00	0,36	0,50
Manufacture of wooden and cork products, except furniture; manufacture of straw products and materials for weaving	1,11	0,78	0,68	1,69	1,09	10,6	8,14	-5,2	0,57	1,07	14,1	3,67	0,43	0,73	2,19	0,21	1,36	-0,14	0,75	0,26	0,56	0,38	0,71	3,25	0,00	1,23	1,00	0,91	0,82	0,36
Production of paper and paper products	0,86	3,76	0,88	1,45	0,87	1,60	0,29	-2,3	1,70	0,64	2,33	1,00	1,95	0,23	1,00	0,00	0,50	2,07	0,33	1,77	1,00	4,08	3,71	-7,25	9,00	1,09	0,71	2,36	-0,64	-6,64
Printing activity and reproduction of recorded media	0,87	3,83	0,88	1,45	0,81	1,80	0,43	-2,4	1,73	0,64	2,50	1,11	2,00	0,23	1,00	0,00	0,45	1,79	0,00	1,74	1,00	4,15	3,71	-7,25	9,00	1,11	0,71	2,27	-0,73	0,29
Production of coke and refined petroleum products	1,05	1,42	0,53	1,11	1,20	1,00	-3,00	-0,3	1,43	0,48	1,25	1,56	0,52	0,54	1,00	0,59	0,64	3,57	1,58	0,71	1,68	1,62	0,57	6,00	-2,50	0,51	1,00	1,82	1,64	0,00
Production of chemical industry products	0,93	0,21	0,69	1,98	1,92	-2,60	18,0	1,40	0,77	2,57	1,08	4,00	0,95	0,81	1,71	0,93	1,14	0,21	-2,67	1,10	1,40	1,92	1,14	1,00	1,00	0,77	3,12	0,73	1,64	3,79
Production of basic pharmaceutical products and pharmaceutical preparations	0,45	1,39	0,33	0,62	0,49	1,80	-1,14	4,80	0,07	1,82	4,17	4,11	2,29	1,88	2,38	1,00	2,23	0,64	0,42	1,10	1,88	1,38	0,71	2,25	2,50	0,69	1,24	-0,64	1,45	0,43
Production of rubber and plastic products	0,77	1,00	1,38	0,89	0,87	-4,00	-3,43	-1,2	-1,03	1,50	6,17	3,67	2,00	2,23	2,62	1,28	2,95	-0,79	1,42	0,35	1,24	1,62	3,57	3,00	1,00	0,00	0,82	1,00	1,09	1,14
Production of other non-metallic mineral products	0,82	2,36	0,82	1,14	1,15	1,00	4,71	-1,2	2,17	1,05	-0,17	1,22	0,76	1,19	0,71	1,62	0,86	1,14	1,92	1,55	0,88	0,08	-1,57	2,25	-6,00	1,66	1,24	1,18	0,73	1,00
Metallurgical production	0,53	1,00	1,77	0,91	1,09	-2,20	-2,71	3,50	-0,43	1,27	4,00	0,22	1,76	1,27	2,62	2,83	1,36	0,79	0,75	-0,29	1,24	1,15	3,29	0,50	1,00	0,94	0,00	0,18	0,91	0,71
Production of finished metal products, except machinery and equipment	0,60	0,84	1,32	0,79	1,18	2,00	-2,14	-1,9	-0,37	1,64	3,67	1,00	1,38	1,54	1,86	0,97	1,00	0,43	0,58	1,10	1,72	2,15	3,57	1,25	13,0	0,43	1,76	0,82	3,18	1,71
Machinery	0,57	0,56	1,40	0,86	0,62	-1,20	-4,71	-1,1	-0,13	2,75	2,25	6,33	1,95	1,46	1,19	1,17	1,59	-0,43	0,58	0,65	1,76	1,54	-0,71	-1,00	5,00	0,54	1,24	-1,00	2,18	0,86

Note: Compiled by authors according to the table 1.

In the current difficult situation associated with geopolitical events and the crisis in the food markets, as well as taking into account the availability of sufficient land, it seems important to develop the sphere of food production. According to the analysis, low elasticity of growth is more often observed in this sector, and in some years – 1996, 1997, 2002, 2009, 2015 even negative elasticity of growth.

Along with food production in the so-called "economy of simple things", low elasticity of growth prevails in light industry, as well as in the sector of "Production of wooden and cork products, except furniture; production of straw products and materials for weaving". Hence, the development of the light and, especially, the food industry should become a priority for the development of the economy of Kazakhstan.

Conclusion

Changes in the structure of Kazakhstan's industry are inevitable, especially in the current difficult situation. It is worth noting that in developing economies, such as the economy of Kazakhstan, the state plays an important role in this.

According to the results of the analysis of the elasticity of the growth of manufacturing industries, it is difficult to state that there are certain priorities or conditions for the development of manufacturing industries in Kazakhstan, whether they are related to high-tech production (and this is, first of all, mechanical engineering and chemical industry), or the solution of environmental problems (by reducing environmentally dirty metallurgical production), or the solution of ensuring consumer goods (food and light industry). A consistently high elasticity of growth in these industries would show the direction of changes in the structure of the manufacturing industry, and hence the economy as a whole.

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ҚАЗАҚСТАННЫҢ ӨНЕРКӘСІП САЛАЛАРЫ ӨСІМНІҢ ИКЕМДІЛІГІ

Аңдатпа

Экономиканың құрылымдық өзгерістер мәселесі әлі күнге дейін бірқатар посткеңестік елдер үшін, соның ішінде Қазақстан үшін де өткір болып отыр. Ресурстардың орасан зор қоры бар ел әлі де дамудың шикізаттық бағытынан алыстап кеткен жоқ. Өңдеу өнеркәсібінің үлес салмағы экономикалық өсудің жоғары қарқынды жылдарында (2000–2007) күрт төмендеді. Соңғы жылдары мемлекет айтарлықтай қолдау көрсетсе де, еңбек өнімділігі, өңдеуші өнеркәсіпке инвестициялар сияқты көрсеткіштер үлесі төмендеді. Сондықтан, біздің көзқарасымыз бойынша, құрылымдық өзгерістер саласындағы зерттеулер өзектілігін жоғалтпайды. Құрылымдық өзгерістердің көрсеткіштерінің бірі салалардың өсу икемділік коэффициенті болып табылады. Мақала жазу барысында авторлар 1991 жылдан 2020 жылға дейін Қазақстанның өңдеу өнеркәсібі салаларының өсу икемділігін талдауды алдына мақсат етіп қойды. Салалар өсуінің икемділік коэффициенті салалар өсуінің жалпы өнеркәсіптің өсуіне қатынасы ретінде есептелді. Осы орайда, біз салалық өндірістің өсу қарқынын және жалпы Қазақстанның өңдеу өнеркәсібінің өсу қарқынын ескердік. Соңында «нөлдік өсу икемділігі» бар салалар, яғни бес санат ұсынылған.Авторлар ресми логика, көрсеткіштерді салыстырмалы және факторлық талдау әдісін қолданды. Жүргізілген талдау, біздің ойымызша, Қазақстанның өңдеуші өнеркәсіп салаларындағы өндірістің салыстырмалы өсу динамикасындағы өзгерістерді көрсетеді және осы саладағы одан әрі зерттеулер үшін пайдаланылуы мүмкін.

Тірек сөздер: өңдеу өнеркәсібі, өсу, икемділік коэффициенті, құрылым, сала, экономика.

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ЭЛАСТИЧНОСТЬ РОСТА ОТРАСЛЕЙ ПРОМЫШЛЕННОСТИ КАЗАХСТАНА

Аннотация

Проблема структурных изменений экономики до сих пор остро стоит для ряда постсоветских стран, в том числе и для Казахстана. Страна, обладающая огромными запасами ресурсов, все еще не отошла от сырьевой направленности развития. Удельный вес обрабатывающей промышленности резко упал в годы высоких темпов экономического роста (2000–2007). И хотя в последние годы государство оказывает существенную поддержку, такие показатели, как производительность труда, доля инвестиций в обрабатывающую промышленность, снижались. Поэтому исследования в области структурных изменений, с нашей точки зрения, не теряют актуальности. Одним из показателей структурных изменений является коэффициент эластичности роста отраслей. Цель статьи – проанализировать эластичность роста отраслей обрабатывающей промышленности Казахстана с 1991 по 2020 гг. Коэффициент эластичности роста отраслей был рассчитан как отношение роста отраслей к росту промышленности в целом. При этом нами учитывался темп прироста отраслевого производства и темп прироста обрабатывающей промышленности Казахстана в целом. Также добавлена категория «отрасли с нулевой эластичностью роста». В конечном варианте предложено пять категорий. Авторы использовали метод формальной логики, сравнительного и факторного анализа показателей. Проведенный анализ отражает, по мнению авторов, изменения в относительной динамике роста производства в отраслях обрабатывающей промышленности Казахстана и может использоваться для дальнейших исследований в данной области.

Ключевые слова: обрабатывающая промышленность, рост, коэффициент эластичности, структура, отрасль, экономика.