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artur.zhavoronok@ukr.net***Abstract**

In the work, the study of the factors of sectoral competitiveness has been further developed on the basis of modern scientific experience, in contrast to the existing ones, it goes out of the directions of assessing the market position, socio-economic situation in the region, property status and financial well-being of business entities. In the framework of this study, based on the accumulated scientific experience, many factors were formed to determine the industry's competitive position and an analysis of the current state of Ukrainian industry in certain areas of assessment.

Key words: *industry, economy, market, competition, development***JEL Classification:** *L60, L69***I. INTRODUCTION**

Analysis of modern research points to ambiguous interpretation of industrial competitiveness [1-4, 11-13]. This is due to the fact that competitiveness is a relative concept that depends on the purposes of the object of study. At the state level, this is a successful socio-economic development in the long-term perspective. At the same time, the purpose of the industry functioning, depending on the subject of evaluation, is:

- from the point of view of the state, each branch should provide the maximum contribution to growth of gross domestic product, not only in quantitative dimension, but also in qualitative. That is, the industry must ensure the maximum growth of value added on the one hand, and its share in total output, on the other. In turn, sectoral value added is a source of wages for labor resources, tax revenues and social contributions, as well as profits;
- from the point of view of the enterprises which are a part of this or that branch, competitive advantages are reached by obtaining the maximum profit, profitability and, as a result, their market value;
- from the standpoint of end users, the comparative advantages of the industry are measured by the level of competitiveness of its products in terms of technical and economic parameters. Technical parameters reflect functional features, and economic - the cost of acquisition and exploitation, compared with the products of competitors.

II. ANALYSIS OF RECENT RESEARCHES AND PUBLICATIONS

According to Tranchenko, the competitiveness of the industry is based on the efficient use of technological, physical and human capital, to ensure a high level of financial performance and employment.

Borisova and Ostapenko draw attention to the fact that a competitive industry must have high adaptive capacity to different scenarios of domestic and world economy development;

Gokhberg and Shevchenko believe that a competitive industry should meet the needs of both domestic and foreign markets, while ensuring economic growth. Also, Pucenteilo notes that the increase in the value added of

the industry must be due to qualitative factors, by increasing resource efficiency.

Spiridonov evaluates the efficiency of the industry in terms of end consumers according to the criteria of consumer value of products, its innovation and timely entering the market.

Thorough study of Thomson allowed him to identify many factors that most fully characterize the state of an industry on the basis of interstate comparisons: capacity and type of market, intersectoral relationships, volume of investments and level of fixed capital load, profitability of main activities and more.

At the heart of making the corresponding set of factors was based on the modern experience of interstate rating comparisons and the work of leading scientists to determine the industry's competitive advantages. Also, an important factor was the available data of the State Statistics Service of Ukraine on the state regarding state and development of industry.

III. RESEARCH RESULTS

In view of this, all the proposed factors were grouped into three areas of assessment.

1. *Market position.* The functioning and prospects of development of any industry significantly depend on the capacity of the domestic market and its dynamics over time. Each industry occupies a certain share of this market, which consists of intermediate and final demand, except for net exports. Intermediate demand characterizes the presence of intersectoral relationships and determines how much output of a given industry is consumed by other industries in the course of their economic activity. Then, the greater the share of intermediate demand, the higher the dependence of the industry on others and vice versa. In the context of economic recovery, such dependence is beneficial, as positive dynamics in other industries will also stimulate industrial development. However, in a downturn, according to the spread effect, this will lead to a corresponding reduction, which is negative.

The components of final demand, according to the statistical tables "input-output" are: personal consumption of products and services by the population, government spending, capital investment and net exports. In turn, net exports represent the difference between exports and imports and do not affect the capacity of the domestic market. However, it is also an important component of the competitiveness of the industry:

- the presence of imports means that not all the needs of the domestic market can be met through its own production, which indicates dependence on external producers;
- the ratio between exports and imports, or trade balance, comprehensively characterizes the competitiveness of the industry in foreign markets. A positive trade balance indicates that the volume of production of industries exceeds the volume of its consumption in the country. It also contributes to the inflow of foreign currency in the financial market, as a result, lowering its exchange rate leads to cheaper imported products.

The sum of the capacity of the domestic market and net exports is measured by the indicator of sectoral aggregate output. This indicator most fully characterizes all trends in the economic development of industry in Ukraine.

2. *Socio-economic situation.* The purpose of this group of factors is to measure the sectoral competitive advantages in terms of the efficiency of economic activity of industrial enterprises and address social issues that fall within their competence.

It is known from macroeconomics that in conditions of an open market economy, the greatest added value is created in those sectors where the level of manufacturability and innovation is the highest. Accordingly, the share of sectoral value added in total output is the most generalizing factor of competitiveness, which indicates its economic efficiency.

The introduction of modern technologies in the manufacturing sector is impossible without attracting capital investment. Their volume in absolute and relative terms plays a crucial role in creating strategic production capacity and ensuring the competitiveness of the products of the industry in the future. That is why this factor was also included in the consideration. It is proposed to measure the efficiency of capital investments of previous periods by the share of innovative products in its total output. As for the main factors of production, at the sectoral level, their efficiency will be measured by indicators of productivity and return on assets.

Successful experience in implementing market reforms involves the active involvement of small and medium-sized businesses in all sectors of the economy. Appropriate business conditions should encourage business by minimizing regulatory and fiscal constraints, ensuring free access to financial capital and freedom of entry into any market through anti-monopoly legislation and the functioning of relevant government bodies. The advantages of small and medium business are high mobility and adaptability to the changing environment, rapid implementation of technological changes and more.

Due to that, a large share of gross domestic product is created in developed countries and the labor market functions.

In Ukraine, especially in industry, today the share of big business is dominant, which negatively affects its economic efficiency. That is why this indicator is an important factor of competitiveness that must be taken into account.

Each industry performs certain social functions that characterize the level of its responsibility to society and need to be assessed.

First, the relevant segment of the labor market is formed for sectoral needs. In each period of time it is characterized by such relative indicators of competitiveness as: the average level of wages; unemployment rate in the industry; the ratio of the number of unemployed and the number of vacancies, etc.

Secondly, the state of the environment and the level of its pollution have a significant impact on the quality of life of the population. Moreover, industry is the biggest polluter among other sectors of the economy. That is why there is a need to assess this negative impact in both absolute and relative terms.

To areas of anthropogenic impact environmental statistics include: atmospheric emissions, waste generation, use of water resources, fertilizers and pesticides, use of forest resources, etc. The industry is directly related to the first three of them. An important factor in the social responsibility of business is also environmental measures that are taken to improve this situation.

The relative indicator is the ecological and economic efficiency, which allows to estimate the amount of pollution of each type, which is 1 million UAH. value added compared to other industries. This indicator should be minimized and directly affect the level of competitiveness of a particular sector of the economy.

3. *Property status and financial well-being of business entities.* High market share, a positive trade balance, efficient use of factors of production and ensuring high standards of social responsibility are impossible without a favorable property status and financial well-being of enterprises that make up the industry's production potential.

Financial well-being is a complex indicator that characterizes the competitiveness of industrial enterprises, which includes indicators such as: liquidity and solvency, business activity, financial stability and profitability. A significant influence on its state provides the structure of economic assets and the sources of their formation. The available statistics allow us to make an appropriate comparative analysis by industry.

An important function of this area of assessment is the timely identification of financial problems that in the future may lead to loss of solvency, slowdown in turnover, lack of own sources of funding through uncovered losses and more. This, in turn, will contribute to a decrease in production, loss of market position and the general deterioration of the socio-economic situation in the industry.

Thus, we have substantiated many factors that affect the level of competitiveness of industries. Further analysis will focus on its individual components.

The experience of successful countries with market economy shows that small and medium-sized enterprises play a significant contribution to the formation of gross domestic product. Their advantages are higher mobility and adaptability to a changing external environment, susceptibility to the introduction of new management methods and technological changes, solving the problem of employment of the able-bodied population, and so on. That is why this indicator is an important indicator of the competitiveness of Ukrainian industry. For example, in different countries of Western Europe, small businesses accounted for 30% to 40% of the total output. In Ukraine, this indicator is much lower, Figure 1.

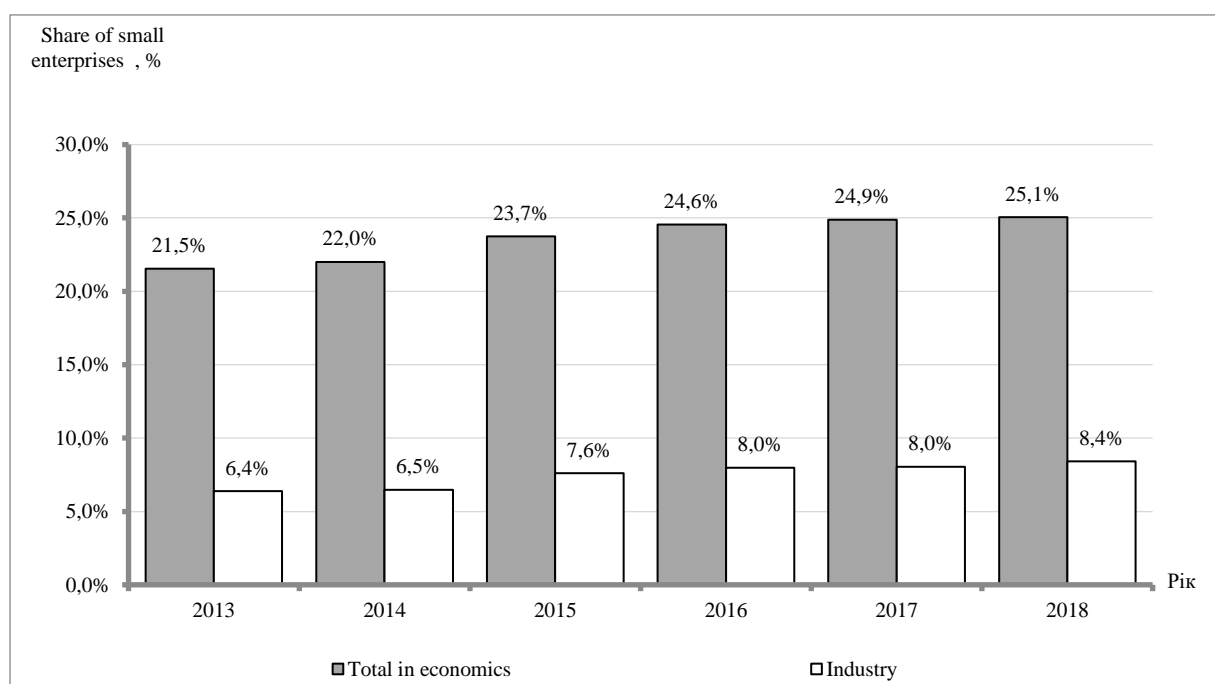


Figure 1 – The share of products of small enterprises during 2013-2018

Source: developed by the authors

As can be seen from Figure 1, in 2013-2018, the share of products of small enterprises in the economy as a whole was about 20-25% and had a tendency to increase, which is positive. The products of medium-sized enterprises occupied 38-40% of the market. Accordingly, 35-40% of total production remained for large enterprises. Thus, throughout the country, small and medium-sized businesses today have a significant impact on economic growth.

As for industries, today their main production potential is formed, largely due to big enterprises. From fig. 1 it can be seen that the share of small enterprises during the study period accounted for only 6.4-8.4% of total output.

Medium-sized enterprises increased their influence from 31% to 38%. Accordingly, large enterprises occupied 55-60% of the market. The following structure of industrial production is associated with certain prerequisites:

- some economic activities related to heavy industry require significant productive, human and financial resources that medium and small enterprises are unable to provide;
- other activities related to natural resource extraction or energy supply have state and non-state monopolies. The very existence of such monopolies can not help to establish market pricing and increase production efficiency.

By industry, the share of small enterprises in industry during 2018 was:

- extractive industry - 2%;
- processing industry - 11.4%;
- supply of electricity, gas and steam - 2.9%;
- water supply, sewerage and waste handling - 20.6%.

In the processing industry, the largest share of small enterprises is in furniture production (40.9%) and textile production (34.8%).

Thus, the industrial sector of Ukraine's economy needs to simplify and remove artificial barriers to enter the market for small and medium-sized businesses. This will significantly increase competition in many of its segments, will help to establish market pricing, reduce unemployment and more.

The ability of industrial enterprises to bring innovative products to market is an indisputable factor of their technological leadership and a guarantee of further strategic development. Statistics of the regions of Ukraine contain data on the volume of innovative products of industrial enterprises, the share of which in total sales, according to 2018, is shown in Figure 2.

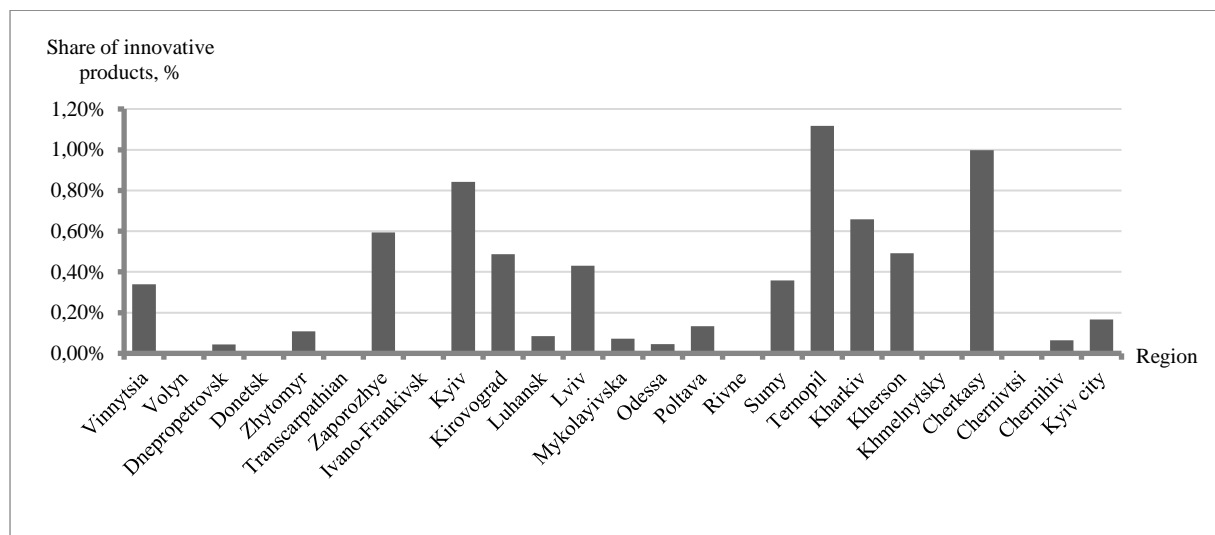


Figure 2 – The share of innovative sold products in the industry that is new to the market, according to 2018

Source: developed by the authors

Thus, accounting for the introduction of innovative production in economic activity of subjects of managing is conducted by the State service of statistics of Ukraine in two directions of assessment:

- innovative products that are new to this regional market;
- innovative products that are new only for specific enterprises, not the market as a whole.

Thus, the first direction characterizes the speed of assimilation of new technologies by leading enterprises in the industry, and the second - the speed of their spread and dissemination in the main activities of other enterprises in the region. In Ukraine as a whole, the average share of innovative products that were first launched

on the market in 2018 was 0.26% of total sales. Compared to 2017, this indicator increased by + 0.09%. Therefore, although this trend is positive, but its pace is low enough to reorient to high-tech markets in the medium term. The worst situation in terms of the speed of assimilation of new technologies in 2018 took place in Volyn, Donetsk, Zakarpattia, Ivano-Frankivsk, Rivne, Khmelnytsky and Chernivtsi regions. Accordingly, the most successful in relative terms were: Ternopil (1.12%), Cherkasy (1.00%), Kyiv (0.84%), Kharkiv (0.66%) and Zaporizhia (0.59%) regions.

The next indicator of the average rate of spread of developed innovative technologies in other industrial enterprises of this sector of the economy was slightly better. In 2018, the share of such products was 0.56%, which is + 0.06% higher than in the previous year. In the regional perspective, its structure was the same heterogeneous, Figure 3.

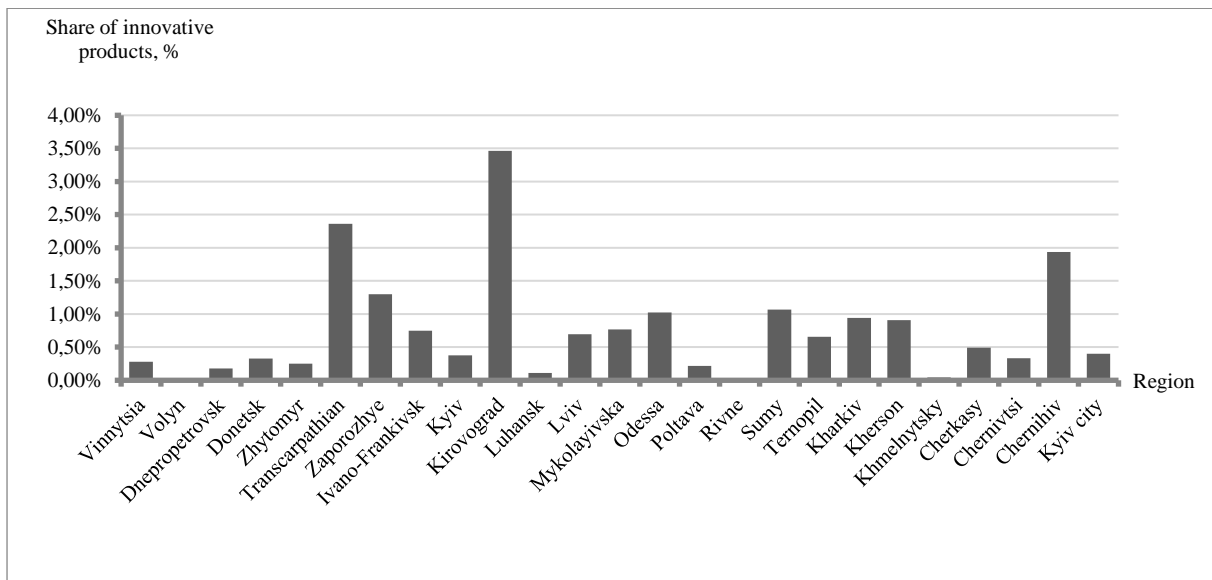


Figure 3 – The share of innovative products in industry that is new only for specific enterprises and not the market as a whole, according to 2018
Source: developed by the authors

Lack of statistical correlation between the values of the considered indicators, fig. 2-3, was confirmed by an even correlation coefficient, which in 2017 was equal to 0.191, and in 2018 - 0.134. The corresponding assessment was also performed with absolute values of input indicators and proved this conclusion. Thus, the mastery of new technologies by individual manufacturing enterprises is not a guarantee of their rapid spread to enterprises in a particular region.

In this case, the worst situation in terms of the speed of spread of the mastered technologies was observed in Volyn, Luhansk, Rivne and Khmelnytsky regions. At the same time, the leaders were: Kirovohrad (3.46%), Zakarpattia (2.36%) and Chernihiv (1.93%) regions.

Another area of assessment is the general property status and financial well-being of business entities. Its analysis is based on summary indicators of the balance of industrial enterprises, Table 1 and financial results.

Table 1. Summary indicators of the balance of industrial enterprises in 2018

Assets	Amount, UAH million	Structure, %	Liabilities	Amount, UAH million	Structure, %
Non-current assets (A1)	1516634,8	44,2	Equity (K1)	644984,8	18,8
Current assets (A2)	1914514,4	55,8	Long-term liabilities (K2)	600979,8	17,5
Non-current assets and disposal groups (A3)	787,6	0,0	Current liabilities (K3)	2185865,2	63,7
			Liabilities related to non-current assets and disposal groups (K4)	107,0	0,0
Balance	3431936,8	100,0	Balance	3431936,8	100,0

Source: developed by the authors

The above aggregate indicators included economic resources and sources of their formation of extraction and processing industries, electricity, gas and steam supply, as well as water supply and waste handling. Vertical analysis of liabilities indicated the existence of systemic problems with excessive involvement in operating activities of short-term liabilities, the share of which in 2018 was 63.8%. At the same time, the share of equity was only 18.8%, which is extremely insufficient. This, firstly, has had a negative impact on financial stability, and secondly, is evidence of solvency problems in the industry, as liquid assets are insufficient to repay short-term accounts payable in full.

To determine the most problematic areas in the industry, let's consider the consolidated indicators of the structure of the balance sheet by major economic activities. Taking into account the symbols of assets and liabilities used in the table 1, the input data for analysis are given in the Table 2.

Table 2. Summary indicators of the structure of the balance of industrial enterprises by main types of economic activity in 2018

Assets	Structure, %	Liabilities	Structure, %
Extractive industry			
A1	53,4	K1	34,8
A2	46,6	K2	12,6
A3	0,0	K3	52,6
		K4	0,0
Total	100,0	Total	100,0
Processing industry			
A1	32,8	K1	10,3
A2	67,2	K2	14,8
A3	0,0	K3	74,9
		K4	0,0
Total	100,0	Total	100,0
Supply of electricity, gas, steam and air conditioning			
A1	61,5	K1	24,3
A2	38,5	K2	27,7
A3	0,0	K3	48,0
		K4	0,0
Total	100,0	Total	100,0
Water supply and waste handling			
A1	71,3	K1	46,8
A2	28,6	K2	14,8
A3	0,0	K3	38,3
		K4	0,1
Total	100,0	Total	100,0

Source: developed by the authors

As can be seen from the Table 2, the most difficult situation with the provision of own sources of financing of operating activities was formed at the enterprises of the processing industry. Here, in 2018, almost 75% of all assets were financed by short-term accounts payable, and the share of equity was only 10.3%. This is a consequence of unprofitable activity over a long period of time, which led to a reduction in equity due to uncovered losses.

In addition, in the area of water supply and waste management, there is a problem of lack of current assets, which account for 28.6% and are far below short-term liabilities.

As the total volume of assets of the processing industry are more than 56% of this sector of the economy, and water supply and sewerage - less than 2.5%, from the point of view of property status and financial well-being, it affects competitiveness much more. That is why it is necessary to pay attention to processing enterprises, whose financial state is the worst. The most catastrophic results were in the production of chemicals and chemical products, where the amount of uncovered losses of previous periods exceeded total assets. As a result, the amount of equity is negative, and short-term accounts payable account for about 180% of total funding sources. It can be diagnosed that the chemical industry of Ukraine is operating on the verge of bankruptcy.

In the production of rubber and plastic products, there was a similar situation when uncovered losses led to a complete loss of equity. As a result, 99.4% of all assets are financed by borrowed sources of income.

Similar problems of financial support, but to a lesser extent, have developed in metallurgical production and machine building. In addition, their share of current assets exceeded 65-70%, which may indicate a decrease in turnover due to significant amounts of accounts receivables.

IV. CONCLUSION

Thus, it can be stated that today the property status and financial well-being of industrial enterprises in Ukraine has systemic problems that have significant risks of bankruptcy. That is why the current trend of declining industrial production, which began in late 2019, requires government attention and effective mechanisms to stimulate economic development.

The previous analysis of the property situation also pointed to the existing preconditions for the destruction of Ukrainian industry due to the inability to ensure a sufficient level of financial stability and solvency in the current conditions of economic downturn.

Thus, in the framework of this study, based on the accumulated scientific experience, many factors were formed to determine the industry's competitive position and an analysis of the current state of Ukrainian industry in certain areas of assessment.

So, in the work, the study of the factors of sectoral competitiveness has been further developed on the basis of modern scientific experience, in contrast to the existing ones, it goes out of the directions of assessing the market position, socio-economic situation in the region, property status and financial well-being of business entities.

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