Analysis development and assessment of the total economic potential of companies

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Abstract

The assessment of economic potential is a complex characteristic of the results of production activities, as it is formed under the influence of many internal and external factors, and it defines the state and use of resources of agro-food sector companies. It makes possible determining the efficiency of the use of economic potential, company competitiveness, identifying reserves and promptly making appropriate management decisions on their rational use. The total economic potential of a company structurally consists of many types, components of potential, closely interconnected and aimed at achieving the company’s goals. Dedicated, systematic study of the total potential of a company or its individual elements is the basis for making effective management decisions and sustainable development of the company. Taking into account modern conditions and factors, methods for analyzing and evaluating the total economic potential of the agro-food sector have been studied, an appropriate theoretical and methodological base has been developed and their role in management based on a systematic approach has been substantiated. A systematic approach to the concept of “total economic potential of companies” allows us to define it as a complex, dynamic, multi-structural system that has certain patterns of development. It should be considered as a system with certain levels, areas and structural elements that determine the integrity of the total potential of the enterprise, due to the interdependence and interconnection of the available opportunities, the implementation of which is aimed at achieving goals based on the systemic interaction of the components of the internal environment of the company.

Keywords: economic potential, production activities, resources, mechanism, agro-food companies, systematic approach, integrity.

Introduction

The main part of the economy is a company that manufactures products in order to make profit. In modern world, an agro-food company must quickly respond to changes in market conditions that occur under the influence of various external factors, changes in the internal organizational structure of the company, volume, structure and quality of the resources used by the company, approaches to managing the development of the company, that is, to maximize the use of internal capabilities of the company and use the existing economic potential rationally.

Methodological approaches to assessing the total economic potential of the agro-food sector companies are based on observations and analysis, serve the purposes of the companies’ functioning and development, justify the strategic decisions and are determined by the needs of management. An assessment of a
company’s total economic potential is a necessary element at all stages of preparation and decision-making, especially at the stages of setting an objective and choosing an optimal management decision.

A comprehensive assessment of the total economic potential of the companies in the agro-food sector, taking into account the assessment of their private potentials and their components, involves the use of such tools that would help obtain effective indicators for making economically sound management decisions. The assessment of the total economic potential of the companies in the agro-food sector is complicated by the fact that many statistical data are missing, especially on intellectual and information technology potential.

In order to work out a development strategy and make effective managerial decisions, it is important to have objective information about the status and prospects for the development of the economic potential. Since there is no single approach to the concept of “total economic potential of companies” in the literature, there are, accordingly, different approaches and methods to its analysis and evaluation.

The purpose is to study methods of analysis and develop a methodology for a comprehensive assessment of the total economic potential of companies in the agro-food sector.

**Material and methods**

Economic literature offers various approaches to the formation of a comprehensive assessment of the companies’ total economic potential. In particular, the following are used: valuation of resources, index analysis, construction of optimization models and correlation-regression methods.

When analyzing the total economic potential, the multilevel model is the most popular. The total economic potential is a generalized criterion of efficiency, while the indicators characterizing the structural elements of the potential are a set of particular criteria. To analyze economic potential, hierarchical structures need to be analyzed accordingly. It involves the method of multi-criteria optimization, which is an attempt to obtain the best value for a certain set (lot) of indicators (characteristics) of the object under study, that is, to find a compromise between the particular criteria by which it is required to optimize the solution. This model includes assessment of all components of the total economic potential; an index of the development conditions quality is provided for each component. The model is built in such a way that each component can be considered in its composition separately and act as an independent object of economic analysis.

To evaluate each element, indices are used that describe various aspects of the analysis of this structural component. Indices are formed from indicators aggregated accordingly. At the same time, each indicator is built into the model not in its pure form, but in the form of a relation to the efficiency criterion. The indices are aggregated into assessments of potential components, and these assessments form the highest element of the hierarchical system: total economic potential of companies.

Within the study, general scientific methods of analysis and synthesis, such as generalization, comparison, abstract-logical analysis, index method, etc. were used. Agro-food sector companies with their numerous specialized productions carry out various activities. The information base for the study was the official data of the National Statistical Committee of the Republic of Belarus.

**Results and discussion**

A systematic approach to the analysis of an agro-food company’s total economic potential allows to highlight the main aspects of the company functioning within market economy:

- the company owns certain resources (material, labor, financial, etc.) that are used in the production of goods and services;
- the company, using available resources, is
able to satisfy the purchasing needs of consumers in quality products, ensure efficient production and sale of products;

- availability of resources and their efficient use for the production of competitive products makes it possible to implement the concept of sustainable development of the company;

- the management of the company has the skills and abilities to effectively use the available resources (economic potential) to achieve the goals by timely and efficiently responding to changing market conditions;

- the economic potential of the company is a matter of management; the results of the company’s activities and its sustainable development depend on the effectiveness of potential management;

- in the practice of managing the effective use of economic potential, not only short-term, but also long-term objectives of sustainable development are taken into account, both for the agro-food company itself and for society as a whole (ensuring food security);

- the economic potential of the company must evolve under the influence of changing conditions of the external and internal environment to ensure the sustainable development of the company.

For a complete and comprehensive description of the economic potential – for example, of construction companies – a set of indicators has been developed that describe each structural element or sub-potential (production, financial, property, investment, marketing and personnel); quantitative and qualitative indicators are highlighted among them. However, in order to assess the level and efficiency of using the economic potential, the indicators must be systematized. Evaluation of the economic potential in the form of a complex integral indicator makes it possible to present it as the main indicator of the effectiveness of its use. The synergistic effect depends on the number and quality of the sub-potentials of economic potential, the way they are connected, and organizational integrity. Cluster analysis enables to trace the process of formation of these interconnections and interdependencies (Guselnikov, D.V., 2015).

Ibragimova R.S. and Golovkin D.S. performed a comprehensive assessment of the six proposed structural elements of the company’s economic potential (production, labor, financial, innovation, marketing, institutional and management), each of which is analyzed in three aspects: resources, capabilities and competencies. Based on the assessment of individual elements of the economic potential of companies, an integral score was formed using the expert assessments method, which allows for a detailed analysis of the reserves and opportunities for further development and working out the measures to improve performance (Ibragimova, R.S., Golovkin, D.S., 2016).

The economic potential is characterized by various private indicators that determine the level of the company’s provision with one or another type of resource in relation to the total amount of its assets (sufficiency and provision indicators), performing a specific function of describing the behavior of this type of resource in changing operating conditions (indicators of liquidity of stocks of inventory values, labor productivity, material intensity, maneuverability of functioning capital, etc.) or determining the degree of efficiency of costs invested in production (indicators of return and profitability). Company’s potential can be rationally used in certain environmental conditions with an appropriate financial condition. Consequently, the sustainability indicators of the enterprise are determined by the parameters of the internal resource potential under certain external conditions. The external environment corrects the guidelines for the company’s activities, which are the needs and requirements of consumers for the products (works, services) produced by the company, determines the conditions for the formation of the internal competitive resource potential of the company, generating external factors that describe the variable economic resources used by the company to carry out its
financial and economic activities (Gnatiuk, S.N., 2019).

Podkopayev V.V. developed a methodology for analyzing and evaluating the economic potential of economic entities, taking into account the specifics of the agricultural companies’ operation, which, unlike existing methods, allows for an economic analysis of the economic potential in two directions: according to the degree of condition and value of the economic potential. The structure of the economic potential is multidimensional, determined and characterized by a set of social and economic criteria that reflect the material and non-material areas of the potential and the effectiveness of its use. Development and justification of organizational and methodological approaches to the assessment and analysis of the economic potential involve taking into account the types of economic activities of economic entities. The economic potential of an agricultural company is constantly changing taking into account the factors of the external and internal environment (Podkopayev, V.V., 2016).

According to many scientists, the assessment of the company’s economic potential is the value of the business. In economics, there are different opinions on the selection of concepts and criteria for assessing the value of business. When evaluating company’s potential, it is important to determine its value, which is considered as utility, and is the most likely selling price of the company, considered as a commodity.

Company’s economic potential is studied as well as a certain level of its functioning in the future, based on the total amount of assets, financial and labor resources (Timofeyeva, S.A., Snegur, N.Y., 2019). Based on this approach, further modeling of the economic potential and its analysis is possible.

The interest in assessing economic potential has been growing recently due to the importance of this category for various users of financial statements. This is due to the fact that various levels of management need complete and reliable information about the capabilities and prospects of the company, which makes it possible to identify ways to improve the efficiency of using the economic potential.

The analysis of economic potential should be carried out in the context of production and financial potential (Fomin, P.A., 2006; Tolstykh, T.N., 2004). The production potential of the company is assessed in the following groups: production, material and personnel components. Financial potential is assessed using financial ratios, through possibility to raise additional capital, according to the effectiveness of the financial management system. The analysis is carried out with the assignment of potential levels for each indicator: high, medium or low level. The overall level of economic potential is determined through an expert method by the most significant indicators.

The resource and cost approach to assessing companies’ economic potential involves the study of a set of resources without taking into account their real interconnections and interdependencies that develop in the production process, as well as the quantitative and qualitative parameters of resources that determine the maximum possibilities for products manufacturing.

Currently, two generally accepted methods of analyzing the company’s resource potential are used to identify the effectiveness of the resource potential. They allow to determine the capabilities of the company: functioning, assessment of resources, both in aggregate and separately (Badrieva, L.D., 2011). The first method includes an assessment of resources and the effectiveness of their use, financial and comparative analysis. The second method is based on traditional financial analysis. However, for each company it is necessary to find an individual set of methods for calculating the efficiency of using the resource potential. Depending on the objectives, based on groups, it is necessary to design an algorithm for calculating the efficiency of using the resource potential of the company in order to improve the quality of management.
Fanta E.A. offered the concept of “optimization potential”, defined as the estimated amount of savings that can be achieved by implementing controlling measures to minimize overspent resources. Also such concepts as “target optimization potential” (the amount of achievable cost savings, limited by the reporting period) and “current optimization balance” (cost savings achieved minus the costs incurred to improve the efficiency of operations in selected areas of optimization) were stated (Fanta, E.A., 2016). The proposed methodology for analyzing the effectiveness of key business processes of a tobacco company includes a list of key performance indicators of the company and individual factors that influenced the result; hidden losses (overspent resources) in key areas of analysis; the value of the optimization potential as the estimated value of cost savings in the implementation of controlling activities; a system of priority indicators depending on the deviation of their actual values from the target values.

The agro-industrial complex (AIC) is the leading sector of the economy of the Republic of Belarus, the share of the industry in the structure of gross domestic product (GDP) in 2020 amounted to 12.4% (6.6% of GDP belong to manufacturers of food, beverages and tobacco products), the basis of which is the processing enterprises of the agro-industrial complex (approximately 85%) (Industry of the Republic of Belarus: statistical collection, 2022).

In the general structure of fixed production assets, the share of agro-industrial complex is about 22%. 384 thousand people work in agriculture and processing companies of the agro-industrial complex, which is 10.3% of the total number of employees. In 2020, compared to 2016, in general, the production of agricultural products at farms of all categories increased by 47.8%, including agricultural companies – by 51.1%. During the study period, crop production increased by 45.3%, including by agricultural companies – by 31.1%. The growth rate of agricultural production at farms of all categories in 2019 compared to 2016 amounted to 33.1%, including crop products – 31.8% and livestock products – 34.3%. The growth rate of production in agricultural companies in 2019 compared to 2016 amounted to 34.2%, including crop products – 30.2 % and livestock products – 36.4%.

The structure of food production, including beverages, and tobacco in the Republic of Belarus is shown in Figure 1.

Figure 1. Structure of food products manufacture, including beverages, and tobacco in the Republic of Belarus

Source: suggested by the author

The data demonstrated in Figure 1 show that in 2020 the largest share in the total volume of food production belongs to the production of dairy products – 29.2%, meat and meat products – 23.3%, ready-made animal feed – 11.9%, beverages – 7.4%.

The analysis performed showed that during 2016–2020 the following food production increased: meat and edible by-products – by 15.9%, semi-finished meat and meat-containing products – by 53.2%, fish and seafood – by 39.1%, vegetable oil – by 3 times, cheese – by 41.4%, finished products for baby food – by 34.9%, butter and milk paste – by 1.3%.

The largest share in the structure of consumer spending of the population of the Republic of Belarus belongs to food and non-alcoholic beverages (34.8%). The food consumption growth rate per capita in 2019 compared to 2016 increased as follows: meat and meat products – by 5.4%, fish and fish products – by 2.4%, sugar – by 3.7%, vegetables and melons – by 4.1%, fruits and berries – by 7.8%, potatoes – by 2.3%.
The development of the agro-food sector makes it possible to meet the needs of the population for food and increase their export to various markets.

The performed study includes a method of assessment based on the calculation of the index of the total economic potential of agro-food sector companies, which allows for a comparative description and ranking of companies according to the level of its use. The index allows to compare companies according to the degree of use of both the total economic potential and its constituent elements, and on this basis to determine the bottlenecks of each company.

At the first stage of the assessment, we calculated the development indices of the total economic potential of the companies (1) according to the formula:

\[ I = \frac{X_{\text{max}} - X_{\text{act}}}{X_{\text{max}} - X_{\text{min}}} \]

where \( X_{\text{act}} \) is the actual value of each structural element;
\( X_{\text{min}} \) is the minimum value of the structural element;
\( X_{\text{max}} \) is the maximum value of the structural element.

The index value varies from 0 to 1.

It should be noted that the system of indices that form a company’s total economic potential is very diverse and describes various aspects of the company, external conditions and the prevailing general economic trends. In most cases, it is not possible to have a complete set of indicators and necessary statistics. It can be explained by the following factors: limited access to information about the company or the company’s lack of data on a particular line of business, which creates a high degree of uncertainty.

In this regard, a system of quantitative and qualitative indicators of the company development level is proposed, reflecting the state and result of using the elements of the company’s total economic potential. We evaluated the material potential using the following indicators:
- the average annual cost of fixed assets,
- the average annual cost of current assets,
- returns on assets,
- turnover ratio of current assets,
- coefficient of fixed assets renewal,
- profitability of fixed and current assets.

We evaluated the intellectual potential using the following indicators:

- average headcount,
- share of employees engaged in R&D,
- costs for employee training and professional development,
- labor efficiency,
- personnel stability coefficient,
- capital-labor ratio,
- scientific research efficiency ratio,

b) organizational capacity:
- the share of salaries of administrative and managerial personnel in the total volume of the wage fund,
- intellectual property utilization ratio,

c) relations potential:
- share of new customers in the overall structure of customers,
- service quality and customer satisfaction factor,
- the number of new customers attracted,
- market share,
- presence of the company in social networks.

We evaluated the innovative potential using the following indicators:
- the share of shipped innovative products in the total volume of the company’s shipped products,
- the number of innovations, innovative technologies developed and used in the company,
- the share of innovations costs in the overall cost structure,
- payback period of investments in innovations,
- coefficient of product renewal,
- coefficient of innovative products export,
- profitability of innovation activity.

We evaluated the information technology
potential using the following indicators:
- business process automation factor,
- share of online sales in the total volume of product sales,
- share of income from new information services in total income,
- share of software costs in the overall cost structure,
- proportion of documents in electronic form in the total volume of documents.

We evaluated the financial potential using the following indicators:
- proceeds from the product sales,
- profit from the product sales,
- net profit,
- the share of exports in the overall structure of product sales,
- product profitability,
- profitability in terms of the final financial result,
- current liquidity ratio,
- financial independence ratio,
- financing ratio.

At the second stage, we calculated the aggregated indices of development and use of the elements of the total economic potential (material, intellectual, innovative, information technology and financial) according to the formula:

$$\bar{X} = \frac{\sum x}{n}$$  \hspace{1cm} (2)

where \( n \) is the number of total units.

At the third stage, based on the obtained values, using formula (2), we calculated the aggregated index of the company’s total economic potential development.

The fourth stage is a characteristic of the company’s total economic potential, results of their activities in the reporting period, as well as development opportunities for the future. At this stage, in order to qualitatively assess the degree of use of the agro-food companies’ economic potential, we ranked them based on the calculated index:
- up to 0.35 – low level;
- 0.36–0.79 – average level;
- over 0.8 – high level.

Based on the calculations, it can be noted that among the analyzed companies there is a leader that has the main resources, which leads to a fairly large polarization of the total economic potential development index: index of the leading company is almost two times higher than the total economic potential development indices of other companies.

Based on the calculations, it can be concluded that the agro-food companies’ total economic potential is not used rationally enough: the integral index for the studied companies is 0.38. At the same time, the structural elements of the total potential are used within 0.32–0.39, except for the information technology potential (0.59) (Figure 2).

![Figure 2. The level of use of structural elements of the total agro-food companies’ economic potential](source: suggested by the author)

A fairly high level of information and technological potential use is explained by the fact that in modern conditions of digitalization of the economy, all companies automate business processes, begin to use electronic document management, and increase costs for software purchase.

The final stage is the development of measures to improve the efficiency of using the agro-food companies’ total economic potential for their sustainable development.

Additionally, measures are proposed to improve the efficiency of the agro-food sector companies’ activities, differentiated in accordance with the level of use of the total
economic potential.

In case of high level – to constantly monitor the efficiency of using the companies’ economic potential, introduce innovative resource-saving technologies into production.

In case of average level – to implement measures to save all types of resources in order to increase the efficiency of using the company’s total economic potential.

In case of low level – to implement measures to save various types of resources in structural divisions, to increase the level of use of production capacities, and also develop prospects for creating regional integrated structures on a cluster basis.

In the mechanism of managing the development of the aggregate economic potential of agro-food companies, an important role is played by the competence, the ability of managers to rationally and effectively use all reserves to achieve set objectives. The reserves of a company’s total economic potential should be understood as internal reserves that are not currently used, opportunities that can contribute to the achievement of maximum economic performance, the achievement of goals in the specific conditions of the external environment in which the company operates. Reserves are the potential for the development of an agro-food company. The probability of achieving strategic development objectives depends on how the management uses the possibilities of this potential. The mechanism for managing the total economic potential of agro-food companies is shown in Figure 3.

![Figure 3. Mechanism for management of the total economic potential of agro-food companies](source: suggested by the author)

Thus, the management of the development of the total economic potential of the agro-food sector companies is a response of the company management to changes in the external environment and is determined by the concept of the company development, which sets the organizational structure, composition and level of development and use of total economic potential elements, company development objectives.

Conclusions

Economic literature offers various approaches to the formation of a comprehensive assessment of a company’s total economic potential. At the same time, it is necessary to specify its structural
elements, taking into account the type of activity, and then draw up a calculation algorithm by evaluating them.

When analyzing a company’s economic potential, most researchers use a systematic approach to determining the essence of potential as an economic category, according to which potential is a system of interrelated elements and features that ensures the achievement of certain goals. A company’s potential is a complex system that includes various elements in symbiosis which interact with each other. The advantages of a systematic approach include the synthesis of resource, result and target approaches, the study of the synergistic effect.

Methodology has been developed for a comprehensive assessment of the agro-food sector companies’ total economic potential level, which, along with material, takes into account intellectual, information technology, innovative and financial potentials. Each of the structural elements of a company’s total economic potential has been evaluated by the system of quantitative and qualitative indicators.

The ranking of the companies under study by groups depending on the state and level of use of the total economic potential has been carried out. Application of the developed methodology allows expanding the tools for monitoring the companies’ total economic potential in the agro-food sector, using these results to calculate reserves for increasing production efficiency, and quickly making management decisions based on the company’s objectives, external conditions and market requirements.

The advantages of the proposed methodology for a comprehensive assessment of the companies’ total economic potential are as follows: it is performed on the basis of statistical reporting data; it is based on a systematic approach and allows to get a comprehensive assessment of a company’s total economic potential and its structural elements; it is universal and allows to compare companies of both one type and different types of activity in terms of the level of use of the total economic potential, and also allows to quickly and flexibly make appropriate management decisions.

Efficient use of the total economic potential of agro-food companies is the main factor in achieving the set objectives – meeting the needs of the market, taking into account the changing factors of the internal and external environment.

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