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Managerial diagnosis of a company I

COURSE NOTES

PROGRAMME: BUSINESS AND ADMINISTRATION

Cycle I, Bachelor's Degree

Approved by
USM Quality Council

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LIST OF ABBREVIATIONS

NAS	National Accounting Standard
EU	European Union
BIF	Balance of verification of the influence of factors
RIF	Result of factor influence
VMP	Value of Manufactured Production
EA	Number of workers
TA	Total value of assets
AI	Fixed assets
CA	Current assets
NA	Net assets
TL	Total liabilities
E	Equity
LTL	Long-term liabilities
CL	Current liabilities
P	Provisions
Rs	Revenue from sales
CS	Cost of sales
GP	Gross profit
OP	Operating profit
OOI	Other operating income
DE	Distribution expenses
AE	Administrative expenses
OOE	Other operating expenses.
POA	Profit from other activities
PBT	Profit for the period before tax
NP	Net profit
Rs	Return on sales
Ra	Return on assets
Fp	Financial profitability
$\mathbf{R_{PC}}$	Return on permanent capital
NWC	Net working capital
FLR	Financial leverage ratio
NCF	Total net cash flow;
OCR	Cash receipts from operating activities
OCP	Cash payments from operating activities
ICR	Cash receipts from investing activities
ICP	Cash payments from investing activities
FCR	Cash receipts from financing activities
FCP	Cash payments from financial activities.

PRELIMINARY

The course unit *"Managerial Diagnosis of a Company I"* is intended for first-cycle students (bachelor's degree) in the "Business and Administration" study programme, with the main objective of developing the skills necessary for analysing and evaluating the performance of organisations from a strategic management perspective.

The course focuses on identifying and understanding the main components of company management, with the aim of diagnosing its current situation and developing viable solutions for improving organisational performance. Students will learn to analyse the structure and functioning of an organisation from a financial and managerial point of view, integrating both tangible and intangible elements. At the same time, the course aims to understand how financial health influences economic performance and long-term sustainability.

The course provides both a solid theoretical foundation and practical applications designed to facilitate understanding of the fundamental concepts of organisational diagnosis. Particular emphasis is placed on the use of modern methods and tools for assessing the efficiency and functionality of the enterprise. At the same time, the course aims to develop an integrated perspective on organisational performance through the analysis of management, financial resources and development potential.

The course unit, *"Managerial Diagnosis of a Company I"* contributes to the development of the following professional competences specific to the field of "Business and Administration":

- ✓ CP4 – Operational management of activities;
- ✓ CP5 – Budget and finance management;
- ✓ CP8 – Implementation of organisational changes.

After completing the course unit *"Managerial Diagnosis of a Company I*" and in accordance with the provisions of the National Qualifications Framework (CNC), the candidate or graduate of the qualification will be able to demonstrate the following learning outcomes:

- ✓ LO9 – Analysis of operational processes, identifying weaknesses and opportunities for efficiency;
- ✓ RI11 – Identifying, planning and analysing financial resources, including the use of information and communication technologies (ICT);
- ✓ RI14 – Identifying the need for organisational change and formulating actions for improvement.

The course also aims to facilitate understanding of the relationship between the tangible and intangible elements that define organisational performance, as well as their impact on financial results. Throughout the course, emphasis will be placed on the practical application of managerial diagnosis concepts and principles, using appropriate methodological tools to assess the functionality and efficiency of the enterprise.

The course is organised into ten fundamental themes, presented in a logical and progressive manner, which allow for a step-by-step approach to the managerial diagnosis process. Each theoretical theme is accompanied by practical applications and critical analysis activities, designed to facilitate the transfer of theoretical knowledge into real professional contexts.

This pedagogical approach aims to develop independent thinking and the ability to formulate reasoned judgements about the state and evolution of an organisation.

Bibliographic support

The reference documentation includes scientific papers, articles and specialist books in the fields of management and economics, in Romanian and international languages. The bibliography supports both the theoretical and applied learning process and the development of interest in research and continuous professional development. It provides essential support for the cultivation of critical thinking, synthesis and strategic analysis – key skills in the current business environment.

TOPIC 1. CONCEPTUAL BASES OF MANAGERIAL DIAGNOSTICS OF THE ENTERPRISE

Expected learning outcomes: RI 9		
Knowledge/content units	**Skills**	**Responsibility and autonomy**
Content units: 1.1 The concept, role and content of business diagnosis 1.2 Types of diagnosis 1.3 Stages of organising and carrying out the diagnostic process	✓ defines the concept of "managerial diagnosis"; ✓ interprets the role and necessity of managerial diagnosis; ✓ distinguish between different types of diagnosis; ✓ describe the diagnostic process; ✓ distinguishes the specifics of each type of diagnosis; ✓ determine the object, purpose and subjects of diagnosis; ✓ determine the relationships and principles that arise in the diagnosis; ✓ develop the ability to select the best ideas for developing and implementing recommendations for each type of diagnosis; ✓ formulate the main hypotheses characteristic of each type of diagnosis	The student independently justifies the directions for optimising work processes, thus ensuring the efficiency of operational activity management.

KEY TERMS:

Diagnosis — a complex analysis process for identifying the strengths and weaknesses of an organisation.

Microeconomic diagnosis — is the study of phenomena at the level of an individual enterprise or economic agent.

Mesoeconomic diagnosis — reflects the study of phenomena at the sectoral or branch level.

Macroeconomic diagnosis — illustrates the study of phenomena at the level of the national or global economy.

Static diagnosis — involves the analysis of phenomena at a given moment in time.

Dynamic diagnosis — involves the analysis of evolving phenomena over a period of time.

Quantitative diagnosis — reflects the assessment based on numerical measures of the technical and economic state.

Qualitative diagnosis — expresses the assessment of qualitative characteristics and internal interdependencies.

Internal diagnosis — highlights the diagnosis made from within the organisation.

External diagnosis — represents the diagnosis performed by external parties, such as investors or authorities.

Mixed diagnosis — represents the diagnosis performed by a mixed internal and external team.

Diagnostic process — involves a series of steps designed to accurately identify the nature of a problem, condition or causes of a malfunction.

Diagnostic report — an official document that provides a clear and organised presentation of the findings resulting from the diagnostic process.

Dysfunctionality — encompasses negative elements that affect the organisation's activity.

Strengths — reveals the positive aspects that support the organisation's performance.

Significant symptoms — express important differences identified from norms or plans, which may be positive or negative.

Recommendations — indicate proposed measures to improve the organisation's activity.

1.1 The concept, role and content of business diagnosis

The concept of "diagnosis" comes from Greek and means "able to discern", i.e. the ability to objectively define a subject based on its manifestations [3, p.51; 12]. The concept of the term "diagnosis" has the same meanings in both economics and medicine, symbolising the complex analysis of the mechanism of formation and modification of phenomena specific to the given field [2, p. 24].

Regardless of the field of use, the diagnostic approach requires a complex analysis of the mechanism of formation and modification of specific phenomena.

The concept of diagnosis in economic terms, at the level of an enterprise, involves identifying any dysfunctions in its activity, analysing them, setting objectives and presenting measures to regulate the organisation [8, p. 41].

According to Burduș Eugen, diagnosis is a broad investigation of the main aspects of the organisation's activity, of an economic, technical, sociological, legal and managerial nature, with the aim of identifying strengths and dysfunctions, the

causes that generate them and devising recommendations for improvement and development.

Specialised literature in Romania and abroad deals extensively with organisational diagnosis, both as a management method and as a basis for changes to be implemented in the organisation's 'life'.

Integrated into the category of general methods, usable in any organisation, in any circumstance and by managers at all organisational levels, ***diagnosis*** *is a management method that ensures the investigation, analysis and evaluation of the organisation by highlighting the main strengths and weaknesses and formulating strategic and tactical recommendations to improve its viability potential [8, p.31].*

Diagnosis is one of the methods frequently used in management practice, both by managers and management consultants (individuals or consulting firms). Its role in management is manifested in the following ways *[8, p.30]*:

- it is the most important source of information on the "health" of the area under investigation (organisation or its procedural or structural component); as the use of diagnosis becomes commonplace, it acts as a veritable barometer of the functionality of the area under management;
- it is the most important foundation for developing the organisation's overall strategy;
- it is the starting point for promoting organisational and managerial changes, regardless of their scope;
- it warns of vulnerabilities or strengths, as well as their causes; in this way, managers can improve their decision-making performance by mitigating or eliminating the causes that caused dysfunctions or generalising those that generated positive aspects;
- using diagnosis in its true scientific dimension is a sign of the professionalisation of managers and, implicitly, of management.

At the same time, diagnosis allows managers to draw conclusions about the dynamics and prospects of the company in terms of its value (quantitative and qualitative) and to seek a competitive advantage through internal or external comparisons.

In the author's view, ***managerial diagnosis*** is a structured approach to investigating and analysing a company's activity, which aims to identify strengths, weaknesses and development potential in order to inform the strategic and operational decisions necessary to improve the organisation's performance.

Within the organisation, diagnosis can be carried out as a priority in the following situations:

- whenever the managers of the organisation or its organisational subdivisions wish to know in detail the "state" of the area they manage,

i.e. the main dysfunctions and positive aspects, as well as the causes that generate them and the "areas" in which decision-making intervention is required;

- when large-scale, highly strategic initiatives are launched, such as managerial redesign (restructuring), privatisation, restructuring, etc., of the organisation;
- when management teams change (especially in public enterprises);
- at the end of important periods (e.g. at the end of the year) in order to identify the organisation's economic and managerial viability potential and the effectiveness of the management team;
- before developing the organisation's strategy

The rationale for performing a diagnosis may be based not only on situations where the company may be experiencing difficulties, but also when the situation is good, but there is a desire to improve it.

In microeconomics, diagnosis is a method of knowledge whose **purpose**–*is to investigate the essential and functional characteristics of an enterprise.* **The aim of diagnosis is to** describe the functioning and development trends of an economic entity, taking into account the dynamic environment in which it operates and internal or external disruptive factors. ***The subjects*** of the diagnostic process can be government bodies, research institutes, foundations, centres, public organisations, the media and the analytical services of an enterprise.

The aspects we have referred to highlight the characteristics of diagnosis as a management method:

- post-operative nature, marked by the fact that diagnosis is associated with the post-operative phase of management processes, with their control and evaluation function. Mainly, the results obtained are compared with the objectives set for the same period or with the results recorded in the previous year(s);
- the predictive, anticipatory nature, ensured by the recommendations with which a diagnostic study concludes, through which an increase in economic and managerial viability potential is anticipated;
- the multidisciplinary nature of the diagnosis, given that a diagnostic study is the 'product' of a multidisciplinary team of specialists (engineers, economists, etc.) from within the enterprise or outside it;
- the particular complexity of diagnostics and diagnostic studies, justified both by the complexity of the field under investigation and by the multiple aspects (economic, managerial, socio-human, technical and technological, etc.) addressed by them;

- the casual approach to strengths and weaknesses, a situation that allows for the development of "solutions" (recommendations) that take such cases into account [11, pp. 25-26].

In conclusion, diagnosis is a management method that involves identifying the strengths and weaknesses of the business, researching and analysing facts and responsibilities, highlighting causes and proposing measures that will lead to better exploitation of the opportunities offered by the external environment or to mitigating the risks due to the economic environment in which the company operates.

1.2 Types of diagnosis

Studies on the methodology of diagnostic analysis reveal the practical application of several forms of diagnosis, delimited according to various criteria. The main criteria for classifying business diagnosis are:

- ***Depending on the level at which the investigation is carried out, the diagnosis can be:***
- *microeconomic* – studies phenomena at the level of the economic agent;
- *mesoeconomic* – studies phenomena at the level of the sector or branch, for example, the position of the enterprise in the value chain, competition, the situation of substitute products;
- *macroeconomic* – studies phenomena at the level of the national or global economy (legislation, domestic and international economic conditions, social variables), operating mainly with global or aggregate variables.
- ***According to how phenomena are tracked over time:***
- *static diagnosis* – studies phenomena at a given moment, revealing the relationships between the elements and factors that determine a certain position of the phenomenon under investigation;
- *dynamic diagnosis* – investigates economic phenomena as they change, revealing their position in a series of moments based on research into the factors that determine positional changes.
- ***Depending on the time horizon for which the phenomenon is researched:***
- *short-term diagnosis (up to 1 year)* – common for internal management;
- *long-term diagnosis* – over 1 year.
- ***According to the method of evaluating results:***
- *quantitative diagnosis* is based on determining the quantitative characteristics of the technical and economic condition of the enterprise

in order to establish a quantitative measure of the influence of various factors;

- *qualitative diagnosis* is based on comparative qualitative assessments of the characteristics of the technical and economic condition of the enterprise in order to identify the characteristics of this condition and its internal interdependencies.

- ***Depending on the analyst's position, the diagnosis can be:***
- *internal* – the analysis is carried out from within the enterprise, which is the basis for the management of the enterprise;
- *external* – it is carried out by external partners: banks, investors, public authorities, suppliers, customers, who seek to form an opinion about the situation of the enterprise;
- *mixed*, which can be carried out by a multidisciplinary team of specialists from inside and outside the company under investigation.

- ***Depending on the circumstances in which it is carried out, the diagnosis can be:***
- ~~a~~ diagnosis in a crisis context;
- diagnosis in the context of internal and/or external development, etc.

- ***Depending on how it is carried out:***
- Diagnosis along organisational links (workplace, subdivision, entity);
- Diagnosis based on a theme (cost analysis, profitability analysis, etc.);

- ***By scope and purpose:***
- *global* (in-depth) *diagnosis* is the basic model that analyses the company from a global perspective (competitive, technological, social and financial), taking into account both strategic aspects and those related to its current management;
- *express diagnosis* aims to identify, within a sufficiently short period of time, the difficulties and causes of specific issues, such as: costs, product quality, technical and material supplies, treasury, as well as to formulate measures to remedy the situation and prioritise the actions to be taken, according to their urgency and importance;
- The *functional diagnosis* is a diagnosis specialised in the functions of the enterprise (technical, commercial, financial, management and organisational), designed to highlight internal operational problems that affect its economic and financial performance.

- ***By degree of complexity***:
- *partial*, when the subject of the research includes a set of elements, and only some of them are taken into account in the diagnostic process;
- *complex*, when all elements are included in the study.

- ***According to the objectives pursued [14, pp. 52-53]:***
- *results diagnosis*, predominantly post-operative in nature, referring to results obtained in a previous period, highlighting the health of the enterprise through the results obtained;
- *vitality diagnosis*, which highlights the enterprise's potential to cope and tests its recovery capacity;
- *environmental diagnosis*, which approaches the enterprise as a component of macrosystems, studying the influence that the environment has on the investigated enterprise, as well as the restrictions that the environment imposes on the enterprise;
- *evaluation diagnosis*, which aims to highlight the degree of achievement of objectives, as a synthesis of the three types of diagnoses listed in this category.

1.3 Stages of organising and carrying out the diagnostic process

The diagnostic process is a process of continuous research, exploration and knowledge of an organisation. Breaking down the diagnostic process allows us to highlight the following stages in its composition [**Ошибка! Источник ссылки не найден.** , p. 68, 9]:

1. *Establishing the area/problem to be investigated*, which is usually the result of a decision by the organisation's top management. The main dangers to be avoided here are oversizing the area to be investigated, which results in a waste of human, financial and time resources, or undersizing it, in which case the diagnosis cannot be conclusive. Also, at this stage, the following are established: *the composition of the diagnostic team, depending on the issues addressed; the tasks and responsibilities of each member of the diagnostic team are determined; the intermediate and final deadlines for completing the study are specified and the necessary resources are established.*

2. Preliminary documentation on the area being diagnosed aims to identify the main elements that characterise it. During this stage, the diagnostic team will be provided with the information necessary for the diagnosis and analysis of the documents underlying the area under investigation. Once the diagnostic team has identified the main elements of the field in question by analysing the information in the documents, it will move on to identifying significant symptoms. By significant symptoms, we mean those situations that represent important differences from the provisions of plans, norms and comparable situations considered normal. To this end, a list of significant positive and negative symptoms relating to the area in question is drawn up.

Table 1.1. **Analysis of symptoms within the enterprise**

Crit. no.	Positive symptoms	Negative symptoms

Source: MIRONOV. S., Proiectarea sistemului de management: Note de curs, CEP USM, Chișinău 2018. – 158 p

Note. *Positive and negative symptoms provide support for highlighting the main strengths and weaknesses, which are the subject of the following stages.*

3. *Identifying the main weaknesses and their causes.* The first part of the diagnostic analysis focuses on the causes of deficiencies in the activities investigated, with an emphasis on the forces that generate them and their effects on management and execution activities. Weaknesses are identified in relation to the provisions of plans, programmes, consumption standards, product quality classes, etc.

Table 1.2. **Analysis of dysfunctions**

No	Dysfunctions	Term of comparison	Causes	Effects	Comments
1	In the field of research and development				
2	In the economic and financial field				
3	In the field of management				
4	In the field of human resources				
5	In the commercial field				
6	In the field of production				

Source: MIRONOV. S., Proiectarea sistemului de management: Note de curs, CEP USM, Chișinău 2018. – 158 p

Note. *In the table, all the dysfunctions corresponding to the negative symptoms identified in the company are entered in the six areas.*

4. *The identification of the main strengths and* their *causes* is the result of the second part of the analysis, which is carried out in a similar way to the previous stage.

Table 1.3. **Analysis of strengths**

No	Dysfunctions	Term of comparison	Causes	Effects	Comments
1	In the field of research and development				
2	In the economic and financial field				
3	In the field of management				
4	In the field of human resources				
5	In the commercial field				
6	In the field of production				

Source: MIRONOV. S., Proiectarea sistemului de management: Note de curs, CEP USM, Chișinău 2018. – 158 p

Note: *However, it is necessary to pay due attention to this stage of the diagnosis, as it has been found that both the positive aspects and the causes that give rise to them have a particularly significant impact on the working environment, the dynamism and creativity of staff, and can be exploited much more effectively to increase the efficiency of the enterprise.*

5. *The formulation of forecasts and recommendations* focused on eliminating the causes of weaknesses and intensifying those that generate strengths is carried out by the members of the diagnostic team. The forecasts and recommendations must include the following aspects: informing the beneficiary about the state of the enterprise, its performance and the efficiency of resource use; establishing the key variables of development and the correlations between them; establishing measures to recover or improve performance; identifying new sources of competitive advantage; substantiating new development strategies in a competitive environment.

All recommendations must be set out in a table.

Table 1.4. **Recommendations**

No	Recommendations (measures)	Causes considered	Resources required	Effects achieved
1	Regarding the causes of malfunctions			
2	Regarding the causes of strengths			

Source: MIRONOV. S., Proiectarea sistemului de management: Note de curs, CEP USM, Chișinău 2018. – 158 p

 In the technical and technological field, the focus will be on: re-engineering available financial sectors; modernising machinery, equipment and installations with a high degree of physical and moral wear and tear; removing physically and morally obsolete production equipment with a low load factor from the production cycle; reconsidering technological flows in line with changes in the production structure; improving the provision of services for production equipment (maintenance-repairs) in order to identify the best option (carried out internally or by hiring a specialist provider from outside the company); reassessment of utility supply in terms of efficiency and promptness of provision.

 In the field of production itself, recommendations may be aimed at: improving the product range structure in line with market requirements; improving the quality of products and services; promoting the quality assurance system; finding viable partners for cooperation in the production of complex products; diversifying or specialising production; establishing partnerships with research and development companies, manufacturers or service providers.

 In the commercial field, the priorities are: consolidating the position on a specific market or market segment; finding new attractive markets; conducting market studies to assess the need for and opportunity of changes in the product range structure; strengthening commercial relations with traditional partners (suppliers and customers).

 In the managerial field, emphasis will be placed on: developing realistic strategies and policies; overall or partial remodelling of the management system and its major components.

The quality of the recommendations and, implicitly, of the diagnosis depends decisively on the extent to which they focus on the causes of the weaknesses and strengths.

6. *Presentation of the results of the* diagnostic *analysis* in a report. The structure of the diagnostic report must include: title page; table of contents; summary; introduction; objectives of the diagnostic analysis; presentation of the company and the environment; research methodology used, results of the analysis; conclusions and recommendations; bibliography and appendices.

Completing these stages of the diagnosis provides answers to the diagnostician's questions regarding:

- ✓ the legal status of the enterprise;
- ✓ the economic and financial results of the enterprise and their level;
- ✓ methods and ways of achieving results;
- ✓ the company's performance and objectives;
- ✓ the desired level of performance and how to achieve it;
- ✓ the correctness of decision-making.

In conclusion, we can say that the stages of the actions for carrying out the diagnostic analysis ***differ*** depending on the objectives pursued and the methods used. From a practical point of view, it has been found that the resources required and the time allocated to each stage ***can vary greatly***, depending on the size of the organisation, the specific nature of the activity carried out and the purpose of the assessment.

Self-assessment questions:

1. What does the term 'diagnostic' mean in an economic context and where does it come from?
2. What is the main purpose of a diagnosis in a business?
3. What aspects does a diagnosis analyse according to the definition provided by Eugen Burduș?
4. What role does a diagnosis play in the managerial decision-making process?
5. What are the most important functions that a diagnosis fulfils in management?
6. In what situations is it recommended to perform a diagnosis of the enterprise?
7. What are the defining characteristics of a diagnosis as a managerial method?
8. What does a diagnosis represent as a predictive method?
9. How is a diagnosis classified according to the level at which the investigation is carried out?
10. What is the difference between static and dynamic diagnosis?
11. What is functional diagnosis and how does it differ from global diagnosis?
12. What is the preliminary documentation stage in the diagnostic process?
13. How are dysfunctions identified and analysed in the diagnostic process?
14. What types of recommendations can be made following a diagnostic study?

15. What does a diagnostic report contain and what is its ultimate role for the enterprise?

Self-assessment tasks:

1. Define the term "management diagnosis".
2. Describe the role of the diagnosis in identifying organisational problems.
3. Apply the definition of management diagnosis to a practical example (e.g. a company with declining sales).
4. Select a hypothetical situation in which a business is experiencing difficulties and suggest an appropriate time for diagnosis.
5. Analyse the relationship between diagnosis and the management decision-making process.
6. Examine the causes that may determine the need for diagnosis in a company.
7. Assess the effectiveness of diagnosis in preventing management crises.
8. Argue why diagnosis should be a continuous rather than an occasional tool in management.
9. Express your opinion on the importance of the preliminary documentation stage in a diagnosis.
10. Develop a short guide to good practices for initiating a diagnosis in a company.

Multiple-choice self-assessment test:

1. What role does the diagnosis play in the management process?
a) It is a legal act
b) It only evaluates profits
c) It is the basis for strategic and change decisions
d) It is only used in a crisis

2. What is the meaning of the term "diagnosis"?
a) Processing financial data
b) Objective definition of a situation through analysis
c) Audit report
d) Marketing strategy

3. Postoperative diagnosis refers to:
a) Future budget control
b) Comparing actual results with planned results
c) Defining future objectives
d) Legal audit

4. Anticipatory diagnosis involves:

a) Reorganising departments
b) Assessment of the past situation
c) Proposing preventive measures for the future
d) Management accounting

5. A long-term diagnosis analyses:

a) Only monthly results
b) Past events of up to 6 months
c) Horizons longer than 1 year
d) Daily production

6. A qualitative diagnosis is based on:

a) Balance sheet figures
b) Accurate measurements
c) Comparative and evaluative assessments
d) Software simulations

7. What does a functional diagnosis involve?

a) Analysis of the shareholding structure
b) Investigation of a function (technical, financial, etc.)
c) External financial control
d) Marketing report

8. What are "negative symptoms"?

a) Progress in efficiency
b) Indicators of strengths
c) Declines from expected norms
d) Profit growth

9. Recommendations made in a diagnosis are based on:

a) Legal information
b) Causes of weaknesses and strengths
c) The director's vision
d) Sales figures alone

10. Which of the following is NOT a stage of diagnosis?

a) Establishing the area to be analysed
b) Promoting employees
c) Analysing the symptoms
d) Formulating recommendations

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TOPIC 2. METHODS AND TOOLS USED IN BUSINESS MANAGEMENT DIAGNOSIS

Expected learning outcomes: RI 11		
Knowledge/content units	**Skills**	**Responsibility and autonomy**
Content units: 2.1 Analytical indicators and their classification 2.2 The concept of methods (methodological procedures) of diagnostic analysis and typology 2.3 Methods of preliminary study and qualitative assessment of economic phenomena 2.4 Quantitative analysis methods 2.5 Structural analysis methods 2.6 Methods of strategic diagnosis 2.7 Sociological methods	✓ defines the main research methods used in diagnosis; ✓ identify the main tools of managerial diagnosis; ✓ identify the methods used in diagnosis; ✓ characterises and classifies diagnostic methods and tools; ✓ make connections between different diagnostic methods and tools.	The student independently performs specific financial management functions at the level of an economic entity, formulating constructive proposals for the rational use of financial resources and for improving business results.

KEY TERMS:

Analytical indicator — a measure used to reflect volumes, levels and efficiency in the economic process.

Natural indicator — an indicator expressed in physical units (kg, m, l).

Value indicator — an indicator expressed in monetary values (lei, dollars).

Quantitative/qualitative indicator — shows volume vs. quality/efficiency.

Quantitative factor — influences expressed numerically, which support qualitative factors.

Qualitative factor — reflects the nature of the economic and financial process.

Structural factor — refers to the share of components in the total of a phenomenon.

Comparative method — study of phenomena in relation to periods, spaces or reference standards.

Balancing method — technique that balances the components of an additive relationship.

Chain substitution method — sequential calculation of the influence of factors.

Absolute/relative difference method — calculates the contributions of factors through absolute/percentage variations.

Integral method — factorial analyses without a fixed order of substitution, suitable for multiplicative forms.

The share participation method — diminishes the influence of factors interacting through intermediate variables.

Structural analysis — identifies the contribution of components to the total.

Resources — labour, finance and materials used by the enterprise.

Internal/external reserves — additional sources of efficiency found internally or externally.

Sociological methods — represent the set of tools and procedures used in scientific research of social phenomena, with the object of study being individual and collective behaviour, complex social interactions and the structures that govern society.

Strategic analysis methods — these are essential tools used in the fields of management, economics and organisational planning, and their role is to assess the current situation of an organisation, identify both favourable opportunities and potential risks that may arise, and subsequently enable the formulation of effective and sustainable strategies.

2.1 Analytical indicators and their classification

The activity of economic units encompasses a variety of phenomena, processes and economic sectors, either individually or as a whole, from the production site to the highest level of organisation. These components are the subjects of diagnostic analysis of economic activity and are assessed using analytical indicators.

Analytical indicators are concepts that reflect the volume, level and efficiency of economic processes, both at the level of the entire activity of the enterprise and of its various components. These indicators include: the volume of production achieved, the number of employees, labour productivity and the number of days worked by workers.

Analytical indicators vary greatly in terms of unit of measurement, content and degree of generalisation, and are therefore classified according to several criteria [11, 5, 3]:

1. by unit of measurement, we distinguish:

a) natural indicators (m, t, kg, l);
b) value indicators (lei, money, $);
c) conditional-natural indicators (pieces, boxes).

2. By content, we distinguish:

a) quantitative indicators (quantity, volume);
b) qualitative indicators (quality, efficiency).

3. According to the degree of generalisation, we distinguish:

a) general indicators - reflect the entire economic process;
b) secondary indicators - characterise only certain aspects of the economic process.

4. According to the elements of the production process:

a) indicators that characterise natural resources (volume of natural resources);
b) indicators characterising labour resources (number of workers);
c) indicators characterising labour (average wage).

Factors, as driving forces of development, determine the formation and modification of an economic phenomenon, of a result. The analysis of all categories of factors is absolutely necessary in approaching economic phenomena, as it is reflected in the results of economic and financial activity [11].

1. Based on their content, we distinguish the following categories of factors:

a) technical;
b) technological;
c) organisational;
d) economic;
e) socio-political;
f) demographic;
g) psychological;
h) biological;
i)natural, etc.

2. Based on their nature within a causal relationship, we distinguish between:

a) quantitative factors – which are the material carriers of qualitative factors and their multipliers;
b) qualitative factors – which are of the same nature as the phenomenon analysed, differing from it in terms of the degree of extension;
c) structural factors – which appear when the analysed result refers to aggregate quantities. As a rule, structural factors are contained in quantitative factors, but act through qualitative factors.

3. ***Depending on how they act, we distinguish between:***

a) direct action factors are those factors that directly influence the analysed phenomenon;

b) indirect factors are those that act on the analysed phenomenon through the first category.

4. Based on the company's own efforts, we distinguish between:

a) factors dependent on the company's own efforts;
b) factors independent of the company's own efforts.

5. According to the degree of synthesis, there are:

a) simple factors, which cannot be broken down into component parts;
b) complex factors, which can be broken down into different stages until they become simple factors.

6. According to the source of their action, we encounter:

a) internal (endogenous) factors, which originate within the company;
b) external (exogenous) factors, which originate outside the company.

7. Based on predictability, we distinguish between:

a) predictable factors (certain or determinable), which act within controllable processes, without involving the occurrence of risks;
b) unpredictable (random) factors are those determined by forces that cannot be controlled, which act uncontrollably as a result of deviations from the normal course of economic processes.

8. According to the intensity of their action, we distinguish:

a) dominant (key, main) factors whose influence is decisive in achieving results;
b) secondary factors whose influence is reduced, sometimes negligible.

9. According to the meaning of the influence of the factors, there are:

a) positive factors;
b) negative factors.

The criteria for classifying factors are not exhaustive, but those mentioned are particularly useful in diagnostic analysis.

Resources are the source of economic means and are known through accounting [11]. Resources are a major element within the enterprise and include:

- Material resources;
- Human resources;
- Financial resources.

The internal reserves of the enterprise appear as additional possibilities arising from the use of resources as possibilities not used by the entity. Like the other elements of the object of study, reserves are classified according to the following criteria:

1. According to the mobilisation period, there are:

a) current reserves
b) prospective reserves

2. According to the method of discovery, we have:

a) obvious (known) reserves reserves reflected in reports;

b) hidden (unknown) reserves, for the discovery of which a fundamental economic analysis is necessary.

3. By formation method:

a) internal reserves – those that indicate the entity's concrete possibilities for increasing the efficient use of resources;

b) external reserves – those that contribute to increasing the efficiency of the activity of several entities, industries, or the national economy.

2.2 The concept of methods (methodological procedures) of diagnostic analysis and typology

A method is a theoretical-abstract process through which a certain concept is established regarding how to study a phenomenon or process in order to obtain knowledge about its form or content.

The procedure is the practical side of doing something, studying an activity, or processing data from a research process, so it's basically how the method is put into action.

Diagnostic analysis involves a series of specific methods and procedures or those borrowed from other sciences. Thus, according to their usefulness in investigating economic reality, diagnostic analysis methods can be structured as follows:

1. Methods for preliminary study and qualitative assessment of indicators – this group of procedures includes a wide range of methods known from statistics:

a) *The division and decomposition of economic indicators* consists in breaking down the phenomena and processes under investigation into their constituent elements, establishing their contribution to the overall change in the phenomena studied and locating in time and space the origin of the results and their causes.

b) *Grouping* as a research method of analysis, grouping separates the community under study into homogeneous categories of units, according to the variation of one or more characteristics chosen according to the purpose of the research and the nature of the phenomenon under study (e.g. grouping the workforce by category, seniority, gender, occupation, qualification, stability, etc.).

c) *Comparison* is useful in the analysis of economic and financial phenomena because it shows not only the behaviour of the economic and financial phenomenon in a given circumstance, but also the comparisons that should be made

with other economic and financial phenomena. It is mandatory to ensure the comparability of data, both in terms of content homogeneity and the method of expression in a single standard determined according to a uniform methodology.

1. Methods for calculating the links between the result indicator and factors (quantitative methods) include a wide range of known methods: *the balance method; the absolute difference method; the relative difference method; the chain substitution method; the quota participation method.*

2. Structural analysis methods - used to highlight the contribution of different components to the formation or modification of overall results. Here, relative structural values are used, such as:

$$g_i = \frac{f_i}{F} \times 100 \qquad (2.1)$$

where: g_i - represents the weight of the element f_i in the total of the analysed phenomenon (F)

Structural analysis methods can include: the ABC method, the Pareto principle, the Hofer method, the BCG method;

4. ***Strategic analysis methods*** are performed using SWOT analysis; PEST analysis; analysis of the competitive advantage of the enterprise - Porter's 5 forces model.

5. ***Modelling economic phenomena*** involves: defining the object of analysis, specifying concepts and indicators, establishing the essential characteristics of the analysed phenomenon, establishing restrictions, and constructing the model.

In terms of the form of representation of the phenomenon, there are three types of models: *imitative, analogical and symbolic.*

Imitative models are those in which the characteristic properties of the phenomenon are expressed by themselves, but usually on a different scale (examples: photographs, maps, models, etc.). Imitative models are material models.

Analogical *models* use analogy, i.e. certain properties are used to represent other properties. Among analogical models, graphs are the most commonly used in economic practice. Types of graphs: timeline, diagram, histogram or penetration table.

The tabular method consists of using statistical tables that allow you to reduce the amount of text and present the material in a simpler and more compact way. Statistical tables are also used not only to calculate the influence of various factors, but also for preliminary study of a phenomenon. When using statistical tables, the elements of a table must be observed: title, rows, columns, totals.

Symbolic models are based on the use of symbols (letters, numbers) to represent phenomena. In general, they take the form of mathematical equations or inequalities. These can be: correlation models (deterministic or random); additive, multiplicative, balancing, ratio, combined.

6. ***The rate method*** is an operational tool for analysing and evaluating a company in order to understand the evolution of certain economic and financial phenomena over a given period of time. From an economic point of view, rates represent a ratio between two quantities that are comparable from a logical and economic point of view. Based on their content, we distinguish the following types of ratios:

- ✓ Structure (current assets ratio, fixed assets ratio);
- ✓ Profitability ratios (commercial, financial, economic);
- ✓ Management (receivables turnover, inventory turnover);
- ✓ Financial balance ratios (debt ratio, solvency ratio).

7. ***Sociological methods*** – these are an essential tool for understanding the behaviours, attitudes and perceptions of actors involved in economic activity. These methods allow qualitative and quantitative data to be collected directly from the source – individuals, groups or organisations – and provide a detailed insight into the internal dynamics of economic processes. Both questionnaires and interviews can be used in the sociological research of economic or organisational phenomena.

Therefore, the methods listed above contribute significantly to the substantiation of economic and managerial decisions, facilitating the understanding of the realities within the organisations or markets analysed.

2.3 Methods for preliminary study and qualitative assessment of economic phenomena

The methods of qualitative analysis of economic phenomena are based on scientific abstraction and have as their basic object the knowledge of the elements and structural relationships, the size and evolution of these phenomena, and the determination of the factors and causes that influence an economic phenomenon. All of these can be analysed using qualitative methods that form the methodology for diagnosing an organisation's activity, reflected through: comparison, grouping, division and decomposition of results.

One of the most widespread methods is the *comparison method*, which is used *when the data examined is homogeneous and comparable.*

A. Comparison consists of studying economic and financial phenomena, processes and results through the prism of a reference criterion and establishing similarities and differences between them.

The analysis, thus, makes it possible to examine and assess economic results, not as quantities in themselves, but in relation to a criterion, a basis for comparison, establishing their levels, proportions and rates of development. The following categories of comparisons are used within entities:

- ***comparisons over time*** (comparing phenomena at different stages of their evolution);
- ***spatial comparisons*** (based on organisational structures, with results from the sector of activity or other companies with similar, competing activities);
- ***mixed comparisons***, both in time and space;
- ***comparisons based on a pre-established level***: programmes, norms, regulations, standards, contractual clauses, etc.;
- ***special comparisons*** that take place in determining the effectiveness of technical and economic measures or solutions (comparison of variants in order to choose the optimal one), etc.

When using this method, **at least the following conditions must be met**:

- the homogeneity of the data being compared must be ensured (the indicators compared must have the same economic content and the same methodology for determination);
- the analysis must refer to the same period of time (year, half-year, quarter, month, etc.).

The results of the comparison are reflected in values that show the extent to which the actual level of the phenomenon changes from the base level. The following ***indicators*** can be used to highlight the change in any phenomenon in dynamics:

I. Absolute indicators. The analysis of the phenomenon in absolute terms can be examined through its evolution over different periods of time using the absolute deviation.

The absolute deviation of the phenomenon (ΔA) – represents the difference between the actual level and the reference value (taken as a basis for comparison) of the same phenomenon or economic result, expressed in the unit of measurement of the given indicator. In economic practice, there are two variants for calculating this indicator:

- ✓ *Absolute deviation with a fixed base* – calculated as the difference between the absolute level of the phenomenon in a series and a constant

level. As a rule, the initial level of the series, (A_0)., is used as the reference level. The calculation formula is:

$$\Delta A_{n/0} = A_n - A_0 \qquad (2.2)$$

Significance: In dynamics, the absolute deviation with a fixed base shows in absolute terms by how many units the indicator under review has changed (increased or decreased) in the current period compared to the period taken as a basis for comparison.

- ✓ *Chain-based absolute deviation* – calculated as the difference between each successive level (A_n) and its predecessor $\left(A_{n\text{-}1}\right)$, using the following formula:

$$\Delta A_{n/n\text{-}1} = A_n - A_{n\text{-}1} \qquad (2.3)$$

Significance: The absolute deviation with a chain base shows the increase$(+)$ or decrease$(-)$ in absolute terms of the indicator from one period to another.

Where: A_n - the actual level of the phenomenon; A_0 –the level of the phenomenon in the base period. $A_{n\text{-}1}$ – the level of the phenomenon in the previous period.

Absolute indicators are expressed in the unit of measurement of the analysed characteristic (in physical units, values, percentages, etc.).

II. Relative indicators. Relative values, based on indices, are used to analyse the evolution of the phenomenon studied over time and show how many times the actual level of the phenomenon or economic result analysed has increased or decreased in relation to the level considered as a basis for comparison. Relative indices $(\mathrm{I_A})$ are calculated as the ratio between successive absolute levels and a certain level used as a basis for comparison. Depending on the selected basis for comparison, we can use two calculation variants:

- ✓ *Relative values with a fixed base* - determined as the ratio between the successive absolute levels of the indicator and the reference indicator used as a basis for comparison, using the following formula:

$$I_{A_{n/0}} = \frac{A_n}{A_0} \qquad (2.4)$$

✓ *Relative values with a chain base* - calculated as the ratio between each successive indicator and its predecessor, expressed as follows:

$$I_{A_{n/n\text{-}1}} = \frac{A_n}{A_{n\text{-}1}} \qquad (2.5)$$

Where: A_1 - the current level of the indicator; A_0 – the base level of the indicator; $A_{n\text{-}1}$ - the previous level of the indicator.

Reactive values can be expressed as a coefficient or as a percentage.

III. *Rate of change (increase or decrease)*. The rate of change (increase or decrease), also known as the rate of change, shows the percentage change (increase or decrease) in the magnitude of the phenomenon over a certain period of time compared to a fixed or moving reference period. It has two forms of calculation: the fixed-base rate of change and the chain-base rate of change [6, p. 62].

✓ *The fixed-base rate of change* is calculated as the ratio between the absolute fixed-base change and the level recorded in the base period:

$$R_{n/0} = \frac{A_n\text{-}A_0}{A_0} \times 100 = I_{A_{n/0(\%)}} - 100 \qquad (2.6)$$

✓ *The chain-based rate of change* is calculated as the ratio between the absolute chain-based change and the respective basis of comparison:

$$R_{n/n\text{-}1} = \frac{A_n\text{-}A_{n\text{-}1}}{A_{n\text{-}1}} \times 100 = I_{A_{n/n\text{-}1(\%)}} - 100 \qquad (2.7)$$

The rate of change (increase or decrease) is expressed as a percentage.

B. <u>Division or decomposition of results</u> – consists in decomposing the studied phenomena and processes into their constituent elements. This broadens the scope of research on these elements, thus establishing the contribution of each to the overall change in the studied phenomena and to the location in time and space of the origin of the result and its causes. The results of the enterprise's activity, reflected in various economic and financial indicators, are divided and broken down to ensure their in-depth study and to evaluate reality in a relevant manner. <u>The following types of breakdown are distinguished in the diagnostic analysis</u>:

➢ ***decomposition in time*** – division according to the time of formation of the result: through which the contribution of any unit of time to the formation of the total result is located and deviations from the general trend of manifestation of the

phenomenon in time are highlighted; (decomposition of annual turnover by time divisions (quarter, month, day);

➢ ***decomposition in space*** – division of the phenomenon according to the place of formation of the result: this stems from the function of the analysis to signal places where the effect obtained does not correspond to the conditions created, but where there is room for improvement (e.g. division of turnover by operational structures or geographical areas);

➢ **decomposition into component elements** – division into parts or component elements: ensures the investigation of essential aspects of the formation and development of the phenomenon, allows for the in-depth analysis of component elements as a preparatory condition for correlated grouping and measurement of the causal links between factors (e.g. breaking down annual turnover by time divisions (quarter, month, day);

C. Grouping. In the diagnostic process, it plays an essential role and is a research method that consists of separating the researched community into homogeneous categories of units, according to the variation of one or more characteristics. The selection of the grouping characteristic is carried out according to the purpose of the research, the essence of the economic and financial phenomenon studied, and involves a multilateral analysis of it. As a rule, two types of grouping are encountered in analytical practice:

- Analytical grouping – applied to highlight the interdependence between the grouping criteria and the result indicator. These groupings make it possible to establish the qualitative influence of factors on the change in economic indicators. Analytical groupings can be of two types:
  - ✓ *simple grouping* – when homogeneous indicators are grouped according to a single criterion (e.g. grouping employees by length of service);
  - ✓ *combined (analytical) grouping*, which provides for several criteria for grouping indicators. (e.g. grouping employees by: length of service, qualification level, age, gender);
- *structural grouping – allows the composition of the analysed indicator to be studied.*

In most cases, this method is used by creating analytical tables, which differ in content both classically and methodologically.

D. Benchmarking is an analytical tool that goes beyond sectoral studies, making direct comparisons between the functional or operational processes of companies belonging to different sectors in order to identify sources of competitive advantage. In economic practice, benchmarking is a genuine state of mind that

stimulates managers and staff in their constant search for progress. It often becomes an integral part of a company's culture [7].

Benchmarking is carried out in five stages [8, p.52]:

1) ***The planning stage****, which involves:*
   - identifying the key processes on which the study will focus, based on their economic impact, their economic impact, their strategic importance for the future and the receptiveness of employees to change;
   - identifying the best managerial performance and practices;
   - identifying the possibilities and concrete means of applying these practices in the analysed enterprise.

2) **The analysis stage** involves:
   - determining the major differences compared to the benchmark leader;
   - setting performance targets for the coming period.

3) **Integrating new management methods and techniques**, i.e.:
   - establishing an action plan to achieve the set objectives;
   - specifying the necessary means, in line with the objectives and the action plan.

4) **The action itself**, by:
   - implementing the actions set out;
   - monitoring/reporting on the various results.

5) **Benchmarking evaluation and validation of the effectiveness of the results.**

Benchmarking naturally finds its place in activities related to the internal functioning of the enterprise. It is undoubtedly a very good tool for reducing the costs of cross-functional activities, promoting value-creating processes, and increasing the degree of satisfaction of external partners' expectations.

2.4 Quantitative analysis methods

Quantitative analysis methods are used to measure the contribution of factors and components to changes in the phenomenon under study. The use of different types of procedures to determine the influence of factors on the result indicator depends on the type of dependence between the factors and the result indicator. There are two known types of dependence:

a) ***Determined*** (functional) – assumes that the link between factors and the result indicator can be expressed by a formula, and the magnitude of the influence

of factors can be calculated with high accuracy. There are three forms of determined link:

1. *Additive* – in this case, the indicators characterising the results are expressed as a sum, difference or sum and difference from the component elements. The mathematical expression of this relationship:

$$A=a+b; \qquad A=a-b; \qquad A=a+b-c; \tag{2.8}$$

Where: A – analysed indicator;

a, b, c – influencing factors.

2. *Multiplicative* – when the factors correlate with each other in the form of a product or ratio of factors. Mathematical formula:

$$A=a\times b; \qquad A=\frac{a}{b}; \tag{2.9}$$

3. Combined – here, the first and second types of relationship are used simultaneously. The mathematical model can be:

$$A=\frac{a\cdot b}{a\cdot c}; \qquad A=\frac{a+b}{c}; \qquad A=(a+b)\times c; \tag{2.10}$$

b) **Stochasticity** reflects the variation of the dependent variable under the influence of independent factors (variables). In this case, the purpose of the analysis is to estimate the nature of this dependence and the degree of influence of the factors on the dependent variable using economic mathematical methods and calculation techniques.

In analytical practice, the influence of factors can be assessed using the following quantitative methods:

1. The balance method (input-output method) – used in situations where there are sum and/or difference relationships between the elements of the analysed phenomenon. This technique aims to ensure proportions and a balance between resources and needs in different areas of activity (balance of material costs, balance of income and expenditure, etc.).

The balance method is applied in the following cases:

1. when calculating the influence of factors on the change in the result indicator, in the additive form of connection;
2. when verifying calculations made using traditional methods of economic analysis. The verification consists of: the absolute deviation of the result indicator must be equal to the sum of the influence of the factors;

3. when measuring the influence of a factor, the determination of which involves difficulties, while the influence of other factors is known.

Let the relationship be:

$$F = a + b - c; \qquad (2.11)$$

where:

F – is the analysed phenomenon (result indicator);

a, b, c – are the elements (factors) that influence the phenomenon

The analysis of any phenomenon can be carried out both in absolute and relative terms.

a. Analysis of the phenomenon in absolute terms.

The change in any phenomenon is determined as the difference between its actual value and the reference value.

$$\Delta F = F_1 - F_0 = (a_1 + b_1 - c_1) - (a_0 + b_0 - c_0) \qquad (2.12)$$

Where: F_1 – the actual value of the phenomenon; F_0 – the initial value of the phenomenon

$\Delta F_{(a)} = a_1 - a_0$ - influence of factor *a* on the phenomenon

$\Delta F_{(b)} = b_1 - b_0$ - influence of factor *b* on the phenomenon

$\Delta F_{(c)} = -(c_1 - c_0)$ - influence of factor *c* on the phenomenon

The sum of the influence of the factors can be determined by the relation:

$$\Delta F = \Delta F_{(a)} + \Delta F_{(b)} + \Delta F_{(c)} \qquad (2.13)$$

b. Analysis of the phenomenon in relative terms *[2]*

The index of a phenomenon (IF) is determined as the ratio between its actual value and its reference value, as follows:

$$I_F = \frac{F_1}{F_0} \times 100 \qquad (2.14)$$

Similarly, the indices of the elements that contribute to the modification of the analysed phenomenon are determined as follows:

$$i_a = \frac{a_1}{a_0} \times 100; \quad i_b = \frac{b_1}{b_0} \times 100 \quad i_c = \frac{c_1}{c_0} \times 100; \qquad (2.15)$$

The change in relative magnitude of the analysed phenomenon is also determined as follows:

$$\triangle I_F = I_F - 100 \quad (2.16)$$

A more in-depth analysis may also involve determining the relative contribution of each element to the absolute increase (the change in the phenomenon under analysis), as follows:

1. Contribution of the change in element "a":

$$\%\triangle_a^{\triangle F} = \frac{\triangle a}{F_0} \times 100; \quad (2.17)$$

2. Contribution of the change in element "b":

$$\%\triangle_b^{\triangle F} = \frac{\triangle b}{F_0} \times 100; \quad (2.18)$$

3. Contribution of the change in element "c":

$$\%\triangle_c^{\triangle F} = \frac{\triangle c}{F_0} \times 100; \quad (2.19)$$

2. <u>Chain substitution method</u> **–** The chain substitution method involves the successive replacement of the plan value (base period) of a factor with its actual value in a given relationship, assuming that the other factors at that moment are factors with permanent action. Each change is called a substitution. After each substitution, we obtain a new value for the resulting indicator. The substitution begins with "zero" when only the base values of the factors are included in the analytical formula and ends with the change in the value of the last factor, taking into account that only one factor changes with each substitution. The application of this method requires compliance with a certain rule:

- The factors in the analysis model are ordered according to their economic conditioning ratios on the analysed indicator, which means that in the factorial model, the quantitative factors are arranged first, then the structural factors, and finally the qualitative factors;
- Substitution is done successively – first we substitute the quantitative factor, then the qualitative factor;
- The substituted factor remains at its actual value until the end;
- The factor that is not substituted is taken at its base value.

The influence of each factor on the change in the resultant indicator is determined as the difference between the value of the indicator obtained when substituting the respective factor and the previous value of the indicator. The analytical formula will be:

$$A=a\cdot\times b\cdot\times c\times d \qquad (2.20)$$

d- qualitative factor.

The influence of the factors in the model can be determined using the following analytical table:

Table 2.1. **Scheme for calculating the influence of factors using the chain substitution method**

No. of qual.	No. of subs.	Correlated factors				Analysed indicator	Calculation of factor influence	Result of factor influence (+/-)	Name of influencing factor
		a	b	c	d				
1	0	a_0	b_0	c_0	d_0	A_0	-	-	-
2	1	a_1	b_0	c_0	d_0	A_1	$A_1 - A_0$	$\triangle A_a$	Δa
3	2	a_1	b_1	c_0	d_0	A_2	$A_2 - A_1$	$\triangle A_b$	Δb
4	3	a_1	b_1	c_1	d_0	A_3	$A_3 - A_2$	$\triangle A_c$	Δc
5	4	a_1	b_1	c_1	d_1	A_4	$A_4 - A_3$	$\triangle A_d$	Δd

Source: author's own elaboration.

BIF – balance of verification of the influence of factors

$$BIF=\triangle A_a+\triangle A_b+\triangle A_c+\triangle A_a = A_4 - A_0 \qquad (2.21)$$

The sum of the influence of the factors must be equal to the deviation of the resulting indicator. *For ~~an~~ example, see Annex 2, Application No. 1.*

3. <u>The absolute difference method</u> is a variation of the chain substitution method and is applied only under conditions of multiplicative factorial linkage. The absolute difference method is used as both a simple and a complex method:

a) ***The simple method*** is used when two factors influence the indicator, and its essence lies in the fact that, first, the influence of the quantitative factor is determined, and then the influence of the qualitative factor. The calculation relationship is as follows:

$$A=a\times b; \qquad (2.22)$$

a- quantitative factor, b- qualitative factor.

Rules for calculating the influence of factors:

- The influence of the quantitative factor is determined by multiplying the absolute deviation of this factor by the base value of the qualitative factor.

$$\Delta Aa=(a_1-a_0)\times b_0 \qquad (2.23)$$

- The influence of the qualitative factor shall be determined by multiplying the absolute deviation of this factor by the effective value of the quantitative factor.

$$\Delta Aa=(b_1-b_0)\times a_1; \qquad (2.24)$$

The influence of the factors in the model can be determined using the following analytical table:

Table 2.2. **Scheme for calculating the influence of factors on the change in the resultant indicator (ΔA), using the absolute difference method in a two-factor system**

No.	Indicators	Previous year	Current year	Absolute deviation; (+/-)	Including under the influence of	
					Δa	Δb
1	A	A_0	A_1	ΔA	ΔAa	ΔAb
2	a	a_0	a_1	Δa		
3	b	b_0	b_1	Δb		

Source: author's own elaboration.

$$\Delta Aa=\Delta a\times b_0 \qquad \Delta Ab=\Delta b\times a_1 \qquad (2.25)$$

Balance sheet for checking the influence of factors:

$$BIF=\Delta A=A_1-A_0=\Delta Aa+\Delta Ab \qquad (2.26)$$

For an example, see Annex 2, Application No. 2.

b) ***The composite method*** is applied when three or more factors influence the resultant indicator. The influence of the factors is calculated by multiplying the absolute deviation of the respective factor by the actual values of the factors in the calculation formula before it and by the base values of the factors in the formula after it, using the following calculation formula:

$$A=a\times b\times c\times d\times e \qquad (2.27)$$

The methodology for calculating the influence of factors shall be determined as follows:

$$\Delta A_a = \Delta a \times b_0 \times c_0 \times d_0 \times e_0 \quad (2.27.1)$$
$$\Delta A_b = a_1 \times \Delta b \times c_0 \times d_0 \times e_0 \quad (2.27.2)$$
$$\Delta A_c = a_1 \times b_1 \times \Delta c \times d_0 \times e_0 \quad (2.27.3)$$
$$\Delta A_d = a_1 \times b_1 \times c_1 \times \Delta d \times e_0 \quad (2.27.4)$$
$$\Delta A_e = a_1 \times b_1 \times c_1 \times e_1 \times \Delta e \quad (2.27.5)$$

Where:

$$\Delta a = a_1 - a_0 \quad (2.27.7)$$
$$\Delta b = b_1 - b_0 \quad (2.27.8)$$
$$\Delta c = c_1 - c_0 \quad (2.27.9)$$
$$\Delta d = d_1 - d_0 \quad (2.27.10)$$
$$\Delta e = e_1 - e_0 \quad (2.27.11)$$

Table 2.3. **Scheme for calculating the influence of factors on the change in the resultant indicator (ΔA), using the method of absolute differences in a multi-factor system**

No.	Factors	Calculation method	Calculation of the influence of factors	Result of the influence of factors (+/)
1	a	$\boldsymbol{\Delta a} \times b_0 \times c_0 \times d_0 \times e_0$		ΔA_a
2	b	$a_1 \times \boldsymbol{\Delta b} \times c_0 \times d_0 \times e_0$		ΔA_b
3	c	$a_1 \times b_1 \times \boldsymbol{\Delta c} \times d_0 \times e_0$		ΔA_c
4	d	$a_1 \times b_1 \times c_1 \times \boldsymbol{\Delta d} \times e_0$		ΔA_d
5	e	$a_1 \times b_1 \times c_1 \times e_1 \times \boldsymbol{\Delta e}$		ΔA_e

Source: author's own elaboration.

Balance sheet for checking the influence of factors:

$$BIF = \Delta A_a + \Delta A_b + \Delta A_c + \Delta A_d + \Delta A_e = A_1 - A_0 \quad (2.28)$$

For-example, see Annex 2, Application No. 3.

4. <u>The relative difference method</u> is applied when we do not have the values of the factors in the analytical formula of the result indicator, but we have information about the indicators on which the factors are calculated. It is also

applied to calculate the influence of factors only in cases of multiplicative relationships.

The influence of factors on the resultant indicator using the relative difference method will be determined as follows:

$$\Delta A_X = \frac{\Delta\% \cdot A_0}{100} \qquad (2.29)$$

Where:

ΔA_X - deviation of the resultant indicator under the influence of the respective factor (*x-factors*, a; *b, c*..):

$\Delta\%$- the percentage difference between the actual value and the base value of the previous indicator for calculating the value of the respective factor and the percentage on the previous indicator. For the first factor, the difference is taken from 100%.

A_0- the result indicator at the base value.

The application of this method of relative differences is reflected in Table 2.8.

Table 2.4. **Scheme for calculating the influence of factors on the change in the resultant indicator(ΔA) , using the relative difference method**

Indicators	**Growth rate (%)**	**Percentage difference %**	**Calculation of the influence of factors**	**Result of the influence of factors (+/-)**	**Name of influencing factor**
Number of workers (AE)	a	$a\text{-}100=\Delta\%\times a$	$\frac{\Delta\% a \times A_0}{100}$	ΔA_a	(ΔN_m)
Number of days worked by a worker per year (WD)	b	$b\text{-}a=\Delta\%\times b$	$\frac{\Delta\% b \times A_0}{100}$	ΔA_b	(ΔN_z)
Length of a working day (HWD)	c	$c\text{-}b=\Delta\%\times c$	$\frac{\Delta\% c \times A_0}{100}$	ΔA_c	(ΔD_h)

Average hourly productivity of a worker (LP_h)	d	$d-c=\Delta\%\times a$	$\frac{\Delta\% d\times A_0}{100}$	ΔA_d	$(\Delta \overline{W}_h)$

Source: author's own elaboration.

Balance sheet for checking the influence of factors:

$$BIF=\Delta A=\Delta A_a+\Delta A_b+\Delta A_c+\Delta A_a \qquad (2.30)$$

5. Integral method. The improvement of factor analysis was aimed at eliminating the shortcomings of the chain substitution method and its variants. The most rational method of eliminating these shortcomings was proposed by the integral method. When using the integral method, it is not necessary to maintain any sequence, i.e. the substitution of factors is performed in any order, which is the priority of this method. The factorial system for the multiplicative form of connection takes the form:

a) for the factorial system of two factors

$$A=a\cdot b; \qquad (2.31)$$

The calculation of the influence of factors is determined by the following relations:

$$\Delta A_a=\frac{1}{2}\Delta a\times(b_0+b_1) \qquad (2.31.1)$$

$$\Delta A_b=\frac{1}{2}\Delta b\times(a_0+a_1)$$ *for the factorial system of three factors:* (2.31.2)

b) for the factorial system of three factors:

$$A=a\cdot b\cdot c \qquad (2.32)$$

In the factorial system with three factors, the following calculation relationships will be applied:

- $\Delta A_a=\frac{1}{2}\Delta a\cdot(b_0\cdot c_1+b_1\cdot c_0)+\frac{1}{3}\Delta a\cdot\Delta b\cdot\Delta c$ (2.32.1)
- $\Delta A_b=\frac{1}{2}\Delta b\cdot(a_0.c_1+a_1\cdot c_0)+\frac{1}{3}\Delta a\cdot\Delta b\cdot\Delta c$ (2.32.2)
- $\Delta A_c=\frac{1}{2}\Delta c\cdot(a_0.b_1+a_1\cdot b_0)+\frac{1}{3}\Delta a\cdot\Delta b\cdot\Delta c$ (2.32.3)

a,b- factors; Δa,Δb-deviations from the baseline .

The integral method is applied in diagnostic analysis in cases where it is

necessary to calculate the exact influence of factors on the resultant indicator. In the view of some authors, the integral method does not represent, but offers a continuous development of the chain substitution method. *For example, see Annex 2, application no. 4.*

6. <u>The quota participation method</u> consists in calculating the influence of detailed factors on the resultant indicator in proportion to the extent to which they affect the change in the first-degree factor [10].

For example, *return on assets* can be determined using the formula:

$$ROA = \frac{PBT}{\overline{TA}} \times 100\% \qquad (2.33)$$

PBT – profit before tax – general factor.

$\overline{TA}$ – *average total assets* – general factor.

The influence of general factors on changes in economic profitability can be determined using the following relationships:

$$\Delta ROA^{PBT} = \left(\frac{PBT_{(1)}}{\overline{TA}_{(1)}} - \frac{PBT_{(0)}}{\overline{TA}_{(1)}}\right) \times 100\% \qquad (2.33.1)$$

$$\Delta ROA^{\overline{TA}} = \left(\frac{PBT_{0)}}{\overline{TA}_{(1)}} - \frac{PBT_{0)}}{\overline{TA}_{(0)}}\right) \times 100\% \qquad (2.33.2)$$

Given that it is necessary to determine the influence of detailed factors on profit before tax for the management period, this system can be presented as follows:

$$ROA = \frac{OR + FR + RNCEA}{\overline{FA} + \overline{C}A} \times 100\% \qquad (2.34)$$

Where:

OR - Operating result (profit/loss)

FR - Financial result (profit/loss)

RNCEA - Result from non-current and exceptional asset transactions;

$$\overline{TA} = \overline{NCA} + \overline{CA} \qquad (2.35)$$

Where:

$\overline{NCA}$- average value of non-current assets

$\overline{CA}$- average value of current assets

All components of the numerator and denominator of the formula $(2,34)$ represent detailed factors related to the change in profit for the management period before taxation on economic profitability.

The calculation of the influence of each factor on the analysed indicator will be determined by multiplying the absolute deviation of the respective factor by its participation coefficient according to the following relationship:

$$\Delta \text{ROA}^{\text{OR}} = \Delta \text{OR} \times \frac{\Delta \text{ROA}^{\text{PBT}}}{\Delta \text{PBT}} \qquad (2.36)$$

Where: $\frac{\Delta \text{ROA}^{\text{PBT}}}{\Delta \text{PBT}}$ - represents the coefficient of participation of the profit for the management period before taxation in the economic profitability. From an economic point of view, this indicator reflects the variation, expressed in percentage points, of the economic profitability in the event of an increase or decrease in profit before taxation by 1 000 lei.

The application of this method is reflected in Table 2.5.

Thus, Table 2.5 presents in a synthetic and structured form the calculation of the influence of the determining factors on the analysed indicator. The impact assessment is carried out by applying the proportional participation method (by share), which consists in distributing the total variation of the indicator according to the weight of each factor. This approach allows for a rigorous assessment of the relative contribution of each component to the overall change in the phenomenon studied, thus facilitating a more in-depth analytical interpretation of the results.

Table 2.5. **Scheme for calculating the influence of factors on profitability, according to the proportional participation (quota) method**

Indicators	**Influence share, (+/-)**	**Calculation of the influence of factors**	**Result of influence (+/-, p.p.)**
1. Change in pre-tax profit and profitability level under the influence of:	ΔPBT	Participation coefficient: $\frac{\Delta \text{ROA}^{\text{PBT}}}{\Delta \text{PBT}}$	$\Delta \text{ROA}^{\text{PBT}}$
1.1 Result from operating activities (OR)	ΔOR	$\Delta \text{OR} \times \frac{\Delta \text{ROA}^{\text{PBT}}}{\Delta \text{PBT}}$	$\Delta \text{ROA}^{\text{OR}}$

1.2 Result from financial activity (FR)	ΔFR	$\Delta FR \times \frac{\Delta \text{ROA}^{\text{PBT}}}{\Delta \text{PBT}}$	$\Delta \text{ROA}^{\text{FR}}$
1.3 *Result from non-current and exceptional asset transactions* $(RNCEA)$	$\Delta RNCEA$	$\Delta RNCEA \times \frac{\Delta \text{ROA}^{\text{PBT}}}{\Delta \text{PBT}}$	$\Delta \text{ROA}^{RNCEA}$
Change in average asset value and inclusive profitability level under the influence of:	$\Delta \overline{TA}$	Participation coefficient: $\frac{\Delta ROA_{\overline{TA}}^{\overline{TA}}}{\Delta \overline{TA}}$	$\Delta \text{ROA}^{\overline{\text{TA}}}$
2.1 Current assets	$\Delta \overline{\text{CA}}$	$\Delta \overline{\text{CA}} \times \frac{\Delta ROA_{\overline{TA}}^{\overline{TA}}}{\Delta \overline{TA}}$	$\Delta \text{ROA}^{\overline{CA}}$
2.2 Non-current assets	ΔNCA	$\Delta \overline{\text{FA}} \times \frac{\Delta ROA_{\overline{TA}}^{\overline{TA}}}{\Delta \overline{TA}}$	$\Delta \text{ROA}^{\overline{NCA}}$

Source: author's own elaboration.

Balance sheet verifying the influence of the detailed factors:

$$BIF(\Delta \text{ROA}^{\text{PBT}}) = \Delta \text{ROA}^{\text{OR}} + \Delta \text{ROA}^{\text{FR}} + \Delta \text{ROA}^{RNCEA} \quad (2.37)$$

$$BIF(\Delta \text{ROA}^{\overline{\text{TA}}}) = \Delta \text{ROA}^{\overline{CA}} + \Delta \text{ROA}^{\overline{NCA}} \quad (2.38)$$

For example, see Appendix 2, Application No. 5.

7. <u>Regression analysis method</u>: This is used to determine the influence of factors on a phenomenon when there are stochastic relationships between a phenomenon and factors [2].

The application of the regression analysis method requires the following steps:

- Establishing the economic content of the analysed phenomenon(y) and the influencing factors$(x_1, x_2, ..., x_n)$ based on a qualitative analysis;
- Determining the causal link between the phenomenon and the factors and its mathematical formula (regression equation), which can be:
  - Linear: $y_x = a + b_x$; (2.39)
  - Hyperbolic: $y_x = a + \frac{b}{x}$; (2.40)
  - Parabolic: $y_x = a + b \cdot x + c \times x^2$; (2.41)
  - Exponential: $y_x = a \cdot \times b^2$ (2.42)

Where:

a and $b;c;$ - represent the parameters. Determining the value of the regression equation parameters using the least squares method;

- Determining the intensity of the link between the analysed phenomenon and the influencing factors, which allows the essential and non-essential factors to be distinguished. This is calculated using the correlation coefficient(r_{yx}) or the correlation ratio:

$$r_{yx}=\frac{n\sum x\cdot y-\sum x\cdot\sum y}{\sqrt{[n\cdot\sum x^2-(\sum x)^2]\times[n\cdot\sum y^2-(\sum y)^2]}} \quad (2.43)$$

- Highlighting the influence of factors on the analysed phenomenon using the coefficients of determination(dy_x) .

The effective application of the correlation method in the diagnostic process requires in-depth knowledge of the phenomena and processes studied, including the mathematical and logical basis of correlation, in order to develop forecasts on the evolution of phenomena.

2.5 Structural analysis methods

Structural analysis methods in diagnostic analysis serve to highlight the contribution of different components to the formation or modification of the results of various economic phenomena of an enterprise. Among the most frequently used in the practical activity of an enterprise are:

1. The ABC method was based on the observation that investigating a phenomenon by giving equal weight to its components requires unjustifiably large efforts compared to the structural analysis of the elements correlated with their importance. Thus, statistical research has shown that a very significant percentage of results are determined by a small number of components (influencing factors). The ABC method allows for a selective analysis of the components of a phenomenon or result based on their position within the whole.

The main steps to be taken in applying the ABC method are:

- ✓ defining the phenomenon and its specific parameter;
- ✓ establishing the values of the specific parameter;
- ✓ classifying the components of the investigated phenomenon according to ABC logic (in descending order of the specific parameter);
- ✓ determining the cumulative value of the specific parameter;
- ✓ determining the three ABC significance groups;

- ✓ graphical representation of the phenomenon using the ABC curve;
- ✓ interpreting the results and proposing measures to improve efficiency.

The ABC method is frequently used in the analysis of stocks, costs, the company's bargaining power with suppliers and customers, turnover, etc.

In the case of product sales structure analysis, the theoretical curve assumes the existence of three subgroups with specific characteristics:

- ✓ 10-15% of the number of products or goods account for 60-70% of sales revenue (Zone A); therefore, a subgroup that includes very few products or goods but generates a large part of the sales revenue;
- ✓ 25-30% of the number of products or goods account for 25-30% of sales revenue (Zone B);
- ✓ 65-70% of the number of products or goods account for 10-15% of sales revenue (Zone C);

Based on these coordinates, the theoretical sales revenue curve can be represented graphically.

The actual curve, specific to each entity, does not perfectly match the theoretical one, although the trend remains the same. Moreover, the actual curve of an entity may change from one period to another.

Depending on the position of the actual curve relative to the theoretical curve, interpretations are made about the structure of economic activity:

- ➢ When the actual curve is above the theoretical curve, group A products account for a very significant share of sales revenue, and the range is limited;

When the actual curve is below the theoretical curve, the entity has a large number of items in groups B and C. *Forexample, see Appendix 2, Application No. 6.*

2. The Boston Consulting Group model (BCG model), also known as the B.C.G. matrix or growth-market share matrix, was developed by an American management consulting firm of the same name. This matrix is used to group the activities (products) in a company's portfolio into four categories, based on two criteria:

- **the growth rate of the market, activity (product)**. A threshold of 10% was considered to distinguish between a rapidly growing market and one that is growing slowly, stagnating or declining;
- **the relative market share** held by a company within that market. The differentiation threshold was set at 1.00, which distinguishes the company's leading products from its non-leading products.

Thus, depending on the quadrant in which the company's activities (products) are placed, they will bear suggestive names, allowing for their analysis.

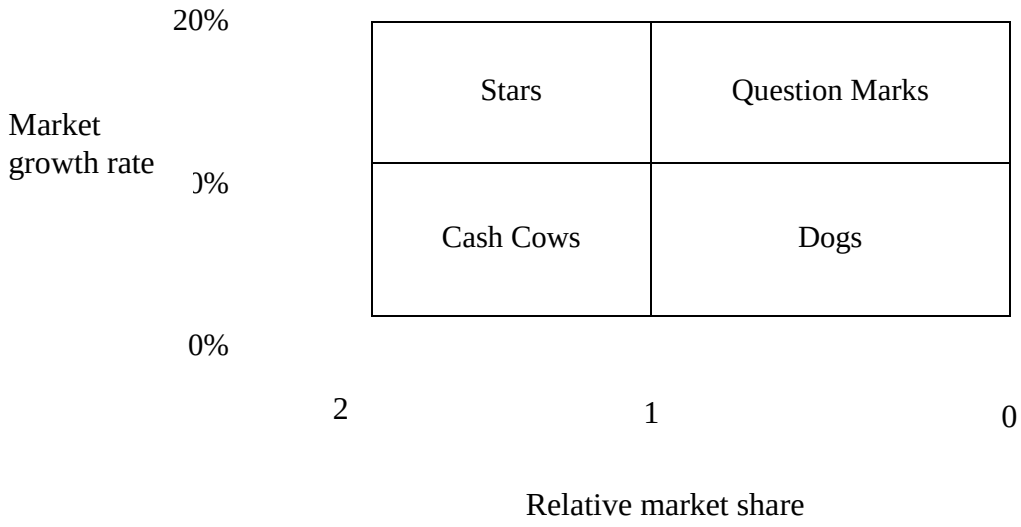

Fig.2.1 ***B.C.G. (Boston Consulting Group) matrix***

0-1 products with a low share
0-2 1-2 high-share products
0-3 0-10% products with low growth rate
0-4 10%-20% products with high growth rate

Products in the **"Dilemmas"** quadrant are products that operate in a rapidly growing market. These products require liquidity and contribute to the company's development, although their evolution is uncertain. Thus, "dilemmas" will be products in the launch phase, when it is not yet certain whether they will be successful or not.

"Stars" are products that operate in a rapidly growing market, where they hold a leading position. As a result, they contribute to the growth of the company's turnover and to the improvement of its image. As a rule, a product in the growth phase is placed in this quadrant.

"Cash cows" are products that occupy a leading position in a market that is growing slowly, stagnating or even declining. These products are certain assets of the company, in the sense that they generate profits and provide liquidity to finance other products located in other quadrants. A product in the maturity phase may be placed in this quadrant.

"Millstones" are products in a market that is growing slowly, stagnating or declining and which fail to hold a leading position. They do not contribute to the company's profits or to improving its image. As they require liquidity, the question arises as to whether to maintain or abandon them, but only after a rigorous analysis

of all economic and financial aspects. As a rule, a product in the decline phase is located in this quadrant.

2.6 Methods of strategic diagnosis

Strategic diagnosis is the process by which an organisation assesses its internal and external position in order to identify opportunities and threats in the business environment, as well as its own strengths and weaknesses. The main purpose of diagnosis is to formulate strategies adapted to the competitive environment and the organisation's capabilities.

Within strategic management, several established diagnostic methods are used, the most relevant of which are:

a) **SWOT analysis** (Strengths, Weaknesses, Opportunities, Threats) - allows for the simultaneous assessment of **internal** (strengths and weaknesses) and **external** (opportunities and threats) factors. This analysis helps the organisation identify its competitive advantages and vulnerabilities, as well as possible strategic directions.

For a more structured and objective approach, SWOT analysis can be performed based on **internal factor assessment matrices (IFEM)** and **external factor assessment matrices (EFEM)**.

The MEFI matrix is a strategic analysis tool used to assess an organisation's internal position, particularly in terms of its strengths and weaknesses. MEFI diagnosis steps:

1. Compiling a list of factors j representing strengths and weaknesses (5-10 factors);
2. Assign importance coefficients with values between 0-1, depending on the factor's influence on the company's success;
3. Each factor is assigned a score from 1 to 4 (1 and 2 represent major/minor weaknesses, and 3 and 4 represent minor/major strengths);
4. For each factor, the values are multiplied to obtain weighted scores.

If the accumulated score is less than 2, this means that the company is poorly developed internally, and if it is greater than 2, the opposite is true.

A similar matrix is also used for the MEFE external environment assessment matrix:

1. The main external factors are identified, numbering 5-10, which represent opportunities and threats;
2. The importance coefficients are determined as in the case of MEFI;

3. Each factor is assigned a score from 1 to 4, where 1 represents a serious threat, 2 represents a medium threat, 3 represents a medium opportunity, and 4 represents a high opportunity;
4. The product of the factors and the importance coefficient is calculated and the weighted score is determined.

If the score obtained is greater than 2, this implies that the company can respond to the demands of the external environment and vice versa. The company's strategy is determined based on the results obtained.

b) **PEST** (Political, Economic, Social, Technological) **analysis** examines the macroeconomic factors that influence the organisation's activity. It is useful for understanding the external context and anticipating trends that may indirectly affect competitiveness. PEST analysis can also be represented in matrix form (see Table 1), thus facilitating the structuring and interpretation of external influencing factors.

These factors – political, economic, social and technological – have a significant impact on the activity of enterprises and can directly influence their sustainable development directions in the economic and legislative context of the Republic of Moldova.

Table 2.6. **PEST analysis matrix.**

Political (P)	**Economic (E)**
Type of governance; Legislative stability; Law enforcement, bureaucracy, corruption; Trends in state involvement; Labour legislation; Political instability; Policy of cooperation with foreign organisations and neighbouring countries.	Current economic situation; Inflation, Refinancing rate and Interest rates; Globalisation; Unemployment rate; Labour demand; Labour costs; Disposable income.
Socio-cultural (S)	**Technological (T)**
Demographic situation; Employment patterns, attitude towards work; Health and education provision; Population mobility; Lifestyle; Probability of socio-cultural changes; Geographical location.	State policy in the field of technology; Impact of new technologies; Impact of the internet and reduction in communication costs; Research and development activity; Impact of technology transfer; Probability of technological changes over a medium-term period of 3-5 years.

Source: author's own elaboration.

Each factor is diagnosed by assigning it a certain importance coefficient – from one (most significant) to zero (insignificant). The sum must be equal to one. The degree of influence of each factor is assessed on a 5-point scale (5 – strong impact; 1 – no threat). The weighted average score is then calculated.

c) **Market segment analysis** is an essential process in marketing that involves identifying, understanding and evaluating the different consumer groups that make up a market. The aim is to tailor products, services and marketing strategies as closely as possible to the needs and preferences of a particular segment, rather than adopting a generalised approach. The stages of market segment analysis are:

1. Collecting market data
2. Market segmentation
3. Analysis of each segment
4. Selecting the target segment
5. Market positioning

Going through the stages of market segment analysis provides a clear picture of how a company can effectively tailor its products and marketing strategies to the real needs of consumers. By collecting relevant data, dividing the market into distinct segments, evaluating each segment, choosing the most appropriate target audience, and defining a competitive positioning, a company can build a solid, focused, and effective strategy. This approach increases the chances of commercial success and ensures a closer relationship with the ideal customer.

d) **Competitive analysis using Porter's 5 Forces model** is a fundamental tool in business strategy, used to assess the attractiveness and competitiveness of an industry. In this context, Michael E. Porter proposed a model based on five essential forces. These allow for an in-depth analysis of the competitive structure, highlighting the main sources of risk and opportunity in an organisation's external environment. Thus, the five forces that define the intensity of competition in an industry are:

1. The threat of new entrants;
2. Bargaining power of suppliers;
3. Bargaining power of customers;
4. Threat of substitutable products or services;
5. Intensity of competition between existing firms in the market.

The impact of competitive forces on an industry directly influences the ability of companies to set favourable prices and generate consistent profits. The stronger these forces are — whether it is intense rivalry, pressure from suppliers or customers, the threat of new entrants or substitutable products — the more limited the strategic room for manoeuvre becomes for companies.

Identifying these driving forces of competition requires a careful analysis of the environmental factors that determine the direction and pace of change in an industry. In this context, the concept of "market share" is essential, as it is frequently used as an indicator of a company's competitive position. It represents the share of a company's sales in the total sales of similar products in a given period.

By analysing market share, it is possible to identify the industry leader and the evolution of competitiveness among players. Changes in market share reflect changes in consumer preferences, the effectiveness of strategies or the emergence of new competitive advantages. In this sense, competition analysis is not limited to the current situation, but also involves anticipating the future behaviour of rivals, including their strategic intentions. This approach aligns perfectly with Porter's model, which emphasises the dynamics of competitive relationships and the need for companies to react proactively to changes in the external environment.

2.7 Sociological methods

Sociological methods are used to highlight indirect factors or certain premises that contribute to achieving results, providing essential information necessary for a correct and effective diagnosis. Among the tools that facilitate collaboration between analysts and managers are, in particular, questionnaires and interviews.

The questionnaire is an investigation technique that consists of asking a representative sample of managers and executives a set of clearly formulated questions with answer options covering a wide range of issues relevant to the diagnostic process.

Among the most common types of questionnaires are:

- Questionnaires with closed questions – in which the answers are specified in several options;
- Questionnaires with open-ended (free) questions – where the respondent answers in writing;
- Mixed questionnaires – which include both closed and open questions.

The requirements that must be met in order to use this method correctly are: the questions must be written in simple, accessible, clear language; they must be presented in a logical order; the content of the questionnaire must match the information needs of the different types of diagnosis (functional, global, strategic, etc.); a representative sample of respondents must be established;

Advantages of the questionnaire [12, p. 42–43]:

- *Less expensive compared to interviews;*

- *Quick distribution to potential respondents;*
- *Can be completed at the time and pace preferred by respondents;*
- *Analysis of results is faster and easier;*

The following *limitations* can be noted:

- Difficulty in obtaining relevant information about the structure, behaviour and context in which the organisation operates;
- Impossibility of providing explanations to respondents for certain questions considered difficult;
- Limited number of questions asked in the questionnaire;
- Subjectivity in providing answers
- The high proportion of unanswered questions, compared to the interview.

The interview is an active method of learning that allows the identification, through open discussions, of the dysfunctions faced by staff and the courses of action to eliminate them. [12, p.95]

Conducting a successful interview requires compliance with certain rules: clear and open formulation of the interview; avoidance of value judgements by the analyst; formulation of a reasonable number of questions; pursuit of information relevant to the diagnosis, etc. (Isac Claudia, p.95)

The advantages of the interview are [12, p.43-45]:

- It covers a wide range of topics;
- High degree of flexibility and adaptability during the interview;
- High response rates;
- Additional explanations for some answers, at the request of the interviewer;
- Responses can be detailed.

Disadvantages of the interview:

- Interviews are much more expensive and time-consuming;
- The sample investigated is smaller;
- High subjectivity of respondents;
- Tendency to manipulate interviewees;
- Difficulties in conducting the interview effectively due to the interviewee's current state (indisposition, physical or nervous fatigue).

By using tools such as questionnaires and interviews, managers can access relevant and indirect information that is essential for making a correct and effective diagnosis. These sociological methods complement objective analysis, providing valuable qualitative insights that are necessary for formulating realistic strategies that are well adapted to the specific context.

Self-assessment questions:

1. What are analytical indicators and what is their role in diagnostic analysis?
2. How are analytical indicators classified according to the unit of measurement?
3. How do quantitative indicators differ from qualitative indicators?
4. Explain the difference between general indicators and secondary indicators.
5. What types of resources are included in the category of a company's resources?
6. Explain how factors are divided according to their predictability.
7. What does a quantitative factor and a qualitative factor entail?
8. Describe the comparison method and the areas in which it is applied.
9. What are the conditions for the correct application of the comparison method?
10. Explain the balance sheet (input-output) method and in what contexts it is applied.
11. What does the chain substitution method consist of? List the rules that must be followed when applying it.
12. How is the absolute difference method used in a two-factor system?
13. What are the advantages of the relative difference method?
14. What is the integral method and what is its main benefit?
15. Define the quota participation method and explain in which situations it can be applied.

Self-assessment tasks:

1. List the main methods used in business management diagnostics.
2. Apply the SWOT method to perform a simplified analysis of a company in a sector of your choice.
3. Develop a management diagnosis plan that includes at least two methods and three different tools.
4. Create a questionnaire for assessing managerial performance in a medium-sized enterprise.
5. Propose your own model for combining the SWOT and PEST methods in an integrated diagnosis.

Multiple-choice self-assessment test:

1. **What classification is made according to the content of the indicators?**
   a) natural, value-based, conditional-natural
   b) quantitative and qualitative

c) general and secondary
d) natural and value-based

2. **Secondary indicators**:
   a) reflect the entire economic process
   b) present only certain aspects of the process
   c) are expressed in monetary units
   d) are exclusively quantitative
3. **Exogenous factors** are:
   a) determined by the company
   b) external to the company environment
   c) purely quantitative
   d) only structural
4. **The comparison method** does not involve:
   a) comparison over time
   b) comparison in space
   c) grouping of indicators
   d) comparison with pre-established standards
5. **The balancing method** is used in the case of:
   a) multiplicative relationships
   b) additive or difference relationships
   c) SWOT analysis
   d) symbolic modelling
6. **The equation $\Delta F = \Delta a + \Delta b + \Delta c$** is specific to the method:
   a) relative differences
   b) balancing
   c) absolute differences
   d) chain substitutions
7. **In the quota participation method**, the influence of factors is calculated:
   a) in proportion to the change in an intermediate factor
   b) simple additive
   c) total percentage
   d) only for qualitative factors
8. **Integral method**:
   a) requires a strict order of substitution
   b) allows substitution in any order
   c) is only qualitative
   d) does not apply to multiplicative relationships
9. **The following belongs to the category of enterprise resources**:
   a) the psychological factor

b) human resources
c) the structural factor
d) external reserves

10. **Conditional-natural indicators** are examples such as:
a) litres (l)
b) lei
c) pieces or boxes
d) efficiency

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TOPIC 3. MANAGERIAL DIAGNOSIS OF THE COMPANY'S ASSETS. MANAGERIAL AND DECISION-MAKING SIGNIFICANCE IN BUSINESS ADMINISTRATION

Expected learning outcomes: RI 11; RI14		
Knowledge/content units	**Skills**	**Responsibility and autonomy**
Content units: 3.1 Characteristics of the company's asset situation 3.2 Assessment of the size and evolution of the company's available assets 3.3 Structural analysis of assets in the enterprise 3.4 Diagnosis of net assets as a basis for effective managerial decisions 3.5 Assessment of asset turnover efficiency from a managerial and decision-making perspective	✓ describes the company's financial situation; ✓ defines net assets and their role in management; ✓ explain asset turnover as an indicator of efficiency; ✓ determine the procedures for diagnosing the asset situation; ✓ integrates into practice (in certain case situations) the application of indicators for diagnosing the financial situation; ✓ apply methods for evaluating the efficiency of asset turnover; ✓ formulate managerial decisions based on asset diagnostics.	The student independently performs specific financial management functions at the level of the economic entity, formulating constructive proposals for the rational use of financial resources and for improving business results. The student is responsible for identifying alternatives or new approaches to improving processes, practices and policies for sustainable organisational development in a competitive environment.

KEY TERMS:

Patrimonial situation — reflects the financial position of the enterprise, expressed in terms of assets and liabilities at a given moment, based on the balance sheet.

Assets — includes all the property and property rights of an economic entity

Structural analysis — the study of the proportions and relationships between the various components of a company's assets.

Net assets — the difference between the total assets and total liabilities of the company, representing its equity capital.

Asset turnover efficiency — a measure of how efficiently assets are used to generate income for the company.

Fixed assets — assets and rights held on a long-term basis for use in the production process or services.

Current assets — resources that are quickly converted into cash, such as inventories, receivables, cash on hand.

Asset diagnosis — assessment of the financial situation based on assets to identify strengths and weaknesses.

Asset turnover — the ratio of sales revenue to total assets.

Equity — the amount invested by owners and profits reinvested in the company.

Asset indicators — numerical ratios used in financial analysis to assess the structure and balance of an economic entity's assets.

Balance sheet — a summary financial document that reflects the asset structure of an economic entity at a given date. It shows assets, represented by property and rights held, as well as liabilities, consisting of debts and equity.

A company's financial balance — reflects its ability to efficiently manage available resources to cover financial obligations and maintain the continuity of its operations under standard conditions.

Current asset turnover — is a key financial indicator that assesses how efficiently a company uses its resources to generate income from current operations.

Inventories — comprise all goods and materials owned by a company for production, sale or own consumption.

Cash — refers to all funds available in the form of cash, either kept in the company's office or deposited in its bank accounts. This money is mainly used to cover current expenses and to ensure immediate financial liquidity.

Receivables in a company's accounts — reflect the amount of money due to be received from customers or other legal entities as a result of the delivery of products or the provision of services. These represent a financial asset of the company, with the expectation that the amounts due will be recovered in the future.

3.1 Characteristics of the company's financial assets situation

In order to carry out its economic activity, an entity builds up its assets, which represent the totality of economic resources under its control. In financial statements, assets are reflected through the concept of "assets", which highlight all the economic resources used for the purpose of carrying out current activities.

The analysis of the asset situation involves investigating the structure and dynamics of the assets managed by the entity, regardless of their sources of

financing. The need for an asset diagnosis stems from the importance of the information resulting from the analysis, which informs the decision-making of various users of financial statements, both internal and external.

From a managerial perspective, the analysis of the financial situation provides an overview of the following relevant dimensions:

- The evolution over time of the total value of the assets controlled by the entity;
- The detailed structure of the assets and their distribution by asset category;
- The useful life of assets within the company's economic cycle;
- The specific use of available assets and how they are capitalised;
- Determination of ownership rights over assets – whether they belong entirely to the entity;
- The degree of liquidity of the assets, i.e. their ability to be quickly converted into cash;
- The ability of assets to generate income for the company.

To perform the asset diagnosis, a set of relevant information sources is used, the most important of which are:

- The balance sheet (Appendix 1 to the financial statements);
- Profit and loss statement (Annex 3);
- Statement of changes in equity (Annex 5);
- Cash flow statement (Appendix No. 6);
- Trial balance of summary accounts;
- Results of previous asset diagnostics.

An increase in asset value reflected in the financial statements indicates that, during the period analysed, the company expanded its production capacity and made significant investments in productive assets. These actions will be reflected, in the long term, in the consolidation of the entity's economic and financial position and in the improvement of its performance in the medium and long term.

3.2 Assessment of the size and evolution of the company's available assets

The analysis of the company's assets provides an opportunity to examine the assets it has as a result of its economic activity. The analytical process begins with a general assessment of the size and evolution of assets, as presented in the balance sheet. At this stage, both the absolute deviation in the value of assets and the rate of

increase or decrease compared to the previous period are determined, thus providing a clear picture of the development trends of the company's assets.

The change (deviation) in absolute value is calculated as the difference between the total assets for the current year and the total assets for the previous year.

The interpretation of the information obtained from the calculations is based on a number of essential considerations. Under conditions of efficient economic and financial activity, there is naturally an increase in the value of the assets under the entity's control. This phenomenon reflects the expansion of economic activity and the consolidation of the economic and financial potential of the enterprise, manifested through the renewal and development of fixed assets, the increase in inventories, the realisation of financial investments, etc. The increase in the value of assets can be generated in various ways, including: additional capital contributions from shareholders or associates, the acquisition or generation of assets through the reinvestment of profits, and the attraction of resources through loans, borrowings or leasing (asset leasing). These sources contribute to the expansion of the entity's assets and the increase in its operational capacity.

A decrease in the available assets of the enterprise indicates negative trends in economic activity, such as: restriction of operations due to a lack of orders or other factors, accumulation of financial losses or excessive repayment of borrowed funds, above the financial safety threshold. In such circumstances, the exit of assets from the entity's assets can take various forms: the disposal of assets that do not directly contribute to the conduct of economic activity, their transfer for the payment of financial obligations, their distribution to owners, etc. Regardless of how this reduction is achieved, the reduction in economic and financial potential reflects a decline in the enterprise's ability to maintain its activity at the same level of performance and sustainability.

For a more in-depth interpretation of the evolution of assets, the horizontal analysis is supplemented by an additional step, which consists of correlating the growth rate of assets with the dynamics of the volume of economic activity, expressed by total sales revenue (SR), thus providing an overview of the efficiency of resource use in relation to the performance achieved.

This method involves calculating the growth rate of each asset item as well as the growth rate of the total value of the company's assets. The results of the calculations are compared and conclusions are drawn depending on the following situations:

$TAGR^-$ (total asset growth rate)>100, which means an increase in the value of assets from one year to the next.

$TAGR$ =100 - indicates a continuation of the same values, i.e. a stable situation with no changes in the dynamics of total assets;

$TAGR$ <100 - which means a decrease in the total value of assets from one period to another.

At the second stage, the analysis of the evolution of available assets can be compared with:

a. *the dynamics of the company's activity volume* (SR or Revenue from all types of activities). The evolution in the dynamics of the company's financial situation in relative values must comply with the inequality in relation to the evolution of sales revenue:

$$\Delta\,(\%)\ TA < \Delta\,(\%)\ SR \tag{3.1}$$

$$\frac{TA_1 - TA_0}{TA_0} \cdot 100\,\% < \frac{SR_1 - SR_0}{SR_0} \cdot 100\% \tag{3.2}$$

A situation where the rate of change in sales revenue (SR) exceeds the rate of change in assets (TA) is considered positive, implying that managers have managed and used their assets efficiently. If the rate of increase in sales revenue (SR) is lower than the rate of increase in assets, this indicates reduced efficiency in the use of the company's assets during the period analysed.

b. *the dynamics* of the *entity's activity volume* (SR or Revenue from all types of activities) and gross profit (GP) – which will allow assessing how efficiently the enterprise manages its existing assets. It should be noted that, for successful activity, the following correlation must be observed: $I_{GP} > I_{SR} > I_{TA} > 1$, which is also referred to in the literature as the "golden rule of economics".

Based on the results obtained, the following conclusions can be drawn:

- If $I_{GP} > I_{SR}$ - this indicates a relative decrease in production and distribution costs, respectively, an increase in sales profitability is generated;
- If $I_{GP} < I_{SR}$ - this leads to a decrease in the level of sales profitability;
- If $I_{SR} > I_{TA}$ - production resources are used more efficiently, which also implies an increase in the economic potential of the enterprise; (volume of activity of the enterprise)
- If $I_{SR} < I_{TA}$ - then financial and production resources are used irrationally.

To make these comparisons, relevant information is extracted from the balance sheet and profit and loss statement, and the results of the analyses are summarised in Table 3.1.

Table 3.1. **Assessment of the correlation between asset dynamics, sales revenue trends and changes in gross profit the Wine Factory "Agrotech Vin" JSC**

Indicators	Years, lei		Growth rate, %
	Previous year	Current	
A	1	2	3=(2/1)*100
Total value of assets	643 269 770	661 251 945	102.80
Revenue from sales	360 192 216	353 860 648	98.24
Gross profit	67 610 426	83 960 711	124.18

Source: author's calculations based on the financial statements (Annex 3).

Following a dynamic analysis of the main economic and financial indicators of the Wine Factory "Agrotech Vin" JSC for the period under review, there was a slight increase in the total value of assets, from 643 269 770 lei in the previous year to 661 251 945 lei in the current year, which corresponds to a growth rate of 2.80%. This positive development may indicate a consolidation of the asset base, possibly due to the attraction of new investments or the acquisition of additional assets.

At the same time, sales revenue recorded a slight decrease, falling from 360 192 216 lei to 353 860 648 lei, representing a reduction of 1.76 p.p. This trend may signal a temporary decline in demand or increased competition in the market, negatively affecting sales revenue. However, gross profit increased significantly, rising by 24.18 p.p. from 67 610 426 lei in the previous year to 83 960 711 lei in the current year. This reflects a notable improvement in operational efficiency, despite the slight decline in sales revenue. The fact that gross profit outpaced asset growth by 21.38 p.p. highlights a more efficient use of assets and increasing profitability.

Therefore, even though the company recorded a slight decrease in sales revenue, its overall financial performance improved due to increased profit and a stronger asset base. In order to maintain this positive trend, it is recommended to continue optimising costs and identifying strategic solutions to increase sales and expand the market.

3.3 Structural analysis of assets in the enterprise

Structural analysis of company assets examines the correlations between different asset items reflected in *the balance sheet. In analytical practice, the vertical analysis method and the structure ratio method are often used to study the structure of company assets.*

The vertical analysis method *involves* calculating the weight (share) of each asset item in the total amount of the company's assets.

Application

The structure of the assets of the Wine Factory "Agrotech Vin" JSC will be examined using the vertical analysis method. Based on the data from the balance sheet, an analytical table will be drawn up, which will allow for a detailed interpretation of the results obtained.

Solution:

Table 3. 2. **Analysis of the asset structure of the Wine Factory "Agrotech Vin" JSC**

Assets	Previous year		Current year		Deviation (+/-),	
	Amount, lei	Share, %	Amount, lei	Share %	∑ lei	Weights p.p.
A	1	2	3	4	5=3-1	6=4-2
A. Non-current assets, including:	314 034 670	48.82	306 842 144	46.40	-7 192 526	-2.42
I. Intangible assets	1 021 450	0.16	1 236 992	0.19	215 542	0.03
II. Tangible assets	288 022 295	44.77	280 614 227	42.44	-7 408 068	-2.34
III. Long-term financial investments	24 990 925	3.88	24 990 925	3.78	0	-0.11
IV. Long-term receivables and other fixed assets	0	0.00	0	0.00	0	0.00
B. Current assets, including:	329 235 100	35.64	354 409 801	53.60	125 174 701	17.96
I. Inventories	170 106 913	26.44	195 553 419	29.57	25 446 506	3.13
II. Current receivables and other current assets	158 927 526	24.71	158 257 791	23.93	-669 735	-0.77
III. Current financial investments	0	0.00	0	0.00	0	0.00
IV. Cash and monetary documents	200 661	0.03	598 588	0.09	397 927	0.06
Total assets	**643 269 770**	**100**	**661 251 945**	**100**	**17 982 175**	**0**

Source: author's calculations based on the financial statements (Annex 3).

Following the calculations, it was found that, during the period analysed, the total value of the assets of the Wine Factory "Agrotech Vin" JSC *recorded an absolute increase of 17 982 175 lei, from 643 269 770 lei in the previous year to 661 251 945 lei in the current year. This positive development reflects the consolidation of the company's asset base and is mainly due to favourable factors that have significantly influenced the major components of its assets.*

The most significant contribution to this increase was the increase in inventories by 25 446 506 lei, which can be explained by the intensification of production activities or the strategic accumulation of raw materials, materials and finished products in order to fulfil future orders.

Also, the increase in cash and cash equivalents by 397 927 lei indicates an improvement in the company's liquidity position, reflecting efficient management of cash holdings.

Another positive, albeit more modest, factor that led to an increase in the company's assets was the increase in intangible assets by 215 542 lei, which signals investments in intangible assets, such as software, licences or patents, intended to support the long-term development of economic activity.

On the other hand, the favourable evolution of total assets was mitigated by the influence of some negative factors. Thus, tangible assets decreased by 7 408 068 lei compared to the previous year, which may indicate the decommissioning of some fixed assets, a lack of reinvestment in productive assets or an accelerated process of depreciation of existing assets.

At the same time, there was also a decrease in current receivables and other current assets by 669 735 lei, which suggests either a reduction in the volume of trade receivables or an improvement in the collection process, but from a patrimonial perspective, this led to a slight decrease in the total volume of current assets.

An analysis of the structure of the total assets of the Wine Factory "Agrotech Vin" JSC reveals significant changes, indicating a reorientation in the use and allocation of assets. This year, current assets accounted for the largest share of total assets, marking a significant increase from 35.64% in the previous year to 53.60%, which represents an increase of 17.96 percentage points. This development reflects a restructuring of assets in favour of current assets, suggesting an increased focus on liquidity and operational flexibility.

The most significant contribution to this increase was determined by the increase in the share of inventories, which rose by 3.13 p.p., from 26.44% to 29.57%. This can be interpreted either as a supply strategy through the accumulation of raw materials, materials or finished products, or as the result of a

temporary slowdown in sales. Cash and cash equivalents also recorded a slight increase, from 0.03% in the previous year to 0.09% in the current year, or 0.06 p.p. more, which may be a positive sign of improved liquidity and the ability to cover short-term liabilities. At the same time, current receivables decreased by 0.77 p.p., suggesting either a decrease in the volume of trade receivables or an increase in the efficiency of their collection process.

Fixed assets recorded a decrease in their share of total assets by 2.42 p.p., from 48.82% in the previous year to 46.40% in the current year. This decrease indicates a reduction in the importance of long-term investments in the structure of the company's assets. The decrease is mainly due to the reduction in the share of tangible fixed assets, which fell by 2.34 p.p., from 44.77% to 42.44%. This can be attributed either to a reduction in investments in fixed assets or to the decommissioning or depreciation of a significant volume of fixed assets.

Long-term financial investments decreased slightly, by 0.11 p.p., from 3.88% in the previous year to 3.78% in the current year, but remained at a relatively constant level. In contrast, intangible assets recorded a dynamic increase in weight, by 0.03 p.p., suggesting modest investments in intangible assets.

The asset structure ratio method involves calculating a variety of relative values that help us analyse/assess the structure of assets according to various criteria/the financial situation of the enterprise/the structure of the enterprise's assets. In economic practice, the following ratios can be applied to analyse the structure of a company's assets:

The non current assets ratio – reflects the share of non--current assets in total assets. It is calculated as follows:

$$Fixed\ assets\ ratio = \frac{Non\ current\ assets}{Total\ assets} \times 100\% \quad (3.3)$$

The dynamic increase in the non-current assets ratio in conditions of low utilisation of existing capacity reflects a fragile composition of the company's asset utilisation. Exceeding the share of fixed assets by more than 2/3 of assets can create difficulties in paying current debts [7, p.430].

The current assets ratio – is inversely proportional to the fixed assets ratio and shows the share of current assets in total assets.

$$Current\ assets\ ratio = \frac{Current\ assets}{Total\ assets} \times 100\%\ or\ 100 - FAR \quad (3.4)$$

This indicator shows that the higher the share of current assets in total assets, the greater the flexibility of the enterprise and its ability to pay current debts, and vice versa.

The correlation ratio between current assets and non-current assets – characterizes the internal correlations between the elements of equity reflected in the assets side of the balance sheet.

$$Correlation\ ratio\ between\ current\ assets\ and\ fixed\ assets = \frac{Current\ assets}{Non-current\ assets} \times 100\% \qquad (3.5)$$

It is important for the company that the nominated indicator exceeds 100%, which means that the company needs fewer economic resources to ensure the uninterrupted activity of the entity. A low level of this indicator signals a slowdown in the turnover of the company's assets due to a decrease in sales revenue.

The rate of assets used for production – reflects the share of assets that are directly used in manufacturing, marketing goods and providing services, and performing work. It is calculated using the following formula:

$$Production\ Aasets\ ratio = \frac{Fixed\ assets + Biological\ assets + Inventories}{Total\ assets} \times 100\% \qquad (3.6)$$

The normative level of this ratio in manufacturing enterprises is ≥ 0.5. If the ratio is below 0.5, the situation is considered difficult, with negative consequences for the development of productive potential.

A dynamic increase in the rate of assets intended for production is considered positive, as it will contribute to an increase in the volume of activities for which the entity was launched/formed.

The cash ratio (R_{N-}) – reflects the share of the enterprise's assets that are in an absolutely liquid form and can be used to pay debts or for other purposes. It is obvious that the enterprise's ability to pay depends directly on the level of this indicator.

$$Cash\ ratio = \frac{Cash}{Total\ assets} \times 100\% \qquad (3.7)$$

The cash ratio is considered optimal when its value is between 3-5%. If it is higher than the optimal level, the company is considered to have excess liquidity and provide poor remuneration of assets. If it is lower than the optimal values, the company may have difficulties in paying its due obligations. The cash ratio is influenced by investment policy and the settlement system.

The technical composition ratio **of assets** - reflects the correlation between fixed assets at balance sheet value and current assets. There are opinions that it is considered optimal if each leu of current assets corresponds to 2.0-2.5 lei of fixed assets [8, p. 142; 2, p. 137].

It is calculated as follows:

$$Tchnical\ composition\ ratio\ of\ assets = \frac{Fixed\ assets\ at\ balance\ sheet\ value}{Current\ assets} \times 100\% \qquad (3.8)$$

The increase in this rate is considered a positive trend for the enterprise. In the context of an economic crisis, this ratio tends to decrease, due to: an increase in the prices of goods and materials in stock; an increase in finished product stocks due to a decrease in demand; a decrease in the renewal rate of fixed assets due to their rising cost and lack of funding sources [10, p. 150].

The inventory ratio – indicates the share of inventories in the total assets of the enterprise. It is calculated as the percentage ratio between the size of inventories and the value of total assets, according to the following formula:

$$Inventory\ ratio = \frac{Inventories}{Total\ assets} \times 100\% \quad (3.9)$$

The inventory ratio varies from one sector to another depending on the type of activity: it is higher for companies in the production and distribution of material goods and very low in the service sector [3, p. 269, 13]. At the same time, this ratio can change under the influence of several factors, such as: the sector in which the company operates, the length of the operating cycle and speculation on market price fluctuations. An increase in the inventory rate is justified when it is determined by an increase in the volume of activity$(I_{SR} > I_I)$, and is unjustified when it leads to the formation of slow-moving or non-moving inventories.

Where:I_{SR} – sales revenue index;I_I – inventory index.

Receivables ratio – reflects the share of receivables that the company has in total assets or in the structure of an entity's assets. This indicator is important for assessing the efficiency of receivables management and the risk associated with their collection. The calculation formula is:

$$Receivables\ ratio = \frac{Receivables}{Total\ assets} \times 100\% \quad (3.10)$$

The size of this ratio is influenced by the company's field of activity, the nature of its commercial relations with external partners, the payment terms applied, the marketing policy promoted by the company, and the contracts that the company enters into. An increase in this indicator over time is considered problematic, especially if sales revenue remains constant. In addition, in order to retain its customers, the company often offers favourable payment terms, which can subsequently lead to the accumulation of receivables. In this situation, the manager must carefully monitor the value of receivables, ensuring that the rate of growth in sales revenue exceeds the rate of growth in receivables. This will have a positive impact on future cash flow. The receivables ratio is high for inter-company firms (manufacturing, wholesale trade) and low for entities that have relationships with end consumers (retail trade, services).

Table 3.3 illustrates the relevant rates, which allow for a rigorous assessment of the structure and efficiency of the entity's asset utilisation.

Table 3.3. **Analysis of the evolution of indicators regarding the asset structure of the *Wine Factory "Agrotech Vin" JSC***

Indicators	Previous year	Current year	Absolute deviation, (+/-)
Current assets ratio (%) = Current assets/Total assets × 100	51.18	53.60	2.42
Non-current assets ratio (%) = Non-current assets/Total assets × 100	48.82	46.40	-2.42
Inventory ratio (%) = Inventories/Total assets × 100	26.44	29.57	3.13
Perfectly liquid assets ratio (%) = Cash/Total assets × 100	0.03	0.09	0.06
Receivables ratio (%) = Receivables/Total assets × 100	24.97	23.93	-1.04
Fixed asset renewal rate (%) = Fixed assets/Total assets × 100	33.01	31.36	-1.65
Production assets ratio (%) = (Fixed assets + Inventories) / Total assets × 100	59.45	60.94	1.49

*Source**:** author's calculations based on the financial statements (Annex 3).*

The structure of the total assets of the Wine Factory "Agrotech Vin" JSC *underwent significant changes during the period under review, reflecting a strategic reorientation in the use and allocation of assets. The developments recorded in the absolute values of the main categories of assets directly influenced their share in total assets, thus leading to changes in the company's balance sheet structure.*

This year, current assets recorded an increase in value of 25 174 701 lei, which led to a significant increase in their share in total assets – from 51.18% to 53.60%, or 2.42 percentage points. This development was mainly influenced by the increase in inventories, which rose by 25 446 506 lei in absolute terms, thus representing the main component responsible for the increase in current assets. The share of inventories in total assets increased from 26.44% in the previous year to 29.57% in the current year, recording an increase of 3.13 p.p. This increase can be

interpreted as the result of a supply strategy or a temporary accumulation of finished products, also caused by a decline in sales.

Another contribution, although less significant in terms of value, was made by cash and cash equivalents, which increased from 200 661 lei to 598 588 lei. Although the absolute difference is relatively small, at approximately 398 thousand lei, it generated a tripling of the weight of this indicator in the asset structure from 0.03% to 0.09%, reflecting a slight improvement in liquidity and short-term payment capacity.

At the same time, receivables decreased both in absolute terms, by about 149 thousand lei, and in relative terms, their share in total assets decreasing by 1.04 p.p., from 24.97% to 23.93%. This development may suggest an improvement in the debt collection process or a reduction in the volume of credit sales.

On the other hand, non-current assets decreased in absolute terms by 7 192 536 lei, which led to a reduction in their share in total assets by 2.42 percentage points from 48.82% in the previous year to 46.40% in the current year. Although the change in value is not very large, it had a significant impact on the relative structure, as it was accompanied by a more rapid increase in current assets. This development signals a decline in the importance of long-term investments in the asset structure and, at the same time, a possible shift towards a more flexible resource utilisation policy.

It is important to note that fixed assets (the main component of tangible assets) recorded an increase in absolute value of 20 457 783 lei. However, their share in total assets decreased from 33,01% in the previous year to 31.36% in the current year, or by 1.65 p.p., which indicates that other categories of assets grew at a faster pace, thus causing a relative "dilution" of the importance of fixed assets in total assets. At the same time, as a result of the decrease in the value of fixed assets by 4 988 723 lei, their renewal rate decreased during the analysed period, from 33.01% to 31.36% in the current year, which indicates a slowdown in the process of updating the technical and material base.

As regards the rate of production assets, which combines fixed assets and inventories, it increased slightly from 59.45% in the previous year to 60.94% in the current year, or by more than 1.49 p.p. This development confirms the continued priority given to the core business – production – despite a restructuring of the form in which these assets are reflected in the balance sheet (more inventories and fewer fixed assets in relative terms).

Thus, we can mention that the changes recorded in the structure of the total assets of the Wine Factory "Agrotech Vin" JSC are the result of moderate value adjustments, but which have generated significant effects in percentage terms. These changes indicate a strategic repositioning of the company in favour of current

assets, improving liquidity and operational flexibility, but to the detriment of long-term investments.

3.4 Diagnosis of net assets as a basis for effective managerial decisions

The assessment of the company's financial situation is not complete without examining its net assets (net equity). In global practice, there are two ways of defining and calculating net equity.

According to the first approach, the nominated indicator (net assets) reflects the size of the equity that is formed directly from own sources and is not burdened by debt.

$$Net\ assets = Total\ assets - Current\ liabilities - Long - term\ liabilities \quad (3.11)$$

The formula shows that, according to the first calculation method based on the balance sheet data, the result obtained will be equal to equity.

Application

Using the data from the balance sheet of the Wine Factory "Agrotech Vin" JSC, a factorial diagnosis of net assets will be performed according to the two recognised calculation methods.

Solution:

Table 3.4. **Factor diagnosis of the net assets in dynamics of the Wine Factory "Agrotech Vin" JSC**

Indicators	Year Previous	Current Current	Absolute deviation, (+/-)	Result of the factorial influence (RFI), +/-
Total Assets, lei	643 269 770	661 251 945	17 982 175	+17 982 175
Long-term liabilities, lei	457 674	12 650 455	12 192 781	-12 192 781
Current liabilities, lei	321 524 826	308 066 688	-13 458 138	+13 458 138
Net assets, lei	321 287 270	340 534 802	19 247 532	+19 247 532

Source: author's calculations based on the financial statements (Annex 3).

Note: Provisions in the balance sheet of the Wine Factory "Agrotech Vin" JSC will be included in current liabilities according to the individual financial statements prepared in accordance with SIRF.

Based on the factorial diagnosis of net assets (Table 3.4), it is evident that, during the analysed period, the Wine Factory "Agrotech Vin" JSC recorded a positive evolution of net assets, which increased by 19 247 532 lei and reached, at the end of the current period, the value of 340 534 802 lei. This dynamic highlights a consolidation of own sources of financing, which indicates an improvement in the company's financial autonomy. The increase in net assets was mainly due to the increase in total assets by 117 982 175 lei, as well as the decrease in current liabilities by 13 458 138 lei, which contributed favourably to strengthening the short-term financial balance. At the same time, the substantial increase in long-term liabilities, amounting to 12 192 781 lei, had a negative impact on financial stability, indicating a possible shift towards financing current activities through borrowed resources, an aspect that requires careful monitoring.

The results of the diagnosis show that the company generally complies with the principle of financial balance, managing to cover its assets with an adequate level of equity. However, the increase in the share of long-term debt draws attention to the need for prudent debt management in order to avoid future pressure on liquidity and repayment capacity.

In this context, it is recommended to maintain the trend of reducing current debt and strengthening own sources by reinvesting profits. At the same time, it is necessary to rigorously monitor the level of long-term debt and the efficient use of attracted funds to support productive investments and the sustainable growth of the company.

The second approach determines net equity as the value of assets minus current liabilities.

$$Net\ assets = Total\ assets - Current\ liabilities \qquad (3.12)$$

The result obtained by applying this formula according to the balance sheet data will directly coincide with the value of permanent capital.

$$Permanent\ capital = Equity + Long - term\ liabilities \qquad (3.13)$$

Table 3.5. **Analysis of the influence of factors on the variation of the net assets of the Wine Factory "Agrotech Vin" JSC**

Indicators	Year Previous	Year Current	Absolute deviation (+/-)	(RIF) +/-
Total Assets, lei	643 269 770	661 251 945	17 982 175	+17 982 175
Current liabilities, lei	321 524 826	308 066 688	-13 458 138	+13 458 138
Net assets, lei	321 744 944	353 185 257	31 440 313	+31 440 313

Source: author's calculations based on the financial statements (Annex 3).

According to the calculations, it is evident that, during the period analysed, the Wine Factory "Agrotech Vin" JSC recorded a significant consolidation of its financial position. Net assets increased from 321 744 944 lei in the previous year to 353 185 257 lei in the current year, which indicates a strengthening of self-financing capacity and an increase in the share of equity in the structure of financing sources.

This favourable development was mainly due to an increase in total assets by 17 982 175 lei, as well as a decrease in current liabilities by 13 458 138 lei – both factors having a positive impact on the level of net assets. Thus, it can be said that the company has managed to improve its financial balance and reduce its dependence on short-term external financing.

The results obtained highlight compliance with the principle of financial balance, reflected in an increase in the share of own sources in covering assets. Also, the decrease in current liabilities indicates more efficient management of liabilities and a possible improvement in the liquidity position. Based on the above, it is recommended to continue efforts to consolidate equity, combined with prudent management of the level of indebtedness, in order to maintain a sustainable financial situation and a high degree of autonomy in the long term.

Normally, net assets (N_{assets}) grow dynamically as a result of efficient economic and financial activity. A downward trend in net assets signals the existence of difficulties in the development of the enterprise. In this case, the financial situation is characterised as unstable [10, p.157; 9].

The emergence of a negative net worth confirms a state of crisis, when the enterprise does not have assets formed from its own sources and its activity is fully financed by borrowed sources. Thus, the enterprise is found to be absolutely financially dependent on its creditors.

For a more complete assessment of the use of the entity's net assets, a comparative analysis of the growth rate of net assets with the growth rate of sales revenue and the growth rate of profit before tax is necessary.

$I_{N_{assets}} > I_{SR} > I_{PBT}$ This situation is unfavourable because it reflects an inefficient use of net assets, i.e. the growth rate of sales revenue and profit before tax is lower than the growth rate of net assets, which means that the company needs to make a financial effort in its activity.

The financial effort of entities.

$I_{N_{assets}} = I_{SR} = I_{PBT}$ - The situation should be considered normal in terms of the use of net assets; in other words, it corresponds to the objectives set for this period.

$I_{N_{assets}} < I_{SR} < I_{PBT}$ – the situation reflects an efficient use of net assets, as there has been an increase in sales revenue on the one hand and a reduction in costs and an improvement in production quality on the other, resulting in an increase in economic efficiency compared to the efforts made by the company.

From a managerial point of view, the diagnosis of a company's net assets serves to: insure the company's assets against damage; evaluate the company's assets for the purpose of acquisition, privatisation, disposal or pledging; reorganise the company through merger, absorption or division, etc.

3.5 Assessment of asset turnover efficiency from a managerial and decision-making perspective

In order to carry out its economic activity efficiently, a company must have sufficient financial resources to purchase resources, organise the production process and market finished products. Normally, at the end of the operating cycle, the invested capital must return in cash, generating a profit.

Blocking funds at any stage of the asset cycle slows down their rotation, requires additional resources and negatively affects financial stability. Shortening the operating cycle contributes to accelerating asset rotation, which allows for increased production and revenue without additional financing, while also increasing profitability. However, in conditions of loss, accelerating turnover can lead to a deterioration in financial performance and the consumption of capital.

Therefore, the enterprise must pursue both the economic efficiency of asset utilisation and the intensification of their circulation throughout the entire operating cycle, which can be assessed by calculating and analysing asset turnover rates.

Asset turnover ratios measure the speed at which assets are converted into cash. In economic theory and practice, several methods are used to assess asset turnover ratios, as follows:

Number of asset rotations or asset recoverability – characterizes the efficiency with which the company's resources are used, or how many times sales have renewed assets in a period. It is calculated as follows:

$$Number\ of\ asset\ rotations = \frac{Sales\ revenue}{Total\ assets} \quad (3.14)$$

The analysis of the nominated indicator is carried out dynamically. For industrial enterprises, it is recommended that the number of asset turnovers be greater than 2,5 times.

A level lower than the recommended level means that the company does not sell enough products in relation to the assets it uses. Such a situation may be caused by poor inventory management. Normally, sales revenue should increase, and assets that do not generate any profit should be removed from the entity's economic circuit.

In the specialist literature, for some sectors such as agriculture or mining, the optimal level of asset turnover should be between 1,0 and 1,4. If number of asset rotations is below 1.0, this means that the company has not managed and used its assets efficiently. Based on this indicator, the asset turnover period can be easily determined.

Asset turnover – shows how many days it takes for assets to turn over, i.e. the period of time (number of days) in which sales revenue renews the entity's assets. The calculation formula is:

$$Asset\ turnover = \frac{Total\ assets \times 365}{Sales\ revenue} = \frac{365}{Number\ of\ asset\ rotations} \quad (3.15)$$

The evolution of the total asset turnover rate can be monitored both by comparing the results with previous periods and with the provisions of the business plan. Normally, the number of total asset turnovers should increase and the turnover period should decrease.

Number of fixed asset rotations - *expresses* the efficiency of fixed asset utilisation in terms of the company's ability to generate sales revenue using its available fixed assets. It is calculated using the following formula:

$$Number\ of\ fixed\ asset\ rotations = \frac{Sales\ revenue}{Fixed\ assets} \quad (3.16)$$

An increase in this indicator is considered positive. In the literature, it is recommended that this ratio for industrial enterprises be greater than 7,5 times. At the same time, its increase may be accompanied by the use of outdated equipment.

Fixed asset turnover - characterises the period (in days) during which fixed assets are turned over.

$$Fixed\ asset\ turnover\ = \frac{Fixed\ assets \times 365}{Sales\ revenue}$$
$$= \frac{365}{Number\ of\ fixed\ asset\ rotations} \quad (3.17)$$

In order for a business to be successful, the turnover period of fixed assets must decrease.

Number of *current* asset turnovers - shows how many times during a period current assets participate in the economic cycle and in generating sales revenue, depending on the type of activity of the enterprise. Calculation formula:

$$Number\ of\ current\ asset\ turnovers = \frac{Sales\ revenue}{Current\ assets} \quad (3.18)$$

The optimal level of current asset turnover is considered to be >2,5 turns [8, p.144; 9]. It is indisputable that the above indicator must exceed the number of fixed asset turns. If the number of current asset turnovers is lower than the number of fixed asset turnovers, this means that the enterprise cannot ensure increased efficiency of current assets.

The duration (speed) of current asset turnover - expresses the number of rotations or the average duration of a rotation performed by current assets through sales revenue.

$$Current\ asset\ turnover\ = \frac{Current\ assets \times 365}{Sales\ revenue}$$
$$= \frac{365}{Number\ of\ current\ asset\ turnovers} \quad (3.19)$$

Any increase in the number of current asset rotations entails a corresponding reduction in the duration of current asset rotation, and any decrease in the nominated indicator will generate an increase in the duration of a rotation in days.

Inventory turnover – shows how many times inventories have been turned over during the financial year. The calculation is determined as the ratio between the cost of sales and the average value of inventories, according to the formula:

$$Number\ of\ fixed\ asset\ rotations = \frac{Sales\ revenue}{Fixed\ assets} \quad (3.20)$$

An increase in the number of inventory turnovers allows the company to perform more operations without increasing its assets, which means that the amount of financial resources tied up in inventory is small, which improves liquidity.

Inventory turnover period – reflects the number of days in which inventory turnover occurs during a period.

$$Inventory\ turnover\ period = \frac{Inventory \times 365}{Cost\ of\ sales} = \frac{365}{Inventory\ turnover} \quad (3.21)$$

The shorter the turnover period, the more efficiently the company organises its relations with suppliers, determines the procurement schedule and controls inventory levels, which is considered positive. A high inventory turnover period for goods and materials indicates that the company has slow-moving or stagnant inventory, which increases the risk of losses.

In economic practice, analysing asset turnover efficiency is an essential tool for managers, providing a clear understanding of how the company's resources are used to generate revenue and profit. This assessment allows management to identify both the positive aspects and the shortcomings in the management of economic resources. Thus, well-informed strategic decisions can be made regarding investments, liquidity, asset restructuring and optimisation of the asset structure.

Moreover, asset turnover analysis facilitates real-time monitoring of economic and financial performance, helping to prevent financial bottlenecks and improve cash flows. Therefore, the constant integration of asset turnover analysis into the managerial decision-making process leads to the optimisation of existing resources and strengthens the company's competitiveness in the medium and long term, ensuring its sustainable development.

Application

Using financial data from the balance sheet of the Wine Factory "Agrotech Vin" JSC, a diagnostic analysis of the efficiency of the company's asset utilisation will be carried out. This analysis aims to assess the degree of efficient use of assets, highlighting any imbalances or difficulties in asset management.

At the same time, the analysis will provide relevant information to support managerial decisions related to optimising the asset structure and increasing economic and financial performance.

Solution:

Table 3.6. **Diagnosis of the efficiency of asset utilisation at the Wine Factory "Agrotech Vin" JSC**

Indicators	**Previous year**	**Current year**	**Absolute deviation, (+/-)**
A	1	2	3=2-1
1. Sales revenue, lei	360 192 216	353 860 648	-6 331 568
2. Cost of sales, lei	292 581 790	269 899 937	-22 681 853
2. Average value of total assets, lei	630 936 175.5	652 260 857.5	21 324 682
3. Average value of current assets, lei	308 954 176	341 822 450.5	32 868 274.5
4. Average value of non-current assets, lei	321 981 999.5	310 438 407	-11 543 592.5
5. Average value of fixed assets, lei	250 329 683.5	209 843 058.5	-40 486 625
6. Average value of inventories	164 715 736	182 830 166	18 114 430
7. Ratio of sales revenue to assets, lei (rd.2/rd.1)	1.75	1.84	0.09
8. Number of total asset turnovers, (rd.1/rd.2)	0.57	0.54	-0.03
9. Number of current asset turnovers (rd.1/rd.3)	1.17	1.04	-0.13
10. Number of non-current assets turnovers (rd.1/rd.4)	1.12	1.14	0.02
11. Number of fixed asset turnover (row 1/row 5)	1.44	1.69	0.25
12. Number of inventory turnovers (rd.1/rd.6)	1.78	1.48	-0.30
13. Total asset turnover, days (365/rd.8)	639	673	33
14. Current asset turnover, days (365/rd.9)	313	353	40
15. Non-current assets turnover, days (365/rd.10)	326	320	-6
16. Fixed asset turnover,	254	216	-37

days (365/rd.11)			
17.Inventory turnover, days (365/rd.12)	205	247	42

Source: author's calculations based on the financial statements (Annex 3).

The analysis of the structure and efficiency of asset utilisation during the period under review highlights significant changes in the dynamics of turnover indicators, reflecting changes in both the resource management policy and the operational efficiency of the Wine Factory "Agrotech Vin" JSC. Firstly, the ratio of sales revenue to assets increased from 1.75 lei in the previous year to 1.84 lei in the current year, indicating that a slightly higher volume of assets was required to generate each leu of revenue. Although this development signals an increase in the degree of capital employed, the level remains within acceptable functional limits.

On the other hand, there has been a decline in the overall efficiency of asset utilisation, with the number of total asset turnovers decreasing by 0.03 times and the average turnover period increasing by 33 days, from 639 to 673 days. These trends indicate a slowdown in the ability of assets to generate income within a given period of time.

Similar trends are also seen in current assets, whose turnover decreased from 1.17 to 1.04 during the financial year, while the turnover period increased significantly by 40 days (from 313 to 353 days). This development can be interpreted as a warning sign regarding the efficiency of inventory and receivables management, with a potential negative impact on short-term liquidity.

On the other hand, the number of non-current assets *recorded a slight improvement in utilisation efficiency, reflected in an increase in the number of rotations from 1.12 in the previous year to 1.14 in the current year and a reduction in the rotation period by 6 days. This positive trend is particularly supported by the performance of fixed assets, which saw an increase in the number of rotations in the current year compared to the previous year of 0.25 times, as well as a reduction in the rotation period by 37 days, suggesting a higher utilisation of the technical-material base in the production process.*

In terms of inventory management, there has been a reduction in efficiency, evidenced by a decrease in the number of rotations from 1.78 to 1.48, along with an increase in the rotation period by 42 days. This situation may be associated with an excessive accumulation of finished products or raw materials, which generates additional storage costs and negatively affects the company's liquidity.

Although the Wine Factory "Agrotech Vin" JSC has made progress in terms of the efficient use of fixed assets and fixed capital, there has been a general slowdown in the turnover of total and current assets, particularly in terms of

inventories. This trend suggests possible imbalances in the operating cycle and increased pressure on liquidity.

In this context, it is recommended to adopt measures to optimise the management of current assets, with a focus on reducing the inventory conversion cycle and improving the debt collection process. At the same time, maintaining an effective fixed asset investment policy will help to sustain productivity and long-term performance.

The final stage of the managerial diagnosis of asset turnover is completed by identifying measures to accelerate the turnover of current assets. In general, accelerating the turnover of current assets is a primary objective of company management. To this end, managers must identify ways to accelerate the turnover of current assets at the three stages of the economic cycle: procurement, production and marketing. The main concrete measures for accelerating the turnover of current assets for each stage are:

At the procurement stage:

- Diversifying suppliers and selecting them based on price and quality of goods delivered;
- Supplying the enterprise with raw materials and supplies on time and in optimal quantities;
- Creating conditions for the storage and preservation of goods.

At the production stage:

- Reducing the operational cycle time by using modern manufacturing technologies;
- Ensuring the production process with skilled labour;
- Diversifying the product range according to market requirements;
- Improving the product range and quality in line with market requirements.
- Training staff in the production of innovative products.

At the sales stage:

- Increasing sales volume by diversifying sales markets;
- Strengthening commercial relations with traditional partners;
- Producing and marketing competitive goods;
- Participation of the company in various trade fairs and exhibitions, both nationally and internationally.

In conclusion, asset turnover efficiency is an essential indicator of a company's financial performance, and accelerating it through well-targeted measures at each stage of the economic cycle directly contributes to improving liquidity, maximising profitability and strengthening competitive position in the market.

Self-assessment questions:

1. What is the company's financial position?
2. What are the main components of the financial position?
3. How is the size of the assets available in a company assessed?
4. What methods are used to assess the evolution of a company's assets?
5. How are available assets differentiated from fixed assets?
6. What is the structural analysis of a company's assets?
7. What are the main categories of assets taken into account in structural analysis?
8. How is a company's net assets calculated?
9. What is the importance of diagnosing net assets?
10. What indicators are used to assess the efficiency of asset turnover?
11. How does asset turnover efficiency influence a company's financial performance?
12. What information does the analysis of asset evolution provide to management?
13. What is the link between net assets and the financial stability of a company?
14. How can structural analysis of assets help identify financial risks?
15. What are the main methods for increasing asset turnover efficiency?

Self-assessment tasks:

1. List the components of a company's assets.
2. Describe how the analysis of assets and liabilities contributes to decision-making.
3. Interpret the relationship between asset structure and the financial risk of the enterprise.
4. Analyse how the imbalance between assets and liabilities affects financial stability.
5. Select an example of a business and identify its strengths and weaknesses in terms of assets.
6. Identify the link between asset diagnosis and investment decisions.
7. Argue the need for asset diagnosis before taking out a loan.
8. Develop an asset diagnosis plan for a small company in the trade sector.
9. Diagnose the asset situation of a real company using information from its financial statements (balance sheet, profit and loss account, etc.). Analyse the structure of assets and liabilities, assess the financial balance and draw conclusions about the company's asset health.
10. Propose a set of managerial measures to improve the asset structure of a company in difficulty.

Multiple-choice self-assessment test:

1. **The company's financial situation reflects:**
   a) Only the company's debts
   b) Assets, liabilities and equity at a given point in time
   c) The number of employees
   d) Only fixed assets
2. **Available assets are:**
   a) Assets that can be quickly mobilised to finance current activities
   b) Only the company's equipment
   c) The company's share capital
   d) The company's debts to suppliers
3. **Structural analysis of assets refers to:**
   a) Assessment of the proportions between the components of assets
   b) Calculation of net profit
   c) Analysis of the sales market
   d) Setting employee salaries
4. **Net assets represent:**
   a) The total assets of the company
   b) The difference between assets and liabilities
   c) The total liabilities of the company
   d) Income earned in a year
5. **Asset turnover efficiency measures:**
   a) How quickly inventories are converted into cash
   b) How efficiently assets are used to generate income
   c) The number of employees of the company
   d) The company's short-term liabilities
6. **What is the formula for calculating asset turnover?**
   a) Sales revenue / Total assets
   b) Total assets / Sales revenue
   c) Equity / Total liabilities
   d) Revenue / Number of employees
7. **Fixed assets are:**
   a) Assets used on a long-term basis in the company's activity
   b) Cash on hand
   c) Receivables from customers
   d) Reinvested profit
8. **Which of the following is a method of assessing net worth?**
   a) Calculating the difference between assets and liabilities

b) Counting the number of employees
c) Setting product prices
d) Calculating gross profit

9. **The purpose of asset diagnosis is to:**
   a) Assessing the financial health of the company based on its assets
   b) Hiring new staff
   c) Creating a marketing plan
   d) Calculating taxes due
10. **An increase in asset turnover efficiency indicates:**
   a) More efficient use of assets in generating revenue
   b) An increase in the company's liabilities
   c) A decrease in equity
   d) A reduction in the number of employees

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TOPIC 4. DIAGNOSTIC ANALYSIS OF SOURCES OF FINANCING FOR COMPANY ASSETS

Expected learning outcomes: RI 9; RI 14		
Knowledge/content units	**Skills**	**Responsibility and autonomy**
Content units: 4.1 Economic and managerial content of funding sources 4.2. Structural analysis of asset financing sources 4.3 Equity capital as the primary source of financing for company assets 4.4 Indebtedness and debt ratio of the company	✓ describes the structure of financing sources; ✓ explains the role of equity and borrowed capital; ✓ defines indicators of the degree of indebtedness; ✓ determines methods of business financing; ✓ applies procedures for diagnosing sources of business financing; ✓ interprets the results of structural analysis; ✓ evaluate business efficiency following the diagnosis; ✓ formulate conclusions based on indicators and make connections between analysis and results; ✓ formulate recommendations and recovery measures.	The autonomous student justifies the directions for optimising work processes, thus ensuring the efficiency of operational activity management. The student is responsible for identifying alternatives or new approaches to improving processes, practices and policies for sustainable organisational development in a competitive environment.

KEY TERMS:

Sources of financing — all the rights of owners and obligations of the enterprise that finance its assets.

Liabilities — the part of the balance sheet that reflects sources of financing (equity and debt).

Equity — the enterprise's own financial resources remaining after deduction of liabilities.

Liabilities — the financial obligations of the enterprise to third parties.

Financial autonomy ratio — the proportion of equity in total liabilities.

Borrowed funds ratio — the proportion of borrowed funds in the financing of assets.
General **solvency ratio —** the company's ability to pay all its debts based on its assets.
Financial leverage ratio — the ratio of borrowed funds to equity.
Permanent capital — total equity plus long-term debt.
Equity turnover ratio — the proportion of equity used to finance current assets.
Degree of indebtedness — the extent to which a company uses borrowed funds for financing.
Long-term debt ratio — the proportion of debt with a maturity of more than one year.
The short-term debt ratio — represents the proportion of debt with a maturity of less than one year, as well as the share of bank loans and other financial borrowings in total liabilities.
Trade debt ratio — the share of liabilities to suppliers and trading partners.
Permanent capital self-financing ratio — the proportion of permanent capital financed from own sources.

4.1 Economic and managerial content of funding sources

In order to carry out its economic activity, the enterprise builds up its assets by drawing on various sources of financing. These sources reflect both the property rights and the obligations of the enterprise, and are shown in the balance sheet under liabilities. Specifically, liabilities include equity, long-term debt, current liabilities and provisions. In economic practice, these components are generically referred to as 'liabilities'.

An analysis of the evolution of funding sources and the relationships between the various elements of liabilities provides relevant information on the degree of financial stability and independence of the company. This type of diagnosis is essential both for internal management — for the purpose of optimising current activity and outlining the development strategy — and for external users (investors, creditors, financial institutions), who rely on this data for decision-making. In this regard, the analysis of financing sources is based on the balance sheet (Annex 1 to the financial statements) and the statement of changes in equity (Annex 5).

From a managerial perspective, effective management of financing sources involves careful assessment of the costs and benefits associated with each financial option. Financial managers must consider factors such as the cost of capital, the flexibility of sources, repayment terms and the impact on the capital structure. Choosing a balanced mix of equity and debt directly influences the economic performance, financial resilience and sustainable growth potential of the company.

An optimal mix contributes to reducing the weighted average cost of capital and maximising the value of the company.

At the same time, it is essential to manage relationships with investors and creditors by maintaining transparency and consistent financial communication to ensure confidence and continued access to financing. In this context, rigorous financial planning, cash flow control and periodic assessment of financial risks are key components of effective management of financing sources.

4.2. Structural analysis of asset financing sources

Analysing the structure of a company's asset financing sources allows its financial stability and autonomy to be assessed. As part of the diagnosis, the structure of the company's assets is studied using the liability structure ratio method. The structure ratios of financing sources provide a clear picture of the weight and evolution of the liabilities involved in financing the company's economic resources. The following categories of ratios are included in economic theory and practice:

Financial autonomy ratio – reflects the share of equity in the total liabilities of the enterprise and is determined based on the following relationship:

$$Financial\ autonomy\ ratio = \frac{Equity\ capital}{Total\ assets} \times 100\% \qquad (4.1)$$

A situation is considered favourable when this ratio is ≥ 50%, indicating a high degree of financial independence, which means that own sources must contribute to the financing of the enterprise's assets in a proportion of at least 50 per cent. If the financial autonomy ratio exceeds the recommended level, then the company can more easily benefit from long-term bank loans. If the financial autonomy ratio does not reach the safety level, then the company is in an uncertain situation and the risk of bankruptcy becomes imminent.

Borrowed funds ratio – expresses the degree of coverage of assets with both long-term and short-term borrowed funds.

$$Borrowed\ funds\ ratio = \frac{Current\ liabilities + long{-}term\ liabilities)}{Total\ assets} \times\ 100 \qquad (4.2)$$

For financial balance, it is considered normal that the portion of liabilities that finance the company's assets should not exceed 2/3. A downward trend in this indicator attests to a positive situation in terms of the company's indebtedness and indicates an increase in its financial autonomy [4, p.207].

The correlation ratio between borrowed and equity sources expresses the amount of attracted funds per 1 leu of own capital.

$$Correlation\ ratio\ between\ borrowed\ and\ equity\ sources = \frac{Current\ liabilities + long\text{-}term\ liabilities}{Equity} \times 100\% \quad (4.3)$$

When the indicator is 100%, it signifies that the company's financial situation is adequate. A high value of this ratio, especially if it is increasing, indicates a high level of indebtedness and may signal potential difficulties in meeting the company's maturing obligations in the future.

The general solvency ratio – reflects the company's ability to meet all its long-term and short-term debts using its fixed and current assets.

$$General\ solvency\ ratio = \frac{Total\ assets}{Current\ liabilities + long\text{-}term\ liabilities} \times 100\% \quad (4.4)$$

The higher the general solvency ratio is above 2, the better the overall financial situation of the company.

Financial leverage ratio *(overall equity coverage ratio)*(R_{pf}) - calculated as a percentage, this ratio shows that the first 100% of assets are financed from own resources, and the remaining % from borrowed funds. An increase in this indicator above 200% reflects the company's difficult situation in terms of financial independence.

$$Financial\ leverage\ ratio = \frac{Total\ assets}{Equity} \times 100\% \quad (4.5)$$

It should be noted that the simultaneous use of the above-mentioned ratios in the diagnosis of the structure of financing sources is considered irrational. Although the name, calculation formula, economic meaning and assessment parameters of the ratios differ, the result of the assessment will be absolutely identical.

Application

Using the information from the balance sheet of the Wine Factory "Agrotech Vin" JSC, an analysis of the financing structure of the assets will be carried out. The aim is to determine the extent to which the company's assets are covered by its own sources (equity) or by attracted sources (debts). By calculating indicators such as the degree of indebtedness and the degree of financial autonomy, the financial stability of the company and the effectiveness of its financing policy will be assessed.

Solution:

Table 4.1. **Initial data for the diagnosis of the structure of asset financing sources of the Wine Factory "Agrotech Vin" JSC**

Indicators	Previous year	Current year	Absolute deviation, (+/-)	Growth rate, %
A	**1**	**2**	**3=2-1**	**4=(2/1)*100**
1. Equity, lei	321 287 270	340 534 802	19 247 532	105.99
2. Long-term liabilities, lei	457 674	12 650 455	12 192 781	2 764.08
3. Current liabilities, lei	321 524 826	308 066 688	-13 458 138	95.81
4. Total liabilities, lei	321 982 500	320 717 143	-1 265 357	99.61
5. Total liabilities, lei	643 269 770	661 251 945	17 982 175	102.80

*Source**:** author's calculations based on the financial statements (Annex 3).*

Analysing the data in Table 4.1, we observe that total liabilities increased in the current year compared to the previous year by 17 982 175 lei, equivalent to a growth rate of 2.80 p p., reflecting a slight expansion of the company's financing base, mainly influenced by an increase in equity of 19 247 532 lei and long-term debt of 12 192 781 lei. At the same time, current liabilities decreased by 13 458 138 lei, representing a reduction rate of 4.19 p.p. This may indicate an improvement in the company's liquidity and ability to meet its short-term obligations.

Table 4.2. **Assessment of the evolution of the structure of financing sources of the Wine Factory "Agrotech Vin" JSC**

Indicators	Previous year	Current year	Absolute deviation, (+/-)	Interval Optimal
Financial independence (autonomy) ratio (%) = (Equity/Total assets) *100	49.95	51.50	1.55	>50
Borrowed funds ratio (%) = (Total	50.05	48.50	-1.55	<50

liabilities/Total assets)*100				
Correlation ratio between borrowed funds and own funds (%) = (Total assets / Equity)*100	100.22	94.18	-6.04	<=100
General solvency rati (%) = (Total assets/Total debt)*100	199.78	206.18	6.40	>=200
Overall equity coverage ratio (%) = Total assets/Equity*100	200.22	194.18	-6.04	<=200

Source: author's calculations based on the financial statements (Annex 3).

The calculations presented in Table 4.2 highlight the fact that the Wine Factory "Agrotech Vin" JSC is characterised by a relatively high level of financial autonomy, as reflected by the fact that it exceeded the reference value for financial autonomy (50%) during the period analysed. Thus, the indicator increased from 49.95% in the previous year to 51.50% in the current year, recording an increase of 1.55 percentage points. This positive development attests to the consolidation of the entity's financial position and suggests an increased capacity for self-financing and a lower dependence on borrowed capital.

At the same time, there has been a decrease in the rate of borrowing, which fell from 50.05% to 48.50%, marking a reduction of 1.55 p.p. The decrease below the 50% threshold is favourable, as it indicates a decrease in the degree of indebtedness and a more balanced financial structure, in which equity capital has a more important share in financing the activity.

An analysis of the ratio between borrowed and own sources (correlation rate) shows a trend towards optimising the liability structure. While in the previous year there were 1.0022 lei of debt for every leu of equity, this year the ratio fell to 0.9418 lei, which is equivalent to a reduction of 6.04 percentage points. This development reflects an improvement in financing policy, by reducing the share of borrowed capital in favour of own sources.

The general solvency ratio increased from 199.78% to 206.18%, exceeding the 200% reference threshold in both periods. This situation reflects a solid capacity to cover liabilities to third parties, with total sources exceeding liabilities

by more than twice. The 6.40 p.p. increase can be attributed mainly to the increase in equity and the moderate reduction in total liabilities.

An analysis of the overall equity coverage ratio shows a slight decrease from 200.22% in the previous year to 194.18% in the current year, signalling a reduction in the pressure exerted by total liabilities on equity. In other words, each leu of equity capital finances a lower amount of liabilities, which is a sign of financial balance and structural efficiency. At the same time, keeping this indicator below the critical threshold of 200% is considered positive.

Based on the above, we can specify that the diagnosis of the company's financial structure reveals a stable and healthy financial situation, characterised by increasing financial autonomy, a moderate level of indebtedness and an adequate debt coverage capacity. Under these conditions, the risk of insolvency is low, and the company's management should continue to adopt prudent financial policies aimed at maintaining the current balance and strengthening the long-term financial position.

4.3 Equity capital as the primary source of financing for company assets

For most companies, equity is a primary source of financing. It is therefore no coincidence that the size, structure and changes in equity are of particular interest to various users of financial statements.

Equity capital is the amount remaining in the company's assets after deducting liabilities and provisions. From a management diagnosis perspective, equity capital is studied through the following stages [15]:

1. *Analysis of the size and evolution of equity in dynamics.* Here, the increase or decrease in equity as a result of economic activity is examined. An increase in equity is viewed positively, while a decrease indicates the existence of unfavourable trends in the development of the enterprise.

2. *Analysis of the structure of equity capital.* At this stage, changes in the composition of equity capital are analysed, because an increase in its value does not always lead to an improvement in its structural quality. The combination of the two stages of analysis can be seen in Table 4.3.

Table 4.3 **Analysis of the size and evolution of the equity structure of the Wine Factory "Agrotech Vin" JSC**

Indicators	Previous year		Current year		Absolute deviation, (+/-)	
	Amount, lei	Share, %	Amount, lei	Share, %	Amount, lei	Share, %
A	1	2	3	4	5=3-1	6=4-2
Share capital and unregistered capital	182 564 000	56.82	182 564 000	53.61	0	-3,21
Reserves	113 264 275	35.25	120 994 176	35.53	7 729 901	0.28
Profit (loss)	10 945 178	3.41	22 462 809	6.60	11 517 631	3.19
Other equity items	14 513 817	4.52	14 513 817	4.26	0	-0.26
Total equity	321 287 270	100	340 534 802	100	19 247 532	0

*Source**:** author's calculations based on the financial statements (Annex 3).*

Following the calculations, a favourable evolution of the equity capital of Wine Factory "Agrotech Vin" JSC is observed during the reporting period. Equity recorded an absolute increase of 19 247 532 lei, reaching 340 534 802 lei at the end of the period analysed. This increase is viewed positively, reflecting the consolidation of the company's financial base. The evolution was mainly determined by the dynamic increase in net profit by 11 517 631 lei and reserves by 7 729 901 lei.

An analysis of the structure of equity reveals a number of significant changes. Thus, although the share capital and unregistered capital remained constant in terms of value (182 564 000 lei), its share in total equity decreased by 3.21 percentage points, from 56.82% in the previous year to 53.61% in the current year. This relative decrease does not indicate an actual decrease in share capital, but reflects the more pronounced increase in the other components of equity, in particular the profit for the year and reserves.

Reserves increased both in absolute terms and as a percentage, the latter rising by 0.28 percentage points, from 35.25% to 35.53%. This development suggests a prudent and responsible financial strategy geared towards strengthening

permanent capital, which contributes to supporting financial stability and internal financing capacity.

Profit for the year, an essential component of equity, increased significantly, leading to an increase in its share of total equity from 3.41% to 6.60%, i.e. by 3.19 percentage points. This trend reflects the improvement in the company's economic and financial performance and is a clear indicator of the profitability of its activities during the period under review.

As regards other elements of equity, they remained constant in absolute terms (14 513 817 lei), but their share decreased slightly by 0.26 p.p., which is justified by the increase in other components of equity that attracted a larger proportion of the total.

The results of the analysis indicate that the positive dynamics of equity reflect a solid financial structure, with a clear trend towards consolidation of own sources, contributing to improving the financial autonomy of the company and reducing financial risk. This development supports the premises for sustainable and healthy development in the medium and long term.

3. *Analysis of the correlation between net assets and statutory capital.* This stage is particularly important for assessing the financial situation of joint-stock companies. The need arises from the following condition of the legislation in force: the value of the net assets of a joint-stock company cannot be less than the size of its share capital (statutory capital). In this context, the correlation rate between net assets and statutory capital is determined and assessed:

$$Correlation\ ratio\ between\ net\ assets\ and\ share\ capital = \frac{Net\ assets}{Share\ capital} \times 100\% \quad (4.6)$$

A ratio above unity indicates compliance with legislative requirements. If the ratio is below unity, the company is not entitled to pay dividends or issue securities. The annual shareholders' meeting is obliged to decide on the reduction of the share capital or the submission of additional contributions by shareholders to increase net assets or to liquidate the company. Otherwise, the liquidation of the company may be carried out in accordance with a court decision at the request of any shareholder.

Application

Based on the data in the balance sheet, analyse the ratio between the net assets and share capital of the Wine Factory "Agrotech Vin" JSC by drawing up an analytical table and interpreting the results obtained.

Solution:

Table 4.4 **Analysis of the correlation between the level of net assets and the share capital of the Wine Factory "Agrotech Vin" JSC**

Indicators	Previous year	Current year	Absolute deviation, (+/-)
1. Share capital lei	182 564 000	182 564 000	0
2. Long-term liabilities, lei	457 674	12 650 455	12 192 781
2. Current liabilities, lei	321 524 826	308 066 688	-13 458 138
4. Total liabilities, lei	321 982 500	320 717 143	-1 265 357
5. Total assets, lei	643 269 770	661 251 945	17 982 175
6. Net assets = Total assets - Total liabilities, lei	321 287 270	340 534 802	19 247 532
7.Correlation ratio between net assets and share capital, coefficient	1.76	1.87	0.11

Source: author's calculations based on the financial statements (Annex 3).

The data presented in Table 4.4 shows that, for the Wine Factory "Agrotech Vin" JSC, the correlation between net assets and share capital is favourable and in accordance with the legal requirements regarding maintaining the value of net assets at a level at least equal to that of share capital. Thus, in the previous year, net assets exceeded the value of share capital by approximately 1.76 times, and in the current year, this ratio increased to 1.87 times.

This development reflects an improvement in the company's ability to generate net value through self-financing, as the correlation rate increased by 0.11 points. The increase in net assets by 19 247 532 lei, in parallel with the constant maintenance of share capital, contributes to strengthening the financial stability of the entity and maintaining a solid ratio between own and borrowed resources.

4. *Factor analysis of the increase (decrease) in equity*. In order to carry out its economic activity efficiently, the company must contribute to the increase in the value of its equity. It is important that the increase in equity is determined by the increase in profit. The analysis of the increase (decrease) in equity is carried out on the basis of the increase in equity:

$$Equity\ growth\ increase = \frac{Reinvested\ net\ profit\ (net\ profit - dividends)}{Equity} \times 100\% \qquad (4.7)$$

The increase in equity capital growth characterises what percentage of the net profit obtained was retained by the company and used for investment purposes to develop its economic potential. In order to determine the causes that led to the change in equity capital growth, the following factorial formula is used:

$$\frac{Reinvested\ net\ profit}{Equity} = \frac{Net\ profit}{Sales\ revenue} \times \frac{Sales\ revenue}{Total\ assets} \times \frac{Total\ assets}{Equity} \times \frac{Reinvested\ profit}{Net\ profit} \quad (4.8)$$

Where:

$(\frac{Net\ profit}{Sales\ revenue})$ – return on sales revenue;
$(\frac{Sales\ revenue}{Total\ assets})$ – number of asset turnovers;
$(\frac{Total\ assets}{Equity})$ – financial leverage ratio;
$(\frac{Reinvested\ profit}{Net\ profit})$ – net profit reinvestment rate;

It is evident that changing any component of the formula leads to a change in the rate of return on equity, i.e. this indicator is influenced by four factors:

- The main internal source of equity growth is the success of operational activities; in the event of a decrease in profitability and the generation of losses, a decrease in the resulting indicator is observed under the influence of this factor.
- Accelerating asset turnover (increasing the number of turnovers) leads to an increase in equity, as long as the company's operations are profitable; otherwise, each additional asset turnover results in additional losses.
- The wider use of borrowed funds (increase in the degree of indebtedness and the financial leverage ratio) is advantageous if the profitability of the enterprise exceeds the rate of debt servicing costs, i.e. the interest rate. The opposite scenario means a decrease in equity due to attracting overly expensive loans.
- Reinvesting profits allows for an increase in equity without external financing. It should be noted that, in the event of losses, there is a reduction in previous investments and a decrease in equity.

5. *Analysis of the ability to manage equity capital*. This analysis examines the degree of flexibility of equity capital. The degree of flexibility of equity capital is assessed using the equity capital manoeuvrability ratio. The equity capital manoeuvrability ratio reflects the share of equity capital that is intended to finance the current activity of the enterprise, i.e. the part of equity capital invested in current assets.

$$Equity\ capital\ turnover\ ratio = \frac{Net\ current\ assets}{Equity\ capital} \times 100\% \quad (4.9)$$

In economic practice, it is generally accepted that a high equity capital turnover ratio contributes to the improvement of the economic and financial performance of the enterprise.

Application

In order to assess the capacity to use equity at the Wine Factory "Agrotech Vin" JSC, we will use balance sheet data to develop an analytical table and analyse the results obtained.

Solution:

Table 4.5 **Analysis of the equity capital turnover ratio**

Indicators	**Previous year**	**Current year**	**Absolute deviation, (+/-)**
1. Total equity, lei	321 287 270	340 534 802	19 247 532
2. Current assets, lei	329 235 100	354 409 801	25 174 701
3. Current liabilities, lei	321 524 826	308 066 688	-13 458 138
4. Net working capital, lei (rd 2-rd.4)	7 710 274	46 343 113	38 632 839
5. Return on equity	2.40	13.61	11.21

*Source**:** author's calculations based on the financial statements (Annex 3).*

Based on the calculations, it can be seen that the equity capital of the Wine Factory "Agrotech Vin" JSC shows an increasing manoeuvring capacity, which reflects a positive evolution in the dynamics of short-term financial balance. While in the previous year only 2.40% of total equity was in a form that allowed for manoeuvring, in the current year this proportion has increased significantly, reaching 13.61%.

This upward trend is supported by an increase in net working capital of 38 632 839 lei, which indicates an increased capacity to finance current activities from stable sources. As a result, the company has made notable progress in terms of liquidity and financial flexibility, reducing the pressure on external financing.

Maintaining this positive trend in the coming periods will contribute to strengthening the entity's financial position and support its economic and financial performance in the medium and long term.

4.4 Indebtedness and debt ratio of the company

In the course of its economic activity, in addition to its own sources of financing, the company also uses borrowed sources, which requires a diagnostic analysis of the company's debts.

Debts represent the obligations (commitments) taken (assumed) by the enterprise on the basis of previous events, the payment of which will result in the withdrawal from the enterprise of resources that constitute economic benefits. The size, composition and evolution of debts directly determine the stability of the financial situation and the company's dependence on its business partners.

As part of the diagnosis, the study of the enterprise's debt ratio is carried out through the following analytical steps:

1. *Analysis of the size and evolution of debts*. At the first stage, it is rational to study the absolute size and evolution of debts reflected in the liabilities section of the balance sheet. For this purpose, horizontal analysis is used, which involves calculating relative indicators of changes in debt compared to the previous period in relation to changes in sales volume and total sources of financing.

2. *Analysis of the structure of debts by nature (economic content*). Here, the structure of the enterprise's debts is examined according to the economic content of the components of borrowed sources that are reflected in the separate liability items of the balance sheet. As a rule, the vertical analysis method is used to diagnose the structure of debts.

3. *Structural analysis of debt by maturity – studies* all borrowed sources, which are divided into long-term debt and current debt. For this purpose, the following indicators are calculated:

Long-term debt ratio – reflects the share of loans with a maturity of more than one year in the total amount of the organisation's debts.

$$Long-term\ debt\ ratio = \frac{Long-term\ debt}{Total\ debt} \times 100\% \quad (4.10)$$

Where:

$$Total\ liabilities = Long-term\ liabilities + Current\ liabilities$$

The dynamic growth of the long-term debt ratio contributes to an increase in permanent capital, which is used to finance fixed assets. At the same time, companies with a high level of this ratio demonstrate that the entity has greater opportunities for capital investments in equipment renewal or technology modernisation.

Current debt ratio – represents the share of debts with a maturity of less than one year in the total amount of borrowed funds.

$$Current\ debt\ ratio = \frac{Current\ debt}{Total\ debt} \times 100\% \quad (4.11)$$

An increase in this coefficient over time is considered negative for the company.

4. *Analysis of debts by origin or source. For the analysis of debts according to this criterion*, the degree of enforceability of the debts will not be taken into account, but groups of debts will be formed depending on their source, *i.e.* from commercial banks (long-term and short-term bank loans), from the budget, from suppliers, staff, etc.

It should be noted that, from the point of view of the risk of falling under external influence or the risk of bankruptcy, the most dangerous are financial debts, debts to the budget and debts related to social and health insurance.

Financial debt ratio – measures the share of bank loans, loans received, including related interest, as well as debts related to financial leasing operations in the total debts of the organisation.

$$Financial\ debt\ ratio = \frac{Long\text{-}term\ and\ current\ financial\ debts}{Total\ debts} \times 100\% \quad (4.12)$$

The level of this indicator is significantly influenced by the nature of the activity and development policy of the non-commercial organisation. If the ratio in question increases dynamically, then it becomes strictly necessary to assess the rationality of attracting bank loans and borrowings in order to reduce the risks of falling under external influence.

The ratio of trade payables and advances received expresses the share of payables to suppliers for purchased goods and services received, as well as the amount of advances received in the total amount of the organisation's liabilities.

$$Ratio\ of\ trade\ payables\ and\ advances\ received = \frac{Trade\ payables\ and\ advances\ received}{Total\ liabilities} \times 100\% \quad (4.13)$$

In economic practice, this ratio determines the intensity of the commercial ties and relationships that the enterprise has with its business partners. The level of this indicator is influenced by the specifics of the company's field of activity, the terms of debt repayment, the organisation's bargaining power with internal and external business partners, and the company's management.

The ratio of debts to personnel (*Liabilities to staff ratio)* – reflects the share of debts to personnel related to remuneration for work and other operations

(e.g., compensation for expenses without receiving an advance, travel, use of personal property for business purposes) in the total debts of the enterprise.

$$Liabilities\ to\ staff\ ratio = \frac{Liabilities\ to\ staff}{Total\ liabilities} \times 100\% \quad (4.14)$$

An increase in the rate of liabilities to personnel over time can create problems with staff mobility and stability within the enterprise.

Social and health insurance debt ratio – shows the share of debts to social and health insurance bodies in the total debts of the enterprise.

$$Social\ security\ and\ health\ insurance\ debt\ ratio = \frac{Social\ security\ and\ health\ insurance\ debt}{Total\ debt} \times 100\% \quad (4.15)$$

Budget debt ratio – reflects the share of budget debts related to taxes and fees, as well as related penalties, in the total amount of debts.

$$Debt\ to\ budget\ ratio = \frac{Debts\ to\ the\ budg}{Total\ debts} \times 100\% \quad (4.16)$$

5. *Analysis of the stability of funding sources.* At this stage, debts are examined according to the stability of funding sources. For this purpose, **the financial stability ratio** (permanent capital ratio) is used - it expresses the share of funding sources that the enterprise can use to finance its economic activity over a long period of time.

$$Financial\ stability\ ratio = \frac{(Long-term\ liabilities + Equity)}{Total\ liabilities} \times 100\% \quad (4.17)$$

An increase in this ratio over time is viewed positively, as it reflects the strengthening of the organisation's financial stability. If, on the other hand, there is a decrease in financial stability over time, then the company is financing its assets on the basis of current debt, which may lead to a decrease in the company's liquidity.

6. *Analysis of long-term debt ratio.* Here, the structure of permanent capital is examined using three long-term debt indicators necessary for assessing credit risk.

$$Long - term\ debt\ to\ permanent\ capital\ ratio = \frac{Long-term\ debt}{Long-term\ debt + Equity} \times 100\% \quad (4.18)$$

It should be noted that from the creditor's point of view, an increase in the long-term debt to permanent capital ratio over time implies a negative trend that reflects an increase in the potential risk of falling under external influence, which cannot be controlled by either the company's management or its owners. In economic practice, a level of around 26-40% is considered advisable.

The self-financing ratio of permanent **capital** (the ratio of financial independence of capitalised sources or the ratio of solvency) reflects the structure of permanent capital that ensures long-term financing of the company's activities.

$$Self-financing\ rate\ of\ permanent\ capital = \frac{Equity}{Long-term\ debt\ +\ Equity} \times 100\% \quad (4.19)$$

In global practice, the lower limit of this ratio is also indicated - 60%.

Long-term debt to equity ratio - expresses how much money from long-term debt is attributable to one leu of own source.

$$Long-term\ debt\ to\ equity\ ra = \frac{Long-term\ debt}{Equity} \times 100\% \quad (4.20)$$

From the creditor's point of view, exceeding this rate of 100% is considered negative. Of course, it should be noted that a high level of this ratio allows owners to benefit from borrowed funds, as long as the return on investment in the organisation's activity exceeds the interest rate.

Long-term debt to share capital ratio - shows how much money from long-term debt is attributable to one leu of share capital.

$$Long-term\ debt\ to\ share\ capital\ ratio = \frac{Long-term\ debt}{Share\ capital} \times 100\% \quad (4.21)$$

As with the indicator mentioned above, this ratio is used in economic practice to determine whether the company has the capacity to take out new long-term loans if necessary, while also reflecting a certain level of guarantee for creditors regarding the possibility of recovering the amounts borrowed.

Based on the information in the balance sheet, the dynamics of debt ratios will be examined in order to assess the company's level of indebtedness, as shown in Table 4.6.

Table 4.6 **Analysis of the debt ratio of the Wine Factory "Agrotech Vin" JSC**

Indicators	**Previous year**	**Current year**	**Absolute deviation, (+/-)**
Long-term debt ratio	0.14	3.94	3.80
Current debt ratio	99.86	90.47	-9.39
Financial debt ratio	38.98	68.18	29.20
Trade debt ratio	52.90	47.62	-5.27
Debt ratio to personnel	1.38	0.73	-0.65
Social security and health insurance debt ratio	0.59	0.72	0.13

Debt ratio to the budget	1.98	2.39	0.41
Financial stability ratio	50.02	53.41	3.39
Long-term debt to permanent capital ratio	0.14	3.58	3.44
Self-financing ratio of permanent capital	99.86	96.42	-3.44
Long-term debt to equity ratio (leverage ratio)	0.14	3.71	3.57
Long-term debt to share capital ratio	0.25	6.93	6.68

*Source**:** author's calculations based on the financial statements (Annex 3).*

From the data in Table 4.6, it can be seen that during the reporting period there were a number of significant changes in the structure of the financing sources of Wine Factory "Agrotech Vin" JSC, reflected in the dynamics of the calculated debt indicators. Firstly, there was a considerable increase in long-term debt, reflected in an absolute increase of approximately 12.2 million lei. This trend is confirmed by the evolution of the long-term debt ratio, which rose from 0.14% in the previous year to 3.94% in the current year. This transformation reflects a change in the company's financing policy, with a more pronounced focus on external sources of long-term financing. Although such a strategy can contribute to the stability of permanent capital, it also implies an increase in financial risk and dependence on creditors.

At the same time, there was a reduction in current liabilities of over13.4 million lei, which led to a decrease in their ratio from 99.86% in the previous year to 90.47% in the current year. This development is favourable, as it implies a reduction in short-term financial pressure and, implicitly, an improvement in the company's liquidity position.

However, the financial debt ratio increased significantly by 29.2 percentage points, reaching 68.18% in the current year, although the absolute value of these debts decreased slightly, reflecting some changes in the internal structure of total debts, highlighting a greater exposure to financial costs associated with loans.

On the other hand, trade debts decreased by 2.12 million lei, and their rate decreased from 52.90% to 47.62%. This development may reflect a slight reduction in short-term commercial relations or an improvement in payment policies to suppliers, which contributes to increasing the company's credibility on the market.

Another positive element is the decrease in the share of debts to personnel in total liabilities, from 1.38% to 0.73%, despite a slight increase in value of 368.5

thousand lei, which indicates efficient management of salary payments. On the other hand, social security and health insurance debts increased moderately, from 0.59% to 0.72%. Although this increase is insignificant, it requires careful monitoring to prevent potential fiscal risks.

The budget debt ratio recorded a modest increase of 0.4 percentage points as a result of the accumulation of new tax liabilities, requiring rigorous supervision to avoid liquidity difficulties.

In terms of financial stability, this has improved, with the ratio increasing from 50.02% to 53.41%, or by 3.39 p.p., due to an increase in equity of over 19 million lei. This development indicates consolidated financial autonomy and reduced dependence on external financing, which are essential aspects for the company's financial soundness.

However, in analysing the data, a significant increase in the long-term debt ratio relative to permanent capital (from 0.14% to 3.58%) and equity (leverage ratio, from 0.14% to 3.71%) was noted, reflecting a more intensive use of external sources in the financing structure, which, although still acceptable, requires rigorous control to prevent possible financial imbalances. Also, the self-financing rate of permanent capital decreased slightly, from 99.86% to 96.42%, indicating a moderate increase in dependence on attracted resources, without, however, jeopardising the financial stability of the company.

A warning sign is the significant increase in the long-term debt ratio to share capital, from 0.25% to 6.93%, in a context where share capital remained stable in both periods analysed. This trend highlights increasing pressure on share capital and underlines the need to consolidate own sources of financing in order to maintain financial balance.

Although the analysis finds an improvement in financial stability and the management of current liabilities, the increase in long-term debt and pressure on share capital require the consolidation of own sources and careful monitoring of the financing structure to maintain financial balance.

Self-assessment questions:

1. What are the sources of financing for a company's assets?
2. In which balance sheet category are sources of financing included?
3. Discuss the importance of analysing the evolution of sources of financing within a company.
4. What are the main documents used to analyse sources of financing?
5. What criteria should financial managers analyse when managing sources of financing?

6. How does the choice of financing sources influence the economic performance of the company?
7. What is the financial autonomy ratio and what is the recommended minimum threshold for it?
8. What does a financial autonomy ratio of less than 50% mean?
9. What does the rate of attraction of borrowed sources indicate?
10. What does a general solvency ratio of more than 2 mean?
11. What is the effect of a financial leverage ratio exceeding 200%?
12. Why is equity capital considered the primary source of asset financing?
13. What are the four stages of equity analysis in management diagnosis?
14. How does the degree of indebtedness affect the financial stability of a company?
15. What types of debt are considered the most risky for a company?

Self-assessment tasks:

1. Define the concept of "sources of asset financing".
2. Describe the link between the structure of financing sources and the financial stability of the company.
3. Analyse how a company's fixed assets are financed.
4. Compare own and borrowed sources from the perspective of associated costs and risks.
5. Argue the advantages of maintaining a low level of debt.
6. Express your opinion on the impact of insufficient capitalisation on business viability.
7. Identify the risks generated by excessive financing from external sources.
8. Propose a strategy for improving the structure of financing sources for a highly leveraged company.
9. Develop a balanced financing plan for a company that wants to expand its production capacity.
10. Select a real company and perform a diagnostic analysis of its financing sources based on public financial statements. Assess the capital structure, debt ratio and financial balance, drawing relevant conclusions.

Self-assessment multiple-choice test:

1. The sources of financing for the company's assets are reflected in:

a) Assets

b) Liabilities

c) Profit and loss account
d) Cash flow

2. Which of the following represents an internal source of financing?
a) Bank loans
b) Share capital
c) Trade payables
d) Advances received

3. The financial autonomy ratio is calculated as the ratio between:
a) Liabilities and equity
b) Equity and total liabilities
c) Current assets and total assets
d) Short-term liabilities and total liabilities

4. A financial autonomy ratio below 30% indicates:
a) High financial stability
b) High financial independence
c) High risk of bankruptcy
d) High liquidity

5. The general solvency ratio measures the company's ability to pay its debts based on:
a) Current assets only
b) Fixed assets only
c) Total assets
d) Equity

6. An increase in the financial leverage ratio above 200% reflects:
a) Financial stability
b) Financial independence
c) High level of indebtedness
d) High profitability

7. Equity capital is:
a) Short-term loans
b) Share capital plus reserves and retained earnings
c) Total liabilities
d) Share capital only

8. Financial liabilities include:
a) Bank loans and finance leases
b) Payables to suppliers
c) Liabilities to staff
d) Taxes and duties

9. The increase in the long-term debt ratio indicates:

a) An increase in permanent capital
b) An increase in liquidity risk
c) A decrease in financial autonomy
d) A decrease in equity

10. For a financially healthy enterprise, the self-financing rate of permanent capital must be:

a) Below 30%
b) Between 30% and 50%
c) Over 60%
d) Close to 0%

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TOPIC 5. DIAGNOSIS AND MANAGEMENT OF THE ECONOMIC AND FINANCIAL RESULTS OF THE ENTERPRISE

Expected learning outcomes: RI 11; RI 14		
Knowledge/content units	**Skills**	**Responsibility and autonomy**
Content units: 5.1 The concept and managerial significance of a company's financial results . 5.2 Diagnosis of sales revenue 5.3 Diagnosis of gross profit (gross loss) 5.4 Diagnosis of profit generation from operating activities 5.5 Diagnosis of profit formation from other activities (non-operating activity) 5.6 Dynamics and structure of profit before tax and reserves for profit growth in the enterprise 5.7 Analysis of profit distribution	✓ defines the concepts of income, profit and financial result structure; explains the differences between operating and non-operating activities in profit formation; ✓ identify the fundamental components of economic results: income, expenses, gross profit, net profit; ✓ apply methods of income and profit analysis in specific financial situations; ✓ determines the causes of profit variations using calculated indicators; ✓ uses managerial tools to assess the financial performance of the company; ✓ analyses the structure and dynamics of financial results based on data series. ✓ evaluates the efficiency of operational processes by comparing actual profit with potential profit. formulates strategies for improving profitability and directions for managerial optimisation.	The student independently performs specific financial management functions at the economic entity level, formulating constructive proposals for the rational use of financial resources and for improving business results. The student is responsible for identifying alternatives or new approaches to improving processes, practices and policies for sustainable organisational development in a competitive environment.

KEY TERMS:

Gross profit (gross loss) — represents the difference between sales revenue and cost of sales; represents the basic operating result of an enterprise, before other operating income and expenses.

Sales revenue — the amount received or receivable from the sale of products, goods or services provided.

Cost of sales — the direct cost associated with the production and marketing of goods or services sold (e.g. raw materials, production wages, direct expenses).

Operating activity — involves the main activity of the company, which includes the production and sale of products and services.

Factor analysis — a method that determines the individual influence of factors (e.g. sales volume, prices, costs) on changes in a financial indicator (e.g. gross profit).

Balance method — a factor analysis technique that uses differences between periods to calculate the contribution of each factor to the variation in the indicator.

Other operating income — additional income obtained from the main activity but not directly from the sale of products (e.g. income from penalties, recovery of damages).

Distribution expenses — expenses related to the marketing and distribution of products, such as sales staff salaries, transport, marketing.

Administrative expenses — expenses related to the management and running of the business (e.g. administrative staff salaries, taxes, office maintenance).

Other operating expenses — miscellaneous expenses that do not fall into the above categories, such as losses from asset impairment or penalties.

Profit (loss) from operating activities — the net result of the main activity, calculated as gross profit plus other operating income minus operating expenses.

Profit (loss) from other activities — the result from non-operating activities, such as transactions with fixed assets, financial activities and exceptional events.

Fixed assets — goods and rights intended for long-term use in the enterprise's activity (e.g. buildings, machinery, land).

Profit (loss) before tax — accounting profit before income tax deduction, including all types of activities (operating and non-operating).

Financial income — income generated from financial operations, such as interest, dividends or exchange rate differences.

Financial expenses — expenses related to the company's financial activities, including interest and losses from exchange rate differences.

Pricing policy — the strategy adopted by the company in setting prices for products and services in order to maximise profit.

Economic efficiency — the ability of a company to use resources to generate profit and achieve its financial objectives.

5.1 The concept and managerial significance of a company's financial results

Financial results are a summary expression of a company's economic and financial performance over a management period. They are mainly reflected in the profit (or loss) obtained from the activity carried out, constituting an essential indicator of the economic efficiency and capacity of the company to generate added value.

From an accounting point of view, the financial result is determined as the difference between total income and total expenses. The calculation formula is:

$$Profit\ (loss) = Revenue - Expenses \tag{5.1}$$

This formula expresses the result of economic activity by comparing the total value of income earned with the level of expenses incurred during a given management period. If income exceeds expenses, the company records a profit, which indicates efficient activity and the ability to generate its own resources for reinvestment, development and return on capital. Conversely, if expenses are higher than income, a loss is recorded, signalling potential economic inefficiency or structural imbalances in the business model.

The main sources of information for diagnosing financial results are:

1. The profit and loss statement (Annex 2 to the Financial Statements);
2. Account sheet (621 "Income from operations with fixed assets", 622 "Financial income", 623 "Exceptional income", 721 "Expenses with fixed assets", 722 "Financial expenses", 723 "Exceptional expenses");
3. Cost register;
4. Sales register;
5. Business plan of the enterprise;
6. Internal statistical reports on operational activities, data from accounting and operational records, as well as specific recalculations made for this purpose.

In order to diagnose economic and financial results, enterprises use specific profit indicators:

Gross profit (overall loss) - reflects the result obtained from the sale of products, goods and services, calculated as the difference between sales revenue and their cost.

Profit (loss) from operating activities - expresses the result of the entity's core business, determined as the difference between revenues and expenses related to the main activity.

Profit (loss) from other activities represents the difference between revenues and expenses related to secondary activities.

Profit (loss) before tax includes the cumulative results of all activities carried out.

Net profit ***(net loss)*** represents the final result remaining after deducting income tax expenses.

From a managerial perspective, financial results have particular strategic and operational significance, constituting a fundamental tool for:

- ***Evaluating economic and financial performance.*** The indicators resulting from financial analysis allow for an objective assessment of the efficiency with which the company's resources are used and facilitate the comparison of performance over time, between successive periods or with competitors. They serve as a basis for management by objectives, supporting the measurement of the degree of achievement of the established indicators.
- ***Supporting managerial decisions.*** The information generated by financial results is essential for making decisions on development directions, future investments, financing methods (equity, loans), cost optimisation and operational efficiency. It also contributes to shaping strategies regarding the market, products and pricing policy.
- ***Control and adjustment of activity.*** Financial results provide a frame of reference for managerial control by comparing actual performance with planned performance. This analysis allows the identification of sources of efficiency or inefficiency, the diagnosis of the causes that led to deviations from objectives, and the adoption of the necessary corrective measures.
- ***Staff motivation and cultivation of a performance-oriented organisational culture***. In many companies, remuneration and bonus systems are linked to the achievement of certain financial objectives, which stimulates employee involvement, individual responsibility and initiative.
- ***Improving relations with third parties and attracting capital.*** Economic and financial performance influences the company's financial rating and the perception of investors, creditors and partners. A high level of profitability and financial stability contribute to strengthening the company's image in the market and facilitate access to external sources of financing.

The results of financial analysis are essential both for formulating the development strategy and organising the current activities of the enterprise, and for estimating future profits.

5.2 Diagnosis of sales revenue

In the context of a competitive market economy, ***sales revenue*** is a fundamental indicator of a company's economic and financial performance. It reflects the organisation's ability to transform its product or service offering into monetary value by satisfying customer demand. Sales revenue diagnosis is of major importance to management because it provides essential information on the efficiency of commercial activity and informs strategic and operational decisions.

Revenue from sales (sales volume, net sales) represents inflows of economic benefits generated during the financial year from the sale of products, goods, provision of services, performance of construction contracts, etc. These benefits can take various forms: cash receipts, non-monetary asset inflows, receipts for services provided by third parties, etc.

In economic activity, the diagnosis (analysis) of sales revenue has the following main objectives:

- assessing the dynamics and structure of revenues;
- identifying positive or negative trends;
- determining the factors that influence their evolution;
- supporting marketing, sales and production decisions;
- assessing competitiveness and market positioning.

The practical achievement of these objectives is of particular importance to the company, as it provides a clear understanding of the evolution and structure of sales revenue, while also helping to identify opportunities and risks, analyse internal and external influences on economic performance, and support effective decision-making in the areas of production, marketing and sales.From an accounting point of view, sales revenue is calculated according to the formula:

$$SR=RSPG+RSPW+RCC+RLC+RMC+ORS \qquad (5.2)$$

Where:

SR- sales revenue;

RSPG - revenue from the sale of products and goods;

RSPW - revenue from the provision of services and performance of works;

RCC - revenue from construction contracts;

RLC - revenue from leasing contracts;

RMC – revenue from microfinance contracts

ORS - other sales revenue.

An increase in sales revenue is considered positive for the company and indicates higher demand for the company's products or services, which contributes to increased profits, improved liquidity and a stronger market position, while a decrease in sales revenue can lead to financial difficulties, reduced investment and loss of competitiveness.

Application

Based on the financial statements of the Wine Factory "Agrotech Vin" JSC the evolution of sales revenue will be analysed, both in terms of absolute and relative values, and the results obtained will be interpreted in the context of the entity's economic and financial performance.

Solution

Table 5.1 **Assessment of the evolution of sales revenue of the Wine Factory "Agrotech Vin" JSC**

Indicators	**Previous year**		**Current year**		**Deviation, (+/-)**		**Gro-wth rate, %**
	Amount lei	**Share, %**	**Amount, lei**	**Share, %**	**Amount, lei**	**Share, %**	
Revenue from the sale of products and goods	35 8881 040	99.64	352 764 246	99.69	-6 1167 94	0.05	98.30
Revenue from services rendered and work performed	1 311 176	0.36	1 096 402	0.31	-214774	-0.05	83.62
Total sales revenue	360 192 216	100	353 860 648	100	-6 331 568	0.00	98.24

*Source**:** author's calculations based on the financial statements (Annex 3).*

Analysing the data in Table 5.1, we find that in the current year, the total sales revenue of the Wine Factory "Agrotech Vin" JSC decreased by 6 331 568 lei compared to the previous year, which is equivalent to a decrease of 1.76 percentage points. This decrease was mainly due to the reduction in revenues from the sale of products and goods, which fell by 6 116 794 lei, representing 98.30% of the

previous year's level. Revenues from the provision of services and the execution of works also decreased by 214 774 lei, representing a decrease of approximately 16.38 p.p.

Examining the structure of revenues, we observe that in both periods analysed, revenues from the sale of products and goods dominated, with a share of 99.64% in the previous year and 99.69% in the current year, even recording a slight percentage increase of 0.05 p.p., despite the reduction in absolute value. In contrast, revenues from services and works had an insignificant share, falling from 0.36% in the previous year to 0.31% in the current year, reflecting a reduction in the contribution of this segment to total revenues. The results of the analysis show that the evolution of sales revenues reflects a significant dependence of the company on its main commercial activity, to the detriment of diversifying its sources of income. This situation highlights the importance of strengthening auxiliary services as an essential element for ensuring sustainable and balanced growth.

Sales revenue can be analysed from several perspectives, each providing relevant information for assessing the company's economic performance. The main aspects include:

1. **Diagnosis of the size and evolution of sales revenue -** aims to analyse them in absolute and relative terms, by comparing them with previous years' results and with the objectives in the Business Plan. This analysis, based exclusively on data from the profit and loss statement, involves calculating deviations, growth rates and increases, as well as the degree of plan achievement. Revenues can also be compared with those of competitors or the industry average, providing a clear picture of operational performance.

2. **Structural diagnosis of sales revenue** – is an analytical method that examines the composition and weight of the various components of sales revenue in order to highlight the main sources of revenue generation and their relative dynamics within total revenue.

The structural diagnosis of sales revenue can be classified according to a variety of criteria, each with a different degree of informative relevance. This classification allows users of financial statements to assess multiple dimensions of the company's activity, such as the diversification of revenue sources, strategic orientation or commercial efficiency.

a) ***Structural diagnosis of sales by type of operational activity*** **-** allows the identification of the actual profile of the company's activity — production, trade, services or construction — which does not always coincide with the officially declared one. This analysis highlights whether the activity is specialised or diversified and, in the case of a multilateralised activity, establishes the existence of a core activity or a balanced distribution

between several types. At the same time, it tracks the stability or change in the structure of revenues over time.

b) ***Structural diagnosis of sales by market segments (sectors)*** **—** tracks revenue trends by geographical area in which the company operates (e.g. Republic of Moldova, CIS, EU, etc.), highlighting the contribution of each segment to total revenue. Special importance is given to export revenues, whose growth supports the accumulation of foreign currency and expansion into foreign markets.

c) ***The structural diagnosis of sales by form of payment*** highlights how customers pay for products or services – in cash, by bank transfer or by exchange of assets/services. The aim is to track the share of receipts in national or foreign currency, correlated with the structure of the sales markets. Foreign currency receipts unrelated to exports may indicate possible legal non-compliance.

d) ***The structural diagnosis of sales*** by payment term highlights the proportion of advance or credit sales, which is important for estimating working capital. A high proportion of credit sales, combined with outstanding receivables, signals problems in collection management.

Although not required to be included in financial statements, this information may be provided to investors or creditors.

3. **The factorial diagnosis of sales revenue** is essential for understanding the causes of its variations and for informing managerial decisions. This involves integrating data from financial and managerial accounting and must be tailored to the specific nature of the company's business. The main factors analysed are production volume, changes in finished product inventories and sales price trends. In general, an increase in production volume leads to an increase in revenue, provided that other factors remain constant. However, revenue can also increase in the event of a decline in production if products from inventories are sold, and the reduction in inventories can offset lower production. On the other hand, price increases can contribute to higher sales revenue, provided that the volume sold remains constant; however, higher prices can lead to a decline in demand, which can result in the accumulation of inventory and, implicitly, a reduction in sales revenue.
Understanding these relationships is important for company management in decision-making and for investors or creditors, as they influence the company's expenses, profits and financial health.

5.3 Diagnosis of gross profit (gross loss)

Profit formation diagnosis is based on the analysis of gross profit (or loss), considered the main and most relevant component in assessing economic performance. The analytical process begins by examining the evolution of the gross profit (or overall loss) structure, depending on the types of operational activities carried out.

In the specialised literature, gross profit (gross loss) represents the profit (loss) obtained by the enterprise from the sale of finished products, the marketing of goods, the provision of services or the execution of construction works, other activities that are part of the operational activity of the enterprise [1, p. 49].

According to S.N.C. "Presentation of Financial Statements", gross profit reflects the difference between sales revenue and cost of sales, determined by the following formula:

$$Gross\ profit = Sales\ revenue - Cost\ of\ sales \quad (5.3)$$

From an economic point of view, an enterprise may record either an increase or a decrease in gross profit. The increase or decrease in gross profit, analysed from the perspective of its evolution and structure, reflects changes in the economic efficiency of the enterprise and allows the identification of the causes that have positively or negatively influenced the overall result (gross result).

Thus, an increase in gross profit may reflect an improvement in operational performance, efficient cost management, increased sales revenue or the application of an appropriate pricing policy. In its structure, a high share of results from core (operating) activities indicates a solid financial position of the company. On the other hand, a decrease in gross profit may signal an increase in production costs, a decrease in demand, inefficiencies in business operations, or inappropriate management decisions.

From a structural point of view, an increase in the share of negative results from ancillary activities may highlight an imbalance in the overall management of the company, which may affect the stability and sustainability of long-term financial performance.

Application

Based on the financial statements of the Wine Factory "Agrotech Vin" JSC, an analysis of the dynamics and structure of gross profit will be carried out, broken down by the main categories of operational activity. The results obtained will be

interpreted in correlation with the entity's economic and financial performance in order to highlight the efficiency of the activities carried out.

Solution

Table 5.2. **Examination of the dynamics and structure of gross profit by category of operational activity**

Indicators	Previous year		Current year		Deviation, (+/-)	
	Amount, lei	**Share, %**	**Amount, lei**	**Share, %**	**Amount, lei**	**Share, %**
Profit from the sale of products and goods	67 311 350	99.56	83 013 512	98.87	15 702 162	-0.69
Profit from provision of services and execution of works	299 076	0.44	947 199	1.13	6 481 23	0.69
Gross profit	67 610 426	100	83 960 711	100	16 350 285	0

*Source**:** author's calculations based on the financial statements (Annex 3).*

Following the calculations, we note that during the period analysed, the gross profit of the Wine Factory "Agrotech Vin" JSC increased significantly, from 67 610 426 lei in the previous year to 83 960 711 lei in the current year, representing an absolute increase of 16 350 285 lei. This development reflects a significant improvement in the company's overall financial results. The increase in gross profit is mainly due to the profit obtained from the sale of products and goods, which increased by 15 702 162 lei compared to the previous year. At the same time, a positive contribution, albeit more modest in absolute terms, was also made by the profit from the provision of services and the execution of works, which increased by 648 123 lei in the reporting year, indicating a favourable trend in the development of auxiliary activities.

From a structural point of view, the share of profit from the sale of products and goods in total gross profit remains dominant, but recorded a slight decrease, from 99.56% in the previous year to 98.87% in the current year, representing a

decrease of 0.69 percentage points. In contrast, the share of profit from the provision of services and the execution of works increased from 0.44% to 1.13%, signalling a gradual diversification of profit sources.

This is a positive trend, as the company is not only consolidating its total profit, but also diversifying its revenue-generating activities, gradually reducing its dependence on its core business of selling products and goods.

The change in gross profit between two consecutive years is not accidental, but is due to the influence of several economic factors. To better understand how this change came about, factor analysis is applied, an economic research method that allows the decomposition and quantification of the influence of each factor that determined the variation of the analysed indicator.

Table 5.3. **Factor analysis of the gross profit of the Wine Factory "Agrotech Vin" JSC**

Indicators	**Previous year**	**Current year**	**Deviation, +/-**	**Result of factors' influence, (+/-)**
Revenue from sales, lei	360 192 216	353 860 648	-6 331 568	-6 331 568
Cost of sales, lei	292 581 790	269 899 937	-22 681 853	22 681 853
Gross profit, lei	67 610 426	83 960 711	16 350 285	16 350 285

*Source**:** author's calculations based on the financial statements (Annex 3).*

A factor analysis of gross profit shows that, during the period analysed, it increased by 16 350 285 lei in the current year compared to the previous year. This is a favourable development and is mainly due to the decrease in the cost of sales, which had a positive impact on gross profit, contributing 22 681 853 lei to its increase. On the other hand, the decrease in sales revenue had a negative impact, leading to a reduction in gross profit of 6 331 568 lei.

In conclusion, it can be said that cost optimisation played an essential role in improving profitability, reflecting more efficient resource management and increased operational efficiency during the period analysed.

Thus, factor analysis not only highlights the changes in gross profit, but also allows for the accurate identification of the causes that led to these variations. In this context, the main factors influencing the evolution of gross profit are as follows:

- *changes in the sales volume of products (services provided)* – has a direct influence on the size of the resulting indicator. An increase in the volume of products sold (services provided) leads to an increase in gross profit, and conversely, a reduction in sales volume leads to a decrease in gross profit.
- *changes in the structure and range of products sold (services provided*) – can have both a positive and negative influence on the size of gross profit (overall loss). As the share of more profitable products (services) in the total sales volume increases, so does the amount of gross profit, and vice versa, a decrease in the share of more profitable products (services) leads to a decrease in gross profit.
- *Changes* in *the cost of sales of products (services provided)* have an inverse effect on gross profit (overall loss): an increase in the cost of sales leads to a decrease in profit, while a decrease in the cost of sales leads to an increase in profit.
- *changes in the prices of products sold (services provided)* – directly influence the amount of gross profit (overall loss): price increases lead to higher profits, and vice versa.

Combining these factors provides a clear picture of the efficiency of economic activity and allows for more informed management decisions.

5.4 Diagnosis of profit generation from operating activities

The diagnosis of profit formation from operating activities is a complex analysis that aims to identify and evaluate how the company generates profit from its core activities, i.e. from its current operating activities, without taking into account income or expenses from other activities.

According to S.N.C. "Presentation of financial statements", profit (loss) from operating activities represents the difference between the revenues and expenses obtained by the entity from its core business, according to the formula:

$$ROA = GP + OOI - (DE + AE + OOE) \quad (5.4)$$

Where:

ROA - result from operating activities;
GP - gross profit;
OOI - other operating income
DE -distribution expenses;
AE – administrative expenses;
OOE – other operating expenses.

In order to correctly interpret the operating result, the components of the related income and expenses must be analysed in detail, including:

Other operating income includes: income from the disposal of current assets; income from penalties; income from the recovery of material damage; income from surplus fixed and current assets identified during inventory; income from the settlement of expired debts; income from adjustments for depreciation of current assets; income related to favourable differences between the official exchange rate of the NBM and the foreign currency purchase-sale rate; other operating income.

Distribution expenses include: commercial personnel expenses; expenses related to the depreciation, maintenance and repair of fixed assets for commercial purposes; expenses related to packaging and other materials used in the marketing of products and goods; expenses related to the transportation of products and goods; advertising and marketing expenses; expenses related to the repair and servicing of products and goods during the warranty period; expenses related to impaired trade receivables; expenses related to returns and discounts; other distribution expenses.

Administrative expenses include: administrative personnel expenses; expenses related to the depreciation, maintenance and repair of fixed assets for administrative purposes; expenses related to taxes and duties, except for income tax; expenses for philanthropic and sponsorship purposes; expenses related to administrative services; protocol (representation) expenses; expenses related to the delegation of administrative staff; other administrative expenses.

Other operating expenses include: the book value and expenses related to other current assets disposed of; expenses related to penalties; expenses related to shortages and losses from the impairment of fixed and current assets; expenses related to settled impaired receivables, except for commercial ones; expenses related to adjustments for depreciation of current assets; expenses related to unfavourable differences between the official exchange rate of the NBM and the foreign currency purchase-sale rate; other operating expenses (chart of accounts).

The assessment of the evolution of the operating result is carried out through factor analysis, which allows the identification and quantification of the influence of the factors that determined the changes that occurred, in dynamics, on the structure and level of operating profit (or loss).

By applying this method, it is possible to highlight how each component of the factorial formula contributes to the formation of the operating result. Gross profit (or gross loss) and other operating income have a direct influence, while expenses for the period have an indirect effect, affecting the final value of the entity's operating result.

Given the additive relationship between the influencing factors and the result indicator, the balancing method is the most appropriate for performing a factor analysis of profit (or loss) from operating activities.

Table 5.4. **Factor diagnosis of profit from operating activities of the Wine Factory "Agrotech Vin" JSC**

Indicators	**Previous year**	**Current year**	**Deviation, +/-**	**Result of factor influence**
Gross profit, lei	67 610 426	83 960 711	16 350 285	16 350 285
Other operating income, lei	18 974 299	20 859 900	1 885 601	1 885 601
Distribution expenses, lei	21 939 758	24 647 716	2 707 958	-2 707 958
Administrative expenses, lei	34 958 663	37 419 437	2 460 774	-2 460 774
Other operating expenses, lei	20 531 319	20 304 436	-226 883	226 883
Operating profit, lei	9 154 985	22 449 022	13 294 037	13 294 037

*Source**:** author's calculations based on the financial statements (Annex 3).*

Based on the data presented in Table 5.4, we can state that the operating result obtained by the Wine Factory "Agrotech Vin" JSC in the current year increased by 13 294 037 lei compared to the previous year. This increase was primarily due to a 16 350 285 lei increase in gross profit, which contributed positively to the operating result.

Another positive influence on the increase in operating profit was the increase in other operating income by 1 885 601 lei, as well as the decrease in other operating expenses by 226 883 lei, contributing to an increase in the result indicator by 2 112 484 lei.

At the same time, the increase in distribution expenses by 2 707 958 lei, as well as administrative expenses by 2 460 774 lei, had a negative impact on the operating result, leading to a decrease in operating profit by a total of 5 168 732 lei.

In the future, more efficient management of distribution and administrative expenses is recommended, which could contribute to a further improvement in the operating financial result.

Therefore, the balancing method is an effective and reliable tool in the factor analysis of operating profit, facilitating the accurate identification of the influence of each factor on the variations of the analysed indicator.

5.5 Diagnosis of profit formation from other activities (non-operating activity)

The diagnosis of profit formation from non-operating activities involves analysing the influence of activities that are not part of the current operating processes on the overall result of the enterprise. Thus, the size of the profit or loss does not depend exclusively on the performance of the operating activity, but also on the results obtained from secondary or occasional activities that are not directly related to the main activity. The calculation formula will be:

$$\begin{gathered}\textit{Result from other activities (profit/loss)} = \\ \textit{Result from operations with fixed and exceptional assets (profit/loss)} \pm \\ \textit{Financial result (profit/loss)}\end{gathered} \quad (5.5)$$

The result from other activities may undergo constant changes, positively influencing the company's development in the event of an increase and negatively affecting its activity in the event of a decrease. Among the activities that may affect the size of the result from other activities are:

Profit/loss from operations with fixed and exceptional assets – represents the difference between income and expenses from operations with fixed and exceptional assets. The formula for calculating this is expressed as:

Profit from operations with fixed and exceptional assets = Income from fixed and exceptional assets - Expenses from fixed and exceptional assets.

(5.6)

According to the chart of accounts, *income from operations with fixed assets includes*: income from the disposal of intangible assets; income from the disposal of tangible assets; income from the disposal of real estate investments; income from the disposal of other fixed assets; income from the reversal of losses from the impairment of fixed assets; income from the settlement of negative goodwill; other income from transactions with fixed assets.

Expenses related to fixed assets include: the book value and expenses related to intangible assets disposed of; the book value and expenses related to tangible assets disposed of; the book value and expenses related to real estate

investments disposed of; the carrying amount and expenses related to other disposed fixed assets; losses from the impairment of fixed assets; losses from the settlement of positive goodwill; expenses related to provisions for fixed assets; other expenses related to fixed assets.

The following may be reflected as *extraordinary income*: income from compensation for losses due to natural disasters; income from compensation for losses due to other extraordinary events; other extraordinary income.

Exceptional expenses may include: expenses related to natural disasters; expenses related to other exceptional events; other exceptional expenses.

The result from financial activity (profit/loss) represents the difference between income and expenses from financial activity and shall be calculated analytically according to the formula:

$$Result\ from\ financial\ activity\ (profit/loss) = Financial\ income - Financial\ expenses \quad (5.7)$$

Financial income may include: income from participation interests; interest income; income from other long-term financial investments; income related to value adjustments on long-term and current financial investments; income from the disposal of financial investments; income from exchange rate differences; income from differences in amount; other financial income.

Financial expenses may include the following: interest expenses; expenses related to value adjustments on long-term and current financial investments; expenses related to the disposal of financial investments; expenses from exchange rate differences; expenses from amount differences; other financial expenses.

Furthermore, we will analyse the diagnosis of the company's non-operating activity based on the data presented in Table 5.5

Table 5.5. **Diagnosis of the results from other activities of the Wine Factory "Agrotech Vin" JSC**

Indicators	Previous year		Current year		Deviation+/-	
	Amount lei	Share, %	Amount, lei	Share, %	Amount, lei	Share, %
1. Result: financial profit (loss)	3 776 610	100	8 387 930	100	4 611 320	0

2. Result from operations with fixed assets and exceptional items: profit (loss)	0	0	0	0	0	0
3. Result from other activities: profit (loss), (rd.1+rd.2)	3 776 610	100	8 387 930	100	4 611 320	0

Source: author's calculations based on the financial statements (Annex 3).

The data presented in Table 5.5 show that the Wine Factory "Agrotech Vin" JSC achieved a positive non-operating result both in the current year and in the previous year. During the financial year, the profit from other activities amounted to 8 387 930 lei, which represents an increase of 4 611 320 lei compared to the previous period, when it was 3 776 610 lei.

This increase in profit from non-operating activities was determined by the improvement in the result from financial activities, while no income or losses were obtained from activities with fixed assets and exceptional operations, either in the reporting year or in the previous year.

It should be noted that the share of the result from financial activities was 100% in both years, which reflects the fact that the entire profit from the company's non-operating activities was generated exclusively by this category.

Thus, this analysis provides a clear picture of the impact of non-operating activities on financial performance and facilitates the identification of the real sources of profit or loss, supporting future strategic decision-making.

5.6 Dynamics and structure of profit before tax and reserves for profit growth in the enterprise

The analysis of the dynamics and structure of profit (loss) before tax is an essential component of the financial analysis of the enterprise, aiming to assess the economic performance achieved before the influence of taxation. This type of analysis allows the identification of trends in the evolution of profit (loss) before tax, as well as an understanding of the structure of its sources within the activities carried out by the enterprise.

In accordance with the provisions of the National Accounting Standard "Presentation of Financial Statements", profit (loss) before tax comprises the profit (loss) obtained by the entity during the management period from all types of activities. Profit (loss) before tax is referred to as accounting profit (loss). Profit (loss) before tax may also be referred to as accounting profit and is calculated analytically using the following formula:

$$Profit\ (loss)\ before\ tax = Result\ from\ operating\ activities \pm Result\ from\ other\ activities\ (profit/loss) \quad (5.8)$$

The first step in analysing profit before tax is to assess its dynamics by comparing the value of the profit (loss) with the results of previous years and examining the changes in the evolution of the accounting profit (loss) over the last few years. As a rule, an increase in profit before tax over time is viewed positively, as it is generated by factors such as increased operating income, cost optimisation, additional financial income and efficient management of assets and liabilities. However, a decrease in this result is considered negative and may result from a reduction in revenues due to low demand or unfavourable economic conditions, an increase in operating and financial expenses, losses from exceptional activities or inappropriate management decisions. At the same time, profit before tax can also be analysed from a structural point of view, by assessing the contribution of each type of activity to the formation of accounting profit.

By integrating dynamic and structural analysis, a comprehensive overview of the entity's financial performance is obtained, allowing both the identification of long-term trends and specific factors influencing profit before tax, which facilitates informed and well-founded management decisions.

Application

We will analyse the evolution and structure of the profit before tax of the Wine Factory "Agrotech Vin" JSC compared to the previous year, using data from the profit and loss statement (Annex 2 to the Financial Statements) to prepare an analytical table and interpret the information obtained.

Solution:

Table 5.6. **Analysis of the dynamics and structure of pre-tax profit of the Wine Factory "Agrotech Vin" JSC**

Indicators	Previous year		Current year		Deviation+/-	
	Amount, lei	Share, %	Amount, lei	Share, %	Amount, lei	Share, %
Operating profit	9 154 985	70.80	22 449 022	72.80	13 294 037	2.00
Result from other activities	3 776 610	29.20	8 387 930	27.20	4 611 320	-2.00
Profit (loss) before tax	12 931 595	100	30 836 952	100	17 905 357	0

Source: author's calculations based on the financial statements (Annex 3).

The data presented in Table 5.6 show that the Wine Factory "Agrotech Vin" JSC. achieved a positive pre-tax profit both in the current year and in the previous year. In the current year, the pre-tax profit amounted to 30 836 952 lei, which represents an increase of 17 905 357 lei compared to the previous period, when the profit was 12 931 595 lei. This increase was mainly due to a significant increase in operating profit of 13 294 037 lei, which made an important contribution to the increase in the accounting result. In addition, the result from other activities increased by 4 611 320 lei, positively influencing profit before tax.

From a structural point of view, the share of profit from operating activities in profit before tax is predominant in both periods under review and increased slightly from 70.8% in the previous year to 72.8% in the current year, reflecting the consolidation of the company's core business. At the same time, the share of income from other activities decreased from 29.2% to 27.2%, indicating a slight decrease in dependence on ancillary income.

This development is viewed positively, as it shows that the company is strengthening its profitability mainly through its operating activities, reflecting the efficient performance of its core business and sustainable long-term financial growth potential.

5.7 Analysis of profit distribution

The analysis of the company's profit distribution begins with a general assessment of the situation, which involves a quick review of the main directions of profit distribution. In this context, the first step is to study the distribution of profit before tax into two parts:

1. Income tax expenses;
2. Net profit (net loss).

Income tax expenses – represent the amount owed to the state in the form of tax, calculated on the basis of taxable profit (profit before tax, adjusted in accordance with tax legislation). It is a mandatory expense and appears in the profit and loss account, being deducted before determining the net profit.

$$Income\ tax\ expense\ =\ Profit\ before\ tax\ \times\ Tax\ rate \qquad (5.9)$$

Tax rate – represents the percentage established by law (in the Republic of Moldova, for example, it is usually 12% for economic agents - but may vary depending on regulations and the type of taxpayer) [4, 13];

Net profit – reflects the final result of a company's activity, obtained after deducting all expenses, including income tax. It constitutes the amount remaining at the company's disposal and can be used for distributing dividends, making investments, setting up reserves or other uses determined by the entity's management.

$$Net\ profit\ =\ Profit\ before\ tax\ -\ Income\ tax\ expenses \qquad (5.10)$$

The distribution of profit is strictly regulated by tax legislation and is not within the remit of the business owners. The income tax liability, as well as any claims the business may have against the budget, are determined on the basis of taxable income, which differs from accounting profit due to permanent and temporary differences. Thus, there may be situations where income tax expenses exceed pre-tax profit or the company owes tax even in the event of an accounting loss.

At the first stage of profit distribution analysis, comparisons are made with the previous period, based on the information in the profit and loss statement.

Table 5.7 presents the analysis of profit distribution based on the profit and loss statement data (Annex 2 to the financial statements of the Wine Factory “Agrotech Vin” JSC).

Table 5.7 **Assessment of the dynamics of the profit distribution structure before taxation of the Wine Factory "Agrotech Vin" JSC**

Indicators	Previous year		Current year		Deviation, (+/-)	
	Amount, lei	Share, %	Amount, lei	Share, %	Amount, lei	Share, %
A	**1**	**2**	**3**	**4**	**5=3-1**	**6=4-2**
Profit before tax	12 931 595	100	30 836 952	100	17 905 357	0.00
Income tax expenses	1 976 135	15.28	4 176 613	13.54	2 200 478	-1.74
Net profit	10 955 460	84.72	26 660 339	86.46	15 704 879	1.74

*Source**:** author's calculations based on the financial statements (Annex 3).*

According to the calculations in Table 5.7, the Wine Factory "Agrotech Vin" JSC recorded a positive trend in the distribution of pre-tax profit in the current year compared to the previous period. Thus, while in the previous year 15.28% of the total accounting profit was directed to the budget in the form of income tax, and 84.72% represented the net profit remaining at the disposal of the enterprise, in the reference year the share of income tax decreased slightly to 13.54%. As a result, net profit increased proportionally, reaching 86.46% of accounting profit.

In absolute terms, income tax expenses increased by 2 200 478 lei. However, this increase was driven by a significantly higher increase in pre-tax profit, namely 17 905 357 lei. This development allowed for a net profit of 26 660 339 lei, which is 15 704 879 lei more than the previous year.

This dynamic reflects a favourable development for the company, indicating both an increased capacity to generate profit and improved efficiency in managing the tax burden. As a result, the increase in the share of net profit in the accounting profit structure provides a solid basis for reinvesting financial resources and for the sustainable development of the company's activity.

The next stage of the analysis examines the directions of distribution of the net profit remaining at the disposal of the entity. In accordance with the legislation in force, the distribution of net profit is the exclusive competence of the general meeting of owners (shareholders, associates) of the entity. The analysis compares the analytical records on the actual use of profit with the owners' decision, approved at the general meeting and reflected in the corresponding minutes. The owners of the company may distribute the net profit for the following purposes:

- Creation of reserves (funds);
- Payment of interest on bonds placed by the entity;
- Increasing the entity's share capital;
- Covering losses from previous years;
- Payment of remuneration to members of management bodies (board of directors, audit committee, etc.);
- Payment of dividends;
- Sponsorship;
- Other purposes in accordance with the law, the entity's articles of association and the owners' decision

Thus, rigorous analysis and efficient distribution of profits contribute significantly to financial stability, sustainable development of the enterprise and achievement of the owners' strategic objectives.

Self-assessment questions:

1. How is the amount of profit in an enterprise determined? Formulate the mathematical relationship.
2. How do you differentiate between gross profit, operating profit and net profit?
3. What is the managerial significance of a company's financial results?
4. How can financial results contribute to the assessment of economic and financial performance?
5. What are the main objectives of diagnosing sales revenue?
6. Why is it important to analyse the dynamics and structure of sales revenue?
7. What is the structural analysis of sales revenue and what are its purposes?
8. How can the structural analysis of sales revenue be carried out by type of operational activity?
9. What information does the structural analysis of sales revenue by geographical segment provide?
10. Why is it important to analyse revenue structure by payment method?
11. How does the payment term influence the structure of sales revenue and why is this analysis relevant?
12. What does factor analysis of sales revenue involve and why is it necessary to correlate financial and managerial accounting?
13. What are the main factors influencing revenue from the sale of finished products?
14. Why is the evolutionary analysis of gross profit important for the enterprise?
15. What are the main components of the RAO formula for operating profit?

16. How does each factor – gross profit, other operating income, distribution expenses, administrative expenses and other operating expenses – influence operating profit?
17. How is profit (loss) from operations with fixed assets and exceptional items calculated?
18. What is profit (loss) before tax?
19. What is the analytical formula for calculating profit before tax?
20. What does the structural analysis of profit before tax allow?
21. How does gross profit analysis contribute to managerial decision-making in a company?
22. How does profit before tax analysis support management in evaluating economic performance?
23. What role does profit before tax analysis play in optimising the management strategy of an economic entity?

Self-assessment tasks:

1. List the main indicators of the economic and financial performance of a company.
2. Explain the difference between gross profit and net profit.
3. Analyse the impact of changes in operating expenses on operating profit.
4. Identify the internal and external factors that influence economic and financial results.
5. Argue the need for active management of financial results in the decision-making process.
6. Argue for a managerial decision to reduce costs as a means of improving profitability.
7. Express your opinion on the sustainability of rapid profit growth in an unstable economic context.
8. Develop a plan of managerial measures to improve the financial results of a company in difficulty.
9. Develop a tool (analysis sheet) for monthly monitoring of economic and financial results.
10. Analyse the economic and financial results of a real company using data from its financial statements and draw conclusions about its performance.

Multiple-choice self-assessment test:

1. What is the basic formula for determining profit (loss)?

A. Profit = Assets – Liabilities
B. Profit = Revenue – Expenses
C. Profit = Equity – Expenses
D. Profit = Income from other activities – Operating expenses

2. **What type of income does revenue from the sale of products and provision of services include?**

A. Income from other activities
B. Financial income
C. Income from operating activities
D. Exceptional income

3. Gross profit is calculated as the difference between:

A. Total income and administrative expenses
B. Sales income and cost of sales
C. Operating income and other expenses
D. Net profit and income tax

4. Which of the following represent operating expenses?

A. Finance lease costs
B. Expenses related to the acquisition of fixed assets
C. Interest income from investments
D. Maintenance costs for the premises

5. How does an increase in the cost of sales affect gross profit?

A. Increases profit
B. It does not affect profit
C. Decreases profit
D. Has a positive influence on revenue

6**. What method is used for factor analysis of operating profit?**

A. ABC method
B. Score method
C. Balance sheet method
D. Regression method

7. **What is the structural analysis of sales revenue by market segment?**

A. Comparing prices with competitors
B. Estimating gross revenues
C. Distribution of revenues according to geographical markets
D. Calculating profit from other activities

8. Which of the following is not income from fixed asset operations?

A. Income from the disposal of tangible fixed assets

B. Revenue from royalties

C. Income from disposal of long-term financial investments

D. Other income from transactions with fixed assets

9. What does profit before tax represent according to SNC "Presentation of Financial Statements"?

A. Profit from current operations

B. Operating profit minus exceptional expenses

C. Profit from all activities before tax

D. Gross income of the enterprise

10. What is one of the possible directions for the distribution of net profit?

A. Payment of salaries

B. Covering losses from previous years

C. Payment of income tax

D. Revaluation of fixed assets

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TOPIC 6. DIAGNOSIS OF MANAGERIAL AND ECONOMIC EFFICIENCY OF THE ENTERPRISE

Expected learning outcomes: RI 9; RI 14		
Knowledge/content units	**Skills**	**Responsibility and autonomy**
Content units: 6.1 The concept and managerial significance of profitability in a company 6.2 Diagnosis of commercial profitability 6.3 Diagnosis of economic profitability 6.4 Diagnosis of financial profitability 6.5 Diagnosis of permanent capital profitability	✓ defines the concept of company profitability; ✓ explains the managerial relevance of economic and financial indicators; ✓ calculates profitability indicators for different balance sheet and profit and loss account structures; ✓ apply the factorial diagnosis method to assess profitability; ✓ interprets the results obtained in the context of the company's performance; ✓ evaluate management efficiency based on comparative indicators; ✓ proposes measures to improve the economic and financial performance of the enterprise.	The student independently justifies directions for optimising work processes, thus ensuring the efficiency of operational management. The student is responsible for identifying alternatives or new approaches to improving processes, practices and policies for sustainable organisational development in a competitive environment.

KEY TERMS:

Profitability — a financial indicator that expresses the economic efficiency of a company, reflecting its ability to generate profit from the resources used.

Sales **profitability** — the ratio between profit and sales revenue; expresses how much profit is made for each pound earned from sales.

Gross profit — the difference between total revenue and direct expenses related to production or sales, excluding overhead costs.

Return on assets — an indicator that reflects the efficiency of a company's use of its assets to generate profit.

Return on equity — an indicator showing how much profit a company makes for every pound invested by shareholders.

Equity — the total resources invested in the company by shareholders and from retained earnings.

Permanent capital — total equity and long-term debt.

Financial leverage — the degree of use of borrowed capital relative to equity capital.

Correlation rate between net profit and pre-tax **profit** — an indicator that reflects the influence of taxation on the profit earned by the company.

Asset turnover — the speed at which the company's total assets are converted into sales.

Economic effect — the result of an economic action, decision or policy on economic activity, expressed through changes in economic indicators (such as production, revenue, costs, profit, etc.).

Economic effort — represents the set of resources (labour, capital, natural resources) used in the production process to generate a good or service. This is directly related to economic efficiency, as an optimal allocation of production factors leads to maximising the result obtained.

6.1 The concept and managerial significance of profitability in a company

Profitability analysis is a fundamental tool in the financial and strategic management of a business, playing an essential role in assessing economic and financial performance. It provides relevant and credible information on the entity's ability to generate profit from both the resources invested and the activity carried out.

The concept of profitability refers to a company's ability to make a profit in relation to the resources used or the volume of activity carried out. From an economic and financial perspective, profitability reflects the efficiency with which the company's resources are utilised, highlighting its performance in the use of capital, assets, sales revenue or other factors in order to achieve a favourable financial result. The general formula for determining profitability is:

$$Profitability = \frac{Economic \text{ and financial effect}}{Effort} \times 100\% \quad (6.1)$$

The economic essence of the formula presented consists in evaluating the efficiency of a company's activity by comparing the benefits obtained (economic and financial effect, usually expressed as profit) to the resources consumed or committed (effort), thus expressing the company's ability to transform the resources used into profitable results.

In economic activity, profitability can be determined by various forms of calculation, depending on the objective of the analysis and the type of resources evaluated. These forms offer the possibility to evaluate the company's performance from various perspectives, the most significant of which are:

- *Return on equity;*
- *Return on assets;*
- *Return on sales;*
- *Return on permanent capital.*

The main actors involved in the calculation and analysis of profitability are: company managers, investors, creditors, shareholders, financial analysts and tax authorities, as each of them uses the information to make decisions regarding economic performance, resource management, risk assessment and strategic planning. In this context, the information sources used in profitability analysis include:

- ✓ The company's annual financial statements (Annex 1 - balance sheet, Annex 3 - profit and loss statement, and Annex 5 - statement of changes in equity);
- ✓ Half-yearly and annual reports of the public interest entity;
- ✓ Official statistical data;
- ✓ Business plan;
- ✓ National and international accounting regulations.

From a managerial perspective, the profitability of the company is of particular importance, constituting an essential element in the decision-making process and in the formulation of the company's management strategy. For management, this is a basic criterion in:

- ➢ *Evaluating economic and* financial *performance*. Profitability provides a clear measure of how efficiently the company transforms resources into profit, helping managers to evaluate the success of activities and identify areas with potential for improvement.
- ➢ *Guiding strategic decisions.* Profitability indicators support decision-making on investments, resource allocation, pricing policy, product diversification and cost management, all with the aim of maximising shareholder value.

- *Monitoring financial sustainability*. Profitability indicates a company's ability to maintain and grow its market position over the long term, ensuring the resources necessary for development, innovation, and adaptation to the changing economic environment.
- *Communication with stakeholders*. Profitability is an important indicator for investors, creditors, partners and other stakeholders, who use it to assess the economic attractiveness and risks associated with the company.
- *Measuring managerial efficiency* Profitability reflects the quality of decisions and management, serving as a barometer of the company's management performance.

Therefore, company profitability is an essential management tool that reflects performance, supports strategic decisions and highlights the ability to adapt and create value in a dynamic economic environment.

6.2 Diagnosis of commercial profitability

Commercial profitability diagnosis involves analysing the efficiency with which a company generates profit from its sales activity by comparing profit (especially gross profit) to sales revenue. This reflects the company's ability to convert commercial revenue into profit and provides a clear picture of its economic performance.

The profitability of sales revenue reflects the company's ability to generate profit from the sale of finished products, goods and services, i.e. it characterises the amount of profit generated per leu of sales revenue [1, 12, p.58].

The analysis of the profitability of sales revenue is important for both financial managers and the entity's management because, by analysing the level of this indicator, it is possible to determine:

- how effectively financial management decisions have been promoted in generating profit per leu of sales revenue;
- the level and evolution of the profitability of sales revenue over several periods of the entity's activity;
- what factors contributed to the deviation of the profitability of sales revenue from the level of previous years and/or that provided for in the Business Plan;
- what measures are being taken to increase the profitability of sales revenue.

The profitability of sales revenue highlights the relationship between the profit made and the revenue obtained from the company's commercial activity. It is determined by comparing the financial result with the total value of proceeds from the sale of goods or services, using a ratio that allows the efficiency of sales activity to be assessed. The general formula for calculating the profitability of sales revenue is:

$$Sales\ revenue\ profitability = \frac{Gross\ profit\ (overall\ loss)}{Sales\ revenue} \times 100\% \qquad (6.2)$$

Ehe acceptable limit for this profitability is **(>25÷30%).** The economic essence of this formula is to measure the gross profit earned by the company for each leu collected from sales, reflecting the efficiency of commercial activity.

In practical analysis, the profitability of sales revenue can be calculated in different ways, depending on the type of profit used in reporting. Thus, various forms of sales revenue profitability can be determined:

1. Profitability of sales revenue, calculated on the basis of gross profit (overall loss):

$$Profitability\ of\ sales\ revenue = \frac{Gross\ profit\ (overall\ loss)}{Sales\ revenue} \times 100\% \qquad (6.3)$$

The acceptable limit for this profitability is **(>25÷30%)**

This rate expresses the level of gross profit (or overall loss) obtained by the enterprise for each leu of sales revenue, highlighting its ability to cover the expenses of the period and contribute to the formation of the operating result.

2. Return on sales revenue, calculated based on profit (loss) from operating activities:

$$Return\ on\ sales\ revenue = \frac{Profit\ (loss)\ from\ operating\ activities}{Sales\ revenue} \times 100\% \qquad (6.4)$$

The acceptable limit for this profitability is **(>20÷25%).** The value of this indicator reflects the profit (or loss) generated from operating activities for each leu of sales revenue, providing a more accurate estimate of the efficiency of sales management resulting from the company's core business.

3. Return on sales revenue, calculated based on profit (loss) before tax:

$$Return\ on\ sales\ revenue = \frac{Profit\ (loss)\ before\ tax}{Sales\ revenue} \times 100\% \qquad (6.5)$$

The acceptable limit for this profitability is: **(>15÷20%).** The return on sales revenue, calculated based on profit before tax, reflects the pre-tax profit earned by the company on one leu of sales revenue. Unlike the indicator based on operating profit, it includes the impact of income and expenses from non-operating activities.

4. *Return on sales revenue, calculated based on net profit (net loss):*

$$Return\ on\ sales = \frac{Net\ profit\ (loss)}{Sales\ revenue} \times 100\% \quad (6.6)$$

The acceptable limit for this profitability is: **(>10÷15%)**

The return on sales calculated based on net profit measures the company's ability to generate net profit for each leu earned from sales, thus highlighting the overall efficiency of commercial activity.

In company diagnostics, the profitability of sales revenue based on gross profit is widely used, providing a clear assessment of the efficiency of sales management, costs and pricing policy, with the aim of increasing sales volume and maximising profit.

Application

Based on the data provided by the Wine Factory "Agrotech Vin" JSC, a diagnosis will be made of the evolution of the profitability of sales revenue compared to the previous year, by drawing up an analytical table and interpreting the results obtained.

Solution:

Table 6.1. **Diagnosis of the evolution of sales revenue profitability**

Indicators	**Year Previous**	**Current year**	**Absolute deviation, (+/-)**
Sales revenue, lei	360 192 216	353 860 648	-6 331 568
Gross profit, lei	67 610 426	83 960 711	16 350 285
Profit from operating activities, lei	9 154 985	22 449 022	13 294 037
Profit before tax, lei	12 931 595	30 836 952	17 905 357
Net profit, lei	10 955 460	26 660 339	15 704 879
Return on sales calculated based on gross profit, %	18.77	23.73	4.96
Return on sales calculated based on operating profit, %	2.54	6.34	3.80
Return on sales calculated based on pre-tax profit, %	3.59	8.71	5.12
Return on sales calculated based on net profit (net loss), %	3.04	7.53	4.49

*Source**:** author's calculations based on the financial statements (Annex 3).*

An analysis of the profitability indicators of the Wine Factory "Agrotech Vin" JSC for the period under review shows a clear improvement in financial performance, despite a slight decrease in sales revenue. Examining sales revenue, we note a decrease of 6 331 568 lei compared to the previous period, which could be attributed to more modest market demand or increased competition in the wine sector. However, the company recorded a significant increase in profitability. Thus, gross profit increased by 16 350 285 lei, leading to a 4,96-percentage point increase in commercial profitability calculated on the basis of this indicator. Under these circumstances, the commercial profitability calculated on the basis of gross profit reached 23.73% in the current year, which means that for every leu obtained from sales, the company made a gross profit of 23.73 bani, compared to 18.77 bani in the previous period. This development highlights an increased ability to convert revenue into gross profit, suggesting increased operational efficiency.

At the same time, operating profit increased by 13 294 037 lei, which led to an increase in operating commercial profitability from 2.54% to 6.34%, or 3.80 percentage points. This dynamic reflects more efficient management of both direct and indirect operating expenses and better utilisation of core business activities.

A positive trend can also be seen in pre-tax profit, which increased by 17 905 357 lei, contributing to an increase in its commercial profitability by 5.12 percentage points, from 3,59% in the previous year to 8.71% in the current year. This development indicates a substantial improvement in overall financial performance before tax deductions.

Net profit also increased by 15 704 879 lei, leading to an increase in commercial profitability calculated on the basis of net profit by 4.49 percentage points, from 3.04% in the previous year to 7.53% in the current year. This indicator reflects the company's higher capacity to convert revenues into actual profit available to shareholders, highlighting superior financial efficiency.

Thus, despite a slight decrease in sales revenue, the increase in profitability led to improved profitability, reflecting efficient resource management, and in order to maintain this trend, it is recommended to optimise costs, diversify the offer and expand the market through innovative solutions.

6.3 Diagnosis of economic profitability

The diagnosis of economic profitability involves assessing the efficiency with which a company uses its assets to generate profit. This indicator provides a summary of the company's economic and financial performance, being independent

of the structure of its sources of financing, which makes it a fundamental criterion in assessing the degree of return on invested capital.

In the specialised literature and in analytical practice, this indicator is often referred to as ***return on assets,*** expressing the profit obtained for each leu invested in the company's assets, regardless of whether they are financed from own or borrowed sources [12, 13].

Economic profitability is usually determined by the percentage ratio between pre-tax profit and the average value of the company's total assets, according to the following formula [13]:

$$\text{Return on assets} = \frac{\text{Profit (loss) before tax}}{\text{Average value of total assets}} \times 100\% \qquad (6.7)$$

Where:

Average value of total assets - ($\overline{TA}$). The average value of assets can be determined using simple arithmetic mean, calculated based on information from the balance sheet. Although this method simplifies calculations, it is important to note that it only provides an approximate estimate of the average value [12. p.75]:

$$\overline{TA} = \frac{\text{TA at the beginning of the period} + \text{TA at the end of the period}}{2} \qquad (6.8)$$

The acceptable limit of economic profitability is: **(>10÷15%).** From an economic point of view, an increase in this indicator signifies a more efficient use of resources, which leads to an increased capacity to generate profit on each leu invested. Conversely, a decrease in economic profitability indicates a decrease in the efficiency of asset utilisation, suggesting poor economic performance and possible losses for each monetary unit invested. Negative values of the indicator directly reflect losses generated from the use of assets.

Application

Based on data from the Wine Factory "Agrotech Vin" JSC., we will analyse the change in asset profitability in the current period compared to the previous year. The information extracted from the balance sheet and profit and loss statement will be used to develop an analytical table, followed by an interpretation of the results obtained.

Solution

Table 6.2. **Assessment of the dynamics of asset profitability**

Indicators	Previous year	Current year	Absolute deviation, (+/-)
1. Profit (loss) before tax, lei	12 931 595	30 836 952	17 905 357
2. Average value of assets, lei	635 537 853	639 377 657	3 839 804,5
3. Return on assets, % (rd.1:rd.2*100)	2.03	4.82	2.79

*Source**:** author's calculations based on the financial statements (Annex 3).*

Based on the calculations, it can be seen that the return on assets of the Wine Factory "Agrotech Vin" JSC increased significantly during the period analysed, from 2.03% in the previous year to 4.82% in the current year, representing an increase of 2.79 percentage points. Thus, for each leu invested in assets, the company obtained a profit of 2.03 bani before tax in the previous year, and in the current financial year this profit increased to 4.82 bani. This favourable development is mainly due to the considerable increase in profit before tax, by 17 905 357 lei, against a minor increase in the average value of assets, of only 3 839 804,5 lei.

The result obtained shows a more efficient use of assets and a significant increase in economic and financial performance, reflected in the almost doubling of the return on assets in one year, which indicates an increased efficiency of invested capital.

Return on assets (R_a) may increase or decrease depending on the evolution of return on sales and the rate of asset turnover. Therefore, this indicator is influenced by the following factors:

- change in return on sales revenue - $\Delta \frac{\text{PBT}}{SR}$
- change in the number of asset turnovers -; $\Delta \frac{SR}{\overline{TA}}$

These factors are reflected in a factorial relationship, which expresses how each component contributes to the change in return on assets [12;13, p.33; 14, p.187].

$$R_a = \frac{PBT}{\overline{TA}} \times 100\% = \frac{PBT}{\overline{TA}} \times \frac{SR}{SR} = \frac{\text{PBT}}{SR} \times \frac{SR}{\overline{TA}} \quad (6.9)$$

Return on assets is directly influenced by two determining factors: return on sales and asset turnover. On the one hand, an increase in return on sales highlights the company's ability to generate a higher profit for each pound generated from sales, which leads to an increase in economic profitability.

Conversely, a decrease in sales profitability implies lower profits from sales and, implicitly, a decrease in return on assets, even if sales volume remains constant. On the other hand, the change in the number of asset turnovers reflects the efficiency of the use of available resources: a faster turnover indicates a more efficient use of assets in the process of generating revenue, contributing positively to economic profitability, while a slow turnover signals inefficient use of assets, negatively affecting the financial performance of the enterprise.

The influence of these factors on the change in the return on assets ratio is calculated using the absolute difference method. The results of these calculations are presented in Table 6.3.

Table 6.3. **Factor diagnosis of return on assets**

Indicators	**Previous year**	**Current year**	**Absolute deviation, (+/-)**	**Including under change**	
				Return on sales revenue	**Number of asset turnovers**
1. Profit (loss) before tax, lei	12 931 595	30 836 952	17 905 357	x	x
2. Average value of assets, lei	635 537 853	639 377 657	3 839 804,5	x	x
3. Revenue from sales, lei	360 192 216	353 860 648	-6 331 568	x	x
Return on sales revenue, % (rd.1:rd.3)x100	3.59	8.71	5.12	x	x
5. Number of asset rotations, times (rd.3:rd.2)	0.567	0.553	-0.014	x	x
6. Return on assets, % (row 1:row 2)x100	2.03	4.82	2.79	(5.12✕0.567) = 2.90	(-0.014✕8.71) = -0.12

Source: author's calculations based on the financial statements (Annex 3).

BIF=4.92-2.03=2.90+(-0.12)=2.79 p.p.

Based on the calculations presented in Table 6.3, it can be seen that the return on assets of the Wine Factory "Agrotech Vin" JSC recorded a significant increase of 2.79 percentage points during the analysed period, from 2.03% in the previous year to 4.82% in the current year. This favourable development is mainly due to the increase in the return on sales revenue by 5.12 p.p., contributing positively to the increase in return on assets by 2.90 p.p.

However, the slowdown in asset turnover by 0.014 times (from 0.567 to 0.553) had a negative effect, reducing return on assets by 0.12 p.p., which implies a slower use of invested capital in relation to the volume of sales achieved.

It is important to note that although return on assets has increased, its level remains modest, which may limit the company's ability to self-finance in the short term. To sustain the positive trend, it is necessary to optimise the structure of assets and increase their turnover rate.

6.4 Diagnosis of financial profitability

The diagnosis of financial profitability consists of assessing the efficiency with which the company uses the funds invested by shareholders to generate profit, thus providing a clear picture of the company's ability to create value and its attractiveness as an investment opportunity.

Financial profitability, also known as return on equity, expresses the entity's ability to use its own capital. Through this indicator, capital holders assess the efficiency of their investments, thus determining the profit obtained for each pound invested in equity. Financial profitability is determined by the formula:

$$\text{Financial profitability} = \frac{\text{Profit before tax or net profit}}{\text{Average value of equity}} \times 100\% \quad (6.10)$$

The acceptable limit for this profitability is: **(>15÷20%)**

The average value of equity can be calculated as the arithmetic mean of the value of equity at the beginning of the period and its value at the end of the period.

Application

Based on the data taken from the financial statement of the Wine Factory "Agrotech Vin" JSC, determine the financial profitability and interpret the results obtained.

Solution:

Table 6.4. **Assessment of the dynamics of financial profitability**

Indicators	Year Previous	Current year	Absolute deviation, (+/-)
Average value of equity	318 170 182	330 911 036	12 740 854
Profit before tax	12 931 595	30 836 952	17 905 357
Net profit	10 955 460	26 660 339	15 704 879
Financial profitability calculated based on profit before tax (%)	4.06	9.32	5.25
Financial profitability calculated based on net profit (%)	3.44	8.06	4.62

*Source**:** author's calculations based on the financial statements (Annex 3).*

The calculations in Table 6.4 show that the return on equity at the Wine Factory "Agrotech Vin" JSC increased significantly in the current year compared to the previous year, reflecting an improvement in the efficiency of the use of own funds. Thus, the financial return calculated on the basis of pre-tax profit increased from 4.06% in the previous year to 9.32% in the reporting year, which means that for every leu of equity capital, the company earned 9.32 bani in profit before tax, compared to 4.06 bani in the previous period — an increase of 5.25 percentage points.

Similarly, the return on equity calculated on the basis of net profit rose from 3.44% to 8.06%, an increase of 4.61 percentage points, indicating superior performance in generating net profit for shareholders.

This positive development is supported both by the substantial increase in net profit of 15 704 879 lei (for financial return calculated based on net profit) and by a moderate increase in equity of 12 740 854 lei (for financial profitability calculated on the basis of profit before tax), reflecting a more efficient use of own resources and an increased capacity for self-financing.

Therefore, the company has made notable progress in terms of financial profitability. However, given that its level remains below the optimal level, constant monitoring of equity performance is required in order to consolidate the positive trend and support long-term financial development in a sustainable and efficient manner.

In the diagnostic process, both at the conceptual and applied levels, there are various models used to interpret factorial systems in financial profitability analysis (F_p). When this indicator is calculated based on profit before tax, and both the numerator and denominator are multiplied by the average value of assets, the result is an analytical structure determined by two main factors:

- change in return on assets (Ra);
- change in financial leverage ratio (FLR).

$$F_p = \frac{PBT}{\bar{E}} \times 100\% = \frac{PBT}{\bar{E}} \times \frac{\overline{TA}}{\overline{TA}} = \frac{PBT}{\overline{TA}} \times \frac{\overline{TA}}{\bar{E}} \qquad \text{(model I)} \qquad (6.11)$$

Where:

PBT- profit before tax;

$\overline{TA}$ - average value of total assets;

$\overline{E}$ - average value of equity;

$\frac{PBT}{\overline{TA}}$ - return on assets;

$\frac{\overline{TA}}{\bar{E}}$ - financial leverage ratio.

Financial leverage ratio - expresses the extent to which the company uses borrowed capital (debt) relative to equity for financing [12, p.83].

From an economic point of view, if the return on assets remains constant, an increase in the financial leverage effect can lead to an increase in financial profitability, demonstrating the company's ability to amplify the return on equity by using external financing. However, a high level of indebtedness implies increased financial risk, which can negatively affect the long-term financial stability of the enterprise.

Application

Using data taken from the financial statements of the Wine Factory "Agrotech Vin" JSC, determine the influence of factors on changes in financial profitability and interpret the results obtained.

Solution:

Table 6.5 **Initial data for financial profitability analysis**

Indicators	**Conven-tional signs**	**Previous year**	**Current year**	**Absolute deviation, (+/-)**
1. Sales revenue, lei	SR	360 192 216	353 860 648	-6 331 568
2. Profit before tax, lei	PBT	12 931 595	30 836 952	17 905 357
3. Net profit	NP	10 955 460	26 660 339	15 704 879
4. Average value of equity, lei	$\bar{E}$	318 170 182	330 911 036	12 740 854
5. Average value of total assets, lei	$\overline{TA}$	635 537 853	639 .377 657	3 839 804.5

6.Economic profitability, % (rd 2/rd.5× 100)	R_a	2.03	4.82	2.79
7. Return on sales revenue, % (rd.2/rd.1)× 100	R_{SR}	3.59	8.71	5.12
8.Correlation rate between net profit and profit before tax, % (rd.3/rd.2)× 100	C_r	84.72	86.46	1.74
9. Financial leverage ratio, coefficient (rd.5/rd.4)× 100	FLR	2.00	1.93	-0.07
10. Number of asset turnovers, times (rd.1:rd.5)	$N_{at.}$	0.567	0.553	-0.014
11.Financial profitability calculated based on profit before tax, (%) (rd 2/rd.4× 100)	$F_{p(PBT)}$	4.06	9.32	5.26
12.Financial profitability calculated based on net profit, (%) (rd 3/rd.4× 100)	$F_{p(NP)}$	3.44	8.06	4.62

Source: author's calculations based on the financial statements (Annex 3).

It should be noted that the factors determining financial profitability are multiplicative. Thus, methods such as chain substitutions, absolute differences or relative differences can be applied for factor analysis, but care must be taken to ensure that the order of the factors reflects their degree of economic independence, starting with the least dependent ones.

The results of the analysis of the influence of asset profitability and financial leverage on financial profitability are summarised in Table 6.6.

Table 6.6 **Factor diagnosis of financial profitability**

Indicators	**Previous year**	**Current year**	**Absolute deviation, (+/-)**	**Including from the change in**	
				Economic profita-bility, %	**Financial leverage ratio, coefficient**
1. Financial profitability calculated	4.06	9.32	5.26	x	x

based on profit before tax, (%)					
2..Economic profitability, %	2.03	4.82	2.79	x	x
3. Financial leverage ratio, coefficient	2.00	1.93	-0.07	(2.79×2.00) = 5.57	(-0.07×4.82) = -0.31

Source: author's calculations based on the financial statements (Annex 3).

During the period analysed, the Wine Factory "Agrotech Vin" JSC recorded a significant increase in financial profitability, from 4.06% in the previous year to 9.32% in the current year, which corresponds to an increase of 5.26 percentage points. This positive development was mainly driven by improved economic profitability, which increased by 2.79 p.p., contributing to a 5.57 p.p. increase in financial profitability. At the same time, the financial leverage ratio decreased slightly, by 0.07, which had a negative impact on financial profitability, reducing this indicator by 0.31 p.p. This reflects a slight reduction in the degree of indebtedness, which, although reducing the positive leverage effect, contributes to reducing long-term financial risk.

Overall, it can be concluded that the improvement in financial profitability was decisively determined by the increase in operational performance, while the modest negative influence of the decrease in the debt ratio did not offset this progress. To consolidate this trend, it is recommended to maintain high economic profitability and prudent management of the capital structure.

The second stage of the analysis details the return on assets according to its explanatory factors, as illustrated in Figure 6.1.

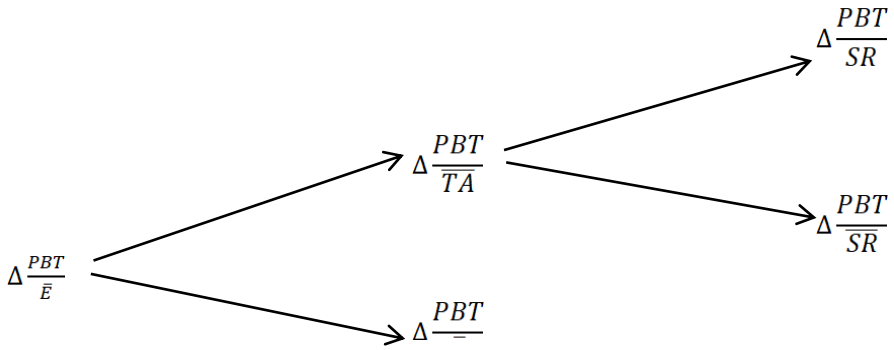

Fig. 6.1. **Factor decomposition of financial profitability [12]**

Source: *ŢIRIULNICOVA, N., PALADI, V., GAVRILIUC, L. şi alţii. Analiza rapoartelor financiare. Instrumente, metode, procedee şi tehnici de aplicare a informaţiei contabil-financiare în procesul decisional. Ed. a II-a, rev. Chişinău: ACAP RM, 2011. 400 p.*

Figure 6.1 shows that return on equity depends mainly on economic profitability, which is influenced by operational and financial factors. Among these, return on sales (Rs), asset turnover (Nat) and financial leverage (FLR) are the main factors determining the variation in return on equity (calculated on the basis of pre-tax profit). Thus, the initial model can be adjusted to reflect these influences.

$$F_p = \frac{PBT}{\bar{E}} \times 100\% = \frac{PBT}{SR} \times \frac{SR}{\overline{TA}} \times \frac{\overline{TA}}{\bar{E}} \qquad \text{(model II)} \qquad (6.12)$$

Where:

$\frac{PBT}{SR}$ - - return on sales *(Rs)*;

$\frac{SR}{\overline{TA}}$ - number of asset turnovers *(Nat)*

$\frac{\overline{TA}}{\bar{E}}$ - - financial leverage ratio *(FLR)*

To better understand the impact of these factors on financial profitability, it is essential to examine the contribution of each individually:

- *Return on sales (Rs)* – measures how much profit is generated from each pound of sales. The higher it is, the more profit the company makes from its operating activities, which directly increases financial profitability.
- *Asset turnover (Nat)* – indicates the efficiency of using assets to generate sales. Faster turnover means that assets are used more efficiently, increasing revenue and, implicitly, profit, which supports the growth of financial profitability.
- *Financial leverage (FLR)* – reflects the company's degree of indebtedness. A moderate level of financial leverage can amplify financial profitability by using borrowed capital to generate additional profit. However, too much leverage increases financial risk and can negatively affect the company's stability.

Application

Using the data in Table 6.5 for the Wine Factory "Agrotech Vin" JSC, determine the influence of factors on the change in financial profitability calculated based on pre-tax profit and interpret the results obtained.

Solution:

Table 6.7. **Diagnosis of the influence of factors on financial profitability by applying the absolute difference method**

Factors	Calculation of the influence of factors	Result of the influence of factors, (+/-)
Δ Commercial profitability	(5.12)×0.57×2.00	5.80
Δ Number of asset turnovers	8.71×(-0.014)×2.00	-0.24
Δ Financial leverage ratio	8.71×0.55×(-0.07)	-0.31

Source: author's calculations based on the financial statements (Annex 3).

$$BIF = 5.80+(-0.23)+(-0.31)=5.26 \text{ p.p.}$$

Following the calculations, we observe that the financial profitability of the analysed company increased by 5.26 percentage points in the current year compared to the previous year. This increase was mainly driven by higher commercial profitability, which led to a 5.80 p.p. increase in financial profitability. This result reflects a significant increase in the efficiency of the company's operational activity. However, the decrease in asset turnover by 0.014 times also had a negative impact on financial profitability, leading to a decrease in financial profitability by 0.24 p.p., indicating a slight reduction in the efficiency of asset utilisation for generating income. Another negative influence on the analysed indicator was determined by the decrease in the financial leverage ratio by 0.07, contributing to its reduction by 0.31 percentage points.

The results of the factor analysis show that the increase in financial profitability was mainly generated by improved commercial performance, while the negative effects of the decrease in asset turnover and the reduction in the debt ratio were relatively moderate. In order to maintain this positive trend, it is recommended to increase sales profitability and optimise asset utilisation, while adopting a prudent and balanced financial policy.

In the next stage of the analysis, financial profitability is assessed on the basis of net profit, the indicator preferred by shareholders, as it reflects the actual benefits remaining after tax, used to build reserves, distribute dividends, cover losses or develop the business. If we extend the basic formula for return on equity by multiplying the numerator and denominator by the average value of total assets and profit before tax, we see the influence of three main factors:

- change in return on assets (Ra),
- changes in the financial leverage ratio (FLR)
- change in the correlation between net profit and profit before tax (Cr).

$$F_p = \frac{NP}{\bar{E}} \times 100\% = \frac{NP}{\bar{E}} \times \frac{\overline{TA}}{\overline{TA}} \times \frac{PBT}{PBT} = \frac{PBT}{\overline{TA}} \times \frac{\overline{TA}}{\bar{E}} \times \frac{NP}{PBT} \quad \text{(model III)} \qquad (6.13)$$

Where:

NP- net profit

TPBT - profit before tax

$\bar{E}$ - average value of equity

$\overline{TA}$- average value of assets

$\frac{PBT}{\overline{TA}}$ - return on assets

$\frac{\overline{TA}}{\bar{E}}$ - financial leverage ratio;

$\frac{NP}{PBT}$- correlation rate between net profit and profit before tax

The correlation rate between net profit and pre-tax profit characterises the tax pressure on the financial results of the enterprise and reflects the correlation between net profit, remaining at the disposal of the enterprise in the total amount of profit generated. The size of this coefficient depends on the income tax rate and temporary and permanent differences, which determine the change in taxable income compared to profit before tax. If the income tax rate increases, the correlation coefficient between net profit and pre-tax profit decreases, which leads to a decrease in the return on equity and vice versa. It should be noted that the correlation coefficient between net profit and pre-tax profit is one of several indicators that can be used to determine the pressure of the tax system on the financial results of the enterprise [12, p.86].

Application

Table 6.8 presents the results of the factorial diagnosis of financial profitability calculated on the basis of net profit, according to data taken from the financial statement of the Wine Factory "Agrotech Vin" JSC

Solution

Table 6.8. **Factor diagnosis of financial profitability using the chain substitution method**

No.	No. Sub.	Correlated factors			$F_{p(NP)}$	Calculation of factor influence, %	Result of the influence of factors, %	Name of influencing factor
		Ra, %	FLR, coef.	Cr., %				
1	0	2.03	2.00	84.72	3.44	-	-	-
2	1	4.82	2.00	84.72	8.16	8.16-3.44	4.72	Δ Ra
3	2	4.82	1.93	84.72	7.89	7.89-8.16	-0.27	ΔFLR
4	3	4.82	1.93	86.46	8.06	8.06-7.89	0.16	ΔCr

Source: author's calculations based on the financial statements (Annex 3).

BIF= 4.72+(-0.27)+0.16=8.06-3.44= 4.62 p.p.

The calculations in Table 6.8 show that the financial profitability of the Wine Factory "Agrotech Vin" JSC increased significantly by 4.62 percentage points in the current year compared to the previous year. This favourable development was mainly driven by a considerable increase in economic profitability, which rose from 2.03% to 4.82%, generating a positive impact of 4.72 percentage points on financial profitability. This reflects an improvement in the efficiency of total asset utilisation in generating profit, highlighting superior resource management and an increase in the company's overall economic performance. Another factor with a positive influence, albeit to a lesser extent, is the correlation rate between net profit and profit before tax, which increased by 1.74 percentage points, leading to an additional increase of 0.16 percentage points in financial profitability. This change indicates increased efficiency in the management of taxes and other financial expenses, thus increasing the return on equity.

However, a negative influence on the analysed indicator was exerted by financial leverage, which decreased from 2.00 to 1.93, leading to a decrease in financial profitability by 0.27 percentage points. This reduction signals a shift towards equity financing or a decrease in the share of debt in the financing structure, thus reducing the financial leverage effect. Although this aspect has a negative impact on profitability, it can be interpreted positively from a financial risk perspective, reflecting a strategy to strengthen the financial position and reduce vulnerability to fluctuations in financial costs.

Based on this factor analysis, it is recommended to continue the efficient use of assets, maintain an appropriate balance between equity and borrowed capital, optimise tax management and constantly monitor key financial indicators in order to ensure sustainable financial growth.

In a composite factor approach, return on assets can be broken down according to the factors that contribute to its formation:

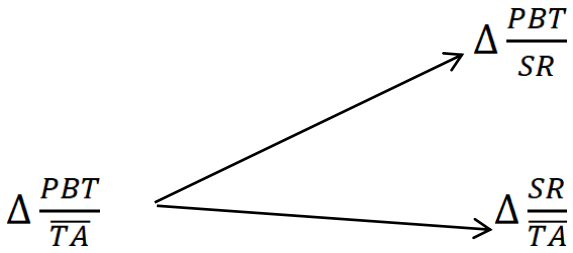

Figure. 6.1. **Breakdown of return on assets for calculating financial profitability.**
Source: TCACI N., TCACI A., Diagnostic financiar. Note de curs. Chișinău. CEP USM, 2020, 212 p., 11 c.a. ISBN 978-9975-152-11-2. Disponibil online: http://dspace.usm.md:8080/xmlui/bitstream/handle/123456789/3255/Tcaci.pdf?sequence=1&isAllowed=y

Taking into account the conditions highlighted in Figure 6.1, the IV factorial model, represented by relation 6.14, allows the construction of an explanatory system of financial profitability (calculated based on net profit), determined by four essential factors:

- ✓ return on sales (Rs),
- ✓ total asset turnover (Nat),
- ✓ financial leverage ratio (FLR)
- ✓ the correlation between net profit and profit before tax (Cr)

Based on these conditions, the following formulation of the IV factorial model results:

$$F_p = \frac{NP}{\bar{E}} \times 100\% = \frac{PBT}{SR} \times \frac{SR}{\overline{TA}} \times \frac{\overline{TA}}{\bar{E}} \times \frac{NP}{PBT} \qquad \textit{(IV model)} \qquad (6.14)$$

Therefore, we can mention that variations in these factors directly influence the financial performance of the company, determining the final level of return on equity.

Table 6.8 presents the analysis of the change in financial profitability, calculated based on net profit, under the influence of commercial profitability, in correlation with the financial leverage ratio, the asset turnover ratio and the level of tax pressure.

The assessment is carried out by applying *the chain substitution method,* based on the data provided in Table 6.5.

Table 6.9 **Factor analysis of financial profitability calculated based on net profit**

No.	No. subs	Correlated factors				$F_{p(NP)}$ %	Calculation method, %	Result of factor influence, %	Name of factor
		Rs, %	Nat, coefficient	FLR, coefficient	Cr, %				
1	0	3.59	0.567	2.00	84.72	3.45	-	-	-
2	1	8.71	0.567	2.00	84.72	8.37	8.37-3.45	4.92	Δ Rs.
3	2	8.71	0.553	2.00	84.72	8.16	8.16-8.37	-0.21	Δ Nat.
4	3	8.71	0.553	1.93	84.72	7.88	7.88-8.16	-0.28	Δ FLR.
5	4	8.71	0.553	1.93	86.46	8.04	8.04-7.88	0.16	Δ Cr.

Source: author's calculations based on the financial statements (Annex 3).

The factor analysis of financial profitability, calculated based on the net profit of the Wine Factory "Agrotech Vin" JSC, shows a significant increase from 3.45% in the previous year to 8.04% in the reporting year, which corresponds to a positive variation of 4.62 p. p. This favourable development is the result of the combined influence of several determining factors. The main factor contributing to this increase was commercial profitability, which rose by 5.12 p.p., positively influencing financial profitability by 4.92 p.p. This reflects a significant improvement in operational efficiency and an increased ability of the entity to generate profit from its core business.

In addition, the increase in the correlation between net profit and profit before tax resulted in a positive contribution of 0.16 p.p. to financial profitability, highlighting more efficient tax management, which supported the consolidation of net profit. On the other hand, two factors had a negative impact on the result indicator. The decrease in asset turnover by 0.014 times led to a 0.21 p.p. decrease in financial profitability, signalling a slight reduction in the efficiency of asset utilisation for generating income. In addition, the reduction in financial leverage from 2.00 to 1.93 contributed 0.28 p.p. to the decline in profitability, indicating a decrease in the financial leverage effect as a result of the decline in the debt ratio.

Based on the analysis, it is recommended to maintain high commercial profitability, optimise the use of assets and the financing structure, and streamline fiscal management to support sustainable financial profitability.

6.5 Diagnosis of permanent capital profitability

The diagnosis of the return on permanent capital plays an essential role in assessing the financial performance of the company, as it highlights the extent to which it efficiently uses stable financing resources to generate profit and ensure the long-term sustainability of its activity.

The return on permanent capital reflects the company's ability to use its own capital and long-term sources to generate net profit, i.e. it characterises the amount of net profit obtained for each leu of permanent capital [10, 12].

Therefore, the analysis of the return on permanent capital allows the economic efficiency of the company to be assessed in a competitive context, being of interest to both internal and external users of financial statements. The formula for calculating this indicator is as follows:

$$Return\ on\ permanent\ capital = \frac{Net\ profit}{Average\ value\ of\ permanent\ capital} \times 100\% \qquad (6.15)$$

From an economic point of view, an increase in the return on permanent capital indicates a more efficient use of stable financial resources, which reflects an increased capacity of the company to generate net profit and sustain sustainable development. Conversely, a decrease in this indicator signals reduced efficiency in the utilisation of permanent capital, which can negatively affect the company's long-term financial performance and competitive position. The acceptable limit for return on permanent capital is **(>20÷25%).**

Application

Based on the information in the financial statement of the Wine Factory "Agrotech Vin" JSC, determine the evolution of the return on permanent capital, interpreting the results obtained.

Solution:

Table 6.10. **Initial data for the analysis of the return on permanent capital**

Indicators	**Conven-tional signs**	**Previous year**	**Current year**	**Absolute deviation, (+/-)**
1. Sales revenue, lei	SR	360 192 216	353 860 648	-6 331 568
2. Profit before tax, lei	PBT	12 931 595	30 836 952	17 905 357
3. Net profit, lei	NP	10 955 460	26 660 339	15 704 879
4. Average value of total assets, lei	$\overline{TA}$	635 537 853	639 377 657	3 839 804
5. Average value of permanent capital	$\overline{PC}$	330 970 695.5	337 465 100.5	6 494 405
6. Ratio between the average value of assets and the average value of permanent capital, coefficient (rd 4/rd.5)	FL_{PC}	1.92	1.89	-0.03
7. Economic profitability, % (rd 2/rd.4*100)	R_a	2.03	4.82	2.79
8. Correlation rate between net profit and profit before tax, % (rd.3/rd.2)*100	C_r	84.72	86.46	1.74

9. Return on permanent capital, % (rd.3/rd.5)*100	R_{PC}	3.31	7.90	4.59

Source: author's calculations based on the financial statements (Annex 3).

Following the calculations performed in Table 6.10, there is a significant increase in the return on permanent capital in the current year compared to the previous year, from 3.31% to 7.90%, recording an absolute positive deviation of 4.59 percentage points. This development indicates a much more efficient use of stable sources of financing (equity and long-term debt) to generate net profit. The increase in return on permanent capital was influenced by the increase in net profit by 15 704 879 lei and the increase in the average value of permanent capital by 6 494 405 lei, which signals an improvement in financial performance and an increased ability of the company to capitalise on long-term resources, thus ensuring more solid economic sustainability.

The return on permanent capital is influenced by several interdependent factors. In order to analyse their impact in more detail, it is useful to reformulate the initial calculation formula. By multiplying the numerator and denominator of the basic ratio by the average value of total assets and profit before tax, three main factors can be identified that determine variations in the return on permanent capital:

- return on assets (Ra);
- the ratio between the value of assets and the value of permanent capital (FL_{PC});
- the correlation rate between net profit and profit before tax (Cr).

$$R_{PC} = \frac{NP}{\overline{PC}} \times 100\% = \frac{NP}{\overline{PC}} \times \frac{\overline{TA}}{\overline{TA}} \times \frac{PBT}{PBT} = \frac{\overline{TA}}{\overline{PC}} \times \frac{PBT}{\overline{TA}} \times \frac{NP}{PBT} \quad (6.16)$$

$\overline{PC}$-- average value of permanent capital

In the formula presented above, the ratio between the value of assets and the value of permanent capital, representing a particular case of financial leverage, reflects the structure of the sources of financing of assets. The economic meaning of this ratio can be explained as follows: expressed as a percentage (%), this ratio shows that, for the first 100%, the company's assets are financed by permanent capital, and for the remaining percentage - by short-term debt [12, p. 88].

In Table 6.10, we will calculate the influence of factors on the change in financial profitability (calculation model IV) by applying the chain substitution method, according to the information in Table 6.9.

Table 6.11. **Factor analysis of financial profitability calculated based on the net profit of the Wine Factory "Agrotech Vin" JSC**

No.	Sub no	Correlated factors			R_{PC}, %	Calculation method, %	Result of the influence of factors, %	Name of influencing factor
		Ra, %	FL_{PC}, coef	Cr, %				
1	0	2.03	1.92	84.72	3.31	-	-	-
2	1	4.82	1.92	84.72	7.85	7.85-3.31	4.54	ΔRa
3	2	4.82	1.89	84.72	7.74	7.74-7.85	-0.10	ΔFL_{PC}
4	3	4.82	1.89	86.46	7.90	7.90-7.74	0.16	ΔCr

Source: author's calculations based on the financial statements (Annex 3).

$$BIF = 4.54+(-0.10)+0.16=4.59 \text{ p.p.}$$

The factor analysis of the return on permanent capital, presented in Table 6.11, shows a significant increase in this indicator, from 3.31% in the previous year to 7.90% in the current year, which represents a positive variation of 4.59 percentage points. The main factor that generated this favourable development is the increase in economic profitability by 2.79 p.p., contributing to the increase in the return on permanent capital by 4.54 p.p.

At the same time, financial leverage recorded a slight decrease of 0.03, which had a small negative impact of - 0.10 p.p. on the indicator analysed. At the same time, the correlation rate between net profit and profit before tax increased from 84.72% to 86.46%, with a positive influence of 0.16 p.p., reflecting an improvement in the efficiency of fiscal and financial management.

In conclusion, the increase in return on permanent capital is mainly driven by improved economic performance, while modest changes in the financial structure and profit conversion had a secondary impact.

Self-assessment questions:

1. What is the profitability of a company?
2. Why is profitability important in the managerial decision-making process?
3. How does profitability support the formulation of a strategy to increase the value of the firm?
4. How is the profitability of sales revenue calculated according to the type of profit?
5. What factors can influence the evolution of commercial profitability?

6. Why is gross profit considered the most commonly used measure in commercial profitability analysis?
7. What is return on assets and why is it considered an essential indicator?
8. What does a negative level of return on assets reflect?
9. What are the two main factors that influence return on assets?
10. What does return on equity express?
11. What are the factors that influence financial profitability in the detailed system?
12. What effect does a high financial leverage ratio have on profitability?
13. Discuss the importance of factor analysis in diagnosing financial profitability.
14. What is the return on permanent capital and what does it express?
15. What is the formula for calculating the return on permanent capital?
16. What factors influence the return on permanent capital according to factor analysis?
17. What does the correlation rate between net profit and pre-tax profit mean?

Self-assessment tasks:

1. Define the term profitability
2. List the indicators used in diagnosing the economic efficiency of an enterprise
3. Describe the difference between efficiency and effectiveness in a managerial context.
4. Explain, in your opinion, how managerial efficiency is reflected in the overall performance of a company.
5. Identify the factors that contribute to a decline in managerial efficiency in a company.
6. Examine the impact of leadership style on the efficiency of economic and managerial activity.
7. Argue the need for periodic diagnosis of economic efficiency in the decision-making process.
8. Develop a plan of measures to increase economic efficiency in a low-profitability company.
9. Create a model diagnostic report on the managerial and economic efficiency of a company, with strategic recommendations.
10. Perform a diagnosis of the economic and managerial efficiency of a company based on financial statements, by applying profitability indicators and factor analysis, in order to identify the determinants of performance and draw relevant conclusions regarding the use of resources.

Multiple-choice self-assessment test:

1. What does profitability express within a company?
A. Total sales value
B. The ability to reduce fixed costs
C. The efficiency of resource use to generate profit
D. Growth in total assets

2. What is the general formula for calculating the profitability of sales revenue?
A. Net profit / Equity
B. Profit / Total assets
C. Profit / Sales revenue
D. Current assets / Current liabilities

3. The acceptable limit for return on sales calculated based on net profit is:
A. >25–30%
B. >10–15%
C. >15–20%
D. >5–10%

4. Return on assets reflects:
A. Inventory turnover rate
B. Profit per leu of sales
C. Profit per leu of invested assets
D. The company's debt level

5. What is permanent capital?
A. Only equity capital
B. Current assets + short-term liabilities
C. Equity + long-term liabilities
D. Equity + provisions

6. A higher degree of financial leverage can lead to:
A. A decrease in financial profitability regardless of profit
B. Increased financial profitability if assets are profitable
C. Elimination of financial risk
D. A reduction in guaranteed net profit

7. What does return on equity express?
A. The company's ability to generate revenue from sales
B. The profit obtained for each pound of capital invested by shareholders
C. The speed of asset turnover
D. The efficiency of reducing production costs

8. What is the acceptable limit for return on assets?
A. >5–10%

B. >10–15%
C. >15–20%
D. >20–25%

9. The correlation rate between net profit and profit before tax is mainly influenced by:

A. Fixed assets
B. Pricing policy
C. Tax regime and unexploited expenses
D. Working capital

10. Which indicator reflects how much net profit the company obtains from permanent capital?

A. Return on assets
B. Return on sales
C. Return on equity
D. Return on permanent capital

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TOPIC 7. DIAGNOSIS AND MANAGERIAL MANAGEMENT OF CURRENT RECEIVABLES AND PAYABLES

Expected learning outcomes: RI 9; RI 11		
Knowledge/content units	**Skills**	**Responsibility and autonomy**
Content units: 7.1 The managerial importance of diagnosing receivables and current liabilities 7.2 Methods for diagnosing receivables 7.3 Diagnostic analysis of current liabilities	✓ defines the concepts of trade receivables and current liabilities; ✓ explains their impact on the operating cycle and liquidity of the company; ✓ identify relevant indicators for monitoring credit and payment policies; ✓ apply methods for analysing maturities, average collection periods and payments; ✓ uses specific indicators to diagnose receivables and liabilities management; ✓ integrate the results of the assessment into the analysis of the company's financial cycle; ✓ analyses the risks associated with improper management of receivables and payables; ✓ evaluates the effectiveness of the company's commercial policies; ✓ formulates recommendations for optimising working capital and reducing the risk of non-collection.	The independent student justifies the directions for optimising work processes, thus ensuring the efficiency of operational activity management. The autonomous student performs specific financial management functions at the economic entity level, formulating constructive proposals for the rational use of financial resources and improvement of business results.

KEY TERMS:

Receivables — the company's receivable rights arising from the sale of goods, services or other commercial operations, which are usually to be collected within a short period (less than 12 months).

Current liabilities — financial obligations of the enterprise to third parties (suppliers, the state, employees, etc.) that must be paid within a short period (less than 12 months).

Financial diagnosis — the process of analysing an entity's financial situation, which involves assessing the structure, dynamics, quality and risks associated with receivables and liabilities in order to inform management decisions.

Admissible receivables — receivables considered normal, justified, arising in the course of normal economic activity and recoverable under contractual terms.

Inadmissible receivables — abnormal, unjustified receivables arising from delays or contractual non-compliance, which may generate risks of non-collection (e.g. litigation, claims against employees for material damage).

Admissible liabilities — financial obligations arising naturally from economic activity (e.g. liabilities to suppliers or tax authorities), considered normal.

Inadmissible debts — obligations reflecting management deficiencies or non-compliance with legal/contractual rules (e.g. penalties, fines, damages).

Absolute value of receivables/debts — the total amount expressed in monetary units of receivables or debts, without reference to other indicators.

Growth rate (relative value) — the percentage change in receivables or liabilities over a period, expressed as the ratio between the value at the end and the beginning of the period analysed.

Share of receivables/payables — the percentage ratio between the value of receivables/payables and total assets, liabilities, or other relevant categories (current assets, sources of financing, etc.).

Receivables turnover — a financial indicator that expresses the frequency with which receivables are converted into cash during a period. It is calculated as the ratio between sales revenue and the average value of receivables.

Average collection period — the average number of days required to collect receivables. It is determined as the ratio between the number of days in a year and the number of receivables turnovers.

Current debt turnover — an indicator showing how many times a company pays off its current debts in a period. It is calculated as the ratio between the cost of sales (or other calculation bases) and the average value of current debts.

Average payment period for current liabilities — the number of days it takes the company to pay its current liabilities on average. It is compared with the collection period for receivables to assess

Net cash flow — an indicator that reflects the net liquidity of the company, calculated as the difference between cash and cash equivalents and current liabilities.

Tax register — an indispensable accounting tool for any economic entity, serving to document in detail all transactions with tax relevance. It serves as the basis for determining and recording the company's tax obligations to the state authorities.

Receivables management — represents a coherent set of strategies and decisions made by a company's management to monitor, recover and optimise cash flows.

Current debt management — involves strategies and practices implemented by managers to plan and control the payment of short-term financial obligations.

Risk of non-collection — represents the probability of non-payment of a receivable in full or within the agreed term, which can generate significant financial losses and negatively affect the company's liquidity.

Working **capital management** — is the complex process by which organisational managers seek to efficiently optimise current assets and liabilities in order to ensure a stable balance between liquidity, profitability and financial risk.

7.1 The managerial importance of diagnosing current receivables and liabilities

In the context of a dynamic economy and increasingly fierce competition, maintaining a stable financial balance becomes a strategic priority for any company. In this sense, diagnosing current receivables and payables plays an essential role in ensuring effective financial management. These elements of current assets and liabilities not only reflect the short-term financial health of the enterprise, but also directly influence the liquidity, solvency and ability of the company to meet its obligations on time. Within these structures, receivables and payables are important indicators of the economic and financial performance of an enterprise.

Receivables represent the company's receivable rights resulting from the sale of goods, services or other commercial operations, which are to be collected in the short term (usually less than one year).

Current liabilities, on the other hand, are payment obligations of the company to third parties (suppliers, the state budget, employees, etc.) that must be honoured in the short term.

From an economic point of view, the volume, structure and turnover rate of receivables and current liabilities directly influence the working capital requirement, liquidity indicators and, implicitly, the profitability of the company. Thus, effective management of these elements is essential for maintaining financial balance. Uncontrolled growth in receivables can reduce revenues and generate doubtful debts, while excessive accumulation of current liabilities can affect the company's ability to meet its obligations on time.

The most commonly used sources of data in the analysis of receivables and current liabilities are:

- ✓ Financial statements (balance sheet);
- ✓ Notes to the financial statements;
- ✓ Journal and tax register (for entities subject to tax);
- ✓ Economic contracts and primary documents (invoices, consignment notes, sales; contracts, service contracts)

- ✓ Results of the previous diagnosis.

For company management, diagnosing current receivables and payables is essential because it provides a clear picture of the current financial situation. This process allows the identification of potential risks related to uncollected receivables or the accumulation of excessive debts that could subsequently affect a company's activity. Through constant monitoring and effective management of these elements, management can contribute to:

- ➢ adjusting commercial policy (payment terms, deadlines, guarantees),
- ➢ improving cash flow,
- ➢ reducing the risk of financial blockage,
- ➢ correctly determining external financing needs.
- ➢ optimising relationships with suppliers,
- ➢ avoiding penalties for late payments,
- ➢ anticipating insolvency risks,
- ➢ negotiating more favourable payment terms.

Thus, through effective management and constant monitoring of these factors, management can prevent financial imbalances and strengthen the company's long-term economic position.

7.2 Methods for diagnosing receivables

To diagnose receivables, relevant accounting and operational information is usually used, which allows for a detailed analysis of their behaviour within the company's economic activity. The main purpose of this analysis is to identify the associated risks, streamline the collection process and inform strategic decisions regarding credit policy. In this context, the analysis process is carried out in several stages, each of which plays an essential role in the comprehensive assessment of receivables:

1. **Analysis of the change in the absolute value of receivables in the current period.** This stage involves determining the difference between the value of receivables recorded at the end of the financial year and that existing at the beginning of the year. The analysis is carried out both globally and by distinct categories of receivables, providing a concrete picture of the evolution of the total volume of amounts receivable during the period analysed.

2. **Analysis of the change in the relative value (growth rate) of receivables in the current period**. At this stage, the ratio between the value of receivables at the end of the period and at the beginning of the period is calculated in order to highlight the dynamics of the evolution of receivables as a whole and by

component. For a relevant interpretation, this growth rate must be correlated with the growth rate of turnover. A healthy financial situation is reflected by a higher growth rate of sales than that of receivables, which indicates an effective collection policy and control of the risk of non-payment.

3. **Analysis of the evolution of the share of receivables in the structure of total assets and current assets.** The following formulas are used for this purpose:

$$Receivables\ ratio\ in\ total\ assets = \frac{Receivables}{Total\ assets} \times 100\% \quad (7.1)$$

$$Receivables\ ratio\ in\ total\ current\ assets = \frac{Receivables}{Total\ current\ assets} \times 100\% \quad (7.2)$$

4. ***A detailed analysis of the structure of receivables according to its components*** consists, first of all, in calculating the share of each type of receivables in total receivables (e.g. trade receivables, receivables from staff, etc.), both at the beginning and at the end of the financial year. Subsequently, the changes in the percentage structure of each category of receivables are determined.

5. **Analysis of the structure of receivables according to payment methods and terms.** In this regard, the share of current receivables (for which the payment term has not yet expired) and overdue receivables is determined for each type of receivable. As a rule, overdue receivables are classified according to the period of delay, as follows: up to 3 months; between 3 months and 1 year; over 1 year. At the same time, the presence of overdue receivables creates financial difficulties, as the company does not have the necessary liquidity for essential activities such as purchasing inventory or paying salaries. In addition, the blocking of these amounts leads to a slowdown in capital turnover. An increase in the proportion of outstanding receivables amplifies the risk of non-repayment of amounts due and ultimately reduces the profitability of the company.

6. **Analysing the structure of receivables based on their economic content** is an essential aspect of assessing the company's financial situation. From this perspective, receivables are classified into two categories: **admissible** (justified, normal) and **inadmissible** (unjustified, abnormal). Inadmissible trade receivables usually arise as a result of buyers' late payments beyond the contractual deadlines or failure to comply with the conditions agreed between the parties. These situations generate claims against buyers or suppliers in the form of financial claims. This category also includes claims against employees resulting from their obligation to compensate the company for material damage caused.

7. **Analysis of receivables turnover.** To assess the efficiency of debt collection, the number of turnovers and the average collection period (expressed in days) are calculated for both the current year and the previous year. Comparing

these values allows for an assessment of the trend towards acceleration or deceleration in receivables turnover. An acceleration in turnover is considered a positive sign, indicating a faster recovery of amounts owed by customers. The number of turnovers is determined by the ratio between sales revenue and the average value of receivables and reflects how many times, in a reference period, receivables are converted into cash receipts to generate the respective sales volume. The calculation formula is [12, p.143]:

$$Number\ of\ receivables\ turnover = \frac{Sales\ revenue}{Average\ value\ of\ receivables} \quad (7.3)$$

The accounts receivable turnover period represents the average time required for a company to collect amounts owed by customers following credit sales. In other words, this indicator measures how long receivables remain uncollected before being converted into cash.The turnover period is expressed in days and can be determined as the ratio between the number of days in the analysed period and the number of receivables turnovers in that period, or as the ratio between the average value of receivables and sales revenue for one day:

$$Receivables\ turnover = \frac{Average\ value\ of\ receivables}{Sales\ revenue} \times 365\ days \quad (7.4)$$

As for the indicator result, there is no specific number of days considered good or bad, especially since results vary from industry to industry. However, a shorter turnover period indicates increased efficiency in collecting receivables and a faster cash flow, while a longer period may signal delays in collections, capital tie-up and, implicitly, financial risks for the company. Monitoring this duration is essential for optimal liquidity management and to avoid cash flow problems.

Application

Using data from the financial statements of the Wine Factory "Agrotech Vin" JSC, diagnose current receivables and interpret the results obtained.

Solution:

Table 7.1. **Overall assessment of receivables**

Indicators	**Previous year**	**Current year**	**Absolute deviation, (+/-)**	**Growth rate, %**
A	1	2	3-2-1	4=(2/1)*100
Long-term receivables, lei	0	0	0	0
Current	158 407 166	158 257 794	-149 372	99.91

receivables, lei				
Total receivables, lei	158 407 166	158 257 794	-149 372	99.91

Source: author's calculations based on the financial statements (Annex 3).

Table 7.1 shows that the total receivables of the Wine Factory "Agrotech Vin" JSC decreased slightly, from 158 407 166 lei in the previous year to 158 257 794 lei in the current year, representing a decrease of 149 372 lei or 0,09 p.p. less. This development indicates stability in receivables management, reflecting either a slight improvement in the collection process or the maintenance of a prudent commercial policy.

The decrease in the value of receivables was determined exclusively by the decrease in current receivables by —149 372 lei , as long-term receivables had a zero value in both years, suggesting a focus on liquidity and avoidance of long-term risk exposure. The relatively constant average value of current receivables confirms stable operational activity and effective control over commercial relations.

Table 7.2. **Determination of the share of current receivables in the company's assets**

Indicators	Previous year	Current year	Absolute deviation, (+/-)
Current credits, lei	158 407 166	158 257 794	-149 372
Current assets, lei	329 235 100	354 409 801	25 174 701
Total assets, lei	643 269 770	661 251 945	17 982 175
Share of receivables in current assets, %	48.11	44.65	-3.46
Share of receivables in total assets, %	24.63	23.93	-0.69

Source: author's calculations based on the financial statements (Annex 3).

According to the data presented in Table 7.2, during the current financial year there was a slight decrease in the absolute value of current receivables, amounting to 149 372 lei, which corresponds to a decrease of 0.09 percentage points compared to the previous year. This development occurred in the context of a significant increase in current assets by 25 174 701 lei (7.67 p.p.) and total assets by 17 982 175 lei (2.80 p.p.), naturally leading to a reduction in the share of receivables in both asset structures.

Thus, the share of receivables in total current assets decreased from 48.11% in the previous year to 44.65% in the reporting year, marking a decrease of 3.46 percentage points. Similarly, the share of receivables in total assets decreased by 0.69 percentage points. This trend highlights a decrease in the degree of dependence of the asset structure on trade receivables, in favour of other items in the current assets category, such as cash and cash equivalents or inventories.

The reduction in the share of receivables, against a backdrop of significant growth in current and total assets, suggests a cautious approach to managing commercial relationships and a possible improvement in the efficiency of the debt collection process. At the same time, this dynamic can be interpreted as an indicator of liquidity consolidation and asset structure diversification, aspects that contribute favourably to strengthening the company's financial position.

Table 7.3. **Analysis of the structure of receivables by component**

Indicators	**Previous year**		**Current year**		**Absolute deviation, (+/-)**	
	Amount, lei	**Share, %**	**Amount, lei**	**Share, %**	**Amount, lei**	**Share, %**
Current trade receivables	62 898 195	39.71	142 756 787	90.21	79 858 592	50.50
Current receivables from affiliated parties	90 863 248	57.36	0	0.00	-90 863 248	-57.36
Budget receivables	1 988 275	1.26	578 115	0.37	-1 410 160	-0.89
Staff receivables	171 900	0.11	95 089	0.06	-76 811	-0.05
Other current receivables	2 485 548	1.57	14 827 803	9.37	12 342 255	7.80
Total receivables	158 407 166	100	158 257 794	100	-149 372	0

*Source**:** author's calculations based on the financial statements (Annex 3).*

During the period under review, the total value of receivables of the Wine Factory "Agrotech Vin" JSC decreased slightly by 149 372 lei, reaching 158 257 794 lei in the financial year. Although the variation is small in absolute terms, it reflects a number of important structural changes in the composition of receivables. The most significant negative influence was generated by the elimination of receivables from affiliated parties, amounting to 90 863 248 lei, most likely as a result of their full collection or reclassification. Added to this is the reduction in receivables from the budget by 1 410 160 lei, indicating an improvement in tax

compliance, as well as the decrease in receivables from staff by 76.811 lei, reflecting more rigorous administrative management.

On the other hand, the trend was positively supported by an increase in trade receivables of 79 858 592 lei, highlighting an increase in commercial activity or an expansion of credit granted to customers. At the same time, other current receivables increased by 12 342 255 lei, suggesting the emergence of new sources of revenue, such as settlements, insurance or other miscellaneous receivables.

An analysis of the structure of current receivables shows a significant increase in the share of trade receivables, which now account for 90.21% of the total in the current year, compared to 39.71% in the previous year. This reflects an intensification of credit sales and a strategy of expanding commercial relations. In second place are other current receivables, with a share of 9.37% in the financial year, up from 1.57% compared to the previous year, indicating the diversification of sources of receivables through new rights to collect.

Receivables from the budget and from staff decreased during the period under review, reaching insignificant shares of 0.37% and 0.06% respectively, signalling more efficient fiscal and administrative management.

The most important structural change is the elimination of receivables from affiliated parties, which accounted for 57.36% in the previous year, suggesting full collection or restructuring of intra-group relationships and a clearer focus on external partnerships.

Based on the above, we affirm that in the reporting year, current receivables focused on foreign trade relations, marking more efficient management and a consolidation of the financial position.

Table 7.4. **Analysis of short-term receivables turnover**

Indicators	**Previous year**	**Current year**	**Absolute deviation, (+/-)**
A	1	2	3-2-1
1. Sales revenue, lei	360 192 216	353 860 648	-6 331 568
2 Average value of receivables, lei	142 586 398	158 332 480	15 746 082
3. Number of receivables turnover, times	2.53	2.23	-0.29
4. Receivables turnover period, days	144	163	19

*Source**:** author's calculations based on the financial statements (Annex 3).*

Following the calculations, there was a slight decrease in sales revenue of 6 331 568 lei, along with an increase in the average value of receivables of 15 746 082 lei, which led to a slowdown in the turnover of receivables. Thus, the number of rotations decreased from 2.53 times in the previous year to 2.23 times in the current year, and the duration of receivables rotation increased by 19 days, reaching 163 days.

This development reflects a lower efficiency in debt recovery, which may put pressure on the company's liquidity. The increase in average receivables, in the context of declining sales, indicates a possible relaxation of commercial credit policy or difficulties in collecting amounts owed by customers, requiring a reassessment of credit and bad debt risk management policies.

7.3 Diagnostic analysis of current liabilities

The diagnostic analysis of current liabilities is a complex process that involves assessing the structure, level and payment terms of the company's short-term obligations. The purpose of this analysis is to identify the associated financial risks, assess the company's ability to honour these debts and inform the management decisions necessary to ensure a healthy financial balance in the immediate term.

As previously highlighted, the relative increase in the volume of debts has a dual impact on the economic and financial activity of the company. On the one hand, it can be seen as a positive aspect, providing access to additional financing resources. On the other hand, an excessive increase in debt involves significant risks, in particular an increased probability of insolvency or even bankruptcy.

Given the diverse nature of current liabilities, their analysis and management require the application of differentiated methods and procedures, tailored to the specific characteristics of each category. Current liabilities are essentially a form of financing at a cost and cannot be considered spontaneous means of covering assets. However, certain types of debt — such as those owed to staff for salaries, social security and tax contributions, known as accrued liabilities — can be used temporarily as sources of financing without explicit costs, as they do not involve interest payments, unlike bank loans. Nevertheless, their nature, which is governed by external factors, in particular the legislative framework, limits the enterprise's control over the maturity and amount of these obligations.

In contrast, trade payables to suppliers — arising from the delivery of goods, the provision of services and the performance of work, as well as advances received for future deliveries — are spontaneous sources of financing. They arise directly as a result of commercial activities and do not necessarily involve additional financial

costs. For this reason, trade payables are of particular interest from the perspective of effective analysis and management, as they are essential for maintaining short-term financial balance.

A general analysis of current liabilities involves several essential steps, designed to highlight their evolution in the current period, both quantitatively and structurally:

1. Assessment of the change in the absolute value of current liabilities, both overall and by specific categories. This analysis consists of determining the difference between the value of liabilities recorded at the end of the financial year and that recorded at the beginning of the period. The change in absolute value provides an initial picture of the dynamics of the company's financial obligations.

2. Assessment of the change in the relative size (growth rate) of current liabilities during the financial year - this is done by calculating the ratio between the value of liabilities at the end of the period analysed and their value at the beginning of the period. For a correct interpretation, especially in the case of trade debts, the growth rate of debts must be compared with the growth rate of sales revenue. Ideally, sales growth should exceed the growth rate of liabilities, reflecting an efficient use of attracted resources and an improvement in the ability to meet current obligations.

3. Analysis of the change in the share of current debts in the total value of financing sources and in the total value of debts. The following calculation formulas are used for this purpose [12, p.153]:

$$Current\ debt\ ratio\ in\ total\ financing\ sources = \frac{Current\ debt}{Total\ liabilities} \times 100\% \quad (7.5)$$

$$Current\ liabilities\ ratio\ in\ total\ financing\ sources = \frac{Current\ liabilities}{Total\ liabilities} \times 100\% \quad (7.6)$$

4. A detailed analysis of the structure of current liabilities according to their components involves assessing the share of each type of liability in total current liabilities, as well as examining how these shares have evolved over the management period. This step aims to highlight structural changes in the composition of short-term liabilities and allows for the identification of any imbalances or trends in the structure of temporary financing sources. As part of this analysis, it is necessary to determine at least the following structural indicators:

- The share of financial liabilities in total current liabilities;
- The share of trade payables (to suppliers and commercial creditors);
- The share of debts to staff, the budget and other public authorities.

Monitoring these indicators helps to understand the level of dependence of the enterprise on various categories of creditors and allows for the formulation of

appropriate management decisions regarding financial balance and short-term risk control.

5. The analysis **of current liabilities according to the period until the payment deadline** aims to assess the company's ability to meet its obligations when due. To this end, the proportion of current liabilities that are still outstanding but have not exceeded the payment deadline is determined, as well as the proportion of overdue liabilities, broken down by time categories: up to 3 months, between 3 months and 1 year, and over 1 year. This approach provides a clear picture of the degree of financial discipline and the potential risk associated with non-payment on time.

6. The analysis of the structure of current debts according to their economic content involves classifying them according to the justifiable nature of their occurrence. Thus, debts are divided into:

- *Admissible debts* – considered normal, arising from the normal course of economic activity;
- *Inadmissible debts* – considered abnormal or unjustified, arising from non-compliance with contractual or legal obligations (e.g. penalties, fines, compensation for material damage, etc.).

A high proportion of inadmissible debts may signal financial management problems and deficiencies in the company's contractual relationships.

7. The analysis of current debt turnover looks at how efficiently the company pays its short-term obligations. This involves determining:

- The number of current debt rotations;
- The average payment period, expressed in days.

Several methods can be used to determine these indicators, depending on the chosen calculation basis. One method involves calculating the number of rotations as the ratio between sales revenue and the average value of current liabilities. The indicators obtained must be compared with the corresponding values for the previous period in order to assess whether there has been an improvement or deterioration in payment discipline.

The number of current debt turnovers represents how many times, in a given period (usually one year), the company manages to pay its short-term debts. This indicator reflects the efficiency of current liability management and can be calculated as the ratio of sales revenue to the average value of current liabilities. A higher number of turnovers indicates faster debt repayment.

$$Number\ of\ current\ debt\ turnovers = \frac{Sales\ revenue}{Average\ value\ of\ current\ debts} \quad (7.7)$$

Since sales revenue is a key indicator in forecasting, including the forecasting of current liabilities, this ratio is used in practice to prepare balance sheet forecasts and estimate net working capital requirements.

The current debt turnover period is the average time (usually expressed in days) required for a company to pay its current debts. This indicator is the inverse of the number of rotations and reflects how long current liabilities remain unpaid until they are settled. A shorter duration indicates efficient payment management, while a longer duration may signal difficulties in meeting obligations. The calculation formula is:

$$Current\ debt\ turnover\ period = \frac{Average\ value\ of\ current\ debts}{Sales\ revenue} \times 365\ days \quad (7.8)$$

In economic practice, it is considered good practice for the payment period to be 5-10 days longer than the debt recovery period, but not to exceed the due date.

The indicators calculated during these stages should be interpreted dynamically, i.e. by comparison with the corresponding values recorded in the previous financial year. This approach highlights trends and developments in the debt structure, enabling early identification of financial risks.

Application

Based on the data from the financial statements of the Wine Factory "Agrotech Vin" JSC, a diagnosis of current debts will be made and the results obtained will be interpreted.

Solution

Table 7.5. **Analysis of the evolution of total debts**

Indicators	**Previous year**	**Current year**	**Absolute deviation, (+/-)**	**Growth rate, %**
A	1	2	3-2-1	4=(2/1)× 100
Long-term liabilities, lei	457 674	12 650 455	12 192 781	2 764.08
Current liabilities, lei	321 524 826	308 066 688	-13 458 138	95.81
Total liabilities, lei	321 982 500	320 717 143	-1 265 357	99.61

Source: author's calculations based on the financial statements (Annex 3).

During the period under review, the debt structure of the Wine Factory "Agrotech Vin" JSC underwent significant changes, reflecting a reconfiguration of

the company's financing policy. Although the total value of debts decreased slightly by 1 265 357 lei (−0.39 p.p.), there was a significant increase in long-term debt, which rose more than 27 times (+2 764.08%), from 457 674 lei in the previous year to 12 650 455 lei in the current year. This dynamic indicates a possible reorientation towards more stable and advantageous sources of financing in the long term, thus reducing pressure on current liquidity.

At the same time, current liabilities decreased by 13 458 138 lei, reaching 308 066 688 lei, which corresponds to a reduction rate of 4.19 p.p. This may suggest an improvement in the company's ability to manage its short-term obligations or repay certain debts.

Overall, the evolution shows a positive trend towards rebalancing the structure of liabilities, with a greater emphasis on long-term financing, which may contribute to increased financial sustainability and reduced liquidity risk.

Table 7.6. **Analysis of the share of current liabilities in the sources of financing of the Wine Factory "Agrotech Vin" JSC**

Indicators	**Previous year**	**Current year**	**Absolute deviation, (+/-)**
A	1	2	3=2-1
Long-term liabilities, lei	457 674	12 650 455	12 192 781
Current liabilities, lei	321 5248 26	308 066 688	-13 458 138
Total liabilities, lei	321 982 500	320 717 143	-1 265 357
Total liabilities, lei	643 269 770	661 251 945	17 982 175
Share of current liabilities in total liabilities, %	49.98	46.59	-3.39
Share of current liabilities in total liabilities, %	99.86	96.06	-3.80

*Source**:** author's calculations based on the financial statements (Annex 3).*

According to the data presented in Table 7.6, the share of current liabilities in total liabilities decreased from 49.98% in the previous year to 46.59% in the current year, which signals a slight reduction in short-term financial pressure in the overall structure of funding sources. However, the share of current liabilities in total liabilities remains significantly high, although slightly decreasing — from 99.86% in the previous year to 96.06% in the current year. This indicates that, despite a considerable increase in long-term debt, short-term financing continues to dominate the company's liability structure.

At the same time, high dependence on current liabilities can be interpreted as a potential financial risk, as it involves immediate payment obligations and constant pressure on cash flows. From a financial management perspective, such a debt structure requires increased attention to ensuring liquidity, especially given that accessing short-term financing involves associated costs (interest, commissions) that can affect short-term profitability and solvency.

Therefore, although some progress has been made in balancing the financing structure — reflected in the increase in long-term debt — the still dominant share of current debt suggests the need to consolidate stable sources of financing and improve the financial autonomy of the enterprise.

Table 7.7. **Analysis of the structure of current debt by component**

Indicators	**Previous year**		**Current year**		**Absolute deviation, (+/-)**	
	Amount, lei	**Share, %**	**Amount, lei**	**Share, %**	**Amount, lei**	**Share, %**
Short-term bank loans	125 504 356	39.03	112 013 949	36.36	-13 490 407	-2.67
Current trade payables	165 755 769	51.55	166 508 714	54.05	752 945	2.50
Current advances received	4 557 834	1.42	1 687 731	0.55	-2 870 103	-0.87
Liabilities to staff	4 450 511	1.38	4 819 022	1.56	368 511	0.18
Social security and health insurance liabilities	1 889 329	0.59	2 308 004	0.75	418 675	0.16
Debts to the budget	6 381 214	1.98	7 668 533	2.49	1 287 319	0.50
Other current liabilities	1 897 218	0.59	1 972 140	0.64	74 922	0.05
Provisions	11 088 595	3.45	11 088 595	3.60	0	0.15
Total current liabilities	321 524 826	100	308 066 688	100	-13 458 138	0

*Source**:** author's calculations based on the financial statements (Annex 3).*

During the period under review, the total value of current liabilities of the Wine Factory "Agrotech Vin" JSC decreased by 13 458 138 lei, from 321 524 826 lei in the previous year to 308 066 688 lei in the current year. This decrease was mainly due to a significant reduction in short-term bank loans, amounting to 13 490 407 lei. This development suggests a decrease in the company's dependence on

short-term external financing, possibly as a result of the repayment of existing loans or their replacement with more stable and cost-effective sources of financing.

Another factor that contributed negatively to the evolution of current liabilities was the decrease in advances received, by 2 870 103 lei, which may reflect a decrease in orders paid in advance by customers or a change in commercial policies, in the sense of accepting payment after delivery of goods or provision of services.

On the other hand, current trade payables had a positive contribution, increasing by 752 945 lei, which indicates an expansion of credit purchases or the extension of payment terms to suppliers. This trend may be part of a liquidity optimisation strategy, but it requires careful monitoring to avoid the risks of financial blockage.

Moderate increases were also recorded in liabilities to staff by 368 511 lei, social and medical contributions by 418 675 lei, and liabilities to the state budget by 1 287 319 lei. These developments may be associated with a temporary increase in tax and salary obligations as a result of the increase in the salary fund, the number of employees or payment delays. Other current liabilities increased insignificantly by 74 922 lei, with no relevant impact on the overall development. On the other hand, provisions remained constant at 11 088 595 lei, with no influence on the total value of current liabilities.

Analysing the structure of current liabilities, we note that in the financial year, it is dominated by trade payables, which represent 54.05% of the total, up from 51.55% in the previous year. This trend suggests an expansion of credit purchases and strategic use of supplier credit. In second place are short-term bank loans, with a share of 36.36%, down from 39.03%, indicating a reduction in dependence on external financing.

Another significant component is provisions, which remain stable at 3.60%, reflecting a prudent approach to risk coverage. Next are tax and salary liabilities: those to the budget (2.49%), to staff (1.56%) and social contributions (0.75%), all slightly up, suggesting an expansion of operational obligations. Another category is advances received, which recorded a significant decrease, from 1.42% to 0.55%, possibly due to a reduction in advance payments from customers. In contrast, other current liabilities remain insignificant, with a share of 0.64%, with no major impact on the overall structure.

Table 7.8. **Analysis of current liabilities turnover**

Indicators	Previous year	Current year	Absolute deviation, (+/-)
A	1	2	3=2-1
Sales revenue, lei	360 192 216	353 860 648	-6 331 568
Average value of current liabilities, lei	299 965 480	314 795 757	14 830 277
Number of current debt turnovers, times	1.20	1.12	-0.08
Duration of current debt turnover, days	304	325	21

*Source**:** author's calculations based on the financial statements (Annex 3).*

During the period under review, the Wine Factory "Agrotech Vin" JSC saw a slight deterioration in the efficiency of its current debt utilisation. Although the average value of current liabilities increased by 14 830 277 lei, reaching 314 795 757 lei, sales revenue decreased by 6 331 568 lei. This imbalance led to a decrease in the number of current debt rotations from 1.20 times to 1.12 times in the current year and to an extension of the rotation period from 304 to 325 days. This trend reflects a slowdown in the pace of current debt repayment, which may signal a tightening of cash flows and an increase in dependence on supplier financing. In the context of declining revenues, the company needs to pay closer attention to working capital management to avoid accumulating debt that could affect liquidity and financial credibility.

Self-assessment questions:

1. Describe the importance of diagnosing current receivables and payables in a company.
2. How do current receivables and payables influence a company's liquidity and solvency?
3. How can the analysis of current liabilities help to avoid the risk of insolvency?
4. How can effective diagnosis of receivables help improve cash flow?
5. What does a faster increase in receivables compared to sales volume mean?
6. What risks does the existence of overdue receivables generate?
7. What is receivables turnover analysis and what indicators can be used?
8. How is the receivables turnover period calculated in days?

9. What is the managerial interpretation of a longer than usual collection period for receivables?
10. What is the analysis of the change in the absolute value of current liabilities and how is it calculated?
11. Why is it important to compare the growth rate of trade payables with the growth rate of sales?
12. What is the significance of analysing the structure of current liabilities according to their maturity?
13. How should a high proportion of overdue debts be interpreted?
14. Why is it important to analyse the dynamics of current debt indicators?
15. What does the number of turns of current liabilities indicate and how is it calculated?

Self-assessment tasks:

1. Define the concepts of "receivables" and "current liabilities".
2. Interpret the meaning of a high level of short-term indebtedness.
3. Assess the risks generated by delays in the payment of current liabilities in a concrete example.
4. Identify potential imbalances between receivables and payables.
5. Argue for the need for a coherent policy on current debt management.
6. Justify the application of measures to reduce current liabilities in certain market conditions.
7. Argue your opinion on the effects of a major imbalance between current receivables and payables on the financial health of the company.
8. Develop a plan to optimise the management of current receivables and payables for a company with liquidity problems.
9. Propose an internal policy for managing trade receivables, with measures to prevent the risk of non-payment.
10. Perform a diagnosis of the current receivables and payables of a specific company, using the available financial statements, and formulate conclusions and recommendations based on the results obtained.

Self-assessment multiple-choice test:

1. What do receivables represent within current assets?

A. The company's payment obligations

B. Rights to receive payments from sales or other commercial operations

C. Fixed assets
D. Deferred profits

2. What does a large volume of outstanding receivables mean?
A. High efficiency in collecting amounts
B. Strict commercial policy
C. Collection problems and increased financial risk
D. Accelerated economic growth

3. Which indicator can be used to analyse the efficiency of debt collection?
A. Net profit margin
B. Number of debt turnovers
C. Average receivables turnover period
D. Interest rate on loans

4. What are current liabilities?
A. Long-term investments
B. Company obligations to third parties, due in the short term
C. Accounting losses
D. Fixed assets

5. What effect can an increase in current liabilities have?
A. Rapid improvement in profit
B. Access to additional financing, but also risk of insolvency
C. Increase in equity
D. Decrease in cash requirements

6. In analysing the structure of receivables, what types of receivables can be distinguished from an economic perspective?
A. Current and non-current
B. Admissible and inadmissible
C. Assets and liabilities
D. Commercial and non-commercial

7. What is meant by the turnover period of receivables?
A. The lifetime of a customer
B. The average time taken to settle debts
C. The average annual term for collecting receivables
D. Delivery time for goods

8. In the analysis of current debt turnover, what is the significance of a high turnover rate?
A. Delayed payments
B. Improvement in cash flow
C. Rapid repayment of debts
D. Lack of liquidity

9. Which category of current liabilities can be used temporarily without explicit financial costs?

A. Trade payables
B. Financial liabilities
C. Calculated liabilities (e.g. salaries and contributions)
D. Overdue liabilities

10. What does the comparison between the turnover period of receivables and current liabilities reflect?

A. Stability of share capital
B. Accounting efficiency
C. Short-term financial balance
D. Long-term interest rates

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TOPIC 8. DIAGNOSIS AND MANAGEMENT OF NET WORKING CAPITAL IN THE BUSINESS ADMINISTRATION PROCESS

Expected learning outcomes: RI 11		
Knowledge/content units	**Skills**	**Responsibility and autonomy**
Content units: 8.1 Definition of net working capital and its relevance in the financial analysis of a business 8.2 Assessment of net working capital dynamics 8.3 Factor diagnosis of net working capital. 8.4 Financial cycle and net working capital	✓ describes the concept of net working capital and its functions in financial stability; ✓ identify the link between net working capital, working capital requirements and the financial cycle; ✓ explains the factors that determine changes in net working capital. ✓ apply methods for determining and diagnosing net working capital in practical situations; ✓ calculate the level of working capital requirements and identify any imbalances; ✓ uses indicators to assess the continuity of the company's activity; ✓ analyses the causes of working capital deficits or surpluses; ✓ evaluate the impact of net working capital on the ability to finance current operations; ✓ proposes financial solutions to restore economic balance.	The student independently performs specific financial management functions at the level of the economic entity, formulating constructive proposals for the rational use of financial resources and for improving business results.

KEY TERMS:

Net working capital — represents the difference between a company's current assets and current liabilities. It is an indicator of short-term financial balance.

Current assets — assets that are converted into cash within a period of up to one year (e.g. inventories, receivables, cash and cash equivalents).

Permanent capital — total equity and long-term liabilities. These represent stable sources of financing.

Financial balance — a situation in which a company can meet its financial obligations without difficulty.

Financial imbalance — a situation in which the company does not have sufficient resources to cover its current obligations.

Operating cycle — the period of time between the purchase of raw materials and the collection of revenue from the sale of products or services.

Financial cycle — the total time it takes for financial resources to turn into cash, going through the stages of production and sale.

Net working capital requirement — the theoretical optimum level of NWC required to conduct business under normal conditions, determined based on the financial cycle.

Net working capital surplus — a situation in which the actual NWC is greater than the standard, indicating inefficient use of resources.

Net working capital deficit — a situation in which the actual NWC is lower than the standard, indicating a lack of liquidity for carrying out current activities.

8.1 Definition of net working capital and its relevance in the financial analysis of a business

8.1 Definition of net working capital and its relevance in the financial analysis of a business

In the current context, characterised by economic uncertainty and financial volatility, the analysis of a company's financial balance is a major concern for management, investors, creditors and other interested economic actors. One of the main indicators used in this regard is net working capital (NWC), which reflects the company's ability to sustain its operational activity without resorting excessively to short-term financing. The study and interpretation of this indicator contributes significantly to the assessment of the liquidity, solvency and financial sustainability of the entity under analysis.

Net working capital is defined as the difference between a company's current assets and current liabilities, thus expressing the surplus of resources available to cover short-term obligations. From a structural perspective, NWC can also be determined as the difference between permanent capital (equity and long-term liabilities) and fixed assets, which highlights the portion of permanent resources allocated to financing cyclical activity.

In financial analysis, net working capital has a high diagnostic value, as it directly expresses short-term financial balance.

A positive NWC indicates that the company has sufficient current assets to cover its current liabilities without having to resort to selling fixed assets or taking out new loans. This situation reflects efficient resource management and a solid capacity for self-financing of current operations.

A negative NWC signals a financial imbalance, as part of the fixed assets are financed by short-term debt, which implies an increased liquidity risk. In such cases, the company may encounter difficulties in meeting its maturing obligations, exposing itself to the risk of penalties, loss of partner confidence or, in extreme cases, insolvency.

An NWC equal to zero expresses a fragile equilibrium, in which permanent capital exactly covers fixed assets, and current activity is supported exclusively by short-term liabilities. This configuration, although less risky than a negative NWC, does not provide a safety margin and may make the company vulnerable to liquidity fluctuations.

From a managerial point of view, net working capital is an essential tool for planning, monitoring and controlling financial resources. The evolution of this indicator provides valuable benchmarks for making decisions on attracting additional financing, restructuring liabilities, optimising inventory management and trade receivables. At the same time, NWC is frequently used by banks and investors in analysing a company's creditworthiness, constituting a basic criterion in the process of lending and raising capital.

According to studies conducted by renowned authors in the field of financial analysis – such as: D. Mărgulescu, M. Niculescu, S. Petrescu, N. Munteanu, Gh. Vâlceanu, V. Robu, N. Georgescu, N. Țiriulnicova, V. Paladi, L. Bușe, N. Botnari, etc. – the financial balance of a company is mainly reflected in three indicators: working capital, working capital requirements and net cash flow.

To determine net working capital, the analysis is based on various sources of information, mainly:

- annual financial statements (balance sheet, profit and loss account, cash flows),
- bank account statements,
- transactions carried out through payment and money transfer systems,
- loans taken out,
- arrears to employees,
- as well as the latest financial diagnostic reports prepared internally or by specialised consultants.

Integrating these sources provides a complete picture of the company's financial stability and allows for the early identification of any imbalances that could impact business continuity.

8.2 Assessment of net working capital dynamics

Net working capital can be determined using two equivalent methods, each offering a complementary perspective on the company's financial structure. These approaches provide an in-depth understanding of how financial resources are managed and allocated, highlighting both the ability to cover short-term liabilities and the sources of financing used to support assets. Each method provides a specific interpretation of how the company's financing is structured, contributing to a complete picture of its financial balance.

The first ***method*** for determining net working capital is ***based on current assets and current liabilities.*** This approach defines net working capital as the difference between current assets and current liabilities [2, p. 108]. The indicator reflects the surplus of short-term available resources over liabilities due in the same period:

$$Net\ working\ capital = Current\ assets - Current\ liabilities \quad (8.1)$$

The second ***method is based on permanent capital and fixed assets.*** In this case, net working capital is determined as the difference between permanent capital (consisting of equity and long-term liabilities) and the value of fixed assets [12 p.175,]. This formula highlights the portion of stable capital that indirectly finances current assets and, therefore, current operating activities:

$$Net\ working\ capital = Permanent\ capital - Fixed\ assets \quad (8.2)$$

Both calculation methods normally lead to the same result. Any discrepancy between the values obtained indicates possible errors either in the calculations or in the preparation or presentation of the balance sheet. Therefore, consistency between the two approaches is essential to ensure the accuracy and consistency of financial information.

In general, efficient economic activity leads to an increase in net working capital, which indicates a strengthening of the company's financial stability. Conversely, a significant reduction in this indicator or the appearance of a negative value is a warning sign of financial imbalance, reflecting a possible inability of the company to meet its short-term obligations. In such situations, it is necessary to conduct a more in-depth analysis of net working capital in order to identify the causes of the imbalance and develop appropriate corrective measures.

Application

Based on the information in the financial statements (balance sheet), the actual value of the net working capital of the Wine Factory "Agrotech Vin" JSC will be determined by drawing up an analytical table and formulating relevant interpretations of the results obtained.

Solution

Table 8.1. **Calculation of net working capital (lei)**

Indicators	**Previous year**	**Current year**
Calculation option I		
1. Current assets	329 235 100	354 409 801
2. Current liabilities	321 524 826	308 066 688
3. Net working capital (rd.1-rd.2)	7 710 274	46 343 113
Calculation option II		
4. Equity	321 287 270	340 534 802
5. Long-term liabilities	457 674	12 650 455
6. Permanent capital (rd.4+rd.5)	321 744 944	353 185 257
7. Fixed assets	314 034 670	306 842 144
8. Net working capital (rd.6-rd.7)	7 710 274	46 343 113

Source: author's calculations based on the financial statements (Annex 3).

Based on the data in Table 8.1, NWC was determined by applying the two methods established in the specialised literature, both leading to identical results, which validates the consistency and coherence of the accounting data used.

According to the first method – the difference between current assets and current liabilities – we observe that net working capital increased significantly from 7 710 274 lei in the previous year to 46 343 113 lei in the current year. This result reflects a substantial improvement in the overall liquidity of the company, suggesting better management of short-term resources. Based on the second method, the increase in net working capital during the period analysed is the result of favourable developments in the company's financial structure. Current assets increased from 329 235 100 lei in the previous year to 354 409 801 lei in the current year, indicating an expansion of available short-term resources.

At the same time, current liabilities decreased from 321 524 826 lei to 308 066 688 lei in the reporting year, contributing to a reduction in immediate financial pressure. At the same time, during the analysis period, permanent capital increased from 321 744 944 lei to 353 185 257 lei, reflecting a consolidation of long-term financing sources.

In addition, the value of fixed assets decreased from ,314 034 670 lei to 306 842 144 lei, signalling a more efficient use of invested resources. These factors together led to a significant improvement in short-term financial balance.

Following the analysis, we can mention that the values recorded and the positive dynamics of the net working capital during the analysed period reflect efficient management of financial resources, a balanced policy between investments and sources of financing, and a high degree of control over the risks associated with the operating activity.

8.3 Factor diagnosis of net working capital

The factor diagnosis of net working capital is an in-depth analysis that aims to identify and quantify the influence of determining factors on the variation of net working capital (NWC) over time. This approach allows us to highlight the causes underlying the change in the short-term financial balance of the company.

The purpose of the factorial diagnosis of the NWC is:

- *To highlight the components that contribute positively or negatively to the evolution of the NWC;*
- *To enable informed managerial decisions to improve financial stability;*
- *To provide a clear picture of changes in the structure of permanent resources and their use.*

To achieve this goal, it is recommended to use the second method of calculating net working capital, expressed as follows:

$$Net\ working\ capital = Equity + Long-term\ debt - Fixed\ assets \quad (8.3)$$

Each element of this formula represents a first-degree factor that directly influences the value of net working capital. Given the additive relationship between these factors and the final indicator, the balance sheet method is the most appropriate for performing factor analysis in this situation.

In the factor analysis of net working capital (NWC) and the formulation of analytical conclusions, special attention is paid to the main factors that can influence the change in this indicator. These include:

- *Equity capital (EC)* – an increase in equity capital contributes to improving the financial balance of the enterprise, which leads to an increase in net working capital. This signals that the company has sufficient financial resources to support its current activities. Equity capital can consist of cash, short-term investments, stocks of raw materials or supplies, among other things.

- *Long-term debt (LTD)* – this factor has a direct impact on NWC. An increase in long-term loans, given stable equity, contributes to strengthening financial balance, allowing part of the available resources to be directed towards financing current activities.
- *Fixed assets (FA)* – although their increase may reflect a technological and competitive advantage for the company, it may also generate a financial imbalance, limiting the availability of resources for current operational activity and, implicitly, negatively affecting net working capital.
- *Current assets (CA*) – an increase in these leads to an increase in NWC, thus contributing to ensuring short-term financial balance.
- *Current liabilities (CL)* – an increase in these has a negative effect on NWC, reducing its value, while a decrease contributes to its improvement.

However, an exclusive analysis of first-degree factors is not sufficient for a complete assessment of the evolution of net working capital. For this reason, it is necessary to break down and detail these factors into their structural components. Thus, based on the information in the balance sheet, each first-degree factor can be expressed as the sum of several second-degree factors. It is important to note that the level of detail of this analysis may vary, as it can be performed either at the level of balance sheet sub-chapters or at the level of individual balance sheet items.

Tables 8.2 and 8.3 quantify the influence of first-order factors on the change in net working capital by applying the balancing method, as the formula for determining it is based on an additive relationship between the component variables.

Table 8.2. **Determining the impact of first-order factors on the variation in net working capital**

Indicators	**Previous year**	**Current year**	**Absolute deviation**	**Influence of the factor, (+/-)**
1. Current assets, lei	329 235 100	354 409 801	25 174 701	25 174 701
2. Current liabilities, lei	321 524 826	308 066 688	-13 458 138	13 458 138
3. Net working capital, lei (rd.1-rd.2)	7 710 274	46 343 113	38 632 839	38 632 839

*Source**:** author's calculations based on the financial statements (Annex 3).*

Following the first-order factor analysis, it can be seen that the positive evolution of the net working capital, recording an increase of 38 632 839 lei, was determined by the positive influence of two essential components of short-term financial management: current assets and current liabilities.

More specifically, the increase in current assets by 25 174 701 lei directly contributed to the improvement of net working capital, signalling an expansion of the resources available for carrying out current activities. This dynamic reflects the company's increased ability to support its operations from its own sources, indicating a strengthening of its liquidity position.

At the same time, the decrease in current liabilities by 13 458 138 lei also had a positive effect on net working capital by reducing the financial pressure exerted by current liabilities. This decrease led to an increase in net working capital of 13 458 138 lei and signifies prudent management of short-term commitments and contributes to maintaining a solid financial balance.

We can therefore conclude that the cumulative influence of these two factors led to a notable improvement in net working capital during the period under review. This favourable development reflects efficient management of current resources and a financial strategy geared towards stability, thus strengthening the company's ability to meet its current obligations without resorting to additional or costly sources of financing.

Table 8.3. **Analysis of the contribution of primary factors to the change in net working capital**

Indicators	**Previous year**	**Current year**	**Absolute deviation**	**Influence of the factor, (+/-)**
1. Equity, lei	321 287 270	340 534 802	19 247 532	19 247 532
2. Long-term liabilities, lei	457 674	12 650 455	12 192 781	12 192 781
3. Permanent capital, lei (rd.1+rd.2)	321 744 944	353 185 257	31 440 313	31 440 313
4. Fixed assets, lei	314 034 670	306 842 144	-7 192 526	7 192 526
5. Net working capital, lei (rd.3-rd.4)	7 710 274	46 343 113	38 632 839	38 632 839

*Source**:** author's calculations based on the financial statements (Annex 3).*

The calculations in Table 8.3 show an increase in net working capital in the current year compared to the previous year of 38 632 839 lei. This increase was determined by the increase in equity by 19 247 532 lei, which reflects a consolidation of the company's financial autonomy, generating a direct positive impact on net working capital through the expansion of permanent capital. The increase in long-term debt by 12 192 781 lei also contributed to the same direction of influence, as it increased the total stable sources of financing available. Cumulatively, these two components led to an increase in permanent capital of 31 440 313 lei, which increased the company's ability to support current assets after covering fixed assets. At the same time, there was a decrease in fixed assets of 7 192 526 lei, which had a favourable influence on net working capital, as it reduced the long-term financing requirement for fixed assets, thus freeing up resources for current operations.

Therefore, the increase in net working capital over time reflects not only an improvement in the company's overall liquidity, but also an optimisation of its financial structure, underpinning a position of stability and sustainable financial balance. This development provides favourable conditions for sustaining operational activity without resorting to additional short-term financing, thus strengthening the financial health of the enterprise.

8.4 Financial cycle and net working capital

For the efficient conduct of economic activity, it is particularly important to analyse the duration of the company's operating cycle and financial cycle. ***The operating cycle*** is the time interval, expressed in days, between the purchase of raw materials or supplies and the receipt of revenue from the sale of finished products, goods or services provided. During this process, ***net working capital*** (NWC) plays an essential role in ensuring financial balance and the continuity of economic activities.

One of the methods frequently used in practice to estimate net working capital is the analysis ***of the financial cycle duration.*** This reflects all the operations through which liquid resources, whether own or borrowed, are transformed into stocks or assets, followed by their conversion into goods or services, and, finally, the recovery of value through the collection of the generated receivables. In practice, the financial cycle is a sequence of economic processes that cause changes in the structure of inventories and, through the emergence of trade receivables, allow their conversion into cash. In this way, the initial capital invested is recovered and the company can achieve a monetary surplus.

From a managerial point of view, the aim is to keep the duration of the financial cycle as short as possible, as this indicator reflects the period during which the company operates without external financial input. The shorter the cycle, the more efficiently the company can ensure its financial autonomy.

In order to maintain this autonomy and have a safety margin throughout the financial cycle, it is essential that equity capital be the main source of financing for current needs. At the same time, the duration of the financial cycle is closely correlated with the payment terms agreed in commercial relations, which requires careful management of cash flows and the structure of short-term liabilities.

Given the importance of net working capital in maintaining financial balance and its role in supporting the financial cycle of the enterprise, calculating the NWC standard becomes essential in the financial planning process. This determination is made by applying specific turnover ratios, which reflect the speed of conversion of the assets involved in the operating cycle. The process involves the following steps [14 p.171]:

Step 1: Determine the average inventory turnover in days

$$Average\ inventory\ turnover = \frac{Average\ inventory\ value}{Cost\ of\ sales/365\ days} \quad (8.4)$$

Step 2: Calculate the average turnover period of current receivables in days

$$Average\ turnover\ period\ for\ current\ receivables = \frac{Average\ value\ of\ current\ receivables}{Average\ deferred\ sales\ revenue/365\ days} \quad (8.5)$$

Step 3: Determine the average turnover period for current liabilities in days

$$Average\ turnover\ of\ current\ liabilities = \frac{Average\ value\ of\ current\ liabilities}{Average\ operating\ expenses/365\ days} \quad (8.6)$$

Step 4: Determine the length of the financial cycle in days

$$\begin{aligned} Financial\ cycle\ duration &= Average\ inventory\ turnover\ duration \\ &+ Average\ current\ receivables\ turnover\ duration \\ &- Average\ current\ liabilities\ turnover\ duration \end{aligned} \quad (8.7)$$

Step 5: Calculate the $net\ working\ capital$ standard

$$Net\ working\ capital\ standard\ = Financial\ cycle\ duration \times \frac{Sales\ revenue}{365} \quad (8.8)$$

Ideally, the net working capital standard should be as low as possible. A low standard reflects the company's increased ability to organise its operational cycle efficiently, requiring fewer financial resources to ensure the uninterrupted performance of current activities. Thus, a company operating with an optimised minimum level of NWC demonstrates efficient working capital management, good control over liquidity and an ability to adapt to the dynamics of economic flows.

Therefore, in financial management analysis, three possible relationships between the NWC standard and the actual value recorded by the company can be distinguished:

1. *Actual net working capital ≈ Net working capital standard* – represents the optimal situation, in which the company operates with exactly the resources necessary to support its current activity, without excesses or deficiencies. However, in practice, such a correlation rarely occurs due to the continuous variability of economic and commercial conditions.

2. *Actual net working capital > Net working capital standard* – this situation reflects the existence of a net working capital surplus. Although, at first glance, the surplus may be perceived as a sign of financial stability, it also has negative implications. These include:

- ✓ a decrease in economic and financial profitability by blocking resources that could be directed towards investment or development;
- ✓ additional costs for managing current assets, such as inventories or receivables;
- ✓ loss of value of cash in the context of inflation or lack of financial return.

3. *Actual net working capital < Net working capital standard* – this situation defines a net working capital deficit, with major negative effects on the company's activity. The lack of financial resources necessary to support the operational cycle can lead to:

- ✓ interruptions in the production or delivery process due to insufficient raw materials or stocks;
- ✓ social tensions and strikes caused by delays in salary payments;

- ✓ penalties, late payment interest and damage to reputation as a result of failure to pay obligations to suppliers, creditors or the state budget on time;
- ✓ in serious cases, the accumulation of deficits can lead to insolvency and, ultimately, bankruptcy.

From a managerial perspective, managing net working capital in relation to its standard is an essential tool for controlling and planning resources in the short term. Although a working capital surplus may offer apparent security and a deficit entails obvious risks, both extreme situations can affect the economic efficiency of the enterprise if they are not carefully monitored. The role of management is to maintain a functional balance, whereby the actual NWC approaches the optimal normative level. This balance allows the avoidance of liquidity bottlenecks, but also of unjustified capital immobilisation. In this sense, the periodic analysis of deviations between the actual and normative NWC becomes an important basis for strategic decisions regarding investments, financing current activities and optimising the working capital structure, directly contributing to the consolidation of the company's economic and financial performance.

Application

Using the financial data of the Wine Factory "Agrotech Vin" JSC, the compliance of the net working capital with the established normative level will be assessed and the results obtained will be interpreted.

Solution:

Table 8.4. **Determination of the net working capital standard**

Indicators	Previous year	Current year
1. Cost of sales, lei	292 581 790	269 899 937
2. Revenue from sales, lei	360 192 216	353 860 648
3. Deferred sales revenue, lei	62 898 195	142 756 787
4. Average value of inventories, lei	164 670 736	182 830 166
5. Average value of current receivables, lei	142 586 398	158 332 480
6. Average value of current liabilities, lei	294 242 615	314 795 757
7. Operating expenses, lei	371 987 665	356 448 139
8. Inventory turnover, days [rd.4/(rd 1/365)]	205	247
9. Current receivables turnover, days [rd.5/(rd 3/365)]	827	405
10. Current liabilities turnover, days [rd.6/(rd 7/365)]	289	322

11. Financial cycle duration, days (rd.8 + rd.9 - rd.10)	744	330
12. Average daily sales revenue, lei (rd.2/365)	986 828	969 481
13. Net working capital requirement, lei (row 11*row 12)	734 344 734	319 663 655

*Source**:** author's calculations based on the financial statements (Annex 3).*

Based on the data presented in Table 8.4, it can be concluded that, in order to ensure the normal conduct of its operational activity, the Wine Factory "Agrotech Vin" JSC recorded a net working capital requirement of 734 344 734 lei in the previous year and 319 663 655 *lei in the current year. These values reflect the estimated level of short-term financial resources needed to support the continuity of economic processes and the operating cycle of the enterprise under conditions of financial equilibrium.*

Table 8.5. **Assessment of the compliance of net working capital with the established normative level**

Indicators	Previous year	Current year
Actual amount of net working capital, lei	7 710 274	46 343 113
Net working capital standard, lei	734 344 734	319 663 655
Net working capital surplus, lei		
Net working capital deficit, lei	-726 634 460	-273 320 542

*Source**:** author's calculations based on the financial statements (Annex 3).*

A comparative analysis between the actual amount of net working capital and the pre-established norm in Table 8.5 of the Wine Factory "Agrotech Vin" JSC reveals a major financial imbalance within the enterprise. In the previous year, the net working capital was 7 710 274 lei, while the estimated standard level was 734 344 734 lei, which generated a substantial deficit of 726 634 460 lei. This significant discrepancy indicates a limited capacity to sustain current activity from own sources and a marked dependence on short-term financing.

Although there has been a considerable increase in net working capital to 46 343 113 lei this year, this positive development remains insufficient in relation to the normative requirement, which was estimated at 319 663 655 *lei. Thus, the deficit remains high, at,* 273 320 542 *lei, continuing to indicate an insufficiency of stable resources to cover operational needs.*

The persistence of such an imbalance entails increased liquidity risks and may require recourse to external sources of financing, such as short-term bank loans. This situation may also lead to delays in the payment of due obligations, with a negative impact on the company's creditworthiness and financial reputation. In this context, a strategic reassessment of working capital management policies is required, as well as optimisation of the financing structure to achieve a sustainable financial balance.

Self-assessment questions:

1. What is net working capital and what is its significance in the context of a company's financial balance?
2. What are the two equivalent methods for calculating net working capital and what perspectives does each offer?
3. What does a positive, negative or zero net working capital mean, and what does each of these situations imply for the financial stability of the company?
4. Why is it important to analyse the dynamics of net working capital for the financial management of a company?
5. What are the main first-degree factors that influence the value of net working capital?
6. How do equity and long-term debt contribute to changes in NWC?
7. Under what conditions can an increase in fixed assets have a negative impact on NWC?
8. What are the operating cycle and financial cycle of a company?
9. Why is the duration of the financial cycle important in assessing the need for net working capital?
10. How is the net working capital standard calculated based on the duration of the financial cycle?
11. How can the analysis of deviations between the normative and actual NWC contribute to improving managerial decisions?
12. What risks does a net working capital deficit pose to current operations?
13. Why can a net working capital surplus be considered unfavourable?
14. What are the three possible relationships between actual NWC and the NWC standard?
15. How does management manage net working capital to maintain financial balance?

Self-assessment tasks:

1. Define the concept of net working capital and list its main components.
2. Identify the main sources of information used in diagnosing net working capital.
3. Explain the importance of net working capital in ensuring the liquidity and financial stability of the enterprise.
4. Describe the link between net working capital and the operating cycle of a business.
5. Demonstrate, through practical examples, how positive or negative net working capital affects the operation of a firm.
6. Analyse the main causes of variations in net working capital within a company. Compare the structure of current receivables and payables to determine the impact on working capital management.
7. Make recommendations for optimising net working capital management in the context of a given business.
8. Propose an action plan to correct a deficient net working capital, arguing for the chosen solutions.
9. Develop a model for regular monitoring of net working capital to identify and prevent financial risks.
10. Perform a diagnosis of the net working capital of a specific economic entity based on financial statements and provide conclusions and recommendations based on the results obtained.

Self-assessment multiple-choice test:

1. **What is net working capital (NWC)?**
   A. The difference between total liabilities and total income
   B. The difference between fixed assets and equity
   C. The difference between current assets and current liabilities
   D. The difference between receivables and inventories
2. **What does a positive net working capital mean?**
   A. The company has payment difficulties
   B. Fixed assets are greater than equity
   C. The company can meet its current obligations without additional resources
   D. The company has insufficient equity
3. **What is the alternative formula for calculating net working capital based on capital structure?**
   A. Current assets – Fixed assets

B. Equity + Current liabilities – Current assets
C. Permanent capital – Fixed assets
D. Fixed assets – Long-term liabilities

4. What does a negative net working capital indicate?
A. The company has high profits
B. The company has high liquidity
C. Fixed assets are financed from permanent resources
D. Fixed assets are partially financed from current liabilities

5. What method is recommended for the factor analysis of net working capital?
A. Linear regression method
B. Simple comparison method
C. Balance sheet method
D. Direct depreciation method

6. What impact does the increase in fixed assets have on NWC?
A. It improves short-term liquidity
B. It has no impact on financial balance
C. Reduces net working capital
D. Automatically increases equity

7. What does the financial cycle express?
A. The difference between monthly expenses and income
B. The period of conversion of assets into profit
C. The time it takes to turn resources into cash through business operations
D. The time between investing in fixed assets and their depreciation

8. How is the duration of the financial cycle determined?
A. Turnover rate of fixed assets + receivables + liabilities
B. Inventories + receivables – current liabilities (expressed in days)
C. Total assets – total liabilities
D. Receivables – long-term liabilities

9. What does an effective NWC higher than the normative net working capital mean?
A. The company has insufficient liquidity
B. The company is at risk of insolvency
C. The company is tying up resources that could reduce profitability
D. The company cannot pay its suppliers

10. What does a situation where the actual net working capital is less than the standard net working capital indicate?
A. Good liquidity control
B. The existence of a financial surplus

C. Possible bottlenecks in activity and risks of non-payment
D. Improvement in the operating cycle

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TOPIC 9. DIAGNOSING THE LIQUIDITY OF A COMPANY AND ITS ROLE IN MANAGEMENT FINANCING DECISIONS

Expected learning outcomes: RI 9; RI 14		
Knowledge/content units	**Skills**	**Responsibility and autonomy**
Content units: 9.1 Economic and managerial significance of liquidity in the context of solvency 9.2 Methods of analysis and managerial assessment of a company's liquidity 9.3.Managerial diagnosis of liquidity through factor analysis	✓ identify types of liquidity and the indicators used to evaluate them; ✓ explains the relationship between liquidity, solvency and payment capacity; ✓ understand the methods of managerial analysis of liquidity; ✓ apply quantitative and factorial methods to determine the liquidity of the company; ✓ uses liquidity indicators to assess financial position; ✓ interprets results according to industry standards; ✓ analyse the causes of liquidity shortages; ✓ assess the financial risks associated with liquidity shortages; ✓ proposes measures to optimise liquidity management and financial stabilisation.	The student independently justifies directions for optimising work processes, thus ensuring the efficiency of operational management. The student is responsible for identifying alternatives or new approaches to improve processes, practices and policies for sustainable organisational development in a competitive environment.

KEY TERMS:

Liquidity — the ability of a company to pay its current obligations by quickly converting assets into cash without significant loss of value.

Current liquidity — financial indicator that expresses the ratio between current assets and current liabilities and reflects the overall ability of the company to meet its short-term obligations.

Intermediate liquidity — an indicator that reflects a company's ability to pay its current obligations without taking into account inventories, which are considered less liquid.

Absolute liquidity — indicator showing the proportion of current liabilities that can be paid immediately using only available cash.

Financial diagnosis — a process of analysing economic and financial indicators to identify a company's strengths and weaknesses in order to make strategic decisions.

Factor analysis — a method of analysis that aims to break down the variation of a resultant indicator (e.g. current liquidity) into the influences exerted by several determining factors.

Payment capacity — a company's ability to meet its short- and medium-term financial obligations in full and on time, using liquid assets.

Liquidity ratio — an indicator calculated to assess the extent to which a company can cover its current liabilities with its liquid assets.

9.1 Economic and managerial significance of liquidity in the context of solvency

In the context of a dynamic and competitive market economy, maintaining financial balance is essential for the survival and sustainable development of any enterprise. A fundamental indicator in the financial analysis of a company is liquidity, which reflects its ability to meet its short-term financial obligations.

A company's liquidity refers to its ability to quickly convert its assets into cash, without significant loss of value, in order to cover its outstanding debts. From an accounting perspective, liquidity is expressed as the ratio of current assets to current liabilities. From an economic perspective, liquidity involves ensuring a steady cash flow, which is essential for the day-to-day operations of the business, such as paying suppliers, salaries and other financial obligations.

For a complete understanding of liquidity, it is essential to differentiate between several similar financial terms with specific meanings:

- ***Long-term solvency*** expresses the company's ability to meet its debts over a longer period of time [15, p. 177];
- ***Payability*** refers to a company's ability to pay all its debts (long-term and current) when they fall due [14 p.184];
- Asset ***liquidity*** indicates the extent to which assets can be converted into cash at low cost and within a short period of time;

- ***Balance sheet liquidity*** represents the ability of a company to pay its current obligations at a given moment [12].

Based on the definition of balance sheet liquidity, the following general calculation formula can be derived:

$$\text{Liquidity} = \frac{\text{Means of payment}}{\text{Current liabilities}} \quad (9.1)$$

If the liquidity ratio is *greater than 1*, the company has sufficient liquid resources to cover its current liabilities without resorting to external financing, thus ensuring short-term financial stability. Conversely, a liquidity ratio *below 1* indicates that the company does not have sufficient resources to honour its current liabilities, exposing itself to the risk of insolvency and the need for financial adjustment measures.

Depending on the types of means of payment taken into account, the following liquidity ratios are distinguished: absolute, intermediate and current [7, 9, 17].

- *Absolute liquidity* – shows the company's ability to pay its current liabilities solely from available cash;
- *Current liquidity* – expresses the ratio between current assets and current liabilities;
- *Intermediate liquidity* – excludes inventories from current assets to provide a more realistic picture of payment capacity.

The sources of information for diagnosing a company's liquidity are:

- ✓ Annual financial statements (balance sheet, profit and loss account, cash flow statement),
- ✓ Audit and financial consulting reports (if applicable),
- ✓ Financial statements,
- ✓ Tax reports and related documents (e.g. VAT and income tax returns),
- ✓ Business plan.

The literature explains that a company's liquidity is not just a simple indicator, but reflects its financial health. A company with sufficient liquidity is considered stable and reliable, which makes it attractive to business partners, investors and financial institutions. Thus, liquidity not only influences the external perception of the company, but also has a direct impact on the management of daily operations and the ability to meet short-term financial obligations. It manifests itself in several ways, including:

- ✓ *Prevention of financial risks:* Low liquidity can lead to insolvency, penalties, deterioration of business relationships and even bankruptcy.

- ✓ *Ensuring operational flexibility*: A business with an adequate level of liquidity can react quickly to investment opportunities or unforeseen situations.
- ✓ *Attracting external financing:* Creditors and investors analyse liquidity to assess a company's ability to repay loans and generate positive cash flows.
- ✓ *Managerial performance indicator:* Effective liquidity management reflects management's competence in managing working capital and risks.

It is important to note that excessive liquidity may signal inefficiency in the use of resources, indicating funds tied up in accounts or unproductive inventories.

9.2 Methods of analysis and managerial assessment of a company's liquidity

Methods for calculating the financial resources available to a company are fundamental to assessing its ability to meet its short-term obligations. These methods help analyse how quickly a company can convert assets into cash to pay its current debts, thus providing essential information for management and investors to identify potential financial risks and take proactive measures. The most commonly used methods for assessing a company's ability to meet its short-term financial obligations involve determining and interpreting three key ratios, which provide essential information about the financial resources available, as shown in Table 9.1.

Table 9.1. **Calculation of liquidity ratios in express analysis**

Name of ratio	***Calculation method***	***Optimal range***
Current liquidity, general, grade III, coverage ratio, total (general) ratio payment	$\text{Current liquidity} = \frac{\text{Current assets}}{\text{Current liabilities}}$	2 – 2.5 1 – 2.5 > 2

Intermediate liquidity, restricted, grade II, "acid test"	$\text{Intermediate liquidity} = \frac{\text{Current assets} - \text{Inventories}}{\text{Current liabilities}} = \frac{\text{Cash} + \text{Current receivables} + \text{Current investments}}{\text{Current liabilities}}$	0.7 – 0.8 > 1
Absolute liquidity, urgent, rapid, immediate, first degree	$\text{Absolute liquidity} = \frac{\text{Cash}}{\text{Current liabilities}}$	0.2 – 0.25 0.05 – 0.1

Source: ŢIRIULNICOVA, N., PALADI, V., GAVRILIUC, L. şi alţii. Analiza rapoartelor financiare. Instrumente, metode, procedee şi tehnici de aplicare a informaţiei contabil-financiare în procesul decisional. Ed. a II-a, rev. Chişinău: ACAP RM, 2011. 400 p.

Within this analysis system, the most general and frequently used coefficient is current liquidity, which consists of the ratio between current assets and current liabilities.

From an economic point of view, ***current liquidity*** expresses the extent to which the company has sufficient current assets to fully pay its short-term obligations. However, one of the disadvantages of this indicator is that it does not take into account the structure of current assets. Even if their total value is sufficient, their composition may be inadequate. For example, cash and receivables are much more accessible for paying immediate debts than stocks of goods or materials. For this reason, the analysis of current liquidity is supplemented by two other more specific indicators: *intermediate liquidity and absolute liquidity.*

Intermediate liquidity is an adjusted form of current liquidity, which excludes inventories and other less liquid current assets. The economic significance of ***intermediate liquidity*** lies in the company's ability to pay off part of its current debts by mobilising cash, trade receivables and current investments. This indicator provides a more realistic picture of actual liquidity than current liquidity.

The most restrictive indicator is the absolute liquidity ratio, which is based exclusively on the most liquid assets – mainly cash and cash equivalents. From an economic perspective, ***absolute liquidity*** shows the proportion of current liabilities that can be paid immediately using only existing cash. As a rule, it is considered a rigorous criterion for assessing short-term payment capacity.

Thus, in analytical practice, an increase in liquidity is perceived positively, but only up to a certain optimal level. Exceeding this level may indicate an

inefficient asset structure, in which significant resources are tied up in unproductive forms, such as excessive inventories, which do not contribute to revenue generation.

In order to illustrate the calculation of liquidity ratios, we will analyse the financial statements of the Wine Factory "Agrotech Vin" JSC, presented in Tables 9.2 and 9.3. The results will be interpreted based on financial data, taking into account the evolution of the main components of the balance sheet, such as current assets and current liabilities, in order to assess the company's ability to meet its short-term obligations and identify financial risks.

Table 9.2. **Initial data for diagnosing liquidity ratios**

Indicators	**Previous year**	**Current year**	**Absolute deviation, (+/-)**
Current assets, lei	329 235 100	354 409 801	25 174 701
Current investments, lei	0	0	0
Cash, lei	200 661	598 588	397 927
Current receivables, lei	158 407 166	158 257 794	-149 372
Current liabilities, lei	321 524 826	308 066 688	-13 458 138

Source: author's calculations based on the financial statements (Annex 3).

Based on the data presented in Table 9.2, there was a significant increase in current assets of 25 174 701 lei, mainly due to an increase in cash available of 397 927 lei, which suggests an improvement in the company's liquidity. However, current receivables decreased slightly by 149 372 lei, which may signal a slight reduction in debt collection capacity. Current liabilities also decreased by 13 458 138 lei, which contributes positively to the improvement of the short-term financial position.

Table 9.3. **Analysis of liquidity trends at the Wine Factory "Agrotech Vin" JSC**

Indicators	**Previous year**	**Current year**	**Absolute deviation, (+/-)**	**Optimal range**
Current liquidity	1.024	1.150	0.126	2-2.5
Intermediate liquidity	0.493	0.516	0.022	0.7-0.8
Absolute liquidity	0.001	0.002	0.001	0.2-0.25

Source: author's calculations based on the financial statements (Annex 3).

The analysis of liquidity ratios shows that, during the reporting year, the Wine Factory "Agrotech Vin" JSC recorded a slight positive trend, reflected in a moderate increase in all three indicators: current, intermediate and absolute liquidity. Although the absolute deviations are positive in all cases, the values obtained remain below the recommended optimal ranges, which indicates a certain vulnerability in covering current liabilities.

A detailed analysis of current liquidity shows an increase from 1.024 in the previous year to 1.150 in the current year, indicating an improvement in the company's ability to cover its current obligations with current assets. This positive development was driven by an increase in current assets of 25 174 701 lei, coupled with a decrease in current liabilities of 13 458 138 lei. However, the indicator remains below the lower limit of the optimal range (2–2.5), suggesting that the company does not have sufficient current resources to fully meet its immediate financial obligations.

Intermediate liquidity, which excludes inventories and reflects assets that are easily convertible into cash (cash and receivables), increased slightly from 0.493 to 0.516 points. However, the value remains below the optimal range (0.7–0.8), indicating possible difficulties in covering current liabilities, especially given that receivables are not quickly converted into cash.

Absolute liquidity increased from 0.001 to 0.002, reflecting a significant increase in available cash (+397 927 lei). However, the ratio is well below the recommended range (0.2–0.25), indicating that, despite the improvement, the existing cash is insufficient to immediately cover current liabilities.

To improve the situation, the company analysed will need to take measures to strengthen its liquidity in the future, such as improving debt recovery, streamlining inventory management and strengthening cash reserves. Without these adjustments, the company may be exposed to liquidity risks and short-term payment difficulties.

9.3 Managerial diagnosis of liquidity through factor analysis

The factorial diagnosis of a business's liquidity involves a detailed assessment of its ability to meet its short-term financial obligations through an analytical approach that identifies the key factors influencing liquidity. This includes an analysis of the structure of assets, cash flows, working capital management and sources of financing.

Using financial indicators such as current, intermediate and absolute liquidity ratios, factor diagnosis provides an objective assessment of the financial

health of the business, highlighting any weaknesses that may affect its ability to pay. If the liquidity ratios do not meet the recommended parameters or if there are negative trends in their evolution, it is essential to identify the causes that led to the changes in liquidity. To this end, an in-depth factor analysis is carried out, which will be detailed below based on the current liquidity ratio.

Changes in current liquidity can be influenced by increases or decreases in current assets and/or current liabilities. Therefore, current liquidity, as a performance indicator, depends on two main factors: current assets and current liabilities. These primary elements are, in turn, influenced by detailed (second-degree) factors relating to the specific structure of current assets and current liabilities.

In the diagnostic process, the first step is to assess the impact of first-degree factors on current liquidity. To do this, the chain substitution method is used, which allows the contribution of each main factor to the change in current liquidity to be identified as follows [15, p.183, 14]:

a) Influence of changes in current assets:

$$\frac{CA_1}{CL_0} - \frac{CA_0}{CL_0} \quad \text{Where:} \qquad (9.2)$$

Where:

CA_0 -CA_0 - current assets in the previous period,

CA_1 - current assets in the current period,

CL_0 - current liabilities in the previous period,

CL_1 current liabilities in the current period.

b) Similarly, the influence of current liabilities is determined by:

$$\frac{CA_1}{CL_1} - \frac{CA_1}{CL_0} \qquad (9.3)$$

This methodology helps identify the main factors that determine the decrease or increase in liquidity and provides a clear framework for making corrective financial decisions. The quantification of the influence of the factors, according to formulas 9.2 and 9.3, is shown in Table 9.4.

Table 9.4. **Factor diagnosis of current liquidity**

No.	No. of subst.	Influencing factors, lei		Current liquidity (CA/CL)	Calculation of factor influence	Result of factor influen-ce	Name of influenci ng factor
		Current assets (CA)	Liabilities Current (CL)				
1	0	329 235 100	321 524 826	1.024	-	-	-
2	1	354 409 801	321 524 826	1.102	1.102-1.024	0.078	Δ AC
3	2	354 409 801	308 066 688	1.150	1.150-1.102	0.048	Δ DC

Source: author's calculations based on the financial statements (Annex 3).

$$BIF = 0.078+0.048 = 1.150-1.024 = +0.126$$

Following the calculations, it was found that, in the current year, the company's current liquidity ratio increased by 0.126 points compared to the previous year. This improvement was mainly due to an increase in current assets of 25 174 701 lei, which had a positive impact on the current liquidity ratio, leading to an increase of 0.078 points. In addition, the reduction in current liabilities by 13 458 138 lei contributed significantly to the improvement in current liquidity, with an additional effect of 0.048 points, which led to a ratio of 1.150.

Therefore, there has been a positive development in current liquidity, driven by an increase in current assets and a reduction in current liabilities. However, the indicator remains below the optimal threshold of 2–2.5, signalling that the company does not yet have sufficient resources to fully cover its short-term obligations. Thus, in the future, it is necessary to continue measures to strengthen liquidity in order to achieve a secure financial level.

Continuing the analysis, after determining the influence of first-order factors on the current liquidity ratio, we move on to detailing them by component, by identifying the influence of second-order factors. This stage is carried out using the proportional participation method (also known as the proportional distribution or share method).

The purpose of this method is to break down the overall influence of current assets and current liabilities on current liquidity into partial effects, attributed to each structural component (e.g. inventories, receivables, cash and cash equivalents, etc.). The following general formulas are used to apply the method [15, p.184]:

- Influence of factors in the current assets category

$$\Delta CL_{i(CA)} = \Delta CL_{CA} \times \frac{\Delta CA_i}{\Delta CA} \quad (9.4)$$

$\Delta CL_{i(CA)}$ – the influence of the i e component of current assets (e.g. receivables, inventories) on current liquidity,
ΔCL_{CA} – the influence of current assets on changes in current liquidity,
ΔCA_i – change in the i e component of current assets,
ΔCA -total change in current assets.

- Influence of current liabilities:

$$\Delta CL_{j(CL)} = \Delta CL_{CL} \times \frac{\Delta CL_j}{\Delta CL} \quad (9.5)$$

$\Delta CL_{j(CL)}$ – change in current liquidity under the influence of current liabilities,
$\Delta CL_{j(CL)}$- the influence of the j component of current liabilities (e.g. trade payables, short-term loans) on current liquidity,
ΔCL_{CL}- change in total current liabilities,
ΔCL_j - change in the j e component of current liabilities,

This method provides a detailed picture of how each structural element contributes to the change in current liquidity, thus enabling more informed managerial decisions to be made.

Self-assessment questions:

1. What is liquidity from an economic and accounting perspective?
2. Why is it important to maintain an adequate level of liquidity in a business?
3. What risks does a low level of liquidity entail?
4. What are the three main forms of liquidity and what does each one mean?
5. Why is liquidity considered an indicator of managerial performance?
6. What is the basic formula for calculating balance sheet liquidity?
7. What elements are included in the calculation of current liquidity and what is the optimal range for this indicator?
8. What are the limitations of current liquidity analysis in the actual assessment of payment capacity?
9. How does intermediate liquidity differ from current liquidity?
10. What does absolute liquidity mean and in what situations is it most relevant?
11. What value ranges are considered optimal for each of the three types of liquidity?

12. Determine the importance of analysing the structure of current assets in liquidity diagnosis.
13. What is factor analysis of liquidity and when is it necessary to apply it?
14. What are the two main factors (first degree) that influence current liquidity?
15. How is the chain substitution method applied to determine the influence of current assets on liquidity?

Self-assessment tasks:

1. Name the main causes of liquidity imbalances within a company.
2. Explain the difference between liquidity and solvency.
3. Compare the liquidity situation of two similar companies.
4. Examine the correlation between the inventory turnover cycle and the level of liquidity.
5. Develop an action plan to restore an adequate level of liquidity.
6. Assess the financial risks involved in insufficient liquidity.
7. Recommend internal policies to improve a company's payment capacity.
8. Design a model for periodically monitoring liquidity for a company.
9. Develop a comprehensive management plan to ensure liquidity in times of crisis.
10. Conduct an in-depth assessment of the liquidity of a selected enterprise based on information extracted from financial statements, and draw reasoned conclusions accompanied by management proposals aimed at improving payment capacity.

Self-assessment multiple-choice test:

1. **What is a company's liquidity?**
   A. The company's ability to generate high profits
   B. The ability to convert current assets into inventories
   C. The ability to meet long-term obligations
   D. The ability to pay current obligations by converting assets into cash
2. **What is the general formula for current liquidity?**
   A. Fixed assets / Equity
   B. Current assets / Current liabilities
   C. Cash + receivables / Total assets
   D. Net profit / Sales
3. **What is "intermediate liquidity"?**
   A. The ratio between long-term liabilities and equity

B. Liquidity calculated including all current assets
C. Liquidity that excludes inventories from the calculation
D. The ratio between cash and net profit

4. **An excessive level of liquidity may signal:**
A. Overcapitalisation
B. High profitability
C. Inefficiency in the use of resources
D. Lack of current liabilities

5**. Which liquidity ratio is the most restrictive?**
A. Current liquidity
B. Intermediate liquidity
C. Absolute liquidity
D. General solvency ratio

6. **The recommended optimal range for current liquidity is:**
A. 0.2 – 0.5
B. 1.5 – 3.5
C. 2 – 2.5
D. 0.8 – 1.2

7. **What does factor analysis of liquidity involve?**
A. Comparing liquidity between two companies
B. Determining the influence of factors on changes in liquidity
C. Calculating operating profit
D. Evaluating the performance of financial staff

8. **What are the first-degree factors that influence current liquidity?**
A. Equity and fixed assets
B. Inventories and trade receivables
C. Current assets and current liabilities
D. Sales and production costs

9. **What method is used to determine the detailed influence of each component on liquidity?**
A. Double elimination method
B. Proportional participation (share) method
C. Successive differences method
D. SWOT analysis

10. **Which indicator is used in the "acid test"?**
A. Absolute liquidity
B. Intermediate liquidity
C. Current liquidity
D. Return on assets

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TOPIC 10. DIAGNOSIS OF THE COMPANY'S CASH FLOWS

Expected learning outcomes: RI 11		
Knowledge/content units	**Skills**	**Responsibility and autonomy**
Content units: 10.1 The essence of cash flows and the need for their analysis in business 10.2 General assessment of cash flows. 10.3 Structural analysis of cash flow 10.4 Factorial diagnosis of cash flow 10.5 Cash flow analysis using the rate method	✓ defines the concept of cash flow and the differences between the three types (operating, investing, financing); ✓ explains the role of cash flow analysis in managerial decisions; ✓ determine the structure of cash flow formation; ✓ apply cash flow analysis methods, including the rate and factorial methods; ✓ calculates cash flow requirements; ✓ analyse imbalances in the structure of cash flows; ✓ formulate strategies to increase positive flows and reduce financial pressure.	The autonomous student performs specific financial management functions at the economic entity level, formulating constructive proposals for the rational use of financial resources and for improving business results.

KEY TERMS:

Cash flow — represents all cash receipts and payments during a given period.

Operating activity — the firm's ongoing operations related to production and sales.

Financial activity — includes operations involving the financing of the company, such as loans, equity and dividend payments.

Net cash **flow** — is the difference between total receipts and total payments in a period.

Structural analysis — evaluating the proportion of each type of receipt and payment within the total cash flow.

Factor analysis — includes identifying the factors that influence cash flow variations.

Self-financing ratio — an indicator that measures the company's ability to finance investments from its own cash flow.

Profit quality ratio — represents the ratio between total net cash flow and net accounting profit.

Reinvestment ratio — the ratio of cash flow reinvested in long-term assets.

Liquidity — the ability of a company to meet its current financial obligations with its available cash.

Cash — represents all monetary funds available in liquid form, whether physically held in the cash register or deposited in bank accounts, owned by an economic entity.

Cash Flow Statement — is a financial document that provides a clear picture of a company's financial movements.

Cash surplus — a situation where an entity's receipts exceed its payments, suggesting favourable financial health.

Cash deficit — is a situation where a company's payments exceed its receipts, which may signal liquidity problems.

Cash **flow efficiency** — is represented by an indicator that shows how well an economic entity's receipts and payments are managed to ensure the firm's financial stability.

10.1 The essence of cash flows and the need for their analysis in business

In the current market economy, characterised by instability, fierce competition and financial uncertainty, effective management of financial resources is becoming an essential condition for the survival and success of any business. From this point of view, cash flow analysis is an indispensable tool in assessing a business's ability to generate liquidity and maintain its financial balance in the short, medium and long term.

Cash flows reflect all cash inflows and outflows within a company over a given period of time. They are a concrete indicator of actual economic activity, providing relevant information about the company's solvency, liquidity and ability to finance its current operations, investments and financial obligations. Essentially, cash flow highlights the difference between cash received and cash paid out, revealing the true financial performance of the company, regardless of the accounting methods applied.

From a structural point of view, cash flows are classified into three main categories:

- ***Cash flows from operating activities*** reflect receipts and payments directly related to the company's core business (sales, payments to suppliers, salaries, taxes, etc.);

- ***Cash flows from investing activities*** generate cash flows related to the acquisition or disposal of tangible, intangible and financial assets, as well as other investments.
- ***Cash flows from financing activities*** usually indicate the company's relationships with shareholders and creditors (share issues, borrowing or repayment of loans, payment of dividends, etc.).

In the diagnostic process, the need for cash flow analysis stems from the vital importance of liquidity for any business. A company may be profitable from an accounting point of view, but at the same time face financial difficulties due to a lack of cash available to meet its obligations. Thus, cash flow analysis allows:

- *Monitoring payment capacity* in real time, providing accurate information about the company's cash availability;
- *Assess the sustainability of operational activity* by identifying the real sources of liquidity generation;
- *Plan investments and sources of financing*, depending on the cash surplus or deficit;
- *Identify financial imbalances* that could lead to insolvency or bankruptcy;
- *Supporting the decision-making process* by substantiating development strategies and reducing financial risks.

For cash flow analysis, company management can use the following information sources:

- Financial statements (Appendix No. 6 - cash flow statement, Appendix No. 1 - balance sheet, Appendix No. 3 - profit and loss statement);
- Audit reports on cash flow at controlled entities;
- Previous diagnostic report;
- Business plan and other relevant internal or external documents.

At the same time, cash flow analysis is of major importance not only for internal management, but also for external stakeholders such as investors, creditors, tax authorities or regulatory institutions. It provides a realistic picture of the company's financial viability, as it directly reflects its ability to generate cash and meet its current obligations. Unlike accounting data, which can be influenced by subjective accounting policies or estimates, cash flows represent objective and verifiable information and are increasingly analysed in the context of standardised reporting required by current legislation.

10.2 General assessment of cash flows

The contemporary economy, characterised by volatility, uncertainty and a high degree of competitiveness, requires continuous monitoring and evaluation of cash flows, which are an essential element of financial analysis. In this context, regular examination of cash flows provides a realistic and immediate picture of the company's liquidity, its self-financing capacity and its potential for operational development, which are essential for maintaining financial stability. This perspective is all the more relevant given that, unlike accounting indicators calculated on an accrual basis, cash flow analysis directly reflects actual cash movements, without being affected by income and expenses not accompanied by actual cash transactions.

For a comprehensive assessment of the financial situation, the evaluation of cash flows must analyse changes in both absolute and relative values across the three fundamental categories of activities: operating, investing and financing. This comparative analysis, carried out in relation to the previous period, is based on the cash flow statement – a summary financial document that highlights all actual receipts and payments recorded during the period under review.

Proper interpretation of the information obtained from the cash flow analysis requires consideration of key factors that underpin the financial assessment process and contribute to informed management decisions. This analysis is based on the following considerations:

- *Cash flows from operating activities* are the most relevant for assessing a company's ability to sustain its current operations. A positive flow signals efficient, self-sustaining activity capable of generating cash from operations. A negative flow may indicate difficulties in collecting receivables, excessive operating costs or an inefficient working capital management policy.
- *Cash flows from investing activities* reflect payments for the acquisition of fixed assets (equipment, property, financial investments) and proceeds from their sale. As a rule, a negative flow is interpreted positively, as it indicates investments in development and modernisation. Conversely, a positive flow may signal a reduction in the asset base and, in some cases, withdrawal from activities or a lack of investment projects.
- *Cash flows from financial activities* include resources attracted from loans, capital increases, as well as debt repayments or dividend payments. Thus, a positive flow in this section indicates a strategy of growth or balancing the capital structure. However, a negative flow

may be associated with the repayment of loans and the distribution of profits to shareholders.

The overall assessment of cash flows focuses on the total net cash flow and the final balance of financial resources, indicators that reflect the company's liquidity position at the end of the period under review. An increase in net cash flow signals financial consolidation, while a decrease may indicate excessive use of cash or the emergence of imbalances in the company's financial structure.

For an effective analysis, it is important to correlate cash flows across the three activities – operational, investment and financial. Thus, operational activity must generate a positive net flow, sufficient to cover current expenses and support daily operations. At the same time, investment activity, aimed at maintaining and developing economic capacity, naturally involves a negative flow, determined by asset acquisitions and other long-term expenses.

In order to maintain financial balance, positive cash flows from operating activities, and if necessary from financial activities, should cover the resource requirements of investment activities. When this balance is not maintained – either due to insufficient operating cash flow or inadequate financing – the company risks losing liquidity and, consequently, insolvency. At the same time, neglecting investment limits long-term growth potential, affecting the company's ability to adapt and remain competitive in the market.

Application

Based on the information presented in the financial statements (Annex 6 – Cash Flow Statement) of the Wine Factory "Agrotech Vin" JSC, the total net cash flow will be determined, and relevant conclusions will be drawn regarding the results obtained and their implications for the entity's financial position.

Solution:

Table 10.1. **Assessment of the evolution of the total net cash flow of the Wine Factory "Agrotech Vin" JSC**

No.	**Types of activity**	**Previous year**	**Current year**	**Absolute deviation (+/-)**
	A	1	2	3=2-1
1.	Operational activity	10 613 612	7 635 324	-2 978 288
2.	Investment activity	-2 981 566	-13 288 629	-10 307 063
3.	Financial activity	-7 039 588	6 688 151	13 727 739
4.	Total net cash flow	592 458	1 034 846	442 388

*Source**:** author's calculations based on the financial statements (Annex 3).*

The analysis of the total net cash flow of the Wine Factory "Agrotech Vin" JSC presented in Table 10.1 highlights the evolution of the company's financial situation during the period analysed. Net cash flow was positive in both financial years, increasing from 592 458 lei in the previous year to 1 034 846 lei in the current year, which represents an increase of 442 388 lei.

However, this favourable development is mainly due to financial activity, highlighting a marked dependence on external sources of financing. In this context, there was a significant increase in net cash flow from investing activities, amounting to 10 307 063 lei, suggesting that the company directed substantial funds towards investments in long-term assets. This allocation of resources can be interpreted as an indication of the implementation of a development and modernisation policy of the technical and material base.

Another factor that contributed to the increase in total net cash flow is financial activity, which improved substantially: from a negative level of -7 039 588 lei in the previous year to a positive flow of 6 688 151 lei in the current year, which is equivalent to a positive deviation of 13 727 739 lei. This change signals the company's significant reliance on external financing, such as bank loans or securities issues, to support both current operations and investments.

However, a negative impact on net cash flow was caused by cash flows from operating activities, which recorded a significant decrease from 10 613 612 lei in the previous year to 7 635 324 lei in the current year, representing a reduction of 2 978 288 lei. Although operating cash flow remains positive, this downward trend may indicate either a decline in the efficiency of core operations or an increase in operating expenses.

Therefore, although the total net cash flow is positive in both periods, its structure highlights potential vulnerabilities related to long-term financial viability. In particular, the decline in cash flows from operating activities, coupled with increased dependence on external financing to support investments, may affect the financial autonomy and stability of the enterprise in the future. In this context, careful monitoring of cash sources and strengthening of the company's capacity to generate sustainable own resources are required.

10.3 Structural analysis of cash flow

In modern financial analysis, cash flow has become an essential indicator of an entity's economic viability. Unlike accounting profit, cash flow reflects the immediate financial reality of the company, being directly linked to its ability to generate and use financial resources. In this context, structural cash flow analysis

plays a fundamental role in understanding the quality and sources of cash, as well as in identifying financial risks.

Structural analysis allows the contribution of each element of receipts and payments to the formation of net cash flow to be assessed. This approach allows the internal financial balance to be assessed, as well as how the enterprise ensures its stability and development over time.

In economic theory and practice, two main technical methods are used to perform this analysis. The first method consists of separately examining the structure of receipts and payments by calculating the share of each component in total receipts or payments [9, p.193].

Application

Based on the information in the financial statements of the Wine Factory "Agrotech Vin" JSC (Annex No. 6 – Cash Flow Statement), a detailed analysis of the separate structure of cash flows related to operating, investing and financing activities will be performed. Following the analysis, the sources and uses of cash, the efficiency of financial resource management will be highlighted, and a relevant conclusion will be drawn regarding the financial performance and liquidity position of the entity during the period analysed.

Solution:

Table 10.2 **Separate analysis of the net cash flow structure of the Wine Factory "Agrotech Vin" JSC**

Cash flows	**Previous year**		**Current year**	
	Amount, lei	**Share, %**	**Amount, lei**	**Share, %**
Cash receipts				
1. Sales receipts	382 104 950	81.95	381 922 066	79.20
2. Other operating income	520 317	0.11	387 264	0.08
3. Revenue in the form of loans	80 651 317	17.30	93 177 960	19.32
4. Other receipts from financial activities	2 963 138	0.64	6 751 687	1.40
Total cash receipts	***466 239 722***	***100***	***482 238 977***	***100***
Cash payments				

1. Payments for inventories and services purchased	284 177 982	61.03	276 686 302	59.13
2. Payments to employees and social and health insurance bodies	64 322 220	13.81	68 250 970	14.59
3. Interest paid	12 442 832	2.67	12 459 872	2.66
4. Income tax paid	6 680 770	1.43	4 762 444	1.02
5. Other operating payments	4 387 851	0.94	12 514 418	2.67
6. Payments related to fixed asset acquisitions	2 981 566	0.64	0	0.00
7. Payments related to loan repayments and loans	88 331 361	18.97	90 502 590	19.34
8. Dividends paid	2 322 682	0.50	2 738 906	0.59
Total cash payments	***465 647 264***	***100***	***467 915 502***	***100***

*Source**:** author's calculations based on the financial statements (Annex 3).*

The data presented in Table 10.2 show that at the Wine Factory "Agrotech Vin" JSC, the main source of cash flow remains sales revenue. These accounted for 81.95% of total revenues in the previous period and 79.20% in the current period, thus remaining the dominant element of cash inflows, despite a slight percentage decrease.

Another important channel for generating cash is receipts in the form of loans, whose share increased from 17.30% to 19.32%, reflecting an increasing dependence on external financing to support current and investment activities. Other receipts from financial activities also doubled their contribution to total inflows, rising from 0.64% in the previous year to 1.40% in the current year, even though in absolute terms they remain insignificant.

The structure of cash payments remained relatively stable. Payments for stocks and services continue to account for the largest share, at 59.13% in the current period, down slightly from 61.03% in the previous period. In second place are payments related to the repayment of credits and loans, which increased from 18.97% to 19.34%, thus confirming the increase in the level of indebtedness and the

intensified use of external resources. At the same time, there has been an increase in payments to employees and social and health insurance institutions, from 13.81% to 14.59%, reflecting the continuity of operational activity and a possible expansion of human resources or salary increases. Another relevant aspect is the significant increase in the category "other operating payments" from 0.94% to 2.67% in the reporting year, which may indicate the emergence of new financial obligations or the intensification of existing ones.

Also, the value of dividends paid increased from 0.50% to 0.59%, which may suggest either an increase in the company's profitability or the adoption of a more active shareholder remuneration policy.

Based on the above, we can mention that the cash flow structure of the analysed company shows a relatively constant financial model, mainly supported by sales revenues, but marked by an intensification of recourse to external financing, which may affect the financial balance and require prudent management of resources in the long term.

However, a separate examination of cash flows does not allow us to highlight the correlations between the various components of receipts and payments. To overcome this limitation, an integrated analysis of the cash flow structure is used, which combines information from the three types of activities – operational, investment and financial – and thus provides a more coherent, comparative and relevant overview for economic and managerial decision-making. This method involves the following steps:

- Items in the annex: no. 6 Cash flows (in financial statements) are grouped into two main categories: receipts and payments.
- The total receipts are compared with the total payments, and the higher value (in absolute terms) is considered the 100% base.
- Each item in the two groups is expressed as a percentage of the previously established reference amount.
- The difference between total receipts and total payments is reflected in the net cash flow (positive or negative), thus ensuring the balance of the analysed structure.

The structural analysis of cash flow is not limited to the separate examination of the share of cash receipts and payments in the cash flow, but also looks at the share of each type of activity in the total cash flow, as well as the correlations between them. Based on this analysis, relevant conclusions can be drawn regarding:

- *The company's ability to generate cash from its core* (operating) *activity* without being overly dependent on external sources.

- *The company's investment effort* – a constant negative flow in investment activity may signal expansion and modernisation, but also possible bottlenecks if it is not supported by solid operating flows.
- *The financing strategy* – an analysis is made of whether the company frequently resorts to loans to cover operational or investment deficits, which may increase the risk of indebtedness.

Application

Based on the information provided in the financial statements of the Wine Factory "Agrotech Vin" JSC (Annex 6 – Cash Flow Statement), an in-depth analysis of the integrated cash flow structure will be carried out, focusing on the three essential components: operating activity, investment activity and financial activity.

Solution:

Table 10.3. **Integrated analysis of the net cash flow structure of the Wine Factory "Agrotech Vin" JSC**

Cash flows	Previous year		Current year	
	Amount, lei	Share, %	Amount, lei	Share, %
Cash *receipts*				
1. Sales receipts	382 104 950	81.95	381 922 066	79.20
2. Other operating revenue	520 317	0.11	387 264	0.08
4. Income in the form of loans	80 651 317	17.30	93 177 960	19.32
4. Other receipts from financial activities	2 963 138	0.64	6 751 687	1.40
Total cash receipts	466 239 722	100	482 238 977	100
Total positive net flow	592 458	0.13	14 323 475	2.97
Cash payments				
1. Payments for inventories and services purchased	284 177 982	60.95	276 686 302	57.38
2. Payments to employees and social and health insurance bodies	64 322 220	13.80	68 250 970	14.15
3. Interest paid	12 442 832	2.67	12 459 872	2.58
4. Income tax paid	6 680 770	1.43	4 762 444	0.99

5. Other operating payments	4 387 851	0.94	12 514 418	2.60
6. Payments related to fixed asset acquisitions	2 981 566	0.64	0	0.00
7. Payments related to the repayment of credits and loans	88 331 361	18.95	90 502 590	18.77
8. Dividends paid	2 322 682	0.50	2 738 906	0.57
Total cash payments	465 647 264	99.87	467 915 502	97.03
Total net negative cash flow				

*Source**:** author's calculations based on the financial statements (Annex 3).*

The data presented in the table shows that, in the previous period, the company generated cash inflows from the sale of products, goods and services accounting for 81.95% of total inflows, and in the reporting period this share remained high, at 79.20%, confirming that the core business is the main source of cash generation. In the previous period, the company spent 99.87% of total revenues, with the main areas of cash outflows being: payments for purchased inventories and services (60.95%), repayment of loans and borrowings - 18.95%, payments to employees and social and health insurance authorities - 13.80%, interest - 2.67%, income tax - 1.43%, other operating payments - 0.94%, payments related to fixed asset acquisitions - 0.64% and dividend payments - 0.50%.

It is important to note that in both periods analysed, the company recorded a positive net cash flow, amounting to 592 458 lei in absolute terms in the previous period, representing -0.13% of total receipts, and in the current period it increased significantly, reaching 14 323 475 lei, or 2.97% of total cash receipts.

For the reporting period, total cash outflows represented 97.03% of total receipts, being directed mainly towards: payments for stocks and services purchased - 57.38%, repayment of loans and borrowings - 18.77%, payments to employees and social contributions - 14.15%, other operating payments -2.60%, interest -2.58%, income tax - 0.99% and dividends - 0.57%.

Although cash flow remains positive, its structure suggests the need to optimise expenses and diversify funding sources to strengthen financial resilience.

From an analytical perspective, a balanced financial structure is commonly defined by the following characteristics:

- generating a ***positive net*** cash flow ***from operating activities,*** reflecting the company's ability to support its current operations and payment obligations from its own resources;

- recording a ***negative net cash flow from investing activities,*** which signals investments in fixed assets aimed at maintaining or expanding economic potential;
- ***a variable cash flow from financial activities***, adjusted according to the capital requirements and financing strategy adopted by the company.

To visually highlight the results obtained through these analysis methods, graphical tools such as pie charts or bar charts can be used to facilitate the interpretation of the structure of cash flows and the relationships between their components.

10.4 Factor diagnosis of cash flow

Factorial diagnosis of cash flow is an advanced component of the financial assessment of an economic entity, aimed at identifying and quantifying the influence of determining factors on cash flow variations. This analysis goes beyond descriptive and comparative approaches, providing an explanatory framework for changes in cash flows based on causal relationships between financial indicators.

Changes in the level of net cash flow in each category are the result of the interaction of a set of internal and external factors. Factor analysis in this case allows their effects to be isolated, providing a detailed perspective on the sources and causes of variations. The balance method is used to analyse the changes that have occurred, as there is an additive relationship between the resultant indicator (total net cash flow) and the influencing factors (cash receipts and payments) [14, p.195]:

$$NCF = (OCR - OCP) + (ICR - ICP) + (FCR - FCP) \quad (10.1)$$

Where:
NCF - total net cash flow,
OCR - cash receipts from operating activities,
OCP - cash payments from operating activities,
ICR - cash receipts from investment activities,
ICP - cash payments from investing activities,
FCR - cash receipts from financial activities,
FCP - cash payments from financial activities.

According to the formula presented above, in order to simplify calculations within each type of activity, cash flows are grouped into two categories: receipts and

payments. The influence of the change in receipts on the total net flow is determined by calculating the absolute deviation of receipts from the reference period. As regards payments, their influence on net cash flow is also determined by the absolute deviation from the comparison period, but with the sign changed, as they represent a negative factor for total net cash flow.

By applying factor diagnosis, management can accurately identify the factors that have negatively affected the company's liquidity and intervene with targeted corrective measures. For example, if the analysis shows that the reduction in cash flow is due to an increase in inventories or a deterioration in the speed of collection of receivables, more efficient commercial and logistical policies can be implemented. Factorial analysis is also indispensable in the strategic decision-making process, contributing to:

- Diagnosing the actual performance of current activities;
- Assessing the sustainability of investment projects;
- Optimising the structure of financing sources.

In the practical work of a business, diagnosing cash flows is imperative for managers, as it facilitates managerial decision-making and maintaining financial balance. It provides a clear understanding of the causes of liquidity variations and supports the implementation of effective cash management policies.

Application

Using data from the financial statements of the Wine Factory "Agrotech Vin" JSC (Annex 6 – Cash Flow Statement), a factorial diagnosis of net cash flow will be performed in order to identify the determining factors of its variation and interpret the economic and financial significance of the results obtained.

Solution:

Table 10.4. **Factorial diagnosis of the net cash flow of the Wine Factory "Agrotech Vin" JSC**

Indicators	**Previous year, lei**	**Current year, lei**	**Absolute deviation, lei (+/-)**	**Result of factors' influence, lei (+/-)**
A	**1**	**2**	**3=2-1**	**4**
Operating activity:				
Revenue from sales	382 104 950	381 922 066	-182 884	-182 884
Payments for inventories and	284 177 982	276 686 302	-7 491 680	7 491 680

services purchased				
Payments to employees and social and health insurance bodies	64 322 220	68 250 970	3 928 750	-3 928 750
Interest paid	12 442 832	12 459 872	17 040	-17 040
Income tax payment	6 680 770	4 762 444	-1 918 326	1 918 326
Other revenue	520 317	387 264	-133 053	-133 053
Other payments	4 387 851	12 514 418	8 126 567	-8 126 567
Net cash flow from operating activities	***10 613 612***	***7 635 324***	***-2 978 288***	***-2 978 288***
Investment activity:				
Payments related to fixed asset acquisitions	2 981 566	13 288 629	10 307 063	-10 307 063
Net cash flow from investing activities	***-2 981 566***	***-13 288 629***	***-10 307 063***	***-10 307 063***
Financial activities:				
Receipts in the form of credits and loans	80 651 317	93 177 960	12 526 643	12 526 643
Payments related to the repayment of credits and loans	88 331 361	90 502 590	2 171 229	-2 171 229
Dividends paid	2 322 682	2 738 906	416 224	-416 224
Other receipts (payments)	2 963 138	6 751 687	3 788 549	3 788 549
Net cash flow from financing activities	***-7 039 588***	***6 688 151***	***13 727 739***	***13 727 739***
Total net cash flow	***592 458***	***1 034 846***	***442 388***	***442 388***

*Source**:** author's calculations based on the financial statements (Annex 3).*

Analysis of the data in the table shows an increase in total net cash flow of 442 388 lei in the current period compared to the previous period, resulting from the cumulative influence of several factors. This development is viewed positively and was mainly driven by an increase in proceeds from loans and borrowings of 12 526 643 lei, as well as other financial proceeds of 3 788 549 lei, which contributed significantly to the improvement in the cash position. In addition, the reduction in payments for inventories and services by 7 491 680 lei and the decrease in income

tax by 918 326 lei had a favourable impact on net cash flow, reflecting a slight improvement in operating efficiency.

On the other hand, some elements had a negative effect on cash flow. Thus, the decrease in sales revenue by 182 884 lei and other operating revenue in absolute terms by 133 053 lei contributed to the reduction in available resources. At the same time, the increase in other operating payments by 8 126 567 lei and in personnel expenses and social contributions by 3 928 750 lei led to a decrease in the result indicator, which indicates a possible increase in financial pressure or poor management of current expenses, aspects that require careful monitoring.

In the investment sphere, the increase in payments for the acquisition of fixed assets by 10 307 063 lei had a negative impact on liquidity, possibly reflecting a development strategy, but also involving a financial risk in the absence of adequate own resources. However, at the financial level, there was an increase in payments for loan repayments of 2 171 229 lei and dividends of 416 224 lei, which further reduced cash availability, highlighting potential risks to medium-term financial stability, especially in the context of declining operating cash flow.

10.5 Cash flow analysis using the rate method

Cash flow analysis using the rate method (or cash flow efficiency indicators method) involves reporting cash flows in relation to other relevant economic and financial indicators in order to assess their quality, stability and sustainability. This approach is based on the idea that cash flow analysis in absolute terms does not always provide a complete picture of the company's financial situation, as it is necessary to assess performance in relation to sales, profit, assets or liabilities. By applying this method to cash flow analysis, the following ratios can be determined, which are usually analysed dynamically over several years:

The debt coverage ratio by cash flow reflects the entity's ability to repay its financial obligations using cash generated from operating activities. The following formula is used to determine this ratio:

$$Debt\ coverage\ ratio\ by\ cash\ flow = \frac{Net\ cash\ flow\ from\ operating\ activities}{Total\ debt} \quad (10.2)$$

This ratio is commonly used in the West to assess the credibility of a company for the purpose of granting long-term loans. From an economic point of view, a high debt coverage ratio signals a high level of credibility of the bank's customer and provides investors with greater security regarding investments in the bonds issued. Conversely, a negative value for this indicator (determined by a

negative net cash flow from operating activities) indicates an increased risk associated with both lending and investment.

The profit quality ratio is a financial indicator that shows us how "real" or "healthy" the profit declared by the company is, i.e. whether the profit is supported by actual cash receipts. It is calculated as the ratio between total net cash flow and net profit earned over a certain period of time.

$$Profit\ quality\ ratio = \frac{Total\ net\ cash\ flow}{Net\ profit} \quad (10.3)$$

This indicator is calculated only if the entity has recorded a positive financial result [13, p.73].

- A ratio value ≥ 1 indicates a "qualitative" profit, i.e. the net profit is fully covered (or exceeded) by the cash actually generated.
- A value < 1 may indicate that the profit recorded is not accompanied by commensurate cash flows, suggesting possible liquidity problems or low-quality income.

The profit quality ratio is particularly useful in comparative analysis between periods or between entities in the same sector, and is frequently used by investors, creditors and financial analysts to assess how realistic the reported profit is.

The cash **reinvestment ratio** expresses the proportion of cash flow generated by operating activities that was retained within the company during the reporting period and directed towards long-term investments in productive assets. This ratio is determined using the following formula:

$$Cash\ reinvestment\ rate = \frac{Net\ cash\ flow\ from\ operating\ activities\ -\ Dividend\ payments}{Total\ assets\ -\ Current\ liabilities} \quad (10.4)$$

A high reinvestment rate signals a sustainable financial strategy based on self-financing and greater investment autonomy, while a low value may indicate dependence on external financing to cover development needs. At the same time, according to studies in the field, a reinvestment rate of between 8 and 10% is generally considered satisfactory. This means that the entity's operating activities generate sufficient cash to cover its own investment needs [13, p.73].

The cash flow adequacy ratio reflects the company's ability to finance from its own sources — i.e. from the cash generated by its operating activities — the needs related to the development of its productive potential and the payment of dividends. This indicator allows the assessment of the extent to which the company can cover investment expenses and distributions to shareholders without resorting to external financing. The coefficient is calculated using the following formula:

$$\text{Cash flow adequacy ratio} = \frac{\text{Cash flow from operating activitie}}{\text{Purchase of fixed assets} + \text{Increases in inventories} + \text{Dividends pa}} \quad (10.5)$$

A ratio ≥ 1 indicates that the company has sufficient cash to support its development and current financial obligations, while a value < 1 suggests the need to attract additional sources of financing.

The self-financing rate shows the extent to which the entity is able to finance its investments from its own cash flows without resorting to external resources.

$$Self - financing\ ratio = \frac{Net\ cash\ flow\ from\ operating\ activities}{Total\ investments} \quad (10.6)$$

A self-financing ratio value ≥ 1 means that the company can fully cover its investments from its own sources, without relying on external financing. A value < 1 means that the company needs external sources of financing to support its investments, which indicates a higher degree of financial dependence.

In practice, this ratio provides valuable information for management, investors and creditors regarding the company's ability to support its development through self-financing.

Self-assessment questions:

1. What is the essence of cash flows in a business and determine their importance?
2. How are cash flows classified and what is the significance of each category?
3. Why is cash flow analysis essential for maintaining a company's liquidity?
4. How can a business be profitable but still have liquidity problems?
5. What information does cash flow analysis provide to external parties such as investors and creditors?
6. How is a positive cash flow from operating activities interpreted?
7. What does a negative cash flow from investing activities indicate?
8. What is the significance of cash flows from financing activities and how are they interpreted?
9. How is an overall assessment of cash flows made based on the financial statement?
10. Determine the importance of the correlation of cash flows between operating, investing and financing activities.
11. What is structural cash flow analysis and what methods can be used?
12. How can factor analysis help management identify the causes of cash flow variations?

13. What is the main formula used in factorial analysis of cash flows?
14. What role do indicators calculated using the rate method play in cash flow diagnosis?
15. How is the cash reinvestment ratio interpreted and what relevance does it have for the company's financial strategy?

Self-assessment tasks:

1. Describe the impact of cash flows on the company's liquidity and solvency.
2. Discuss the importance of cash flow analysis in managerial decision-making.
3. Identify the main causes of a negative cash flow from investing activities.
4. Analyse the impact of financing decisions on total cash flow.
5. Estimate the financial risks associated with an imbalance between cash inflows and outflows.
6. Argue the need to correlate investment and financing policies with the level of available cash flows.
7. Design a customised cash flow reporting model tailored to managerial needs.
8. Develop an action plan to optimise cash flows in a company.
9. Develop a set of internal policies for effective cash management in the context of market instability.
10. Examine the cash flow situation of a real enterprise by applying financial analysis methods and formulate a set of managerial recommendations to support its financial sustainability.

Self-assessment multiple-choice test:

1. What is the essence of cash flows in a business?
a) It only reflects the company's accounting profit
b) They reflect all cash inflows and outflows over a period of time
c) It highlights only sales made
d) It is based exclusively on subjective accounting methods

2. Cash flows from operating activities include:
a) Purchase of equipment
b) Payments to suppliers and employee salaries
c) Issuance of shares
d) Repayment of loans

3. A positive cash flow from operating activities indicates:
a) Difficulties in collecting receivables
b) Efficient and self-sustaining activity

c) Lack of investment projects
d) Withdrawal from activities

A negative cash flow from investing activities is usually interpreted as:

a) A sign of imminent bankruptcy
b) Investments in development and modernisation
c) Lack of liquidity of the company
d) An ineffective financial policy

5. What is the purpose of factorial analysis of cash flows?

a) Calculating only receipts
b) Identifying and quantifying the factors that influence cash flow variation
c) Separate examination of receipts without taking payments into account
d) Only highlighting the final balance of cash available

6. The debt coverage ratio through cash flow reflects:

a) The company's ability to generate accounting profit
b) The company's ability to repay its financial obligations from cash generated by operations
c) The company's inventory level
d) The number of employees

7. A profit quality ratio greater than or equal to 1 indicates:

a) The profit is fully supported by actual cash flow
b) Profit is not supported by actual receipts
c) The company has an increased risk of bankruptcy
d) Profit is the result of accounting adjustments

8. The cash reinvestment ratio indicates:

a) The proportion of cash flow used to pay dividends
b) The proportion of cash flow invested in long-term assets
c) The number of approved investment projects
d) Cash flow generated from financial activities

9. What does a constant negative flow from investing activities signal?

a) Lack of investment
b) Expansion and modernisation, but also potential financial bottlenecks
c) Positive cash flow from operations
d) Payment of dividends

10. What is the balanced financial structure of cash flows?

a) Negative cash flow from operations, positive cash flow from investments, variable cash flow from financing
b) Positive cash flow from operations, negative cash flow from investments, variable cash flow from financing

c) Positive cash flow from all activities
d) Negative cash flow from all activities

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Appendix 1

ANSWERS TO MULTIPLE CHOICE QUESTIONS

Topic 1.
1.c) 2. b) 3. b) 4. c) 5. c) 6. c) 7. b) .8. c) 9. b) 10. b)

Topic 2.
1. b) 2. b) 3. b) 4. c) 5. b) 6. c) 7. a) 8. b) 9. b) 10. c)

Topic 3.
1.b) 2. a) 3. a) 4.b) 5.b) 6.a) 7. a) 8. a) 9.a) 10 a)

Topic 4
1.b) 2. b) 3. b) 4. c) 5. c) 6. c) 7. b) 8. a) 9. c) 10 c)

Topic 5
1.b) 2. c) 3 b) 4. a) 5. c) 6. c) 7. c) 8. b) 9. c) 10 b)

Topic 6
1.c) 2.c) 3. b) 4.c) 5c) 6.b) 7.b) 8.b) 9. c) 10.d)

Topic 7.
1.b) 2. c) 3. c) 4.b) 5.b) 6.b) 7.c) 8. c) 9. c) 10. c)

Topic 8.
1.c) 2. c) 3. c) 4. d) 5. c) 6.c) 7.c) .8. b) 9. c) 10. c)

Topic 9
1.d) 2. b) 3. c) 4. c) 5. c) 6.c) 7.b) .8. c) 9. b) 10. b)

Topic 10
1.b) 2. b) 3. b) 4.b) 5.b) 6.b) 7.a) 8. b) 9. b) 10. b)

Appendix 2

Practical examples in content unit 2

METHODS AND TOOLS USED IN BUSINESS MANAGEMENT DIAGNOSTICS

Chain substitution method

Application No. 1

Based on the information in Table 2.1. of Company "X", calculate the influence of factors on the change in production volume using the chain substitution method and interpret the results obtained.

Solution

Table 2.1. **Initial data for analysis**

Indicators	**Previous year**	**Current year**	**Absolute deviation, (±)**	**Growth rate (%)**
A	1	2	3=2-1	4=(2/1)*100
1. Value of manufactured production (VMP), thousand lei	10 800	12 873.2	2 073.2	119.20
2. Average number of employees (AE), persons	2 838	3 055	217.0	107.65
3. Average number of workers (AW), persons	2 500	2 700	200.0	108.00
4. Share of workers in the total number of employees (SW%), (rd.3/rd.2)*100	88.09	88.38	0.29	100.33
5. Average number of days worked per year by a worker (WD), days (rd.7/rd.3)	270	258	-12.0	95.25
6. Average length of working day ((HWD), hours (rd.8/rd.7)	8	7.7	-0.3	96.26

7. Actual time worked (TWd), man-days. thousand	675 000	696 600	21 600.0	103.20
8. Actual time worked (TWh), man-hours	5 400.0	5 364.4	-35.6	99.34
9. Hourly labour productivity (LP_h), lei (rd.1/rd.8)	2.0	2.4	0.40	120.0
10. Daily productivity ((LPd), lei (rd.1/rd.7)	16.00	18.48	2.48	115.50
11. Annual productivity per worker (LPw), lei (rd.1/rd.3)	4 320.00	4 767.85	447.85	110.37
12. Annual productivity per employee (LPe), lei (rd.1/rd.2)	3 805.50	4 213.81	408.31	110.73

Source: author's own elaboration.

To illustrate the calculation of the influence of factors, we will analyse a multiplicative factorial model:

$$VMP = AE \times WD \times HWD \times LP_h \quad (1)$$

Table 2.2. **Calculation of the influence of labour factors on the change in production volume using the chain substitution method**

No.	No. sub	Related factors				VMP, thousand lei	Calculation of calcula-tion	Res. Of fact. Infl.	Name of fact. infl.
		AE	WD	HWD	LP_h				
1	0	2 500	270	8.0	2	10 800.0	-	-	-
2	1	2 700	270	8.0	2	11 664.0	11 664,0-10 800	864.0	ΔAE
3	2	2.700	258	8.0	2	11 145.6	11 145.6-11 664	-518.4	Δ WD

4	3	2 700	258	7.7	2	10 727.6	10 727.6-11 145.6	-418.0	Δ HWD
5	4	2 700	258	7.7	2.4	12 873.2	12 873.2-10 727.6	2 145.5	ΔLP_h

Source: author's own elaboration.

BIF= 12 873.2-10 800 = 864.0+(-518.4)+(-418.0)+2 145.5=2 073.2 thousand lei

Based on the calculations in Table 2.2, it was found that company X recorded an overplan of manufactured production in the amount of 2 073.2 thousand lei. This increase is considered positive and was mainly influenced by the increase in the average number of workers by 200 people, which had a favourable effect on the volume of manufactured production, contributing to its increase by 845 thousand lei. Another significant factor was the increase in average hourly productivity by 0.4 thousand lei, which led to an additional increase in manufactured production of 2 145.5 thousand lei.

However, the analysis also highlights the existence of negative factors that have contributed to a reduction in production volume. Thus, the decrease in the average number of days worked per year by a worker by 12 days led to a decrease in production volume by 518.4 thousand lei. Similarly, the reduction in the average length of the working day by 0.3 hours contributed to a decrease in the result indicator by 418 thousand lei.

The results of the factor analysis allow us to conclude that the analysed enterprise has internal reserves for increasing the volume of manufactured production. These reserves are represented by the number of days worked per year by a worker and the length of the working day.

If, in the future, the company manages to increase the number of days worked by 12 and the length of the working day by 0.3 hours, the volume of manufactured production could see an additional increase of 518.4 thousand lei and 418 thousand lei, respectively.

The absolute difference method in a two-factor system:

Application No. 2

From the initial data presented in Table 2.1, the influence of labour factors on the change in the volume of manufactured production will be determined using the method of absolute differences in a two-factor system:

$$VMP = AE \times \text{LPw} \quad (2)$$

Table 2.3. **Calculation of the influence of general labour factors on changes in the volume of manufactured production**

Order No.	Indicators	Planned	Actual	Absolute deviation, (+/-)	Including under the influence of	
					ΔAE	ΔLPw
1	Volume of manufactured production, thousand lei	10 800	12 873.2	2 073.2	-	-
2	Number of workers, persons	2 500	2 700	200	-	-
3	Average productivity per worker, thousand lei/person	4.32	4.768	0.448	864	1209.2

Source: author's own elaboration.

ΔAE = 200× 432 = 864 thousand lei.
ΔLPw= 0.448× 2700=1 209.2 thousand lei

BIF = 12 873.2 - 10 800 = 864 + 1 209.2 = 2 073.2 thousand lei

The data presented in Table 2.3 show that the analysed enterprise recorded a surplus of manufactured production compared to the planned level, amounting to 2 073.2 thousand lei. This increase can be explained by the positive influence of both analysed factors. Thus, the increase in the average number of workers by 200 people compared to the planned level led to an increase in the value of manufactured production (VPF) by 864 thousand lei. At the same time, the increase in average hourly productivity by 0.448 thousand lei generated an additional positive effect on VMP, contributing 1 209.2 thousand lei to its increase.

Therefore, the results of the factor analysis indicate that the main contribution to the increase in VMP came from the qualitative factor, namely labour productivity. This is viewed positively, as it demonstrates that the growth in manufactured output was achieved primarily through intensive means, reflecting a more efficient use of existing human resources.

The method of absolute differences in a multi-factor system

Application No. 3

Based on the data in Table 2.2, determine the change in the value of manufactured output, analysing the influence of the following factors:

- Average number of workers − (AE);
- Number of days worked per year by a worker − (WD);
- Length of the working day in hours − (HWD);
- Average hourly productivity − (LP_h).

The influence of each factor will be determined by applying the chain substitution method.

Solution:

$$VMP = AE \times WD \times HWD \times LP_h \quad (3)$$

Table 2.4. **Calculation of the influence of labour factors on the change in VPF using the absolute difference method in a multi-factor system**

No.	Factors	Calculation method	Calculation of the influence of factors	Influence result (+/-)
1	*AE*	$\Delta AE \times WD_0 \times HWD_0 \times LP_{h0}$	200×270×8×2	864.0
2	Nz	$AE_1 \times \Delta WD \times HWD_0 \times LP_{h0}$	2 700×(-12)×8×2	-518.4
3	Dh	$AE_1 \times WD_1 \times \Delta HWD \times LP_{h0}$	2 700×258×(-0.3)×2	-418.0
4	Wh	$AE_1 \times WD_1 \times HWD_1 \times \Delta LP_h$	2 700×258×7.7×0.4	2 145.5

Source: author's own elaboration.

Based on the calculations presented in Table 2.4, company X recorded an overplan of manufactured production in the amount of 2 073.2 thousand lei. This increase is considered a positive result, being mainly determined by the increase in the average number of workers by 200 people, a factor that contributed 845 thousand lei to the increase in production volume. Another important factor was the increase in average hourly productivity by 0.4 thousand lei, which generated an additional increase in the volume of manufactured production by 2 145.5 thousand lei.

However, the analysis also highlights the existence of negative factors that reduced the total volume of production. Thus, the reduction of the number of days worked per year by a worker by 12 days led to a decrease in production by 518.4 thousand lei. In addition, the reduction of the working day by 0.3 hours contributed to a further reduction in the result indicator by 418 thousand lei.

Based on the analysis, we can say that company X has internal reserves for increasing the volume of manufactured production. These reserves are related to increasing the number of days worked per year by a worker and extending the average length of the working day.

If, in the future, the company manages to increase the number of days worked by 12 and extend the average length of the working day by 0.3 hours, the volume of manufactured production could see an additional increase of 518.4 thousand lei and 418 thousand lei, respectively.

Integral method

Application No. 4

Based on the data in Table 2.5, determine the influence of labour factors on the change in VPF using the integral method with two factors and interpret the results obtained.

Solution

Factorial formula:

$$VMP = AE \times \text{LPw} \qquad (4)$$

Table 2.5. **Calculation of the influence of labour factors on changes in manufactured production volume**

No	**Indicators**	**Plan-ned**	**Actual**	**Abso-lute devia-tion, (+/-)**	**% of plan fulfilment**
0	A	1	2	3=2-1	4=(2/1)*100
1	Volume of manufactured production (VMP), thousand lei	10 800	12 873.2	2 073.2	119.20
2	Average number of workers (AE), persons	2 500	2 700	200	108

3	Average annual productivity of a worker (LPw) (rd.1/rd2), lei	4 320	4 767.85	447.87	110.37

Source: author's own elaboration.
Source: author's own elaboration.

1. We determine the influence of the change in the average number of workers

$$\Delta VMP_{AE} = \frac{1}{2}\Delta AE(LPw_0+LPw_1)=\frac{1}{2}\cdot(+200)\cdot(4\ 320+4\ 767.85) = 908.79$$

thousand lei

2. We determine the influence of the change in the average productivity of a worker

$$\Delta VMP_{LPw} = \frac{1}{2}\Delta LPw(AE_0+AE_1) = \frac{1}{2}\cdot(+447.85)\cdot(2\ 500+2\ 700) = 1$$

164.41 thousand lei

3. Balance sheet of factors = 908.79 +1 164.*41= 2 073.2 thousand lei*

Following the analysis, we can see that during the effective period, VMP increased by 2 073.2 thousand lei. This increase was generated by the increase in the number of workers by 200 people and the simultaneous increase in the average productivity of a worker by 447.87 lei, contributing to an increase in the result indicator by 908.79 thousand lei and 1164.41 thousand lei, respectively. The result obtained shows satisfactory activity of the economic unit analysed in this area.

Quota participation method

Application No. 5

Using the data provided in Table 2.6, the influence of each factor on the variation in economic profitability will be assessed. This analysis will be carried out by applying the quota participation method, a statistical technique used to determine the relative contribution of component variables to the change in a specific indicator.

Table 2.6. Initial data for the factorial analysis of economic profitability

Indicators	Previous year	Current year	Absolute deviation, (+/-)
Profit for the management period before taxation(P_{BT} ,) , thousand lei	12 931.60	30 836.95	17 905.36
Operating result(OR) , thousand lei)	9 154.99	22 449.02	13 294.04
Result from financial activities(RFA) , thousand lei	3 776.61	8 387.93	4 611.32
Result from operations with fixed and exceptional assets($RFEA$) , thousand lei	0.00	0.00	0.00
Average value of current assets($\overline{CA}$) , thousand lei	308 954.18	341 822.45	32 868.27
Average value of fixed assets (FA) , thousand lei	321 982.00	310 438.41	-11 543.59
Average value of total assets ($\overline{TA}$) , thousand lei	630 936.18	652 260.86	21 324.68
Economic profitability, %	2.050	4.728	2.678

Source: author's own elaboration.

Solution:

1. We calculate the influence of general factors on the change in economic profitability.

$$\Delta ROA^{PBT} = \frac{PBT_{(1)}}{TA_{(1)}} - \frac{PBT_{(0)}}{TA_{(1)}} \times 100\% = \left(\frac{30836.95}{652260.86} - \frac{12931.60}{652260.86}\right) \times 100\% = 4.728 - 1.983 = 2.745 \text{ p.p.}$$

$$\Delta ROA^{PBT} = \frac{PBT_{(0)}}{TA_{(1)}} - \frac{PBT_{(0)}}{TA_{(0)}} \times 100\% = \left(\frac{12931.60}{652260.86} - \frac{12931.60}{630936.18}\right) \times 100\% = 1.983 - 2.050 = -0.067 \text{ p.p.}$$

$$BIF = 2.745 + (-0.067) = 2.678 \text{ p.p.}$$

The calculations show that economic profitability increased by 2.678 percentage points compared to the previous year, which is considered positive. Thus, the increase in profit before tax contributed to an increase in profitability of 2.745 percentage points, which has a predominant influence on the change in economic profitability. The reduction in the average value of total assets – an indirect factor – led to a decrease in economic profitability by 0.067 percentage points.

Next, we will calculate the influence of the detailed factors on the change in the profitability of production assets.

Table 2.7 Calculation of the influence of detailed factors on the change in economic profitability using the share participation method

Indicators	Influence share	Calculation of the influence of factors	Result of influence, (±) percentage points
Change in profit before tax and return on investment, including under the influence of:	17 905.36	Participation coefficient participation: +2.745/(+17905.36)= 0.00015331	2.745
1.1 Change in operating result	13 294.04	+13 294.04× (0.00015331)	2.038
1.2 Change in financial activity result	4 611.32	4 611.32×(0.00015331)	0.707
1.3 Change in result from fixed and exceptional assets	-	-	-
2 Change in the average value of total assets and profitability level, including under the influence of:	21 324.68	Participation participation coefficient: (-0.067)/(+21 324.68)= -0.00000314	-0.067
2.1 Change in the average value of fixed assets	-11 543.59	(-11 543.59)×(-0.00000314)	0.036

2.2 Change in the average value of current assets	32 868.27	(+32 868.27) (-0.00000314)	-0.103

Source: author's own elaboration.

Balance sheet verifying the influence of detailed factors:

+2.745= +2.038+0.707 p.p.
+2.745=+2.745 p.p.
-0.067=+0.036+(-0.103)p.p.
-0.06=-0.06 p.p.

The data in Table 2.7 show that the increase in economic profitability was mainly influenced by operational and financial factors.

Firstly, the increase in operating profit by 13 294.04 thousand lei led to a significant increase in economic profitability, by 2.038 percentage points. This result highlights the increased efficiency of the core business. At the same time, profit from financial activities increased by 4 611.32 thousand lei, generating an additional 0.707 percentage points in profitability, which indicates efficient financial management.

In terms of asset structure, the decrease in the average value of fixed assets had a positive effect on the result indicator, contributing to its increase by 0.036 p.p., while the increase in current assets had a negative impact, generating a decrease in economic profitability (-0.103 p.p.). These influences reflect how the efficiency of asset utilisation affects overall performance.

In conclusion, we can say that the increase in economic profitability was mainly due to increased operational and financial efficiency, while structural changes in assets had mixed but less significant effects.

ABC method

Application No. 6

From the data in Table 2.8, assess the distribution of the sales volume of company "X" by customer using the ABC method and interpret the results obtained.

Table 2.8 ABC method

No.	Customer	Sales revenue (thou-sand lei)	Sales revenue in descending order		Cumu-lative sales reve-nue	Share in	
						Custo-mers, %	Reve-nue from sales, %
1	Customer 1	130	Customer 4	690	690	10	37.08
2	Customer 2	55	Client 9	420.5	1110.5	30	51.61
3	Client 3	52	Client 5	410	1520.5		
4	Client 4	690	Client 1	130	1650.5		
5	Client 5	410	Client 2	5	1705.5	60	11.31
6	Client 6	32	Client 3	52	1757.5		
7	Client 7	38.8	Client 7	38.8	1796.3		
8	Client 8	20.5	Client 6	32	1828.3		
9	Client 9	420.5	Client 8	20.5	1848.8		
10	Client 10	12.2	Client 10	12.2	1861		
	Total	1861	-	-	-	100	100

Source: author's own elaboration.

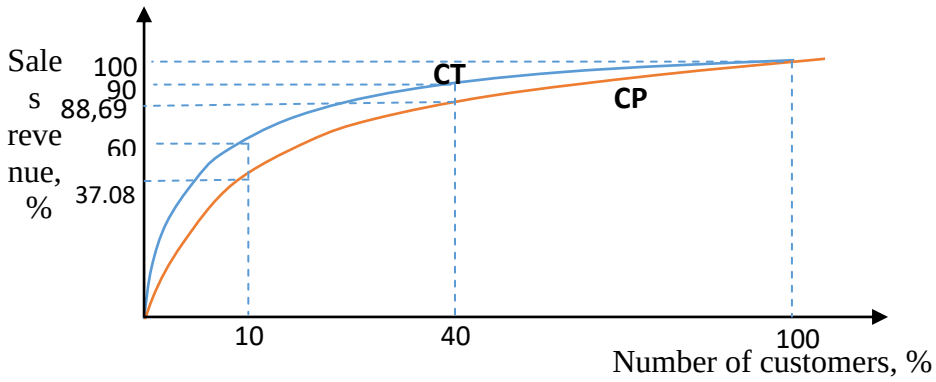

Fig.1 ABC method

Source: author's own elaboration.

CT - theoretical curve; **CP** - practical curve

Based on the data in Table 2.8, the following distribution of customers and sales revenue can be observed:

- *Area A – 10% of customers (C4) generate 37.08% of total sales revenue;*
- *Area B – 30% of customers (C9, C5, C1) contribute 51.61% to revenue;*
- *Area C – 60% of customers (C2, C3, C7, C6, C8, C10) account for only 11.31% of total revenue.*

This distribution indicates that the practical curve is below the theoretical curve, highlighting a high concentration of revenue in segments A and B. Consequently, the revenue structure shows a moderate dependence on a small number of customers, which leads to an assessed risk level of medium.

Annex 3

FINANCIAL STATEMENTS

Entity: THE WINE FACTORY
"Agrotech Vin" JSC
(IFRS) CUIÎO code:
IDNO code:

Postal code:
CUATM code (district):
Street:
Main activity: C1102, Manufacture of wines from grapes
Legal form: Joint stock companies

Tel
WEB:
E
Average number of employees during the reporting period: 450 persons.
Name and surname of the responsible person:
Bejan N.

BALANCE SHEET

Account no.	Indicators	Code	Balance at	
			Start of management period	End of management period
1	2	3	4	5
	ACTIVE			
A	Non- Current ASSETS I. Intangible fixed assets			
	Intangible assets in progress	010	301 165	9 742

Intangible assets in use, total	0	720 285	1 227 250
concessions, licences and trademarks	021	720 285	249 248
copyright and protection titles	022		
computer programs	023		7 387
other intangible assets	024		970 615
Business assets	030		
Advances granted for intangible assets	040		
Total intangible assets (rd.010 + rd. 020 + rd.030 + rd.040)	0	1 021 450	1 236 992
II. Tangible fixed assets			
Tangible assets under construction)	060	8 223 931	5 425 750
Land	070	1 110 494	1 110 494
Fixed assets, total	080	212 337 420	207 348 697
Buildings	081	67 137 800	124 666 058
special constructions	082	62 171 964	
machinery, equipment and technical installations	083	75 354 777	72 433 087
means of transport	084	3 086 693	3 641 510

No.	Indicators	Code	Balance at	
			Start of management period	End of management period
1	2	3	4	5
	inventory and furniture	085	4 586 186	
	other fixed assets	086		6 608 042
	Mineral resources	090		
	Immobilised biological assets	10	66 350 450	66 729 286
	Investment property	110		
	Advances granted for tangible assets	120		

Total tangible fixed assets (rd.060 + rd. 070 + rd.080 + rd.090 + rd.100 + rd.110 + rd.120)	130	288 022 295	280 614 227
III. Long-term financial investments			
Long-term financial investments in non-affiliated parties	140	7 617 925	7 617 925
Long-term financial investments in affiliated parties, total	150	17 373 000	17 373 000
Shares and equity interests held in affiliated parties	151		
loans granted to affiliated parties	152		
loans granted related to participating interests	153		
other financial investments	154	17 373 000	17 373 000
Total long-term financial investments (rd.140 + rd.150)	160	24 990 925	24 990 925
IV. Long-term receivables and other fixed assets			
Long-term trade receivables	170		
Long-term receivables from affiliated parties	180		
including: receivables related to participating interests	181		
Other long-term receivables	190		
Long-term prepaid expenses	20		
Other fixed assets	210		
Total long-term receivables and other fixed assets (rd.170 + rd.180 + rd.190 + line 200 + line 210)	220		
TOTAL FIXED ASSETS (row 050 + row 130 + row 160 + row 220)	230	314 034 670	306 842 144

B	CURRENT ASSETS I. Inventories			
	Materials and items of low value and short duration	240	29 687 114	37 742 153
	Current biological assets	250		
	Work in progress	260	125 399 367	142 186 818
	Products and goods	270	12 857 816	14 651 069
	Advances granted for stocks	280	2 162 616	973 379
	Total inventories (row 240 + row 250 + row 260 + row 270 + row 280)	290	170 106 913	195 553 419

Account no.	**Indicators**	**Code**	**Balance at**	
			Start of management period	**End of management period**
1	2	3	4	5
	II. Current receivables and other current assets			
	Current trade receivables	300	62 898 195	142 756 787
	Current receivables from affiliated parties	310	90 863 248	
	including: receivables related to participating interests	311		
	Receivables from the budget	320	1 988 275	578 115
	Staff receivables	330	171 900	95 089
	Other current receivables	340	2 485 548	14 827 803
	Current prepaid expenses	350	520 360	
	Other current assets	36		
	Total current receivables and other current assets (row 300 + row 310 + row 320 + row 330 + row 340 + row 350 + row 360)	370	158 927 526	158 257 794
	III. Current financial investments			

	Current financial investments in non-affiliated parties	380		
	Current financial investments in affiliated parties, total	390		
	Shares and equity interests held in affiliated parties	391		
	Loans granted to affiliated parties	392		
	loans granted related to participating interests	393		
	other financial investments in affiliated parties	394		
	Total current financial investments (rd.380 + line 390)	40		
	Cash and cash equivalents	410	200 661	598 588
	TOTAL CURRENT ASSETS (rd.290 + rd. 370 + rd.400 + rd.410)	420	329 235 100	354 409 801
	TOTAL ASSETS (rd.230 + rd.420)	430	643 269 770	661 251 945
	LIABILITIES			
C	EQUITY I. Share capital and unregistered capital			
	Share capital	440	182 564 000	182 564 000
	Unpaid capital	450		
	Unregistered capital	460		
	Withdrawn capital	470		
	Assets received from the state with ownership rights	480		
	Total share capital and unregistered capital (row 440 + row 450 + row 460 + row 470 + row 480)	490	182 564 000	182 564 000
	Capital premiums	50		
	III. Reserves			

	Reserve capital	510	5 813 255	120 994 176
	Statutory reserves	520	106 386 249	
	Other reserves	530	1 064 771	

No.	Indicators	Code	Balance at	
			Start of management period	End of management period
1	2	3	4	5
	Total reserves (row 510 + row 520 + row 530)	540	113 264 275	120 994 176
	IV. Profit (loss)			
	Adjustments to previous years' results	550		
	Retained earnings (uncovered loss) from previous years	560	10 945 178	-4 197 530
	Net profit (net loss) for the financial year	570		26 660 339
	Profit used for the management period	580		
	Total profit (loss) (rd.550 + rd.560 + rd.570 + rd.580)	590	10 945 178	22 462 809
	Revaluation reserves	60		
	Other equity items	610	14 513 817	14 513 817
	TOTAL EQUITY (line 490 + line 500 + line 540 + line 590 + line 600 + line 610)	620	321 287 270	340 534 802
D	LONG-TERM DEBTS			
	Long-term bank loans	630		12 457 380
	Long-term loans	640		
	Borrowings from bond issues	641		
	including: loans from the issue of convertible bonds	642		
	other long-term loans	643		
	Long-term trade payables	650		
	Long-term liabilities to affiliated	660		

	parties			
	including: liabilities related to participating interests	661		
	Long-term advances received	670		
	Long-term deferred income	680		
	Other long-term liabilities	690	457 674	193 075
	TOTAL LONG-TERM LIABILITIES (row 630 + row 640 + row 650 + row 660 + row 670 + row 680 + row 690)	700	457 674	12 650 455
E	CURRENT LIABILITIES			
	Short-term bank loans	710	125 504 356	112 013 949
	Short-term loans, total	720		
	loans from bond issues	721		
	including: loans from convertible bond issues	722		
	other short-term loans	723		
	Current trade payables	730	165 755 769	166 508 714
	Current liabilities to related parties	740		
	including: liabilities related to participating interests	741		
	Current advances received	750	4 557 834	1 687 731
	Payables to personnel	760	4 450 511	4 819 022

No.	**Indicators**	**Code**	**Balance at**	
			Start of management period	**End of management period**
1	2	3	4	5
	Social security and health insurance liabilities	770	1 889 329	2 308 004
	Debts to the budget	780	6 381 214	7 668 533
	Debts to owners	790		
	Current anticipated income	800		

	Other current liabilities	810	1 897 218	1 972 140
	TOTAL CURRENT LIABILITIES (rd.710 + rd. 720 + rd.730 + rd.740 + rd.750 + rd.760 + rd.770 + rd.780 rd.790 + rd.800 + rd.810)	820	310 436 231	296 978 093
F	PROVISIONS			
	Provisions for employee benefits	830	209 074	
	Provisions for guarantees granted to buyers/customers	840	10 879 521	11 088 595
	Provisions for taxes	850		
	Other provisions	860		
	TOTAL PROVISIONS (rd.830 + rd.840 + rd.850 + rd.860)	870	11 088 595	11 088 595
	TOTAL LIABILITIES (line 620 + line 700 + line 820 + line 870)	880	643 269 770	661 251 945

PROFIT AND LOSS STATEMENT

Indicators	Code	Previous period	
		Previous	Current
1	2	3	4
Total sales revenue	010	360 192 216	353 860 648
of which: revenue from the sale of products and goods	011	358 881 040	352 764 246
income from the provision of services and performance of works	012	1 311 176	1 096 402
revenue from construction contracts	013		
income from leasing contracts	014		
income from microfinance contracts	015		
other sales income	016		
Cost of sales, total	020	292 581 790	269 899 937
of which: carrying amount of products and goods sold	021	291 569 690	269 750 734
cost of services rendered and work performed for third parties	02	1 012 100	149 203

costs related to construction contracts	02		
costs related to leasing contracts	02		
costs related to microfinance contracts	025		
other costs related to sales	026		
Gross profit (gross loss) (rd.010 - rd.020)	030	67 610 426	83 960 711

Indicators	**Code rd.**	**Previous management period**	
		Previous	**Current**
1	2	3	4
Other operating income	040	18 974 299	20 859 900
Distribution expenses	0	21 939 758	24 647 716
Administrative expenses	0	34 958 663	37 419 437
Other operating expenses	07	20 531 319	20 304 436
Operating result: profit (loss) (rd.030 + rd.040 - rd.050 - rd.060 - rd.070)	0	9 154 985	22 449 022
Financial income, total	0	19 197 763	22 242 351
of which: income from participating interests	091		
including: income from affiliated parties	092		
interest income	093		
including: income from affiliated parties	094		
income from other long-term financial investments	095	2 090 705	
including: income from affiliated parties	096	2 090 705	
income related to value adjustments on long-term and current financial investments	097		
income from the disposal of financial investments	098	1 258 677	
income related to exchange rate differences and amount differences	099	1 548 381	14 975 213
Financial expenses, total	10	15 421 153	13 854 421

of which: interest expenses	101		
including: expenses related to affiliated parties	102		
expenses related to value adjustments on long-term and current financial investments	103		
expenses related to the disposal of financial investments	104		
expenses related to exchange rate and amount differences	105	15 421 153	13 825 676
Result: financial profit (loss) (rd.090 - rd. 100)	110	3 776 610	8 387 930
Income from fixed assets and exceptional items	120		
Expenses from fixed assets and exceptional items	13		
Result from operations with fixed assets and exceptional items: profit (loss) (line 120 - line 130)	14		
Result from other activities: profit (loss) (line 110 + line 140)	15	3 776 610	8 387 930
Profit (loss) before taxation (rd.080 + rd.150)	16	12 931 595	30 836 952
Income tax expense	170	1 976 135	4 176 613
Net profit (net loss) for the management period (line 160 - line 170)	180	10 955 460	26 660 339

STATEMENT OF CHANGES IN EQUITY

No.	Indicators	Code	Balance at the beginning of the manageme-nt period	Increases	Decreases	Balance at the end of the managemen t period
1	2	3	4	5	6	7

I	Share capital and unregistered capital					
	Share capital	010	182 564 000			182 564 000
	Unpaid capital	020				
	Unregistered capital	03				
	Withdrawn capital	040				
	Assets received from the state with ownership rights	050				
	Total share capital and unregistered capital (row 010 + row 020 + row 030 + rd.040 + rd. 050)	060	182 564 000			182 564 000
II	Capital premiums	070				
III	Reserves					
	Reserve capital	080	5 813 255	115 180 921		120 994 176
	Statutory reserves	0	106 386 249		106 386 249	
	Other reserves	100	1 064 771		1 064 771	
	Total reserves (row 080 + row 090 + row 100)	110	113 264 275	115 180 921	107 451 020	120 994 176
IV	Profit (loss)					
	Adjustments to previous years' results	12				
	Retained earnings (uncovered loss) from previous years	130	10 945 178		15 142 708	-4 197 530

	Net profit (net loss) for the period	140		26 660 339		26 660 339
	Profit used for the management period	15				
	Total profit (loss) (line 120 + line 130 + line 140 + line 150)	16	10 945 178	26 660 339	15 142 708	22 462 809
V	Revaluation reserves	17				
VI	Other equity items	180	14 513 817			14 513 817
	Total equity (row 060 + row 070 + row 110 + row 160 + row 170 + row 180)	190	321 287 270	141 841 260	122 593 728	340 534 802

CASH FLOW STATEMENT

Indicators	Code	Previous reporting period	
		Previous	Current
1	2	3	4
Cash flows from operating activities			
Proceeds from sales	010	382 104 950	381 922 066
Payments for inventories and services purchased	0	284 177 982	276 686 302
Payments to employees and social and health insurance bodies	0	64 322 220	68 250 970
Interest paid	0	12 442 832	12 459 872
Income tax payment	050	6 680 770	4 762 444
Other revenue	060	520 317	387 264
Other payments	070	4 387 851	12 514 418

Net cash flow from operating activities (rd.010 - rd.020 - rd.030 - rd.040 - rd.050 + rd.060 - rd.070)	0	10 613 612	7 635 324
Cash flows from investing activities			
Proceeds from the sale of fixed assets	0		
Payments related to additions to fixed assets	10	2 981 566	13 288 629
Interest received	110		
Dividends received	120		
including: dividends received from abroad	121		
Other receipts (payments)	130		
Net cash flow from investing activities (rd.090 - rd.100 + rd.110 + rd.120 ± rd.130)	14	-2 981 566	-13 288 629
Cash flows from financing activities			
Proceeds from loans and borrowings	150	80 651 317	93 177 960
Payments related to the repayment of credits and loans	160	88 331 361	90 502 590
Dividends paid	170	2 322 682	2 738 906
including: dividends paid to non-residents	171		
Proceeds from capital transactions	180		
Other receipts (payments)	190	2 963 138	6 751 687
Net cash flow from financial activities (line 150 - line 160 - line 170 + line 180 ± line 190)	20	-7 039 588	6 688 151
Total net cash flow (± line 080 ± line 140 ± line 200)	2	592 458	1 034 846
Favourable (unfavourable) exchange rate differences	2	-498 617	-636 919
Cash balance at the beginning of the management period	230	106 820	200 661
Cash balance at the end of the management period (± line 210 ± line 220 + line 230)	240	200 661	598 588

Tatiana DIACONU

MANAGERIAL DIAGNOSIS OF A COMPANY I

Course notes

Computer assistance – *Maria Bondari*

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