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# Journal of Research on Trade, Management and Economic Development

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## IMPROVING THE ACCOUNTING OF ASSETS HELD UNDER ECONOMIC MANAGEMENT

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#### Abstract

This Article reviews the main issues that arise while accounting for publicly owned assets under the economic management of public institutions, state- and municipal-owned enterprises, and of other similar entities. Such issues are related to the way of documenting, recognizing, valuating, and setting the useful lifespan of assets, as well as registering the assets received under economic management. In particular, this Article tackles some accounting aspects related to the subsequent costs incurred for the asset recovery at the expense of the entity's own resources, subsidies and funds received from the public authority that transferred the assets into economic management. In order to address the issues of accounting for favorable and unfavorable differences related to the operations of returning the aforementioned assets, there have been specified the categories of revenues and expenses to which they need to be reported. Likewise, some fiscal aspects of transactions with assets held under economic management have been investigated, including the specificities of VAT application, deduction of expenses and taxation of revenues recorded following the performance of the above-mentioned transactions.

The basic research methods used: analysis and synthesis, induction and deduction, interpretation and comparison, review of normative acts which enabled us to substantiate some essential findings for the resolution of relevant research-related issues.

The authors' recommendations will lead to improving the accounting for the assets held under economic management, ensuring a higher degree of veracity and comparability of the information disclosed in financial statements.

**Keywords**: economic management, valuation, recognition, assets, public property, subsequent costs, financial statements

#### 1. Introduction

Over the last years, the accounting industry has gone through significant transformations in the Republic of Moldova due to the acceleration of economic processes associated with market relations, being an objective phenomenon and a necessary condition for the advancement of entities with various forms of ownership. Business administration is carried out based on the regulations existing at different levels. The state is represented by various authorities, which develop and implement the normative acts, monitor and control how the requirements of such acts are complied with. Various tools available in this area can be

applied in order to create the economic conditions that would ensure increased efficiency in the use of public property and the resolution of socio-economic issues, including the delegation of some duties in the area of public property administration.

According to the legislation in force, the central and local public administration authorities can assign public property (land, buildings, special constructions and other assets) under the economic management of self-managed public institutions, state-/municipal-owned enterprises, and of other similar entities (hereinafter referred to as recipient entities). The general way of asset delivery-receipt under economic management is governed by the Law on the delimitation of public property, no. 29/2018 [1], the Law on the administration and denationalization of public property, no. 121/2007 [2], the Law on state- and municipal-owned enterprise no. 246/2017 [3] and the Regulation on transfer of public property assets (hereinafter referred to as the Regulation) [4]. At the same time, the basic rules of accounting for assets held under economic management are laid out in the National Accounting Standards (hereinafter referred to as NAS) "Equity and liabilities" [5], "Intangible and tangible assets" [6], "Presentation of financial statements" [7], as well as in the General Chart of Accounts [8].

The regulations in force have a direct and significant impact both on the effective use of public property and on the accounting, reporting and analyzing the situation and performance of recipient entities. At the same time, the legal regime of publicly-owned assets held under economic management enables only possessing and using the assets reflected in the entities' accounting records without granting them the ownership right over those assets [1, art. 2]. In such cases the state and administrative territorial units are the true holders of ownership rights. It should be noted that due to the lack of ownership rights over the public assets received under economic management and reflected in the recipient entities' balance sheet some clarifications regarding the accounting and fiscal approach are needed, taking account of the controversies and difficulties encountered in the accounting practice.

#### 2. The degree of investigation of the problem currently, and purpose of research

The issues of accounting for and taxation of transactions with assets held under economic management have been researched by local scholars and professional practitioners [9, 10, 11, 12, 15]. Thus, in the article titled "Peculiarities of accounting for public property received under economic management", published in the practical-scientific journal "Contabilitate şi Audit" [9], A. Nederița and L. Foalea reviewed for the first time the ways of accounting for public property received as contributions to the share capital, under economic management and free-of-charge. Those aspects were elucidated in line with the NASs and General Chart of Accounts provisions in the 1998 edition. Following the publication of that article, significant amendments had been made in the national accounting regulations that also affected the accounting for assets held under economic management.

Researchers M. Dima and N. Țiriulnicova studied in their works [10, 11] some accounting and fiscal aspects related to the returning of assets held under economic management, as well as their valuation. Particular attention deserves their recommendations regarding the finalization of such operations through tax invoices drawn up in accordance with the rules approved by the Ministry of Finance. Likewise, the elucidation of fiscal consequences related

to income tax in case of returning the respective assets is of great interest. And last but not least, the authors suggested the revaluation surplus of assets under economic management to be accounted for as an increase in liabilities. In our opinion, such an approach is not sufficiently substantiated in line with the provisions of NAS "Intangible and tangible assets", according to which the revaluation surplus must be accounted for as other equity components. We believe that the increase in liabilities on account of such surplus goes against the fundamental accounting principles and existing practices. At the same time, it is not clear how the revaluation reductions are to be recorded.

L. Foalea, a professional practitioner, analyzed in her article [12] how to account for the operations of delivery, receipt and return of assets held under economic management. L. Foalea also reviewed how the entities that received publicly-owned assets shall account for the costs and expenses incurred for assets maintenance.

The research of the above-mentioned professionals has an indisputable value; however, the published works neither disclose exhaustively the specificities of accounting for the assets held under economic management nor reveal the directions for its improvement in line with the regulatory provisions and accounting practices.

It is worth mentioning that there are still many unaddressed issues regarding the documentation, recognition, valuation, registration in accounts and reflection in financial statements of assets held under economic management, taking account of the existing realities. Also, the fiscal aspects are not sufficiently tackled, and no relevant solutions are found regarding the application of the value added tax (VAT) and taxation of revenues and expenses related to the operations with such assets. Therefore, the goal of the current research is to elucidate the problematic aspects of accounting for the assets held under economic management in order to identify the directions for its improvement. The recommendations on how to possibly overcome the existing gaps and meet the fundamental accounting and fiscal principles are of interest from both theoretical and practical standpoints.

#### 3. Applied methods and materials

The conducted research builds upon the dialectical method with its basic elements: analysis, based on which the substance of the researched issue has been identified; synthesis, used to establish the correlation among the phenomena subject to research; induction that largely defines this study; and deduction. Methods inherent in economic subjects such as: observation, comparison, selection, grouping, reasoning, etc. have been resorted to for processing, systematization and interpretation of the information afferent to the research carried out in the area of accounting for and taxation of assets held under economic management.

During the research, provisions of normative acts have been generalized as well as outcomes of research carried out by local scholars concerning the documentation of operations with assets held under economic management, the recognition, valuation and reflection of such assets in accounting and in financial statements. The applied methods made it possible to approach the research subject-matter from different perspectives in relation to other phenomena of the economic reality.

#### 4. Results obtained and discussions

The operations with publicly owned assets received under economic management are to be confirmed by supporting documents. Thus, the transfer decision adopted by the public authority in charge – the Government, central and local public authorities, as well as the Public Property Agency (hereinafter referred to as the founders) can serve as basis for transferring the assets. According to the Regulation provisions, upon the delivery of the specified assets, besides the transfer decision, a delivery act must be drawn up as per the model enclosed in the Regulation, and a tax invoice [4, point 5]. Thus, in case of transferring the assets to recipient entities, a Transfer Act of land, fixed assets and other publicly owned assets shall be drawn up. The Act shall be prepared on the basis of accounting data, valuation report, passports and other technical documents, as well as on the basis of documents confirming the previous registration of assets by the competent authorities [4, points 19 and 29].

The fact that the Regulation uses outdated terminology regarding the documents serving as basis for receiving assets under economic management shall not be overlooked. Thus, "tax invoice" shall be used rather than "invoice", which is not found in the normative acts in force. Against this background, we consider appropriate to record the operations related to the delivery/receipt of assets under economic management through tax invoices in compliance with the rules approved by the Ministry of Finance.

Pursuant to the delivery/receipt documents and tax invoices, the recipient entity can prepare an accounting note to reflect the correspondence of accounts regarding the operations with the received assets. The latter are to be removed from the public authority accounts and reflected in the recipient entity accounts as assets, as they match the recognition criteria set out in the NAS "Intangible and tangible assets" [6, point 6] and fully meet the requirements of the 'assets' definition laid down in the NAS "Presentation of financial statements" [7, point 19]. Of note is that the assets received under economic management are recorded in the recipient entity's balance sheet [7, points 37-38], but are not owned by it [2, Art. 10 (1); 3, Art. 3 (2)]; for example, such assets cannot be alienated, encumbered for the recipient entity's debts, pledged, leased, etc. In addition, the economic management rights over the state's and administrative-territorial units' assets must be recorded in the Real Estate Register.

According to the NAS "Intangible and tangible assets", the assets received under economic management are valuated at the cost of entry, which is calculated according to the baseline receipt documents, having supplemented, as appropriate, the costs of entry and the costs of asset preparation for the intended use [6, point 141]. Thus, the cost of entry is formed out of the book value stated in the Transfer Act and the tax invoice, and the costs directly attributable to the receipt and preparation of assets for the intended use. It should be mentioned that some entities reflect in their accounting not only the cost of entry, but also the amount of depreciation of assets received under economic management. This is not in line with the methodological rules of accounting, including the provisions on calculating the assets' cost of entry.

The useful life-span of tangible and intangible assets, including those held under economic management, is calculated independently by each recipient entity on the date of putting the

asset into operation [6, point 20]. In such cases, the pattern of use, the probability of obsolescence, as well as the actual use of assets prior to their transfer under economic management shall be taken into account. The useful life-span of intangible assets and fixed assets, prior to their transfer into economic management, is calculated based on the founder's documents. The founder must provide the recipient entity with the data on the book value of assets, the remaining useful life-span, etc. When calculating the life-span of fixed assets, the recipient entity can take into account the Fixed Assets Catalogue provisions [13]. The useful life-span is to be stated in the Acts of putting intangible and tangible assets into operation or in the accounting policy of the recipient entity.

Pursuant to the legislation in force [1, Art. 5 (6); 2, Art. 11 (2); 3, Art. 3 (2)], the records of assets received under economic management are kept distinctly according to the provisions of the Law on accounting and financial reporting no. 287/2017 (hereinafter referred to as Law no. 287/2017) [14].

Nowadays, the entities that receive assets under economic management (except for the budgetary institutions) shall keep accounts in line with the accounting regulations applicable to the corporate sector of the national economy [5, 6, 7, 8, 13, 14]. According to the General Chart of Accounts, the assets received under economic management are accounted for in the sub-accounts of synthetic accounts 122 "Land" and 123 "Fixed assets", and the liabilities related to the mentioned assets – in accounts 427 "Long-term liabilities on assets received under economic management" and 543 "Current liabilities on assets received under economic management". The inflow of assets at the recipient entity is accounted for as a simultaneous increase in assets and liabilities [5, point 65; 6, point 141]. When intangible assets are received under economic management, the recipient entity can open separate sub-accounts to the accounts of the specified assets.

The depreciation of assets held under economic management is calculated by the recipient entities for both accounting and tax purposes. In this case they need to apply the rules of the NAS "Intangible and tangible assets", according to which depreciation is calculated for each depreciable asset starting from the depreciable value and its useful life-span. At the same time, the calculation of depreciation of fixed assets for accounting purposes will not be suspended for the assets subject to repairing and upgrade, in storage, in conservation or idle due to other reasons [6, point 63]. Depreciation of fixed assets held under economic management is recorded in sub-account 1248 "Depreciation of fixed assets received under economic management" of account 124 "Depreciation of fixed assets" as a simultaneous increase in current costs/expenses and depreciation of fixed assets. Depreciation is settled upon the outflow of assets and is recorded as a simultaneous decrease in depreciation and in the value of assets returned to the founders, decommissioned or put out of use due to other reasons.

In the process of operating the intangible assets and fixed assets held under economic management, subsequent costs are incurred for maintaining the assets in running order and/or for improving their initial condition. In general, the accounting method for such costs depends on the source of their recovery (recipient entity funds, subsidies, founder's means, etc.), on the method of carrying out the works related to the subsequent costs (in-house or under contract), as well as the costs impact on future economic benefits.

In case of recovering the subsequent costs at the expense of funds owned by the recipient entity, accounting records are kept in the same way as for the entity intangible and tangible assets, taking into account the purposes and the effect of the said costs on the size of the initially assessed economic benefits. According to the provisions of the NAS "Intangible and tangible assets", subsequent costs that do not yield additional economic benefits are recognized as current costs/expenses [6, points 42 and 57], and those that yield additional economic benefits are capitalized by adding them to the book value of the corresponding assets [6, points 43 and 58]. The delivery-receipt acts for the intangible assets/fixed asset upgrading works can be used as basis to capitalize the subsequent costs, which must contain the Commission's conclusions regarding the change in the initial conditions of the improved, repaired, reconstructed or upgraded asset. As there is no approved standard form of the said delivery-receipt act, the entities are entitled to independently develop it, taking into account the mandatory elements of the baseline documents provided for by Law no. 287/2017 [14, Art. 11 (7)].

The accounting method for the subsequent costs related to fixed assets and other tangible assets held under economic management and recovered at the expense of founders' means depends on whether those assets were received free of charge or needed to be returned. Thus, the means received from the founders free of charge to cover the subsequent costs are recognized as subsidies with prior registration in the composition of anticipated revenue and subsequent settlement (after meeting the contractual conditions) to other equity components [5, point 80]. According to the founders' decision, these funds are settled to the unregistered capital or current income. The settlement method for subsidies at publicly owned entities is laid down in the NAS "Equity and liabilities" and researched in the literature [15, p. 45].

In case of receiving means from the founder to recover the subsequent costs, provided that such means would be repaid, the recipient entity must record this operation as a simultaneous increase in cash and/or in other assets and liabilities regarding the assets held under economic management. The subsequent costs recovered at the founder's expense are accounted for in the same way as the costs related to own intangible and tangible assets. The liabilities concerning the recovery of subsequent costs related to the assets held under economic management are to be settled upon the return of assets or in another way agreed upon with the founder.

Regardless of the subsequent costs recovery source and the way of carrying out the related works, after the aforementioned costs have been capitalized, the depreciation of intangible assets and fixed assets is calculated based on the adjusted depreciable value and the remaining useful life-span of those assets. As the accounting regulations in force do not expressly contain provisions regarding the calculation of the adjusted depreciable value, we propose to apply the following calculation algorithm:

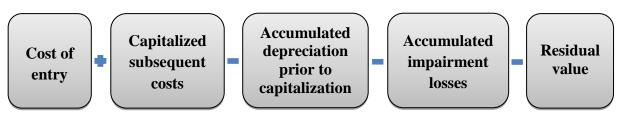


Figure 1. Calculation of the adjusted depreciable value

Source: developed by the authors

It is important to note that problems may arise in practice in terms of setting up the starting date for the calculation of depreciation after capitalizing the subsequent costs. The NASs and other national accounting regulations do not contain clear rules to this end. Therefore, the entity can independently set up the respective date and write it in its accounting policy. In this case, the entity can apply the method for calculating the depreciation of intangible assets and fixed assets laid down in the NAS "Intangible and tangible assets". Pursuant to this method, the starting date for calculating the depreciation of the specified assets is the date of their putting into operation or the first day of the month following the month of their commissioning [6, point 28]. Thus, depreciation of a fixed asset after capitalizing the subsequent costs can begin on the date of capitalization or on the first day of the month following the month when the subsequent costs were capitalized.

The assets held under economic management shall be returned to the founder upon its decision. The accounting method for the return operations is governed by the NAS "Equity and liabilities". According to the NAS provisions, the return of assets held under economic management is accounted for as a simultaneous decrease in liabilities and in the book value of returned assets. If the asset book value, being influenced by the accumulated depreciation, recorded impairment, etc., is lower than the amount of liabilities recognized at the time of receiving the assets, the difference is accounted for as a decrease in liabilities and an increase in current revenues or in the unregistered capital. If, however, the book value of the returned assets is higher than the liabilities due to the capitalized subsequent costs, revaluation surpluses, the difference is settled to the current expenses [5, point 65]. It is worth mentioning that the accounting rules for the operations related to the return of assets held under economic management have a general scope and do not reflect all aspects that may occur in practice. In particular, the accounting regulations do not identify the categories of revenues and expenses to which favorable and unfavorable differences between the book value of the assets (fixed assets) returned and the liabilities thereof towards the founders are to be reported. Thus, domestic entities account for these differences as operating income and expenses or as operating income and expenses related to fixed assets. In our opinion, the ways of accounting for the mentioned differences are neither sufficiently substantiated from a methodological prospect nor do match the criteria for classifying the revenues and expenses as per the entity's types of activities. Moreover, the process of accounting for revenues and expenses relating to favorable and unfavorable differences between the book value of returned assets and the liabilities towards the founders affects the truthfulness and comparability of the information disclosed in financial statements. Hence, we propose the above-mentioned differences to be recognized in the composition of revenues and expenses related to operations with fixed assets (long-term assets) and reflected in accounts 621 "Revenues from operations with longterm assets" and 721 "Expenses related to long-term assets". This accounting method matches the economic content of revenues and expenses related to the operations with fixed assets, enables accurate calculation of financial statement indicators and, subsequently, taking of appropriate managerial and economic decisions by all categories of users of accounting information.

The fixed assets, including those held under economic management, can be decommissioned due to their physical wear and/or obsolescence, destruction caused by natural calamities [6, point 31], as well as when they are kept idle by the recipient entity. The criteria for identifying the idle assets include [16, point 5]:

- non-use of movable and immovable assets in the entrepreneurial activity for a period of more than one and, accordingly, three years;
- irrational use of intangible assets and fixed assets;
- replacement of tangible and intangible assets with more efficient ones;
- lack of production orders for a period longer than one year for movable assets and three years for immovable ones;
- recording a surplus of assets and/or a shortage of personnel for their efficient operation;
- impossibility to operate the assets due to their obsolescence and/or physical wear.

The General Chart of Accounts does not contain express provisions on how to account for the decommissioned fixed assets held under economic management. The entity can independently develop accounting formulae to this end, taking into account the basic principles of accounting and the account operating rules.

In our opinion, upon decommissioning the specified assets, the recipient entity should reflect the following operations in its accounting records:

- settlement of depreciation, impairment losses and book value of decommissioned fixed assets;
- recording the fair value of assets derived from of the decommissioned fixed assets;
- recognition of expenses incurred for decommissioning the fixed assets;
- settlement of liabilities on the assets received under economic management.

It is worth noting that the decommissioning operations of fixed assets held under economic management will be accounted for in the same way as the decommissioning of own assets. Currently, the national tax legislation does not contain separate provisions regarding the taxation of operations with assets held under economic management. We believe that in such cases the following should be taken into consideration:

- the publicly owned assets under the administration of entities, economic management inclusive, are not owned by them and, therefore, shall not be subject to VAT. At the same time, the operations of receiving the assets under economic management and returning them to the founder are to be finalized through tax invoices, which method of drawing up is detailed in the literature [10, p. 29];
- expenses related to depreciation and subsequent costs settled to current expenses are recognized as deductions for tax purposes, since the intangible assets and fixed assets are reflected in the recipient entity's balance sheet and, therefore, meet the Tax Code requirements [17 art. 26<sup>1</sup> and 28].

the way of accounting for the revenues and expenses recorded upon the return of assets held under economic management to the founder and upon the settlement of the related liabilities is not regulated by the normative acts. According to the Ministry of Finance explanations addressed to some economic entities, the mentioned revenues are to be taxed according to the Tax Code rules [17, Art. 21 (1)]. This approach, however, is neither sufficiently substantiated nor fully compliant with the principles of taxation referred to in the Tax Code [17, Art. 6 (8)]. As per our opinion, upon levying a tax on the revenues derived as favorable differences between the book value of the returned assets, which were held under economic management and the liabilities thereof, it is necessary to take into account the reason why such differences have occurred. Thus, if the value of the returned fixed assets is less than the liabilities due to

the calculation of depreciation, the revenues need to be taxed, as depreciation was previously deducted. If the difference arose due to the recognition of impairment losses and the reduction from the revaluation of fixed assets that were not deductible, the revenues should not be subject to taxation.

#### 5. Conclusions

Accounting for the operations with assets held under economic management is neither sufficiently regulated by the normative acts in force nor is comprehensively researched in the literature. Therefore, domestic entities account for such operations differently and not always correctly.

The assets received under economic management must be reflected in the recipient entity's balance sheet, as they match the asset recognition criteria referred to in the national accounting regulations. These assets are to be valuated at the cost of entry, comprising the book value, stated in the Transfer Act and the tax invoice drawn up by the public authority and the costs directly attributable to the receipt and preparation of assets for the intended use.

The recipient entity must calculated depreciation of assets held under economic management for both accounting and taxation purposes, since the specified assets are reflected in its balance sheet.

It is recommended the subsequent costs related to the assets to be accounted for according to the source of their recovery and the method of carrying out their upgrade, reconstruction and reuse.

The return operations of assets held under economic management are accounted for as their exit from the management of the recipient entity. The differences between the book value of assets (fixed assets) held under economic management and the liabilities towards the founders must be accounted for according to their type as follows:

- favorable differences as a decrease in liabilities concerning the assets received under economic management and an increase in revenues from the operations with fixed assets or in the unregistered capital;
- unfavorable differences as a simultaneous increase in expenses relating to fixed assets and liabilities concerning the assets received under economic management.

The costs afferent to the return of assets held under economic management are accounted for in the expenses related to fixed assets.

The Tax Code and other normative acts do not contain separate provisions regarding the taxation of operations related to assets held under economic management. Against this background, the general rules set out in the tax legislation regarding the VAT application and the calculation of income tax from entrepreneurial activity must be complied with. We consider that the operations with assets held under economic management are not VAT-taxable supplies, since these assets are not owned by the recipient entities. Concurrently, the expenses regarding depreciation and subsequent costs are to be recognized as deductible, because the assets held under economic management are both recorded in the balance sheet of the recipient entity and used in entrepreneurial activities. The revenues and expenses recognized following the favorable and unfavorable differences between the book value of the

returned assets and the liabilities towards the founders are to be recognized depending on the reason for their occurrence. Thus, the revenues in the form of favorable differences recognized in the financial accounting following the calculation of depreciation of those assets must be treated as a taxable source, because depreciation was reported to deductions during the fiscal period in which it was calculated. The revenues recorded due to the recognition of impairment losses and the reduction from the revaluation of property, plant and equipment shall be taxed as per the general principles since the mentioned losses and reductions were not recognized as deductions for tax purposes.

The practical implementation of the recommendations related to accounting and taxation of assets held in economic management will enable appropriate accounting for and taxation of the respective operations, truthful calculation of financial statement indicators, as well as the taking of relevant managerial and economic decisions at all management levels of the entity.

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#### Rezumat

În prezentul articol sunt examinate principalele probleme care apar la contabilizarea bunurilor proprietate publică aflate în gestiunea economică a instituțiilor publice, întreprinderilor de stat și municipale, altor entități similare. Astfel de probleme vizează modul de perfectare documentară, recunoaștere, evaluare, stabilire a duratelor de utilizare, precum și de înregistrare în contabilitate a bunurilor primite în gestiune economică. În special, sunt abordate unele aspecte ale contabilității costurilor ulterioare în cazul recuperării acestora pe seama resurselor proprii ale entității, a subvențiilor și mijloacelor primite de la autoritatea publică care a transmis bunurile în gestiune economică. În vederea soluționării problemelor ce țin de contabilizarea diferențelor favorabile și nefavorabile aferente operațiunilor de returnare a bunurilor nominalizate au fost concretizate categoriile de venituri și de cheltuieli la care acestea urmează a fi raportate. Sunt investigate de asemenea unele aspecte fiscale ale tranzacțiilor cu bunurile deținute în gestiune economică, inclusiv particularitățile aplicării TVA, deducerii cheltuielilor și impozitării veniturilor înregistrate ca urmare a realizării tranzacțiilor menționate.

Principalele metode de cercetare utilizate: analiza și sinteza, inducția și deducția, interpretarea și comparația, precum și studiul actelor normative au permis argumentarea unor constatări esențiale pentru soluționarea problemelor relevante aferente cercetării.

Autorii au formulat recomandări care vor contribui la perfecționarea contabilității bunurilor deținute în gestiune economică, vor asigura un grad mai înalt de veridicitate și de comparabilitate a informațiilor din situațiile financiare.

Cuvinte-cheie: gestiune economică, evaluare, recunoaștere, bunuri, proprietate publică, costuri ulterioare, situatii financiare

#### Аннотация

В статье раскрываются основные проблемы учета имущества публичной собственности, находящегося в хозяйственном ведении публичных учреждений, государственных и муниципальных предприятий, других аналогичных субъектов. Данные проблемы касаются порядка документального оформления, признания, оценки, установления сроков использования, а также отражение в учете имущества, поступившего в хозяйственное ведение. В частности, рассматриваются некоторые аспекты бухгалтерского учета последующих затрат, возмещенных за счет собственных средств субъекта, субсидий и средств, полученных от органа публичного управления, передавшего имущество в хозяйственное ведение. Для решения проблемы учета положительных и отрицательных разниц по операциям возврата указанного имущества уточнены категории доходов и расходов, в составе которых данные разницы подлежат отражению. Исследуются также некоторые налоговые аспекты операций с имуществом, находящимся в хозяйственном ведении, в том числе особенности применения НДС, вычета расходов и налогообложения доходов, признанных в результате осуществления данных операций.

Основные использованные методы исследования: анализ и синтез, индукция и дедукция, интерпретация и сравнение, а также обобщение положений нормативных актов позволили аргументировать основные выводы для решения актуальных задач, выдвинутых в процессе исследования.

Авторами сформулированы рекомендации, которые будут способствовать совершенствованию бухгалтерского учета находящегося в хозяйственном ведении имущества, обеспечат более высокую степень достоверности и сопоставимости информации финансовой отчетности.

**Ключевые слова:** хозяйственное ведение, оценка, признание, имущество, публичная собственность, последующие затраты, финансовая отчетность

#### COMPARATIVE ANALYSIS OF MARKETING RESEARCH METHODS AND THEIR IMPACT ON PRODUCT AND SERVICE DEVELOPMENT

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#### Abstract

In the article, the authors conduct a comparative analysis of marketing research methods and examine their impact on the development of products and services. As a result of this analysis, the authors identified the main trends in the field of marketing research, which in the future can serve as the basis for recommendations for optimizing strategies aimed at increasing the competitiveness of products and services in the market. The study identifies key approaches to marketing research, such as market analysis, competitiveness, consumer behavior and others. The authors of the article highlight the advantages and disadvantages of each marketing research method, highlighting their applicability in various scenarios and industries. Particular attention is paid to the influence of marketing research results on product and service development strategies, as well as on management decision-making. The study provides readers with an in-depth analysis of how effective marketing research methods can contribute to successful innovation and increased competitiveness of the entire company. Ultimately, the scientific results obtained by the authors and presented in the article help business representatives, entrepreneurs and marketers make informed decisions based on the results of qualitative and quantitative marketing research, contributing to the long-term success of companies in the market.

Keywords: marketing research, quantitative methods, qualitative methods, product and service development

#### 1. Introduction

The role of marketing research has become indispensable in devising successful business strategies within the ever-evolving market dynamics and dynamic consumer preferences of today. The contemporary business landscape is marked by intense competition, swift transformations, and an atmosphere of uncertainty. In these circumstances, organizations require trustworthy information to make informed decisions, underscoring the pivotal importance of marketing research.

Due to technological advancements and shifts in consumer behavior, the continuous updating of data regarding their preferences, expectations, and trends has become imperative. As consumers grow increasingly discerning and well-informed, they actively seek products and services that cater to their specific needs and expectations. Marketing research serves as a

valuable tool for companies in comprehending consumer requirements and preferences, empowering them to create products and services that resonate with market demand.

Presently, a prevailing issue exists wherein numerous organizations fail to implement effective marketing research methods, resulting in an incomplete grasp of the market and, consequently, the creation of products that may not entirely meet consumer needs. This study puts forth suggestions for marketing practitioners, organizational leaders, and theoretical researchers in the realm of marketing research to refine their approaches to the research process. Furthermore, the research aims to furnish entrepreneurs, marketers, and researchers with an in-depth comprehension of the methods that most suit diverse contexts and business objectives.

### 2. The degree of investigation of the problem at the present time, the purpose of the research

Utilizing marketing research is crucial for companies striving to create successful products and services. It's essential not only to acknowledge the array of existing marketing research methods but also to assess their effectiveness in diverse business environments. This strategy empowers companies to make well-informed decisions based on a profound understanding of market needs and consumer preferences, ultimately enhancing the chances of successful product and service implementation.

The goal of this research is to conduct a comparative analysis of marketing research methods to identify the most effective strategies contributing to the development of products and services in line with the needs and preferences of the target audience. The scientific justification of the effectiveness of specific research methods and tools will enable companies to apply more precise and relevant approaches to marketing research, aiming to enhance the success of product and service development strategies.

Before delving into the description of marketing research methods, it is necessary to examine various concepts related to marketing research (MR), as presented in Table 1.

Table 1. Definitions of the concept of "Marketing Research" according to various authors

Definition	Author
MR - systematic determination of the data set necessary in connection	Kotler Ph. [18,
with the marketing situation facing the firm, their collection, examination,	p. 46]
and reporting of results	
MR - systematic preparation and conduct of various surveys, analysis of	Kotler
the obtained data, and presentation of results and conclusions in a form	Ph., Keller,
corresponding to the marketing task facing the company	K.L. [19, p.
	97]
MR - study of all issues related to the transfer and sale of goods and	Engle, N.H. [6,
services to the consumer, as well as the improvement of "relationships"	p. 280]
between the producer and the consumer, preparation of goods for sale and	
their physical distribution, wholesale and retail merchandising	
MR - a function that connects the producer, consumer, and the public with	American
the marketer through information - information used to identify and define	Marketing

marketing opportunities and problems, generate, refine, and evaluate	Association [1,
marketing actions, as well as monitor the effectiveness of marketing	p. 1]
campaigns and enhance the understanding of marketing as a process	
MR consists of two interconnected parts: researching a specific market	Gerchikova
and the firm's own capabilities to enter and establish positions in the	I.N. [14, p. 31]
market	
MR - systematic collection, display, and analysis of data on various	Golubkov E.P.
aspects of marketing activities	[17, p. 280]
MR - any research activity aimed at satisfying the informational and	Golikova
analytical needs of marketing, including the collection, processing, storage	Yu.B. [16,
of information about identified processes, analysis of collected	p. 84]
information, obtaining theoretically substantiated conclusions	
MR - a function that connects the organization with consumers through	Churchill G.,
information	Brown T. [20,
	p. 280]
MR - systematic collection and processing of information about	ICC/ESOMAR
individuals or organizations using statistical and analytical methods and	International
approaches used in applied social sciences	Code [9, p. 8]

Source: developed by the authors

From the above definitions, it is clear that marketing research is considered as an activity directly linked to the process of strategic development and promotion of products and services in the market. In addition to this, marketing research contributes to solving individual or periodically arising tasks, guides enterprises in understanding the needs and demands of buyers and the market as a whole, and provides company managers with information necessary for making managerial decisions that enhance the efficiency of business operations.

Gathering information about the market conditions, which is possible through marketing research, and interpreting them can help [11, p. 69]:

- Determine market capacity and the amount of goods consumers are likely to purchase.
- Identify market share and understand the company's position among competitors, as well as assess the potential for growth.
- Study consumer behavior and their buying motives.
- Conduct an analysis of competitive behavior.
- Devise the most effective sales funnel.

Thus, it can be noted that the essence of marketing research lies in the systematic analysis of market dynamics, consumer behavior, competitive environment, and macroeconomic factors to obtain critically important information for forming marketing strategies and product development. These studies provide companies with tools to identify market needs, forecast trends, and determine optimal ways to interact with the target audience, contributing to the effective introduction of products to the market and strengthening the company's competitive positions.

#### 3. Applied methods and materials

The authors employed the following scientific methods and materials for their research: theoretical analysis, content analysis, empirical study, and statistical analysis methods. Within

the framework of theoretical analysis, the scientific literature on the research topic was examined, allowing for the formation of a comprehensive understanding of marketing research methods, their classification, advantages, and disadvantages. To obtain empirical data, the authors reviewed methodologies for surveys, interviews, focus groups, or other information collection methods in the context of their application in specific situations. This approach enables the acquisition of more specific data on how various marketing research methods influence the development of products and services. For the processing and analysis of empirical data, the authors utilized statistical analysis methods, which helped identify correlations between different marketing research methods and their impact on product and service development.

#### 4. Results obtained and discussions

The goal of marketing research lies in the systematic analysis of market dynamics, consumer behavior, and the competitive environment to form informed marketing strategies and facilitate successful product development. Examining the objectives of marketing research in more detail, they can be summarized as follows [3, p. 64]:

- Studying consumer behavior and characteristics.
- Collecting and analyzing information on specific marketing issues.
- Evaluating the demand prospects for a product.
- Studying the market in terms of consumer preferences and the competitive environment.
- Assessing the effectiveness of implemented activities.
- Forecasting the future state of the research object and more.

The main tasks corresponding to these objectives include identifying market needs, forecasting trends, and creating optimal strategies for interacting with the target audience, thereby facilitating a sustainable market entry and strengthening the company's competitive positions. The tasks of marketing research include the following [2, p. 47]:

- Determining the direction of the company's environmental development.
- Observing and evaluating relevant events and trends in the environment.
- Identifying favorable and unfavorable events and trends for the company.
- Uncovering opportunities and threats hidden in random events and observable trends.
- Forecasting the future environment of the company.
- Evaluating the scales of various opportunities and threats for the company.
- Ensuring the proper alignment between the environment and the company.
- Assisting the company in responding to external changes by developing marketing strategies.
- Contributing to the correct formation and adoption of marketing decisions in line with environmental trends and emerging opportunities.

Given the broad spectrum of tasks addressed, it can be concluded that marketing research supports various business initiatives with concrete facts and figures, tied to the market and market conditions. Marketing research helps businesses understand their customers, competitors, and the market as a whole. Gaining a deep understanding of market needs through marketing research allows for a more accurate determination of consumer

requirements. This enables companies to create products and services that perfectly align with customer expectations, leading to increased demand and satisfaction.

Marketing research, defined as the identification, collection, analysis, dissemination, and utilization of information, can be utilized by firms for [10, p. 94]:

- Identifying marketing opportunities and problems.
- Formulating marketing actions.
- Monitoring the effectiveness of the company's marketing actions.

In other words, marketing research for a company represents an opportunity to find solutions to marketing problems or tasks.

General directions of marketing research can be divided into two broad groups:

- Market research: aimed at studying market demand and supply, defining the target audience, assessing the competitive environment, etc. [12, p. 73].
- Consumer research: focused on studying the needs, preferences, and behaviors of consumers [13, p. 4].

The direction related to the development of products and services falls under the category of market research. It involves studying the needs and preferences of the target audience, as well as assessing market opportunities for new products and services. Therefore, the goal of marketing research in product and service development is to obtain information necessary for:

- Identifying the needs and expectations of the target audience regarding the product (What do customers need? What problems do they face? What benefits do they value?).
- Evaluating the potential of a new product or service in the market (How much demand is there in the market? What is the likelihood of its success?).
- Comparing a product or service with a competitor's product (What are their strengths and weaknesses? How can they be improved?).

Marketing research in the field of product and service development can be conducted using various quantitative, qualitative, or mixed methods, such as surveys, interviews, focus groups, product testing, protocol analysis, etc.

The authors provide several specific examples of how marketing research can assist businesses in developing new products and services:

- Apple conducted consumer research, revealing a desire for smartphones with larger screens and powerful processors. Based on these findings, the company released the iPhone 6 Plus, which became a highly successful smartphone.
- Netflix conducted market research, indicating a demand for on-demand access to movies and series. Building on these results, the company launched its streaming service, becoming a market leader.
- Tesla conducted company research, highlighting strong engineering and technological capabilities. Using these findings, the company began manufacturing electric vehicles, which became some of the most popular in the world.

Marketing research is an indispensable asset in shaping products and services that resonate with customer demands and prove financially rewarding for businesses. This highlights the significance of delving into market requirements, understanding consumer preferences, and assessing the competitive landscape through effective research methods. By gaining these

insights, companies can navigate risks more effectively and enhance the prospects of successful product implementation, fostering long-term growth and reinforcing their standing in the market.

The fundamental groundwork for an organization's entire marketing endeavors lies in the methodologies and categories of marketing research. These methods involve the application of techniques, procedures, and operations for the empirical, theoretical, and practical exploration and analysis of the marketing environment within which a company functions [8, p. 8].

There are two main categories of methods based on the way information is obtained:

- Methods for collecting primary data field studies conducted for specific research purposes and for the first time.
- Methods for collecting secondary data desk research that allows the accumulation of information already gathered and studied for other purposes in the context of different research.

The methods of conducting marketing research are often identified with methods of collecting primary information. Associating marketing research with primary information collection emphasizes their importance in the process of developing unique marketing strategies for the company and improving business processes. The classification by types underscores the diversity of approaches depending on the research objectives and goals in product and service development. These methods have their own classification based on goals and mode of operation: quantitative and qualitative.

Quantitative methods of marketing research enable obtaining precise data in digital form, for example, determining the number of buyers or visitors [7, p. 49]. Examples of quantitative methods of marketing research include surveys, experiments, factor analysis, and partially questionnaire surveys.

Survey methods are one of the most common quantitative methods in marketing research. They enable the collection of data on consumer opinions, behaviors, and preferences. Experiments help identify causal relationships between different factors, while factor analysis reveals common factors underlying various indicators.

Thus, quantitative methods of marketing research can be applied to assess market size, market structure, and market share; explore consumer needs, preferences, and behaviors; evaluate the effectiveness of marketing campaigns such as advertising, promotion, and sales incentives.

Qualitative methods identify consumer needs, opinions, motives, etc. [4, p. 390]. When conducting qualitative research, direct contact with buyers is assumed through in-depth interviews, focus groups, and similar approaches. Through qualitative research, one can learn about consumers' desired products and services, evaluate the quality of currently offered products and services, and more. The obtained data help determine directions for improvement in service quality, products, and emphasize advantages in advertising campaigns.

In-depth and expert interviews allow obtaining detailed and profound data on respondents' opinions, experiences, and emotions. Interviews are more extended and detailed compared to

regular interviews. Focus groups enable gathering data on the opinions and behaviors of a group of people.

Additionally, it's crucial to highlight that qualitative approaches in marketing research offer the means to explore consumer needs and motivations that quantitative methods might overlook. These qualitative methods yield valuable insights, instrumental in shaping the development of innovative products and services. By delving deeper, they provide a richer understanding of how consumers perceive and respond to various marketing campaigns.

The authors present the advantages and disadvantages of marketing research related to quantitative and qualitative methods in Table 2.

Table 2. Advantages and disadvantages of quantitative and qualitative methods in marketing research

	marketing research			
Method	Advantages	Disadvantages		
Quantitative Methods	<ul> <li>Accuracy and reliability. Quantitative methods provide accurate and reliable data that can be used for informed decision-making.</li> <li>Scalability. Quantitative methods allow reaching a large number of respondents, providing representative data about the target audience.</li> <li>Data processing. Quantitative data is easily processed using statistical methods, enabling the identification of patterns and trends.</li> </ul>	<ul> <li>Inflexibility. Quantitative methods demand strict adherence to a predefined research plan, limiting flexibility.</li> <li>Limited depth. Quantitative methods may lack the depth needed to understand consumer motives and behavior thoroughly.</li> <li>Costs. The involvement of a large number of respondents in quantitative research can lead to higher costs.</li> </ul>		
Qualitative Methods	<ul> <li>Depth of understanding. Qualitative methods allow gaining a deep understanding of the motives and behavior of consumers.</li> <li>Flexibility. Qualitative methods are flexible and can adapt to changing conditions.</li> <li>Collection of qualitative data. Qualitative methods enable the collection of data that cannot be obtained through quantitative methods, such as subjective opinions, experiences, and emotions.</li> </ul>	<ul> <li>Inaccuracy and unreliability. Qualitative data's accuracy is compromised by the subjectivity of both the researcher and respondent.</li> <li>Inability to scale. Qualitative methods struggle to survey a sizable respondent pool, hindering the acquisition of representative data.</li> <li>Costs. Qualified researchers and respondents contribute to the costliness of qualitative research.</li> </ul>		

Source: developed by the authors based on [5]

The selection of marketing research approaches hinges on the particular objectives of the study. When precision in capturing quantitative characteristics of the target audience is

paramount, quantitative methods emerge as the optimal choice. Yet, if the research seeks a profound comprehension of consumer motives and behavior, relying solely on quantitative methods may prove inadequate. In such instances, qualitative marketing research methods become essential. Additionally, there exist hybrid approaches, like hall tests, home tests, and mystery shopping, which integrate both quantitative and qualitative elements [15, p. 11].

Hall tests are effective for examining extensive groups of individuals and monitoring trends. A designated venue is arranged where a considerable number of participants, ranging from one to several hundred, engage in product testing and complete a provided questionnaire.

Home tests involve product evaluation conducted by the research group in their homes, with questionnaires frequently distributed via email or completed on a designated website.

Mystery Shopping is conducted using undercover clients or secret shoppers who help assess the level of service.

The authors advocate for thorough marketing research that incorporates both qualitative and quantitative methods, along with hybrid approaches as necessary. In such instances, the outcomes of one method will either corroborate or challenge the findings of the other, introducing objectivity and providing an additional layer of scrutiny to ensure the research's quality. Potential combinations of marketing research methods are detailed in Table 3.

Table 3. Features of combining marketing research in product and service development

Marketing research methods	Application features for product and service development	Possible combinations with other methods	
Surveys and	Collect quantitative data on	Combined with focus groups to	
Questionnaires	customer preferences and needs.	gain a deep understanding of	
	Ideal for measuring statistically	motivations and context behind	
	significant trends and preferences.	responses.	
Focus Groups	Provide qualitative insights into	Can be combined with online	
	opinions and feedback. Applied to	surveys for broader coverage and	
	identify non-obvious aspects	additional data.	
T .	influencing product development.		
Interviews	Allow in-depth exploration of		
	individual customer opinions and experiences. Applicable for	for additional insights into online consumer behavior.	
	experiences. Applicable for identifying personal preferences.	consumer behavior.	
Observation	Provides data on actual customer	Combined with social media	
Obscivation	actions in a natural environment.	analysis for a deeper understanding	
	Suitable for identifying hidden	of discussions and feedback.	
	consumer behavioral patterns.	of discussions and recuback.	
Data analysis	Used for processing large volumes	Combined with qualitative research	
and statistics	of data, identifying correlations, and	to refine the interpretation of	
	highlighting statistically significant	statistical findings.	
	trends.		
Ethnographic	Involves deep immersion in the lives	Combined with online monitoring	
Research	of the target audience to understand	to track long-term changes in	
	their cultural and social contexts.	consumer behavior.	

Source: developed by the authors

Marketing research is a comprehensive set of methods that help capture a complete picture and draw accurate conclusions about the current situation, providing reliable forecasts for the future.

Exploratory efforts geared towards the development of novel products, goods, or services should focus on key inquiries: What are the consumer needs and desires? What market opportunities exist? What are the strengths and weaknesses of the company? These responses play a pivotal role in guiding the company toward understanding which products, goods, or services will find traction in the market and yield profits. The particular research approach necessary for crafting new products, goods, or services is contingent upon the company's unique attributes and the nature of the product in development.

With the advancement of new technologies and the digitization of marketing, marketing research has become more dynamic and evolved into more sophisticated and comprehensive methods. Among the techniques gaining widespread use in the research market are methods like SPACE and QUEST, as presented in Table 4.

Table 4. Characteristics of marketing research techniques

Technique	Content
SPACE (strategic position and action evaluation)	Diagnoses the firm's position in the market space, enabling companies to assess their current strategic position and develop strategies for future growth.
QUEST (quick environment scanning technique)	Operational method for scanning the external environment, providing rapid acquisition of key information about factors influencing the company's business processes.
STEEPLED (social technological economic environmental political legal ethical demographic)	Marketing tool for identifying factors affecting a company's business, encompassing social, technological, economic, environmental, political, legal, ethical, and demographic aspects. The method comprehensively determines the impact of these factors on the company's business processes and strategies, allowing for forecasting changes in the business environment and making informed strategic decisions.
SOSTAC (situation analysis, objectives, strategy, tactics, action, control)	A structured approach to developing marketing strategies and planning business processes.
14P (probing, packaging, public relations, people, processes, power, partition, prioritize, position, performance, penalty, perception, preservation, profitability)  5W Methodology by Sherrington	Examines the complex of 14 marketing elements in enhancing economic activities using new information technologies (analyzing the performance of online stores, websites, electronic platforms, researching PR measures on social networks, etc.).  A tool that identifies the needs of the target audience to develop the most effective marketing strategies.

Source: developed by the authors based on [11]

Each presented marketing research technology has a specific impact on the process of developing company products and services. In other words, these techniques help marketing researchers obtain data and insights about market needs, target audience characteristics, and the external environment. This, in turn, enriches strategic planning and product development. The process of collecting and analyzing data using these techniques provides marketers with valuable information about preferences, brand perception, the competitive landscape, and current market trends.

The SPACE technique facilitates a strategic position analysis, aiding in the identification of optimal directions for business development. This analysis directly influences the selection and formulation of products and services. The QUEST technique, on the other hand, facilitates a prompt response to changes, a critical capability for adapting products and services to meet current market demands or explore new markets. The STEEPLED technique contributes to a comprehensive understanding of the external environment, delineating the requirements for products and services based on contextual factors. Meanwhile, the SOSTAC technique ensures a systematic approach to the development of marketing strategies, thereby directly impacting the formulation of product and service strategies.

The 14P methodology offers a holistic approach to management and development, encompassing factors related to products, such as packaging, positioning, production processes, and consumer perception. This methodology significantly influences the development of both products and services. Additionally, Sherrington's "5W" methodology, addressing What, Why, Where, When, and Who questions, ensures a comprehensive understanding of key aspects influencing the development of products and services. This encompasses factors such as purpose, timelines, target audience, and other critical considerations, thereby contributing to informed decision-making in product and service development.

Thus, these technologies serve as tools for strategy formation, providing companies with a deeper understanding of their target audience and market dynamics. In the context of comprehensive use, these methods form a balanced and interconnected approach to marketing research. Each technique complements the others, creating a holistic understanding of market needs, target audience preferences, and external factors influencing the business.

#### 5. Conclusions

Marketing research plays a comprehensive role in the development or enhancement of products and services, ensuring the reliability of data and conclusions. This reliability is particularly valuable when addressing intricate problems and strategic objectives. The integration of marketing research instills confidence in companies' decision-making, guaranteeing that the resultant products and services align with genuine market requirements.

In generating ideas for new product development, prevalent marketing research methods include focus groups, in-depth or expert interviews, surveys, questionnaires, and others. The rationale behind choosing these methods lies in their capacity to offer diverse perspectives on understanding consumer demand, behavioral aspects, and market fluctuations. Their combined application creates a holistic picture, contributing to a more exhaustive and effective generation of ideas for new products.

A comparative analysis of marketing research methods reveals that the concurrent use of multiple methods can be more effective than relying on individual methods alone. The incorporation of quantitative, qualitative, and mixed methods facilitates a comprehensive grasp of market dynamics.

Research demonstrates that various methods and techniques of marketing research exert a multifaceted impact on the development of products and services. In essence, the efficacy of methods may vary depending on the context and characteristics of the target audience. Consequently, it is underscored that certain methods are more suitable for practical implementation based on the company's resources and research objectives.

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#### Rezumat

În articol, autorii efectuează o analiză comparativă a metodelor de cercetare de marketing și examinează impactul acestora asupra dezvoltării produselor și serviciilor. În urma acestei analize, autorii au identificat principalele tendințe în domeniul cercetării de marketing, care în viitor pot servi drept bază pentru recomandări privind optimizarea strategiilor ce vizează creșterea competitivității produselor și serviciilor pe piață. Studiul identifică abordări cheie ale cercetării de marketing, cum ar fi analiza pieței, competitivitatea, comportamentul consumatorilor și altele. Autorii articolului evidențiază avantajele și dezavantajele fiecărei metode de cercetare de marketing, evidențiind aplicabilitatea acestora în diverse scenarii și domenii. O atenție deosebită este acordată influenței rezultatelor cercetării de marketing asupra strategiilor de dezvoltare a produselor și serviciilor, precum și asupra luării deciziilor manageriale. Studiul oferă cititorilor o analiză aprofundată a modului în care metodele eficiente de cercetare de marketing pot contribui la necesitățile de succes și creșterea competitivității întregii companii. În cele din urmă, rezultatele științifice obținute de autori și prezentate în articol ajută reprezentanții afacerilor, antreprenorii și specialiștii în marketing să ia decizii informate pe baza rezultatelor cercetărilor de marketing calitative și cantitative, contribuind la succesul pe termen lung al companiilor pe piață.

Cuvinte-cheie: cercetare de marketing, metode cantitative, metode calitative, dezvoltare de produse și servicii

#### Аннотация

В статье авторами проводится сравнительный анализ методов маркетинговых исследований и рассматривается их влияние на развитие продуктов и услуг. В результате данного анализа авторами были выявлены основные тренды в области маркетинговых исследований, что в дальнейшем может служить основой для рекомендаций по оптимизации стратегий, направленных на повышение конкурентоспособности продуктов и услуг на рынке. В исследовании определены ключевые подходы к маркетинговым исследованиям, такие как анализ рынка, конкурентоспособности, поведения потребителей и другие. Авторы статьи выделяют преимущества и недостатки каждого метода маркетинговых исследований, подчеркивая их применимость в различных сценариях и отраслях. Особое внимание уделено влиянию результатов маркетинговых исследований на стратегии развития продуктов и услуг, а также на принятие управленческих решений. Исследование позволяет читателям рассмотреть результаты глубокого анализа того, как эффективные методы маркетинговых исследований могут способствовать *успешному* внедрению инноваиий и конкурентоспособности всей компаний. В конечном итоге научные результаты, полученные авторами и представленные в статье помогают представителям бизнеса, предпринимателям и маркетологам принимать обоснованные решения на основе результатов качественных и количественных маркетинговых исследований, способствуя долгосрочному успеху компаний на рынке.

**Ключевые слова:** маркетинговые исследования, количественные методы, качественные методы, разработка продуктов и услуг

### PRIORITIES OF PROFESSIONAL JUDGMENT IN ORGANIZING ACCOUNTING

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#### Abstract

The profession of an accountant has always been not only essential but also significant, and recently, it has gained additional prestige. Accountants play a crucial role in organizations, reflecting all financial transactions in accordance with the legislation and regulatory framework applicable to micro and macroeconomic entities. The chief accountant of a company possesses characteristics such as good competence, confidentiality, high professionalism, quality of work and control, objectivity and integrity. They also demonstrate reliability and a high level of trust within the team and at various management levels.

In the context of reforming accounting and auditing in the Republic of Moldova, in addition to regulatory frameworks, there arises the question of the accountant's professional judgment, representing the opinion expressed by a professional accountant about the economic situation to make effective managerial decisions.

In this article, the author aims to characterize the category of professional judgment of the accountant and define the functional content of a specialist in this field.

**Keywords**: profession, professionalism, accounting, audit, knowledge, competence, accountant's professional judgment

#### 1. Introduction

Modern economy is impossible without the existence of a well-organized accounting system, aligned with the requirements of the legislative and regulatory framework of the state. The Law on Accounting and Financial Reporting (287/2017) [1] and National Accounting Standards (Order of the Ministry of Finance of the Republic of Moldova no. 48 dated 12.03.2019) [2] provide for significant changes regarding the professional activities of accounting specialists. This increases both the authority and responsibility of accounting professionals.

Accounting specialists must possess the following specific qualities: diligence, care, and integrity; accuracy in calculations (in mathematics); collegial cooperation; emotional stability; an openness to novelty; as well as energy, moral upbringing, and persistence in their field.

Qualification improvement and acquiring new knowledge during the internationalization of the accounting system are highly significant factors which no accounting department or accounting professional can function without. The accumulated knowledge forms the intellectual wealth of human society in any field. Values today are primarily created through increased productivity and innovative implementations - in other words, through the utilization of knowledge and its application in practical activities. Knowledge is achieved through the excellence of the state's educational policy and the improvement of its quality.

The development of education in the field of accounting involves preparing qualified professionals in accounting and auditing who can understand and apply professional concepts and rules in the formation of accounting information and financial reporting. In their professional practice, every accounting professional strives to enhance their experience, opting for the best combination of accounting or auditing techniques and methods. While the qualifications of an accountant are studied at specific courses in colleges and higher education institutions, professionalism is acquired through independent qualification enhancement and the continuous accumulation of additional knowledge and extensive practical experience in one's accounting career.

In the article, the author focuses attention on the substantive nature of a new scientific category in the field of accounting – the professional judgment of an accountant. This category is associated with the multifaceted and multifunctional activities carried out under the compliance with the requirements of international and national standards for accounting and auditing. The author believes that the time has come to establish a specific regulation, accompanied by a comprehensive professional description, to delineate the level of professional judgment for an accountant, including its significance and evaluation in terms of knowledge and experience within society.

#### 2. The degree of investigation of the problem currently, and purpose of research

The system of reforming accounting and auditing, viewed through the lens of international and national standards, as well as specific national economic development factors, shapes a new, broader scientific approach to the level of demanded knowledge and professionalism. The birth of a new category of expert assessment is manifested through the concept of "professional judgment of an accountant."

In recent times, increasing attention has been given to the issues of professional judgment by scholars and experts at both national and international levels, such as L. V. Grabarovschi, G. M. Bejan, N. P. Zlatina, M. A. Manoli, A. D. Nederiţa, V. S. Bukur (Moldova), A. A. Shaposhnikov, T. Z. Sinitsyna, S. A. Nikolaeva, V. D. Andreev, A. D. Sheremet, V. Ya Sokolov (Russia), N. V. Gurina, N. S. Len, N. S. Marushko, T. M. Storozhuk, I. I. Melnichiuc, T. L. Tarasova (Ukraine), and others.

In the research conducted by these scholars, amidst evolutionary changes in the field of accounting, the aspect of demand in professional judgment is interpreted in terms of the functionality of the professional and their responsibility for the quality of accounting and reporting. Therefore, in our opinion, there is still room in the research on the categorization of professional judgment, from the perspective of the new professional personality in public activities.

#### 3. Applied methods and materials

The methodological algorithm of the conducted research in the article is built upon fundamental and specific developments in the field of conceptual phenomena, classification, evaluation, recognition of economic and accounting elements, and the use of tools, rules, techniques, and methods in accounting and financial reporting [3, 4]. The scientific research extensively employs the dialectical method of cognition with its inherent fundamental elements: the priority of the primary over the secondary, the use of the particular and the general, development from simple to complex, cause and effect, and others. Through the prism of dialectical perception of the world, the individual, as a person and a specialist in a particular field, evolves, becoming a professional in the ever-changing activities of everyday life. A simple accountant transforms into a professional with a multifaceted judgment in the formation of accounting information and the preparation of financial and non-financial reports at the micro and macroeconomic levels of management.

The author uses scientific methods such as synthesis and analysis, induction and deduction to elucidate the process of forming accounting professional judgment. The research also allocates a significant place to observation, comparison, grouping, and selection of information. In the examination of the professional training of accounting and auditing specialists and the formation of their multifaceted judgment in decision-making, the authors use their rich experience in preparing highly qualified professionals in the field of accounting and control, from student benches to achieving the level of professional judgment as a chief accountant, enterprise manager, educator in the educational system, Doctor, Doctor of Sciences (habilitat) and professor. The author of the article has studied the works of domestic and foreign scholars, as well as the system of legislative and normative acts and their practical application in several enterprises in the Republic of Moldova.

#### 4. Results obtained and discussions

The professional judgment of accountants and auditors is based on their knowledge, qualifications, and work experience, serving as the foundation for their subjective decisions in circumstances where unequivocally determining the course of action is not possible.

The formation of professional judgment can be schematically outlined in the following sequence:

- Information related to professional activities reaches the accountant or auditor.
- Through the performance of their professional duties, data processing transforms into professional judgment regarding the studied information.

Typically, the use of professional judgment as a priority in accounting is stipulated by international and national accounting and auditing standards. In such cases, professionals make standard decisions based on the conditions outlined in accounting policies and other elements of the financial policy of the economic entity. However, as known, in every norm, there can often be hidden "pitfalls" — unforeseen circumstances requiring a timely and non-standard approach to resolution. In such circumstances, there comes into play the professional judgment of the accountant or auditor.

As it is known, the boundaries of the application of professional judgment in accounting and auditing are not defined by regulatory acts, implying that they should be determined by subjects of professional judgment in internal regulatory documents.

Unfortunately, at present, the extensive functional content of the accountant's professional judgment is viewed only through the prism of multifaceted requirements expressed in what the accountant "must know" and what they are "obliged to do"—their responsibilities. According to V. D. Andreev and I. V. Lisikhina, the professional status of an accountant entails knowledge of about 20 groups of cognitive and executive rules, methods, techniques, and norms to perform their functions. Among them are knowledge of civil, financial, tax, economic, labor law; legislation in the field of accounting, reporting, and its analysis; rules and norms of labor protection, etc. [8, pp. 54-55].

Simultaneously, the professional status of the chief accountant obliges them to perform an extensive list of both standard and non-standard tasks. These include: organizing the accounting of the enterprise's activities, formulating accounting policies, as well as tax and contractual policies; exercising control over the preservation of the organization's assets; ensuring financial stability and solvency of the enterprise; and other types of obligations of accounting, analytical, financial, and administrative nature. Due to such extensive responsibilities, the position of the chief accountant and their deputy is considered a managerial role [8, pp. 47-52].

All the mentioned elements of professional judgment underscore the multifaceted role it plays in guiding the effective activities of the economic entity in the right direction, ensuring correctness and timeliness.

The priority factors influencing the formation of the accountant's professional judgment, from our perspective, include:

- Personal specific qualities required for a professional accountant being hardworking, diligent, honest, caring, and precise in all calculations and financial and economic indicators related to the entity's activities.
- General civic qualities of the specialist being honest, objective, impartial, competent, independent, and maintaining confidentiality in their career.
- Adherence to professional ethics, high moral character in behavior and relationships
  within the team, regardless of conflicting interests between the owner, the state, and
  personal interests. This involves embodying qualities such as diligence, tact, and
  intelligence as outlined in international codes of professional ethics for accountants
  and auditors.
- Constant pursuit of novelty, perfection, and searching for the most rational methods and rules in work to evenly distribute working time without overloading and achieve high performance results.
- Possession of a worthy level of professional and practical knowledge in organizing current accounting (document circulation, accounting registers, chart of accounts, financial reporting), economic analysis of the company's performance indicators, accounting management and its labor regulation.

The entire complex of priority listed factors is an integral part of the multifaceted structure of the accountant's professional judgment in the conditions of the market economy's development.

The significance and necessity of developing professional judgment have been expressed in the research of both domestic and foreign scholars. According to Ukrainian researchers I. I. Melnichiuk and O. O. Lopatovska, due to constant reforms and changes in accounting and taxation legislation, accountants encounter problematic issues in their work that require timely solutions, even if these problems may not be directly regulated by legal norms. In such conditions, the role and importance of the accountant's professional judgment significantly increase. It is based on acquired knowledge, personal opinions, skills, achievements, and professional intuition, serving as a kind of enhancement to professional capabilities [7, p. 138].

Another Ukrainian scholar, N. S. Marushko, has the opinion that in modern domestic practice, professional judgment should be disclosed at the international level. The thoughts of a professional accountant are considered invaluable, impartial, and selfless judgments about the facts of the economic life of the enterprise. Thus, the author views the professional judgment of an accountant as a tool to ensure the economic security of the enterprise [9, p. 320].

When discussing the circumstances that accountants should consider in their work, regulatory documents (46%) and professional judgment (20%) play a significant role. The guiding principles for accountants in forming their professional judgment are the principles of financial reporting: understandability, relevance, reliability, and comparability [8, p. 55].

In addition to the principles for financial reporting, I. I. Melnichiuk and O. O. Lopatovska identify several principles for forming the accountant's professional judgment, including:

- Continuous self-improvement through training at various seminars, courses, conferences, and other national and international forums.
- Argumentation, achieved by justifying all processes and operations based on legislative arguments, practical methodologies, and confirmation through calculations.
- Reliability, ensuring that the data on which professional judgment is based are reliable.
- Completeness, ensuring that the data forming the basis of professional judgments are complete and timely [7, p. 140].

The opinion of L. V. Grabarovschi and G. M. Bejan is in agreement with the idea that professional judgment regarding the rules of organizing and conducting accounting, as well as the choice of accounting methods, depends largely on the category of economic entities to which the enterprises belong and their industry-specific features. This consideration determines the accounting system, the applicable accounting standards (National or International), and the composition of the presented financial statements (abbreviated, simplified, or full) [5, p. 18].

In their research, Grabarovschi and Bejan conclude that the accountant's professional judgment allows for an objective reflection of the state of accounts receivable of a specific economic entity. Considering professional judgment as a driving force for the development and further improvement of regulatory frameworks for accounting, they argue that it is crucial for choosing the strategy and tactics of accounting to provide information to interested users [5].

Thus, professional judgment of the accountant should be understood as the search and selection of the most rational methods and approaches to disclose reliable information about

the financial state for the sustainable development of the economic entity. In Romanian, professional judgment of the accountant is translated as "Rationament professional contabil," which inherently expresses rational content, that is the most effective, favorable actions, methods, and options used in the interests of economic management.

The high-quality content of the accountant's professional judgment is most often demonstrated through the selection of the most rational and effective methods, techniques, and rules for organizing and conducting accounting when forming and adjusting accounting policies. Competence and professionalism of the accountant are manifested in these choices by identifying the most favorable factors influencing the profitability of the enterprise.

The preparatory organizational work for developing and providing the company with primary documents and accounting registers, creating a working plan for accounting accounts, distributing accounting responsibilities among accounting staff, compiling functional characteristics and work schedules for each, as well as developing the overall annual plan (program) for the work of the entire accounting department are significant and reflect the quality of the accountant's professional judgment. Pertinent professionalism issues include conducting preliminary operations with high quality before preparing and presenting the company's financial statements, such as inventory of assets and calculations, closing income and expense accounts, managerial accounts, transferring shares of income and expenses from future periods to current ones, and correcting possible errors in accounting.

A significant role in professional judgment is played by questions related to the effective use of recognition and measurement criteria for accounting elements, establishment of materiality thresholds, and valuation reserves. Rationalism in accounting, as reflected in professional judgment, is demonstrated through the selection of the most appropriate methods, techniques, and accounting options recommended by national accounting standards (NSBU in Ukrainian), for example, in the depreciation of intangible and tangible assets, their evaluation, determining the cost of finished products, sold goods, wear and tear of PPE, etc. In this regard, a professional accountant, when choosing a specific method of accounting option for accounting elements, needs to calculate and analyze its profitability and effectiveness on the financial condition of the enterprise beforehand. Such requirements are outlined in NSBU "Accounting Policies, Changes in Accounting Estimates, Errors, and Subsequent Events" and other standards of international and national significance.

Unfortunately, in accounting practices, there are numerous negative factors and shortcomings in the rational approach to the quality of organizing accounting due to insufficient levels of professional judgment.

From our perspective, the inadequacy of professional judgment is related to the absence of normative regulation on this matter both at the top levels of government and at the grassroots level (enterprises). Currently, there are no prescribed standards for the required level of competence, knowledge, and work experience for accounting professionals in any normative or legislative act.

There is a lack of provisions regarding the rights, responsibilities, and duties of the chief accountant, as it was during the Soviet era. Moreover, the role of the chief accountant at the enterprise is often underestimated and underevalued.

Dr. V. P. Fulga rightly points out in his article that the Law on Accounting and Financial Reporting (no. 287 of December 15, 2017) lists only managerial positions of economic

entities of various categories and institutions, which are responsible for the state and quality of accounting. At the same time, it overlooks the main figure in the professional accounting field - the chief accountant. This is a true "paradox in the accounting profession," as noted by the author. The law enumerates significant and important functional responsibilities of accountants, not only in current accounting and financial reporting but also in planning and budgeting future economic indicators for the entity. However, the job classification in the Republic of Moldova and the Employment Standard for "Accountant" assign an inadequate role to accountants. Despite, accounting being recognized as an independent science for over 100 years and the training of specialists in this field gaining the highest recognition in educational and research institutions, the law implies that anyone with an economics background can be considered an accountant [6, p. 82]. This directly undervalues the role of the accountant's professional judgment!

Not all economists can possess the specific knowledge of the accounting field. Only a professional who has received education in the field of accounting and audit, through acquiring extensive knowledge in a range of accounting, analytical, and financial-economic subjects, can be considered an accountant or chief accountant.

The career ladder for accountants is multi-tiered, encompassing various levels such as: a junior specialist (accountant); a head of a department (accountant for a specific accounting area); a head of a separate accounting unit (senior accountant for production, commercial operations, payroll, etc.); a chief accountant and their deputy at an enterprise or conglomerate; a public service employee, and more. It is important to note that the career ladder for accountants depends on the type and categorization of the enterprise (micro, small, medium, large, etc.). At each step of the career ladder, the management object becomes more complex, the level of responsibility increases, the range of external relationships expands, the nature of incentives for upward mobility changes, and skills and work style are developed.

Every professional strives for improvement in their business practice by reproducing and replenishing knowledge, seeking to refine their experience, and choosing rational methods of work. All of this leads to the formation of a new accounting category called "professional judgment of the accountant."

It seems to us that in order to elevate the role and significance of professional judgment, it is advisable to develop a set of priority factors through a special regulatory act, specifying requirements for the quality of the preparation and modification of the accounting policies of the enterprise, without allowing a kind of formalism in their content. Additionally, it is necessary to raise the threshold, the evaluative status of the chief accountant as the highest expert in accounting, analytical and control activities, and decision-making, by approving a special regulation on the qualitative content of the accountant's professional judgment, taking into account its prestige in organizing accounting and financial reporting.

#### 5. Conclusions

In the process of reforming accounting in Moldova, alongside with regulatory changes in accounting, there arises the question of the professional judgment of accountants. This professional judgment represents the objective opinion expressed by a professional accountant

about the economic and financial situation and its utility for making effective management decisions.

In order to improve the quality of professional judgment in accounting, refine its characteristics, highlight its role and significance, and identify priority factors in the rational organization of accounting and reporting, we consider it appropriate to recommend the following measures:

- 1. Due to the absence of a reliable and comprehensive professional description of the role and significance of the position of the chief accountant of an enterprise in the Law on Accounting and Financial Reporting, as the main expert in performing accounting, analytical, and control operations, determining the financial condition of the enterprise, and making decisions for sustainable development, the Ministry of Finance of the Republic of Moldova should develop a special regulation outlining the functional role, rights, responsibilities, and duties of the chief accountant, taking into account their qualities in the field of professional judgment.
- 2. Considering a creative approach to improving the category of professional judgment of accountants, it would be appropriate to develop a separate regulation that provides a comprehensive characterization of the priority factors shaping its content, ultimately influencing the enhancement of the quality of accounting and its organization as a whole.
- 3. To improve the quality of the preparation and amendment of accounting policies, as well as tax and contractual policies, through a creative analytical approach to the selection of the most favorable methods, options, and rules for the enterprise, we recommend developing a special regulation as a template for rational guidance in achieving profitable business results.

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#### Rezumat

Profesia contabilă a fost întotdeauna necesară și importantă, iar în ultima vreme a devenit și prestigioasă. Contabilul este la curent cu diferite probleme economice ale întreprinderii, deoarece acesta poartă obligațiunea de a înregistra totalitatea operațiunilor financiare conform cerințelor bazei legislative și normative aferente subiecților cu caracter micro și macroeconomic. Contabilul-șef al întreprinderii dispune de înaltă competență, confidențialitate, comportament profesional, profesionalism, calitate în muncă și control, obiectivitate și decență. El se caracterizează, de asemenea, prin fiabilitate și prezența încrederii majore în echipă și la alte niveluri de management.

În condițiile reformării contabilității și auditului în Republica Moldova, alături de reglementări, în sistemul contabil apare problema aferentă aprecierii și recunoașterii raționamentului profesional contabil, care constituie o opinie exprimată de profesionistul contabil referitor la situația afacerii pentru luarea deciziilor actuale manageriale.

Autorul prin articolul dat încercă să actualizeze categoria de raționament profesional contabil și să determine plenitudinea funcțională a specialistului în direcția data de activitate.

Cuvinte-cheie: profesie, profesionalism, contabilitate, audit, cunoștințe, competențe, raționament profesional contabil

#### Аннотация

Профессия бухгалтера всегда была нужной и важной, а в последнее время она стала ещё и престижной. Бухгалтер находится в курсе всех дел предприятия, так как он должен отразить в учёте все финансовые операции на основе требований законодательной и нормативной базы, действующей для субъектов микро и макроэкономического характера. Главному бухгалтеру предприятия присущи хорошая компетентность, конфиденциальность, высокое профессиональное поведение, профессионализм, качество работы и контроль, объективность и порядочность. Ему свойственны также надёжность и наличие высокого доверия в коллективе и на других уровнях управления.

В условиях реформирования бухгалтерского учёта и аудита в Республике Молдова, наряду с нормативным регулированием бухгалтерского учёта, возникает вопрос о профессиональном суждении бухгалтера, которое представляет собой мнение, выражаемое профессиональным бухгалтером о хозяйственной ситуации для принятия действующих управленческих решений.

В данной статье автор попытается охарактеризовать категорию профессионального суждения бухгалтера и определить функциональную наполняемость специалиста данного направления деятельности.

**Ключевые слова:** профессия, профессионализм, бухгалтерский учет, аудит, знания, компетентность, профессиональное суждение бухгалтера

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## CORRELATION AND REGRESSION ASSESSMENT OF THE MAIN FACTORS INFLUENCE ON THE CHANGE IN THE LEVEL OF THE NET PROFITABILITY OF SALES

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#### Abstract

Ensuring the positive dynamics of the agricultural organizations development taking into account their specifics is an extremely difficult process. It is due to the seasonal nature of the activity and significant dependence on external factors. In this regard, it requires high efficiency of management personnel, which is expressed in the quality of the development strategy being designed, the ability to analyze the current results achieved in their correlation, based on the results of the analysis, to make adjustments to the development strategy and current activities. To solve these problems, a system of indicators is important, which will make it possible to draw objective conclusions on the analysis of the relevant subject of research.

In the proposed article, the author uses the correlation method to analyze and study the impact on the profitability of sales of such indicators as labor productivity, return on capital of production assets, turnover of working capital, labor capital ratio, current liquidity ratio, investments per 1 hectare of agricultural land.

For the first time, the object of the study was twenty peasant farms in the region.

As a result of the analysis, a forecast of the level of management efficiency dependence of on selected factors was made, calculated on the database of the studied enterprises in the region.

The use of the systematic analysis of correlations will make it possible to make adjustments to current activities and thus ensure its positive dynamics and achieve the ultimate goal of ensuring financial stability.

**Keywords**: capital-labour ratio, capital return, current liquidity ratio, growth rate of production and sales, gross profit, net profit, labour productivity, net profitability, turnover of working capital, investments

#### 1. Introduction

A prerequisite for high indicators of agricultural business dynamics is a steady growth rate, determined by such indicators as asset turnover, net sales, gross profit, net profit, profitability indicators, etc [1].

The sustainable growth of an agricultural enterprise can be considered effective if the increase in the value of assets leads to a greater increase in sales revenue, and the increase in sales revenue leads to a greater increase in sales profits. This ratio is the indicator of the increase in the efficiency and/or financial activity of an agricultural enterprise [2, 3, 4]. This means that the company has a sound policy of investing in the assets of the enterprise and a well-established policy of managing current assets, indicators of which are the indicators of turnover and return on assets. However, in agriculture an important role is assigned to labour resources. Therefore, the sustainability of the growth of agricultural enterprises also depends on the return of these resources, expressed by the labour productivity indicator [5, 6].

#### 2. The current level of investigation of the issue

The works of famous foreign scientists are devoted to the development of the correlation theory and its application in economic analysis. The well-known scientists of the development of correlation theory are Chuprov A. A. "The main problems of correlation theory"; Boyarsky A. Ya. "Theoretical studies in statistics"; Druzhinin N. K. "Mathematical statistics in economics"; Ryauzov N.N. "General theory of statistics" [9, 10, 11, 12].

The following works are devoted to its application in the analysis of economic indicators and the development of forecasts: Sheremet A. D., Bakanov M. I., Kovalev V. V., Volkova O. N., Markin Yu. P., Blank I. A., Gametsky A. F., Akulai E., Shkiopu I., Timofti E., Perchun R. [13, 14, 15, 16, 17, 18, 19, 20, 21].

The purpose of the study is to use the correlation method to analyze and study the influence of the main specific factors on the profitability of sales of twenty peasant farms in the region in order to predict the level of dependence of management efficiency on selected factors.

#### 3. Methods and applied materials

Based on the statistical observations of 20 agricultural enterprises of the Rybnitsa district, a sample was created for 2017-2020, however, in 5 enterprises, part of the indicators, including net profitability, turned out to be negative, making it impossible to be included in the correlation model [7, 8].

One of the limitations of the study is the limited amount of data studied in time and space. The limited amount of data studied for 15 enterprises over a four-year period may affect the representativeness of the simulation results.

In order to study the influence of the main factors on the change in the net profitability of sales when using the correlation and regression analysis, a panel data analysis model was used:

(15 enterprises x 4 years) = 60 observations

Another limitation of the study is a large number of indicators used in the scientific literature to measure the main factors and the effective feature included in the model. Thus, it remained with the author to choose those indicators which he considers representative for the purposes of this study.

#### 4. Results and discussions

According to the methodology of financial analysis proposed by the well-known scientists Sheremet A. D. and Bakanov M. I., one of their most important indicators for assessing the effectiveness of management is the profitability of sales, calculated as the ratio of the net profit to the sales income (the net profitability of sales, %), which also reflects the impact of the price factor and the sales volume indicator. In this regard, this indicator is a dependent variable (Y – effective). For the correlation and regression analysis and studying the impact on the profitability of sales, the following indicators (factors) were considered at the first stage:

X1 – Employees' labour productivity, thousand lei.

- X2 Capital return on 1 leu of fixed production assets, lei.
- X3 Turnover of working capital, turnovers.
- X4 Capital-labour ratio, thousand lei.
- *X5* Current liquidity ratio.
- X6 Investments per 1 ha of the agricultural land, lei.

The degree of influence of these factors was determined on the basis of the correlation and regression analysis by the step-by-step inclusion-exclusion method.

To assess the cumulative effect of these factors on the dependent variable, we used the data presented in Table 1.

Table 1. Initial data for the regression and correlation analysis

Enterprise code	Year	Net profitability of sales, %	Employees' labour productivity, thousand lei	Capital-labour ratio, thousand lei	Current liquidity ratio, ratio	Investments per 1 ha of the agricultural land, lei
	2017	2.4	193.4	250.2	1.02	165.3
001	2018	8.8	290.5	320.5	1.57	185
001	2019	14.3	150.4	190.1	1.05	158.2
	2020	11.3	164	193.1	0.97	101
	2017	7.5	240	301.4	1.2	120.2
002	2018	11.3	293.4	395.2	1.4	174.7
002	2019	24.3	295.2	382.1	1.47	230.2
	2020	12.5	201	292	1.01	150.2
•••	•••	•••	•••	•••	•••	
015	2017	13.4	270.4	375.4	2.33	221.4
	2018	15.4	266.7	356.1	2.87	293.4
	2019	35.9	250.8	325	2.51	281.4
	2020	10.3	210.5	313	2.01	260.2

Source: author's calculations based on the data of the enterprises of the town of Rybnitsa and the Rybnitsa district

As a result of the fourth step-by-step inclusion and exclusion of the factors, we decided not to include in the proposed regression model the following two indicators: the capital return per 1 leu of fixed assets and the turnover of working capital, since the relationship with the effective feature is insignificant.

The resulting matrix of the paired correlation coefficients (r) indicates the following (Table 2).

The number of observations n = 60. The number of independent variables in the model is 4, and the number of regression coefficients taking into account the unit vector is equal to the number of unknown coefficients. Taking into account the attribute Y, the dimension of the matrix becomes equal to 6. The matrix of independent variables  $x_i$  has a dimension (60 x 6). The analysis was carried out using the MS Excel program – the Data Analysis package.

Tuble 2. Matrix of the paired correlation coefficients								
-	Y	$x_1$ $x_2$		$x_3$	<i>x</i> <sub>4</sub>			
y	1	0.640623	0.544383	0.660685	0.551953			
$x_1$	0.640623	1	0.61986687	0.6903034	0.58998083			
$x_2$	0.544383	0.6198668	1	0.5990069	0.39451029			
<i>x</i> <sub>3</sub>	0.660685	0.6903034	0.5990069	1	0.6436347			

0.39451029

Table 2. Matrix of the paired correlation coefficients

To confirm the statistical significance of the calculated coefficients of the paired correlation the following formulas were applied:

The values of t-statistics for  $r_{yxI}$  were calculated using the formulas:

0.58998083

• 
$$t_{observ} = r_{yx_1} \cdot \frac{\sqrt{n-m-1}}{\sqrt{1-r_{yx_1}^2}} = 0.64 \cdot \frac{\sqrt{60-1-1}}{1-0.64^2} = 6.35,$$
 (1)

1

where m = 1 – the number of factors in the regression equation.

According to the Student's table the value of  $t_{table}$  was determined:

$$t_{crit}$$
 (n-m-1;  $\alpha/2$ ) = (58;0.025) = 2.299

Since  $t_{observ} > t_{crit}$  we reject the hypothesis that the correlation coefficient is equal to  $\theta$  respectively, the correlation coefficient is statistically significant.

According to the same principle, the values of t-statistics were calculated for the other factors:

• for 
$$r_{yx2}$$
:  $t_{observ} = r_{yx_2} \cdot \frac{\sqrt{n-m-1}}{\sqrt{1-r_{yx_2}^2}} = 0.54 \cdot \frac{\sqrt{60-1-1}}{1-0.54^2} = 4.94$ , (2)

• for 
$$r_{yx3}$$
:  $t_{obsev} = r_{yx_3} \cdot \frac{\sqrt{n-m-1}}{\sqrt{1-r_{yx_3}^2}} = 0.66 \cdot \frac{\sqrt{60-1-1}}{1-0.66^2} = 6.7$ , (3)

• for 
$$r_{yx4}$$
:  $t_{observ} = r_{yx_4} \cdot \frac{\sqrt{n-m-1}}{\sqrt{1-r_{yx_4}^2}} = 0.55 \cdot \frac{\sqrt{60-1-1}}{1-0.55^2} = 5.04$ , (4)

Since  $t_{observ} > t_{crit}$  in all the above cases, the hypothesis that the correlation coefficient is equal to 0 is rejected respectively, all calculated correlation coefficients are considered statistically significant.

The analysis of the matrix of the paired correlation coefficients shows that there is no strong correlation between the influencing variables (r < 0.7), therefore, we can use them in the regression analysis. The data reflected in the first column of Table 2 show the tightness of the relationship between the dependent variable and the factors. Thus, there are four factors that have a moderate relationship with the indicator of assessing the effectiveness of enterprise management (the profitability of sales): labour productivity ( $r_{yxI} = 0.64$ ). capital ratio ( $r_{yx2} = 0.544$ ); current liquidity ratio ( $r_{yx3} = 0.66$ ) and investments per 1 ha of agricultural land ( $r_{yx4} = 0.55$ ). Thus, the third factor has the highest relationship with the net profitability of sales:  $r_{yx3} = 0.66$ .

The closeness of the combined influence of factors on the result is assessed by the multiple correlation index. The multiple correlation coefficient is 0.724, which indicates a close

relationship between the net profitability of sales and the factors included in the regression model.

$$R = \sqrt{1 - \frac{3025,404}{6359,3}} = 0,7241 \ R = \sqrt{1 - \frac{3025,404}{6359,3}} = 0,7241 \ R = \sqrt{1 - \frac{3025,404}{6359,3}} = 0,7241$$

When the R value is close to I, the regression equation describes the actual data better, and the relationship of the factors with the results is considered strong. If the value of the correlation coefficient R approaches  $\theta$ , it is assumed that the regression equation slightly describes the actual data, respectively, the relationship of the factors with the result is weak. The correlation coefficient is calculated using the values of linear coefficients of the paired correlation (r) and  $\beta$ -coefficients.

$$R = \sqrt{\sum r_{yxi} \bullet \beta_{yxi}},$$

$$R = \sqrt{0.641 * 0.252 + 0.544 * 0.149 + 0.661 * 0.3 + 0.552 * 0.151} = \sqrt{0.524} = 0.723$$
(5)

The coefficient of determination:  $R^2 = 0.7241^2 = 0.5243$ 

The value of the multiple coefficient of determination ( $R^2$ =0.7241<sup>2</sup>=0.5243) shows that about 52.4% of the variation in the net profitability of sales of the studied subjects is due to the influence of the factors included in the model.

A more objective assessment is the adjusted coefficient of determination.

$$\overline{R}^2 = 1 - (1 - R^2) * \frac{n - 1}{n - m - 1} \ \overline{R}^2 = 1 - (1 - 0.5243) * \frac{60 - 1}{60 - 4 - 1} = 0.49,$$
 (6)

The closer this coefficient is to 1, the more the regression equation explains the behavior of Y. The addition of new explanatory variables to the model is carried out as long as the adjusted coefficient of determination increases.

The share of each factor in the total variation of the resultant feature is determined by the coefficients of paired determination:

$$d^{2}_{i} = r_{yxi}\beta_{i}.$$

$$d^{2}_{1} = 0.64 \cdot 0.252 = 0.161$$

$$d^{2}_{2} = 0.54 \cdot 0.149 = 0.081$$

$$d^{2}_{3} = 0.66 \cdot 0.30 = 0.198$$

$$d^{2}_{4} = 0.55 \cdot 0.151 = 0.0836$$

When checking the equality is performed: 
$$\sum d_i^2 = R^2 \times 100\% = 0.524 \cdot 100\% = 52.4\%$$

The results demonstrate that out of 52.4% of the total variation, the highest level in the formation of the net profitability of sales has the liquidity ratio, the share of which in the total variation is 19.8%. The next factor is the level of the employees' labour productivity, the share of which is 16.1%, and the impact of the armament of the employees with fixed assets and investments per 1 ha of the agricultural land is 8% for each factor.

At the next stage, based on the calculations, the quality of the multiple regression equation, the assessment of the factors included in the model and checking for the presence of the autocorrelation are confirmed. The verification of the overall quality of the multiple regression equation was carried out using the Fisher criterion F-statistics:

$$R^{2} = 1 - \frac{s_{e}^{2}}{\sum (y_{i} - \overline{y})^{2}} ; \qquad R^{2} = 1 - \frac{3025.404}{6359.3} = 0.5243,$$
 (7)

We also tested the hypothesis of general significance, i.e. the hypothesis that all regression coefficients are equal to zero at the same time with explanatory variables using F-statistics of the Fisher distribution (right-hand check):

$$H_0$$
:  $R^2 = 0$ ;  $\beta_1 = \beta_2 = ... = \beta_m = 0$ .  
 $H_1$ :  $R^2 \neq 0$ .

The results of the calculations show that there are no grounds for rejecting the  $H_0$  hypothesis. since  $F < F_{cr} = F_{\alpha; n-m-1}$ :

$$F = \frac{R^2}{1 - R^2} * \frac{n - m - 1}{m} = \frac{0.5243}{1 - 0.5243} * \frac{60 - 4 - 1}{4} = 15.152,$$
 (8)

The tabular value of  $F_{cr(4;55)} = 2.53$  at degrees of freedom  $k_1 = 4$  and  $k_2 = n-m-1 = 60 - 4 - 1 = 55$ .

Since the actual value of  $F > F_{cr}$ , the coefficient of determination is statistically significant, and the regression equation is statistically reliable (i.e. the coefficients  $b_i$  are jointly significant).

The need to assess the significance of the additional inclusion of a factor (a particular *F*-criterion) is due to the fact that not every factor included in the model can significantly increase the proportion of the explained variation of the effective feature. This may be due to the sequence of factors introduced (as there is a correlation between the factors themselves).

The measure of assessing the significance of improving the quality of the model, after the factor  $x_j$  is included in it is a particular F-criterion  $-F_{xj}$ :

$$F_{xj} = \frac{R^2 - R^2(x_1, x_n)}{1 - R^2} (n - m - 1), \tag{9}$$

where m – the number of estimated parameters.

In the numerator there is an increase in the proportion of the variation y due to the factor  $x_j$  additionally included in the model. If the observed value of  $F_{xj}$  is greater than  $F_{cr}$ , then the additional introduction of the factor  $x_j$  into the model is statistically justified. The particular F-criterion evaluates the significance of the coefficients of the "pure" regression( $b_i$ ).

There is a relationship between the particular F-criterion –  $F_{xj}$  and the t-criterion used to assess the significance of the regression coefficient for the jth factor:

$$t(b_j = 0) = \sqrt{F_{xj}} \,, \tag{10}$$

When comparing the observed values of the particular F-criterion with the critical ones, the following conclusions were made:

a)  $F_{xI} > 2.76$ . therefore, it is advisable to include the factor  $x_I$  in the model after the introduction of the factors  $x_i$ 

$$F_{x1} = \frac{0.5243 - 0.363}{1 - 0.5243} * (60 - 4 - 1) = 18.649$$

$$R^{2}(x_{4}.x_{n}) = \sum \beta_{j} r_{j} = 0.1486 \times 0.5444 + 0.3004 \times 0.6607 + 0.1514 \times 0.552 = 0.363$$

$$F_{kp}(k_{1}=3; k_{2}=55) = 2.76$$

b)  $F_{x2} > 2.76$ , therefore, it is advisable to include the factor  $x_2$  in the model after the introduction of the factors  $x_i$ .

c)

$$F_{x2} = \frac{0.5243 - 0.443}{1 - 0.5243} * (60 - 4 - 1) = 9.355$$

$$R^{2}(x_{4}.x_{n}) = \sum \beta_{j} r_{j} = 0.2518 \times 0.6406 + 0.3004 \times 0.6607 + 0.1514 \times 0.552 = 0.443$$

d)  $F_{x3} > 2.76$ , therefore, it is advisable to include the factor  $x_3$  in the model after the introduction of the factors  $x_i$ .

$$F_{x3} = \frac{0.5243 - 0.326}{1 - 0.5243} * (60 - 4 - 1) = 22.942$$

$$R^{2}(x_{4}.x_{n}) = \sum \beta_{j} r_{j} = 0.2518 \times 0.6406 + 0.1486 \times 0.5444 + 0.1514 \times 0.552 = 0.326$$

e)  $F_{x4}>2.76$ , therefore, it is advisable to include the factor  $x_4$  in the model after the introduction of the factors  $x_j$ .

$$F_{x4} = \frac{0.5243 - 0.441}{1 - 0.5243} * (60 - 4 - 1) = 9.663$$

$$R^{2}(x_{4}.x_{n}) = \sum \beta_{j} r_{j} = 0.2518 \times 0.6406 + 0.1486 \times 0.5444 + 0.3004 \times 0.6607 = 0.441$$

As a result of the calculations, the multiple regression equation was obtained:

$$\overline{Y} = -7.3601 + 0.03366x_1 + 0.01288x_2 + 4.1212x_3 + 0.01331x_4$$

The regression coefficients demonstrate that the net profitability of sales with a fixed position of other factors of the model can grow under the following conditions:

- the increase in the productivity of one employee per 1000 lei 3.36 p.p.;
- the increase in the stock ratio of employees per 1000 lei 1.128 p.p.;
- the increase in the current liquidity ratio by 1% 4.12 p.p.;
- the increase in investments per 1 ha of the agricultural land per 1000 lei 1.33 p.p.

The analysis shows that the selected factors affect the change in the net profitability to increase, but the main factor that has the greatest impact is the level of the liquidity ratio and productivity labour. The stock ratio of the employees and investments per 1 ha of the agricultural land has been and remains at the lowest level and therefore the impact on the effective indicator is insignificant.

The factor features are different in their essence and (or) have different units of measurement, then the regression coefficients  $b_j$  for different factors are not comparable. Therefore, the regression equation is supplemented with commensurate indicators of the closeness of the relationship between the factor and the result, which allow ranking factors by the strength of their influence on the result.

The indicators of the tightness of the connection. in addition to the correlation coefficient and  $\beta$ -coefficients. include partial elasticity coefficients,  $\beta$ -coefficients, and partial correlation coefficients (Table 3).

In order to expand the possibilities of the meaningful analysis of the regression model, partial elasticity coefficients are used. which are determined by the formula:

$$E_i = b_i \cdot \frac{\overline{x_i}}{\overline{y}},\tag{11}$$

The partial elasticity coefficient shows by how many percent on average the attribute-result y changes with an increase in the attribute-factor  $x_j$  by 1% from its average level with a fixed position of the other factors of the model.

The elasticity coefficient  $E_I$  shows that with the increase in the labour productivity by 1%. the net profitability of sales will increase by 0.588%.

$$E_1 = 0.0337 \cdot \frac{199.987}{11.45} = 0.588$$

The elasticity coefficient  $E_2$  demonstrates that with the increase in the capital-labour of the employees by 1% the net profitability of sales will increase by 0.295%:

$$E_2 = 0.0129 \cdot \frac{262.527}{11.45} = 0.295$$

The value of the partial elasticity coefficient  $E_3$  indicates that with the increase in the current liquidity ratio by 1% the profitability of sales will increase by 0.542%.

$$E_3 = 4{,}121 \cdot \frac{1.505}{11.45} = 0.542$$

The particular coefficient of elasticity  $E_4$  shows that with the increase in the amount of investments per 1 ha of the agricultural land by 1% the net profitability of sales will increase by 0.218%.

$$E_4 = 0.0133 \cdot \frac{1187.89}{11.45} = 0.218$$

Thus, it was found that the two factors have the greatest impact on the change in the net profitability of sales: the level of labour productivity and the liquidity ratio.

Table 3 shows the final results of the correlation and regression analysis of the influence of the main factors on the change in the net profitability of sales of the agricultural enterprises of the Rybnitsa district. on average for 2017-2020.

To check the model for the presence of heteroscedasticity the corresponding calculations were carried out:

At  $S_3 = 2257.55$  and the number of degrees of freedom  $vI = v2 = (n - c - 2m)/2 = (60 - 16 - 2 \times 1)/2 = 21$ 

 $F_{cr}(21.21) = 4.35$ ; F-statistics: F = 2257.55/537.76 = 4.2

Since  $F < F_{cr} = 4.35$ , the hypothesis of the absence of heteroscedasticity is accepted.

An important prerequisite for constructing a qualitative regression model based on LSM is the independence of the values of random deviations from the values of deviations in all other observations. This ensures that there is no correlation between any deviations and, in particular, between neighboring deviations.

Table 3. The final results of the correlation and regression analysis of the influence of the main factors on the change in the net profitability of sales of the agricultural enterprises of the Rybnitsa district, on average for 2017-2020

enterprises of the Hybridge district, on average for 2017 2020							
Factors	Symbols	Paired correlation coefficient	<b>Regression</b> coefficient	Standardized partial regression coefficients	Elasticity	Paired coefficients of determination	
		$ry_{x_i}$	$b_i$	$\beta_i = b_i \frac{\delta x_i}{\delta y}$	$E_i = b_i * \frac{\overline{x}_i}{\overline{y}}$	$d_i^2 = ry_{x_i} \times \beta_i$	
Employees' labour productivity, thousand lei	<i>X</i> 1	0.64	0.034	0.252	0.588	0.161	
Capital-labour ratio, thousand lei	<i>x</i> <sub>2</sub>	0.54	0.013	0.149	0.295	0.081	
Current liquidity ratio	Х3	0.66	4.121	0.3	0.542	0.198	
Investments per 1 ha of the agricultural land, lei	<i>X</i> <sub>4</sub>	0.55	0.218	0.151	0.218	0.0836	

Source: author's calculations using the MS Excel program – the Data Analysis package

If the autocorrelation coefficient is  $r_{ei}$  <0.7, then there is a reason to assert that there is no autocorrelation. To determine the degree of autocorrelation, we calculate the autocorrelation coefficient and check its significance using the standard error criterion. The standard error of the correlation coefficient is calculated by the formula:

$$S_e y = \frac{1}{\sqrt{n}},\tag{12}$$

The autocorrelation coefficients of random data should have a sample distribution approaching normal with zero mathematical expectation and a mean square deviation equal to

$$S_e y = \frac{1}{\sqrt{60}} = 0.129$$

If the first-order autocorrelation coefficient  $r_I$  is in the range of  $-2.299 \times 0.129 < r_I < 2.299 \times 0.129$ , then it can be assumed that the data do not show the presence of the first-order autocorrelation.

$$r_1 \approx \frac{\sum \varepsilon_i * \varepsilon_{i-1}}{\sum \varepsilon_i^2} = \frac{302.941}{3025.404} = 0.1$$
, (13)

Using the calculation table. we get:

Since -0.297 < x = 0.1 < 0.297, the property of independence of the residuals is satisfied.

There is no autocorrelation.

To analyze the correlation of deviations, especially to detect the autocorrelation. *Darbin-Watson statistics* is used:

$$DW = \frac{\sum (\varepsilon_i - \varepsilon_{i-1})^2}{\sum \varepsilon_i^2} \quad DW = \frac{5377.21}{3025.4} = 1.78,$$
 (14)

The critical values of  $d_1$  and  $d_2$  are determined on the basis of special tables for the required significance level  $\alpha$ . the number of observations n = 60 and the number of explanatory variables m = 4. There is no autocorrelation if the following condition is met:

$$d_1 < DW u d_2 < DW < 4 - d_2$$
.

Without referring to the tables, one can use an approximate rule and assume that there is no residues autocorrelation if 1.5 < DW < 2.5. Since 1.5 < 1.78 < 2.5 there is **no** residues autocorrelation.

For a more reliable conclusion it is advisable to refer to table values. According to the Darbin-Watson table for n = 60 and k = 4 (significance level is 5%) we find:  $d_1 = 1.44$ ;  $d_2 = 1.73$ . Since 1.44 < 1.78 and 1.73 < 1.78 < 4 - 1.73 there is **no** residues autocorrelation. Thus, the proposed model is adequate and can be used to predict the net profitability of sales for the future as a result of the improvement of the included main factors.

To do this, in the developed regression model, we insert the average data of the factor features included in the model and calculate the equalized level of the effective feature – the net profitability of sales.

$$\overline{Y}x_1, x_2, x_3, x_4 = -7.3601 + 0.0336X_1 + 0.0129X_2 + 4.121X_3 + 0.0133X_4$$

$$11.45 = -7.3601 + 0.0336 \cdot 199.897 + 0.0129 \cdot 252.527 + 4.121 \cdot 1.505 + 0.0133 \cdot 187.89$$

$$\overline{Y}x_1, x_2, x_3, x_4 = 11.45\%.$$

The result obtained does not differ from the actual level, which allows you to use the model to predict the net profitability of sales, taking into account the improved levels of factors in order to develop a strategy for sustainable growth.

Table 4 provides data on the forecast of the level of management efficiency dependence on the selected factors, calculated as a result of the correlation and regression analysis on the database of the agricultural enterprises of the Rybnitsa district.

Including the levels of the planned factors in the correlation and regression equation. we obtain the following forecast of the level of the net profitability of sales by year:

$$\overline{Y}_{2021} = -7.3601 + 0.0336 \cdot 220.5 + 0.0129 \cdot 268.5 + 4.121 \cdot 1.71 + 0.0133 \cdot 220$$
 $\overline{Y}_{2021} = 13.47\%;$ 
...
 $\overline{Y}_{2024} = -7.3601 + 0.0336 \cdot 360.5 + 0.0129 \cdot 450 + 4.121 \cdot 2.3 + 0.0133 \cdot 410$ 
 $\overline{Y}_{2021} = 25.48\%.$ 

The results obtained (Table 4) demonstrate that the net profitability of sales is growing annually by 2.02-4.9% and by 2024 may reach 25.48%. provided that the factor signs are gradually improving in dynamics as follows:

 $x_1$  – employees' labour productivity will increase from 199.89 thousand lei to 360.5 thousand lei;

 $x_2$  – the capital-labour ratio of the employees will increase from 268.5 thousand lei per employee to 450 thousand lei;

 $x_3$  – the current liquidity ratio increased from 1.71 to 2.3. i.e. by 0.59;

 $x_4$  – investments per 1 ha of the agricultural land will increase from 220 lei to 410 lei.

Table 4. The forecast of the level of management efficiency dependence on the selected factors. calculated as a result of the correlation and regression analysis on the database of the agricultural enterprises of the Rybnitsa district

of the ugited		On	or the Ryb	Year				
Factors	Symbols	average for 2017- 2020	2021	2022	2023	2024		
Factors: Employees' labour productivity, thousand lei	$x_1$	199.89	220.5	260.7	290	360.5		
Capital-labour ratio, thousand lei	$x_2$	262.52	268.5	300.0	370	450		
Current liquidity ratio, ratio	Х3	1.505	1.71	1.90	2.15	2.30		
Investments per 1 ha of the agricultural land, lei	<i>X</i> <sub>4</sub>	187.89	220.0	270	340	410		
The effective factor: The level of the net profitability of sales, %	у	11.45	13.47	16.69	20.58	25.48		
Growth (decrease) by the chain method, p.p.	у	-	+2.02	+3.22	+3.89	+4.90		

Source: calculated by the author

#### 5. Conclusions

The conducted research demonstrates that the greatest impact on the growth of the net profitability of sales from 11.45% to 25.48% in 2024 has the increase in the current liquidity ratio to 2.3, which is an indicator of the solvency of the enterprise provided that all available stocks are sold and accounts receivable are returned.

Another important factor influencing the growth of the net profitability of sales is the increase in the labour productivity to 360.5 thousand lei by 2024 in such a way as to comply with the conditions of advancing labour productivity growth over wage growth.

Regarding the capital-labour ratio of the employees, the study proves that by 2024, reaching the level of 450 thousand lei is possible only if the enterprise is equipped with high-performance technologies and equipment, as well as highly qualified labour resources.

The growth of investments per 1 ha of the agricultural land to 410 lei/ha is possible on condition of the increase in public, private capital investments and foreign investments within the framework of various financing programs.

The joint rational and effective use of the studied factors in the proposed model will increase the volume of production, improve the quality of products and services, increase the turnover, profit, which will entail the increase in the net profitability of sales and further sustainable development of the enterprise.

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#### Rezumat

Asigurarea dinamicii pozitive a dezvoltării organizațiilor agricole, ținînd cont de specificul acestora, prezintă un proces destul de complicat. Aceasta se explică prin caracterul sezonier al activității și dependența semnificativă de factorii externi. Din acest motiv, este necesară o eficiență înaltă a muncii personalului managerial, exprimată prin determinarea strategiei de dezvoltare, abilitatea de a analiza rezultatele curente atinse în corelație cu acestea și, în funcție de rezultatele analizei, de a aduce corectări în strategia de dezvoltare

și în activitatea curentă. Pentru realizarea acestor obiective este important de a identifica un sistem de indicatori prin care pot fi determinate concluzii obiective în baza analizei obiectului corespunzător de cercetare.

În articolul dat autorul utilizează metoda de corelație pentru analiza și studierea influenței asupra rentabilității vânzărilor a indicatorilor, cum ar fi: productivitatea muncii, randamentul fondurilor, rotația activelor circulante, înzestrarea cu mijloace fixe, coeficientul lichidității curente, investițiile raportate la 1 hectar de teren agricol.

Obiectul de studiu este pentru prima dată reprezentat de douăzeci de gospodării agrare de fermieri din regiune.

În urma analizei, a fost făcută o prognoză privind nivelul dependenței eficienței managementului de factorii selectați, calculată pe baza datelor întreprinderilor studiate din regiune.

Utilizarea sistemului de analiză prin corelație permite de a introduce corectări în activitatea curentă și, astfel, asigurarea unei dinamici pozitive și atingerea obiectivului final - asigurarea stabilității financiare.

Cuvinte-cheie: ritmul de creștere a volumului de producție și vânzare, profitul brut, profitul net, înzestrarea cu mijloace fixe, productivitatea muncii, randamentul capitalului, rotația activelor circulante, investiții, rentabilitatea, coeficientul de lichiditate curentă

#### Аннотация

Обеспечение положительной динамики развития сельскохозяйственных организаций с учетом их специфики является крайне сложным процессом. Это вызвано сезонным характером деятельности и значительной зависимостью от внешних факторов. В связи с этим это требует высокой эффективности труда управленческого персонала, которая выражается в качестве разрабатываемой стратегии развития, умении анализировать достигнутые текущие результаты в их корреляционной связи, исходя из результатов анализа вносить коррективы в стратегию развития и в текущую деятельность. Для решения данных задач важное значение имеет система показателей, которая позволит сделать объективные выводы по анализу соответствующего предмета исследования.

В предлагаемой статье автор использует метод корреляционных связей для анализа и изучения влияния на рентабельность продаж таких показателей как: производительность труда, фондоотдача производственных средств, оборачиваемость оборотных средств, фондовооруженность труда, коэффициент текущей ликвидности, инвестиции в расчете на 1 гектар сельскохозяйственных угодий.

Объектом исследования впервые явились двадцать крестьянско-фермерских хозяйств региона.

В результате анализа сделан прогноз уровня зависимости эффективности управления от выбранных факторов, рассчитанном на базе данных исследуемых предприятий региона.

Применение системного анализа корреляционных связей позволит вносить коррективы в текущую деятельность и таким образом обеспечивать ее положительную динамику и достижение конечной цели - обеспечение финансовой устойчивости.

**Ключевые слова:** темп роста объемов производства и продаж, валовая прибыль, чистая прибыль, фондовооруженность труда, производительность труда, фондоотдача, оборачиваемость оборотных средств, инвестиции, чистая рентабельность, коэффициент текущей ликвидности

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### FOREIGN TRADE OF THE REPUBLIC OF MOLDOVA: ANALYSIS, EVALUATION AND PERSPECTIVES

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#### Abstract

This research is dedicated the foreign trade of the Republic of Moldova and the goal is to is to analyze the foreign trade of the country, identify the challenges, analyze and evaluate the situation in this domain. The trade policy of the Republic of Moldova is the main component of the country's economic policy and is aimed at developing foreign economic relations, in particular by promoting exports, protecting the national economy from foreign competition, regulating and monitoring imports and maintaining the trade balance.

The analysis in this research was based on information from national and international scientific research, data from the National Bureau of Statistics of the Republic of Moldova, data from national and international Reports.

The amount of foreign trade in goods in the first half of 2023, decreased by 3.4% compared to the same period of the previous year. Thus, the volume of foreign trade in goods in this period amounted to 6413.8 million USD. Exports of goods decreased by 10.9% or 249.2 million USD, while imports increased by 0.5% which amounts to 21 million USD. In recent years there have been important changes in Moldova's foreign trade. The EU being the main partner, this is due to the international relations, namely the cooperation and partnership process with the European Union. These relations also have a favorable impact on the development of the Moldovan economy and play an important role in strengthening the country. At the same time, the EU supports small and medium-sized enterprises by providing financial support in the form of grants, loans, coaching and advisory support. EU financial support is aligned with the DCFTA objective and represents a favorable framework for increasing exports, enhancing the competitiveness of domestic producers, diversifying relations with European and international business partners, increasing the productivity of companies by streamlining production processes and efficient use of natural resources, improving the quality management of enterprises by increasing the quality of domestic products and services.

Keywords: foreign trade, import, export, WTO, DCFTA, goods and services, Republic of Moldova

#### 1. Introduction

The trade policy of the Republic of Moldova is the main component of the country's economic policy and is aimed at developing foreign economic relations, in particular by

promoting exports, protecting the national economy from foreign competition, regulating and monitoring imports and maintaining the trade balance.

Since 2001, the Republic of Moldova has been a full member of the World Trade Organization - WTO, which is working to liberalize trade in goods and services by removing barriers and developing new rules in trade-related areas. At the same time, the WTO agreements provide for a joint dispute settlement mechanism whereby members defend their rights and settle disputes that arise between them.

Since 2007, the Republic of Moldova has been a party of the Central-European Free Trade Agreement - CEFTA, to which the Republic of Moldova. This document is aims to increase trade in goods and services and boost investment between CEFTA member countries, as well as to eliminate barriers and distortions to trade and facilitate the movement of goods in transit and the cross-border movement of goods and services between the territories of the Parties.

Since 2014, the EU and the Republic of Moldova signed an Association Agreement. The Deep and Comprehensive Free Trade Area (DCFTA) is an integral part of the Agreement. It reduces tariffs that European firms face when exporting to Moldova and makes customs procedures more efficient. In addition, the agreement facilitates trade further by gradual approximation of Moldovan legislation, rules and procedures, including standards, to those of the EU.

#### 2. The main goal of research and applied methods and materials

The main purpose of this research is to analyze the foreign trade of the Republic of Moldova, identify the challenges, analyze and evaluate the situation in this domain in the country.

The analysis in this research was based on information from national and international scientific research, data from the National Bureau of Statistics of the Republic of Moldova, data from national and international Reports. The following research methods were used in the presented work: synthesis, logical, monographic, comparative, economic analysis of the statistical data, etc. The following Software applications were used for the practical implementation of the indicated methods: Microsoft Excel for spreadsheet manipulation, calculation, and elaboration of figures, and Microsoft Word for text processing.

This topic of foreign trade was researched and analyzed by authors in many scientific papers during many years [9-17].

#### 3. Results obtained and discussions

According to official statistical data from National Bureau of Statistics of the Republic of Moldova [1], the amount of foreign trade in goods in the first half of 2023 decreased by 3.4% compared to the same period last year. Thus, the volume of foreign trade in goods in this period amounted to 6413.8 million USD. Exports of goods decreased by 10.9% or 249.2 million USD, while imports increased by 0.5% which amounts to 21 million USD. The gap between exports and imports of goods resulted in the first half (January-June) of 2023 in the trade balance deficit - 2329.4 million USD, that is on 270.2 million USD or on 13.1% higher

than in the similar period previous year. The import-export in the first half of 2023 was 46.7% and down on 6.0 percentage points, compared to the similar period of 2022.

Exports of goods in the first half of 2023 amounted to 2042.2 million USD, which is on 10.9% less than in previous year 2022. Exports of domestic goods in this period amounted to 1365.8 million USD, which is on 20.0% lower than in the same period of 2022, which influenced on the decrease of total export value by 14.9%. Re-exports of foreign goods in this period amounted to 676.4 million USD or on 15.7% higher compared to the same period of 2022. This increase contributed to the increase on total exports by 4.0%. Re-exports of foreign goods in total exports - 33.1%. Re-exports of goods after processing accounted for 13.6% from total exports, and re-exports of classical goods, which have not undergone essential transformation - 19.5%.

By destination, exports of goods increased in all groups of countries. The main destination of Moldova's exports remains to EU countries and in the first half of 2023 totaled 1250.9 million USD, which is 11.3% less compared to the corresponding period in 2022. EU countries holding a share of 61.3% in total exports, down by 0.3 percentage points compared to first half of 2022.

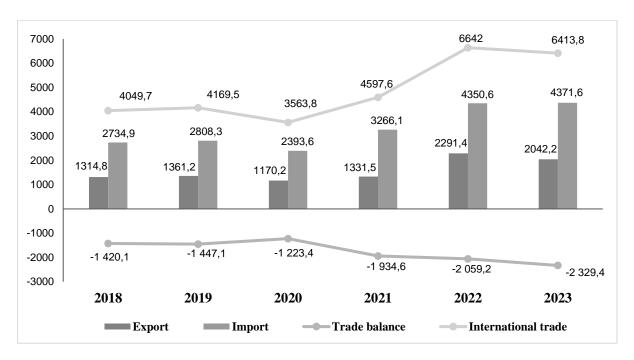


Figure 1. Trends in export, import, trade balance and international trade in first half of 2018-2023, million USD

Source: according to data from the National Bureau of Statistics [1]

Exports of goods to CIS countries in the research period were valued at 523.8 million USD, that is on 112.8 million USD or 27.4% more, compared to the same period in previous year 2022. Exports of goods to CIS countries holding a share of 25.6% in total exports, up by 7.7 percentage points compared to the same period in 2022. This increase was mainly caused by the increase of exports of goods to Ukraine by 109.9 million USD or 44.0% more compared to the same period in 2022.

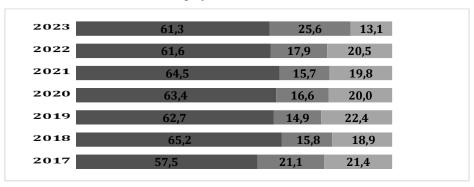


Figure 2. The structure of exports of goods by group of countries – EU, CIS and other countries – in the first half of 2017-2023, %

Source: according to data from the National Bureau of Statistics [1]

Top-10 partner countries in the first half of 2023 on exports of goods that attracted about 80% of total exports, such as:

- Romania contributed with a share of 31.6% in total exports, remains one of the main trading partners of the Republic of Moldova in exports. Exports to this country decreased by 2.9% compared to the same period last year.
- Ukraine being the second main partner in terms of imports of goods from the Republic of Moldova, they contributed with a share of 359.3 million USD or 17.9% in total exports. Exports to Ukraine increased by 44%, and the degree to which they positively influenced the evolution of exports was 4.8 p.p.
- Italy, also a major importer of Moldovan production, contributed 6.8% in total exports.
- Germany contributed with a share of 5.5% in total exports.
- The Russian Federation contributed with a share of 4.0% in total exports.
- Turkey contributed with a share of 3.9% in total exports.
- The Czech Republic contributed with a share of 3.9% in total exports.
- Poland contributed with a share of 2.8% in total exports.
- Belarus contributed with a share of 2.3% in total exports.
- Spain contributed with a share of 1.9% in total exports.
- Other countries contributed with a share of 19.8% in total exports.

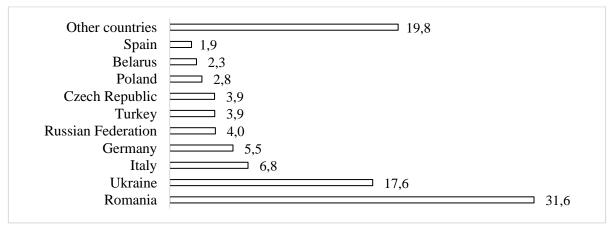


Figure 3. The main partner countries of the Republic of Moldova in the first half of 2023, %

Source: according to data from the National Bureau of Statistics [1]

At the same time, in the researched period, significantly increased exports to such countries, as:

- Czech Republic about 79.6 million USD, or about 1.6 times, of which 79% were wires, cables (including coaxial cables), being up on 2 times,
- Belarus, 47.5 million USD, up on 1.5 times, including wines from fresh grapes increased 1.8 times.
- Spain, 38.5 million USD, up on 2.6 times, of which about 70% sunflower oil increasing 2.9 times.

Decreases in exports were recorded in such countries, as:

- Italy, 138.8 million USD, down 28.8%,
- Germany, 112 million USD, down 13.1%,
- Turkey, 79.9 million USD, about 2.6 times,
- Russian Federation, 80.9 million USD, down 30.8% and cumulatively subtracted 10.5 p.p. from export growth.

Significant shares in the export structure belonged to the following categories of goods:

- Machinery and electrical appliances and parts and accessories of these (15.9%);
- Petroleum, petroleum products and related products (13.1%);
- Cereals and cereal preparations (9.3%);
- Vegetables and fruits (7.8%);
- Clothing and accessories (7.2%);
- Fixed vegetable fats and oils, crude, refined or fractionated (6.9%);
- Alcoholic and non-alcoholic beverages (4.9%);
- Oil seeds and oleaginous fruits (4.5%);
- Furniture and parts of these (3.5%);
- Articles of non-metallic minerals (2.9%),
- Yarn, fabrics, textile and related products (2.1%);
- Road vehicles (2.0%);
- Other goods (19.9%).

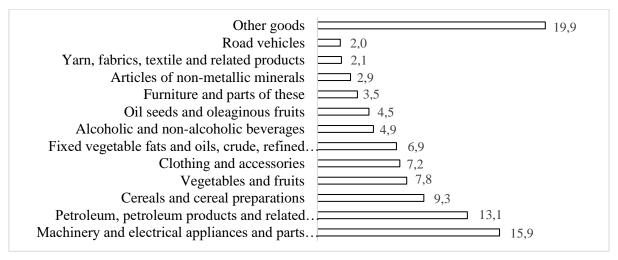


Figure 4. Exports of goods by main categories in first half of 2023, %

Source: according to data from National Bureau of Statistics [1]

In the export structure, about 36% of the goods categories recorded decreases in exports.

The goods that contributed negatively to the evolution of exports are: products of the plant kingdom, which recorded by 1.9 times decrease in exports, including: oilseeds and oleaginous fruits, which decreased by about 2.8 times, the degree of influence on the decrease in exports being 7.2 percentage points, cereals decreased by 46.1%, or -6.5 percentage points, edible fruit and nuts were down by 27.2%, or 1.7 percentage points, fats and oils of animal or vegetable origin were down by 38.4%, or 3.8 percentage points, base metals and articles of base metals down by 38.1% (of which cast iron, iron and steel - by about 3.4 times (-0.5 percentage points), aluminium and articles of aluminium - by 2 times (-0.3 percentage points), copper and articles of copper - by 33.8% (-0.2 percentage points).

The goods that contributed positively to the evolution of exports are: mineral products increased by 44.5% and positively influenced the evolution of exports by 4 percentage points, mainly representing re-exports to Ukraine; machinery and electrical equipment and parts thereof - up 21.2% (of which machinery, electrical equipment and parts thereof - up 15.7% (+1.9 percentage points); nuclear reactors, boilers, machinery, mechanical appliances and devices - up about 1.8 times (+0.9 percentage points); food industry products; beverages, spirits and vinegar; tobacco and tobacco substitutes, exports were up 11.9% (of which beverages, spirits and vinegar, up 18.4% (+0.8 percentage points); preparations of vegetables, fruit, nuts or other parts of plants, up 10.1% (+0.2 percentage points); plastics and plastic products; rubber and rubber products, up 27% (including plastics and plastic products - up 24.6% (+0.3 percentage points). Export growth was also recorded for articles of stone, plaster, cement, asbestos, small by 14.9% (including glass and glass articles - by 17.6% (+0.4 percentage points) etc.

Lower external prices, weaker economic activity and domestic demand lead to lower imports. Thus, imports have moderated and entered a negative trajectory since April this year (April - 10.4%, May -8.2%, June -13.4%). However, cumulatively, imports for the period January-June 2023 have increased by 0.5% compared to the same period in 2022. Thus, imports of goods in the period under review amounted to 4371.6 million USD.

48,3	20,4	31,3	2023
45,9	26,5	27,6	2022
47,4	22,7	29,9	2021
46,7	24,5	28,8	2020
49,0	24,8	26,2	2019
50,0	23,3	26,7	2018
47,9	24,9	27,2	2017

Figure 5. The structure of import of goods by group of countries – EU, CIS and other countries – in the first half of 2017-2023, %

Source: according to data from National Bureau of Statistics [1]

Imports of goods from EU countries in the first half of 2023 amounted to 2113,5 million USD which is on 5.8% more compared to the similar period in 2022 and representing a share of 48.3% in total imports, increasing by 2.4 percentage points, compared to the first half of 2022.

Imports of goods from CIS countries in this period recorded a value of 889.8 million USD, which is 22.9% less than in the similar period of 2022. Imports of goods to CIS countries register a share of 20.4% in total imports, down by 6.1 percentage points, compared to the first half of 2022.

About 73% of goods were imported from the top 10 countries - the main trading partners of the Republic of Moldova, most of which recorded increases in imports compared to similar period 2022.

The top 10 trading partners of the Republic of Moldova in terms of imports of goods were: Romania with a share of 15.6%, Ukraine - 13.0%, China - 10.5%, Turkey - 8.6%, Germany - 7.0%, Italy - 5.2%, Russian Federation - 4.5%, Poland - 3.4%, France - 2.6%, India - 2.5%, other countries - 27.0%.

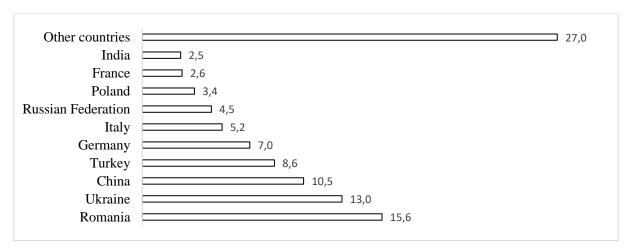


Figure 6. The main trading partners with share in total imports in the first half of 2023,  $\frac{9}{6}$ 

Source: according to data from National Bureau of Statistics [1]

At the same time, during this period, the analysis of the evolution of imports by country shows increases in imports of goods from Ukraine by 42.6%, Turkey - by 22.4%, China - by 12.3%, Greece - by 3.3 times, Kazakhstan - by 5.0 times, Germany - by 6, 1%, Slovakia - 1.7 times, Japan - 57.7%, Israel - 2.2 times, Bulgaria - 18.1%, Czech Republic - 16.9%, France - 8.9%, Egypt - 2.9 times, Ecuador - 55.5%, Turkmenistan - 2.2 times, and other countries, which influenced the increase in total imports by 12.4%.

At the same time, imports from the Russian Federation fell by 70.2%, Romania - by 3.1%, Belarus - by 24.0%, the United States - by 17.9%, Uzbekistan - by 47.5%, India - by 3.7%, Pakistan - by 38.9%, South Korea - by 9.8%, dampening growth in total imports by 12.2%.

In the structure of imports the following groups of goods constituted the largest share as:

- petroleum, petroleum products and related products 15.9%;
- gas and industrial gas products 8.4%;
- machinery and electrical appliances and parts thereof 7.4%;
- road vehicles 6.4%;
- yarn, fabrics, textile and related products 3.5%;
- medicinal and pharmaceutical products 3.4%;
- vegetables and fruits 2.9%;

- general purpose industrial machinery and apparatus, parts and accessories thereof 2.7%;
- specialized machinery and apparatus for specific industries 2.5%;
- telecommunications and sound and video recording and reproducing apparatus and equipment 2.3%;
- clothing and accessories 2.2%;
- fabricated metal products 2.1%;
- mineral or chemical fertilizers 2.0%;
- other goods 38.3%.

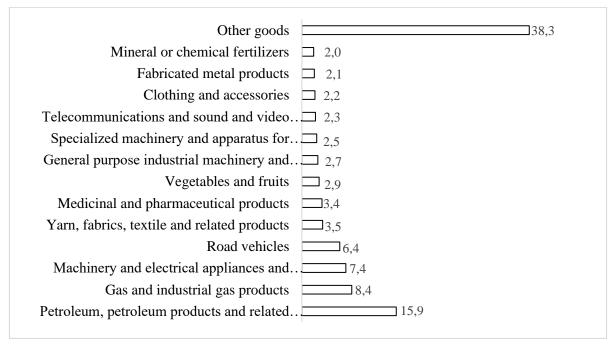


Figure 7. The structure of imports by goods section in the first half of 2023, %

Source: according to data from National Bureau of Statistics [1]

The evolution of imports by main goods sections is mainly influenced by, decreasing internal demand, falling world prices for energy resources and food products. Increases in the value of imports compared to the first half of 2022 and, respectively, positively influenced the development of imports accounted for about 76.0% of the goods sections.

During the period analyzed, imports of machinery and electrical appliances and parts thereof increased by 21.8%, petroleum, petroleum products and related products by 8.6%, road vehicles by 15.9%, products of the food industry, beverages, tobacco increased by 9.1% (of which beverages, alcoholic liquids and vinegar - by 14.4% (+0.1 percentage points). Imports of goods from EU countries in the first half of 2023 amounted to 2113.5 million USD, 5.8% more, compared to the same period in 2022 and representing a share of 48.3% in total imports, increasing by 2.4 percentage points, compared to the first half of 2022. Imports of goods from CIS countries in this period recorded a value of 889.8 million USD, which is 22.9% less, than in the corresponding period of 2022. Imports of goods to CIS countries register a share of 20.4% in total imports, down by 6.1 percentage points, compared to the first half of 2022.

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During the researched period, imports of machinery and electrical appliances and parts thereof increased by 21.8%, petroleum, petroleum products and related products by 8.6%, road vehicles by 15.9%, food products, beverages, tobacco increased by 9.1% (of which beverages, alcoholic liquids and vinegar - by 14.4% (+0.1 percentage points), mix food preparations - by 8.5% (+0.1 percentage points), preparations based on cereals, flour, starch - by 5.7% (+0.1 percentage points), telecommunications, sound and video recording and reproducing apparatus and equipment - 20.7%, essential oils, resinoids and perfumes, toilet preparations, cosmetics - 17.9%, non-metallic mineral products - 13.5%, electricity - 1.6 times, mainly due to increased deliveries from Romania and Ukraine, power generating machinery and their equipment by 1.7 times, coffee, tea, cocoa, spices and their substitutes by 17.6%, alcoholic and non-alcoholic beverages by 14.4%, professional, scientific and control instruments and apparatus by 15.6%, clothing and accessories by 5.1%, mineral or chemical fertilizers by 5.8%, inorganic chemicals by 27.3%, fish, crustaceans, mollusks by 10.1%, sugar, sugar preparations; honey with 34.5%, cameras, optical equipment and supplies; watches and clocks with 42.6%, dairy products and poultry eggs with 4.4%, contributing to the increase in total imports with 6.3%.

Sections of goods which recorded decreases in imports, gas and industrial products obtained from gas by 15.4%, specialized machinery and apparatus for specific industries by 30.4%, fixed vegetable fats and oils, crude, refined or fractionated by 72.1%, iron and steel by 29.7%, oil seeds and oleaginous fruits by 28.5%, yarn, fabrics, textile and allied products by 6.8%, wood and cork by 29.0%, prefabricated buildings; other plumbing, heating and lighting fixtures and fittings 26.6%, meat and meat preparations 17.3%, paper, paperboard and articles of pulp, paper or paperboard 9.5%, leather, other processed leather and fur 21.4%, processed rubber 14.8%, processed plastics 6.3%, plastics in primary forms 11.1%, furniture and parts thereof 9.3%, fabricated metal products 3.0%, mitigating the increase in total imports 6.1%.

The implementation of the DCFTA facilitates the access of domestic products to the EU market, which means that their quality must comply with European standards. The Free Trade Agreement aims to eliminate import and export duties on trade in products between the partners. It aims to remove barriers to trade in services and improve access for companies to those markets. Only a few agricultural goods (mostly animal products, sugar and cereal products), which are considered sensitive in the EU, will be subject to monitoring of trade flows. This monitoring will aim to ensure that imports of products classified as manufactured in Moldova correspond to the country's production capacity and that there is no tax avoidance for products originating in other countries.

Statistical analysis shows a significant increase in cereal exports to the EU through the application of the evasion mechanism. Thus, in 2022, the Republic of Moldova exceeded

trigger levels for the following products which are subject to an anti-circumvention mechanism:

- Processed cereals- exceeded by 5.3 times (26973 tons over 5000 tons)
- Sweet corn exceeded by 4 times (6762 tons over 1500 tons)
- Maize, flour and pellets exceeded by 2 times (535303 tons over 250000 tons)
- Wheat, flour and pellets exceeded by 1.27 times (191124 tons over 150000 tons contingent).

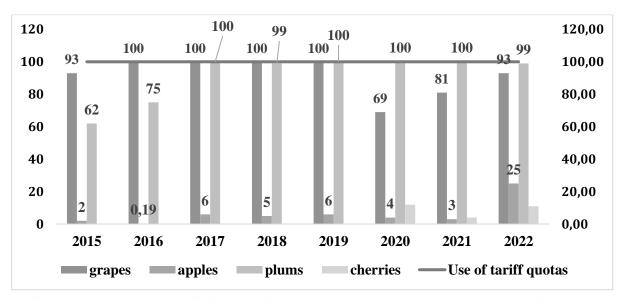


Figure 8. Valuation of tariff quotas for products covered by the annual tax-free quota for export to the EU, 2015-2022, %

Source: according to data from DCFTA [4]

#### Partially completed:

- Processed sugar 60% (2511 tons of 4200 tons)
- Barley, flour and pellets -30% (30407 tons of 100000 tons)
- Sugar 16% (6163 tons of 37400 tons).

Table 1. Products covered by duty-free tariff quotas

Products	Quota offered, tons	Available quota, tons 31.12.2022	Available, % 31.12.2022	Available quota, tons 29.06.2023	<b>Available, %</b> 29.06.2023
Table grapes	38 000 tons	18 612 tons	93.0 %	10 650 tons	28.03%
Plums	25 000 tons	14 894 tons	99.3 %	8786 tons	35.14%
Apples	40 000 tons	11 061 tons	27.6 %	1332 tons	3.4%
Cherries	1500 tons	161 tons	11.0 %	2590 kg	0.17%
Grape juice	500 tons	48 tons	9.6 %	0 tons	0
Tomato	2000 tons	0 tons	0 %	0 tons	0
Garlic	220 tons	0 tons	0 %	0	0

Source: Ministry of Economic Development and Digitalization of Republic of Moldova

In addition, a limited category of fruit and vegetables, which are subject to the EU entry price, will be liberalised (ad valorem free) under tariff quotas covering traditional trade flows [8].

The main markets for grapes: Poland 3001.2 tons, Romania 1897.4 tons, Latvia 1537.4 tons, Spain 201.7 tons. The main markets for plums: Romania 11849.6 tons, Germany 2821.0 tons, Poland 1967.7 tons, Austria 1149.2 tons. The main markets for apples: Romania 10781.7 tons, Bulgaria 234.3 tons, Germany 80.6 tons, Spain 40 tons.

#### Foreign trade of Moldovan wines and wine products

Regarding the main product and brand of the Republic of Moldova - *Moldovan wines and wine products*, in recent years the Government of the Republic of Moldova has approved a number of laws that harmonized the rules for the production of Moldovan wines with those of the European Union; streamlined conformity assessment procedures by eliminating outdated standards and orders and decreasing the number of indicators to be assessed; and, established a framework for the production of protected geographical indication (PGI) wines in accordance with EU standards.

According to the data from National Vine and Wine Office [19], in the first nine months of 2023, Moldova exported wine products in the sum of 135 million USD, which is 25% more than in the same period of 2022.

The largest deliveries of all types of products were made to Belarus - 26 million USD, Ukraine - 22 million USD, Romania - 20.3 million USD, Georgia/Abkhazia - 8.3 million USD, Poland and Czech Republic - 5.6 million USD each, Russia - 3.8 million USD, Great Britain - 3.1 million USD, China - 3 million USD and the USA - 3 million USD. The whole geography of export for this period includes 62 countries.

In the segment of wines, the main sales fall on the share of bottled wines. However, in physical terms, compared to last year, it decreased by 8.1 percentage points and amounted to only 32.6%. In monetary terms, it decreased by 5.5 percentage points - to 62.6%. Bottled wines were shipped to 59 countries, but the top-10 represent for 79% of the volume. The top 10 included Romania (+12.1%), Poland (-22.2%), Czech Republic (-16.9%), Belarus (-0.7%), Russia (-53%), Canada (-2.1%), USA (+17.5%), Netherlands (+57.5%), China (-21.8%) and Ukraine (+19.7%). That is, the growth is observed only in four countries, while the stable growth over the last three years is in Romania and the Netherlands (although our country sends very small volumes of wine products to the Netherlands). In total, 33.5 million bottles of still and sparkling wines were exported in January-September 2023.

The ranking of the top-10 countries by value, where bottled wines from Republic of Moldova are delivered, includes the same participants. But sales growth, besides the four countries mentioned above, was also registered in Belarus (+34%) and Canada (+2.7%). On the Romanian market, the efforts to promote our wines - the largest marketing expenses are allocated in this country - and the fact that Moldova is a well-known country for their consumers. Belarus maintains a traditionally good attitude towards Moldovan wines due to the common past as part of the USSR.

The wine materials in bulk (54.1 million liters) were exported to 22 countries. 98% of the volume was shipped to the first ten and 76% to the first two. This segment was one of the drivers of overall growth in wine exports, increasing, year-on-year, by 29% in volume terms and by 30% in value terms, with an average beam price of \$0.67 per liter.

Nine countries out of the TOP-10, except for Great Britain, recorded an increase in the supply of bottled wine in liters. Belarus traditionally accounts for almost half of wine sales - 45.8%. Georgia/Abkhazia is buying 29.4%, Romania - 6.3%, UK - 6%, France - 2.6%, Czech Republic - 2.4%, Canada - 2.4%, Poland - 1.1%, Russia - 1%, Denmark - 0.8%. In total, 36 million USD of bottled wine in liters was sold.

In January-September 2023, 134% more divines, brandy and distillates were exported in physical volume than in the previous year. And the revenue from these products doubled to 37 million USD. In this segment, too, there was a shift in favor of bottled products. Bottled products, compared to the previous year, lost 7 percentage points, reducing their share to 15.8% in physical terms and in monetary terms it amounts to 36.2%.

Nevertheless, there were 62% more bottled divines and brandies exported abroad, totaling approximately 2.8 million bottles. Deliveries were made to 34 countries, but the top 10 account for 94%. Three main countries can be mentioned - Ukraine, where 58.5% of our divines and brandy are sold, Belarus with a share of 10.7% and Russia (6.5%). Insignificant quantities of these products are exported to other countries. But almost everywhere there is an increase in sales, except Poland (-20%). Exports to Ukraine, with its high share, grew by 180%, and in terms of cost - by 169%.

The demand abroad for divines, brandy, distillates in bulk also increased: in volume - by 155%, in value - by 149%. They were shipped to 11 countries, but the main two are Ukraine with the share of 78.4% and Belarus (19%). All countries increased their purchases, especially the leaders: Ukraine - by 196%, Belarus - by 72%, and in terms of cost - by 231% and 79%, respectively.

In terms of export destinations of all types of Moldovan wine products in physical terms, the leading export destinations are the CIS countries with a share of 61.7%, Europe accounts for 29.9%, America - 4.4%, Asia - 2.8%, Africa - 1.2% and Oceania - 0.1%. In terms of cost, the ratio changes slightly: the CIS share is 49.1%, Europe 38.7%, America 5.1%, Asia 4.8%, Africa 2.1% and Oceania 0.2%.

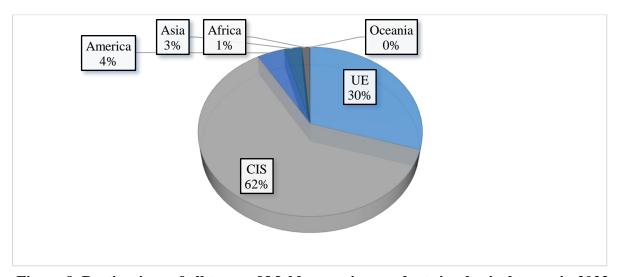


Figure 9. Destinations of all types of Moldovan wine products in physical terms in 2023,

Source: according to data from National Vine and Wine Office [19]

#### 4. Conclusions

In recent years there have been important changes in Moldova's foreign trade. The EU being the main partner, this is due to the international relations, namely the cooperation and partnership process with the European Union. These relations also have a favourable impact on the development of the Moldovan economy and play an important role in strengthening the country. At the same time, the EU supports small and medium-sized enterprises by providing financial support in the form of grants, loans, coaching and advisory support. EU financial support is aligned with the DCFTA objective and represents a favourable framework for increasing exports, enhancing the competitiveness of domestic producers, diversifying relations with European and international business partners, increasing the productivity of companies by streamlining production processes and efficient use of natural resources, improving the quality management of enterprises by increasing the quality of domestic products and services.

In order to expand the channels for its foreign trade – the several international agreements signed by the Republic of Moldova in recent years which contribute to the development of trade relations between Moldova and EU countries. Thus, the agreement initiated in 2013 at the Eastern Partnership summit in Vilnius on the creation of a Deep and Comprehensive Free Trade Area (DCFTA) with the European Union will provide Moldova with the necessary basis for the modernization of trade relations and economic development by opening the markets through the elimination of customs duties and quotas, as well as through the comprehensive harmonization of the national legislation, rules and regulations with the European legislation in trade-related fields.

Also, a free trade agreement was signed between the Republic of Moldova and such important partner as the Republic of Turkey, which provides for the promotion of regional trade by improving trade relations between the signatory states, is determined by Turkey's commitments towards the European Union, according to which the Turkish side should harmonize its trade policy with that of the Community, and this harmonization will also include preferential trade agreements that the European Union should sign with third countries, including the Republic of Moldova.

As a result, foreign trade between the Republic of Moldova and the EU has been expanding over the last period. Statistical analysis of official data shows a significant increase in grain exports to the EU through the application of the anti-circumvention mechanism. Thus, processed cereals were exported - 15659 tons or 313% of the total of 5000 tons, corn - 130484 tons or 52% of the total of 250000 tons, wheat - 169975 tons, i.e. 113% of the total set quota of 150000 tons, barley - 14347 tons or 14% of the total of 100000 tons, sweet corn - 3053 tons or 204% of the total of 1500 tons, processed sugar - 2207 tons, that is, 53% of the total of 4200 tons, and sugars - 18778 tons, that is, 50% of the total of 37400 tons.

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#### Rezumat

Această lucrare are drept scop analiza și evoluția comerțului extern al Republicii Moldova și identificarea provocărilor din sector. Politica comercială a Republicii Moldova este componenta principală a politicii economice a țării și are drept scop dezvoltarea relațiilor economice externe, în special prin promovarea

exporturilor și diversificarea piețelor, stimularea, dezvoltarea și protejarea economiei naționale de concurența străină, prin reglementarea și monitorizarea importurilor și menținerea balanței comerciale. Analiza și cercetarea acestei lucrări s-a bazat pe lucrările științifice naționale și internaționale, pe rapoartele Ministerului Dezvoltării Economice și Digitalizării, pe Rapoartelor naționale și internaționale și datele oficiale ale Biroului Național de Statistică al Republicii Moldova.

Volumul comerțului exterior de mărfuri în prima jumătate a anului 2023, comparativ cu perioada similară a anului precedent, s-a redus cu 3,4%. Astfel, volumul comerțului exterior în perioada analizată a constituit 6413,8 milioane USD. Exporturile de mărfuri au scăzut cu 10,9% sau 249,2 milioane USD, în timp ce importurile au crescut cu 0,5%, constituind 21 milioane USD.

În ultimii ani au avut loc schimbări importante în comerțul exterior reorientându-se spre UE. Astfel, devenind principalul partener comercial al Republicii Moldova, acest lucru se datorează relațiilor internaționale, și anume procesului de cooperare și parteneriat cu Uniunea Europeană. Aceste relații au, de asemenea, un impact pozitiv asupra dezvoltării economiei naționale și joacă un rol important în consolidarea țării. În același timp, UE sprijină întreprinderile mici și mijlocii prin acordarea de sprijin financiar sub formă de granturi, împrumuturi, coaching și consultanță. Sprijinul financiar al UE este aliniat la obiectivul DCFTA și reprezintă un cadru favorabil pentru creșterea exporturilor, sporirea competitivității producătorilor autohtoni, diversificarea relațiilor cu partenerii de afaceri internaționali, creșterea productivității întreprinderilor prin eficientizarea proceselor de producție și utilizarea eficientă a resurselor naturale, îmbunătățirea managementului calității întreprinderilor prin creșterea calității produselor și serviciilor autohtone.

Cuvinte-cheie: comertul exterior, import, export, OMC, DCFTA, bunuri și servicii, Republica Moldova

#### Аннотация

Данное исследование посвящено внешней торговле Республики Молдова, и его целью является анализ внешней торговли страны, выявление проблем, анализ и оценка ситуации в этой области. Торговая политика Республики Молдова является основным компонентом экономической политики страны и направлена на развитие внешнеэкономических связей, в частности, путем стимулирования экспорта, защиты национальной экономики от иностранной конкуренции, регулирования и мониторинга импорта и поддержания торгового баланса.

Анализ в данном исследовании основывался на информации из национальных и международных научных исследований, данных Национального бюро статистики Республики Молдова, данных национальных и международных Отчетов.

Объем внешней торговли товарами в первом полугодии 2023 года снизился на 3,4% по сравнению с аналогичным периодом предыдущего года. Таким образом, объем внешней торговли товарами в этот период составил 6413,8 млн долларов США. Экспорт товаров сократился на 10,9% или на 249,2 млн долларов США, а импорт увеличился на 0,5%, что составляет 21 млн долларов США. В последние годы во внешней торговле Молдовы произошли значительные изменения. Основным партнером является ЕС, что обусловлено международными отношениями, а именно процессом сотрудничества и партнерства с Европейским союзом. Эти отношения также оказывают благоприятное влияние на развитие молдавской экономики и играют важную роль в укреплении страны. В то же время ЕС поддерживает малые и средние предприятия, предоставляя им финансовую поддержку в виде грантов, кредитов, коучинга и консультативной помощи. Финансовая поддержка ЕС соответствует целям УВЗСТ и собой благоприятную для увеличения представляет основу экспорта, конкурентоспособности отечественных производителей, диверсификации отношений с европейскими и международными деловыми партнерами, повышения производительности компаний за счет рационализации производственных процессов и эффективного использования природных ресурсов, улучшения управления качеством предприятий путем повышения качества отечественной продукции и

**Ключевые слова:** внешняя торговля, импорт, экспорт, ВТО, УВЗСТ, товары и услуги, Республика Молдова

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# STRATEGIC DIRECTIONS FOR THE DEVELOPMENT OF THE CAPITAL MARKET IN THE ERA OF GLOBALIZATION: A LEGISLATIVE-NORMATIVE ANALYSIS IN THE CONTEXT OF THE REPUBLIC OF MOLDOVA

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#### Abstract

In the current context of the global economy, the capital market and securities hold significant importance, allowing for the mobilization and efficient use of financial resources. The development of capital market legislation must follow globalization trends, by harmonizing with international standards, increasing market accessibility, regulating emerging markets, improving supervision and regulation, as well as using technology and new business models. Legislative-normative analysis is crucial for understanding the functioning and regulatory mechanisms of the capital market. This helps not only to identify weaknesses and challenges in the system, but also to strengthen investor confidence by ensuring fair and transparent competition. Increasing market accessibility, harmonizing with international standards and improving supervision are essential aspects in this process. The central purpose of this article is to analyze in depth the impact of legislation and regulatory norms on the capital market, with special attention given to the impact of community norms in the process of implementing the community acquis. The article focuses on the development of investment strategies adapted and compliant with current legislation and regulations, thus highlighting the dynamics and complexity of the capital market in the international and community regulatory context.

**Keywords**: capital market, globalization, institutional framework, investor protection, securities regulation, financial legislation

#### 1. Introduction

Today, the capital market and securities play an important role in the global economy by facilitating the effective utilization and mobilization of financial resources. In light of the constant changes related to capital and securities market regulation, including investor protection and market transparency, theoretical and legislative-normative analysis becomes more relevant than ever.

It is vital to follow the trends of globalization, the regulation of emerging markets and the use of technological innovations, in order to develop effective and responsible investment strategies in an ever-evolving market. As far as legislative-normative analysis is concerned, it refers to the study of regulations and legislation governing the capital market and securities. This analysis is important to understand how the capital market functions and is regulated and to develop investment strategies that comply with applicable laws and regulations.

Moreover, a rigorous analysis of legislation and regulatory norms allows the identification of capital market weaknesses as well as challenges faced by regulatory and supervisory authorities. In this sense, the development of legislation and regulatory norms is essential for increasing investor confidence in the domestic capital market and for ensuring a fair and transparent competition between all market participants.

At present, many changes in capital and securities market regulation and legislation occured, including increasing concerns about investor protection and market transparency [1]. These changes make the topic more current than ever and emphasize the importance of theoretical and legislative-normative analysis in the development of effective and responsible investment strategies.

The development of capital market legislation must follow globalization trends, by harmonizing with international standards, regulating emerging markets, improving supervision and regulation, increasing market accessibility, as well as using new business models and technology [2].

The capital market in the Republic of Moldova faces several challenges from a legislative perspective. One of the main problems of the capital market in the Republic of Moldova is the regulatory and legislative instability. Frequent changes in legislation and regulations can create uncertainty for investors and affect the development of the capital market. At the same time, although the Republic of Moldova has adopted a series of laws and regulations that regulate the capital market, their implementation can be deficient. This may affect investor protection and create an unsafe investment environment.

Likewise, in the Republic of Moldova, there are still some problems related to access to information and the transparency of companies and securities issuers. Transparency and the availability of adequate information for investors are essential for the development of the capital market.

These challenges must be addressed through the implementation of appropriate regulatory and financial education policies, which will stimulate the development of the capital market in the Republic of Moldova. Thus, the development of proposals for the legal-normative development of the capital market in the Republic of Moldova, in accordance with international standards, can contribute to improving the functioning.

#### 2. The degree of investigation of the problem currently, and purpose of research

The intersection of capital market regulation and globalization has garnered significant attention in recent academic research.

Thus, Douglas W. Arner's analysis in Globalization of Financial Markets: An International Passport for Securities Offerings, provides a comprehensive examination of the evolution of global financial markets and the consequential regulatory challenges [2]. His work is pivotal in understanding the relationship between global economic trends and local regulatory policies.

Eddy Wymeersch's paper "The Future of Financial Regulation and Supervision in Europe" delves into the adaptive challenges faced by regulators amidst rapidly changing global financial markets. He emphasizes the necessity of international cooperation in regulatory efforts [15].

Greta R. Krippner's Perspective: In "Capitalizing on Crisis", Krippier explores the political underpinnings of the U.S. economy's transformation, focusing on regulatory changes in response to globalization. Her analysis is instrumental in understanding the socio-economic factors influencing capital market regulation [11].

Tony Porter's Transnational Financial Regulation after the Crisis relates the impacts of global financial systems and the role of international regulatory bodies. Porter's analysis is crucial for understanding systemic risks and the challenges of regulation in a globalized context [14].

The works reviewed illustrate the complexity of developing effective regulatory frameworks in a globalized financial environment. They underscore the need for balancing national interests with the necessity of maintaining global financial stability. Thus, this overview highlights the significant contributions of key scholars in the field of capital market regulation within the globalization framework. Their research offers vital perspectives for policymakers and researchers interested in understanding and navigating the intricacies of global financial regulation.

#### 3. Methods and materials applied

In the process of preparing the article, the scientific and methodological basis was based on the international standards developed by the International Organization of Securities Commissioners (IOSCO) and the European Association of Capital Market Supervisory Authorities (ESMA). These standards provided an essential frame of reference for analyzing capital market supervision regulations and practices. Primary and secondary sources were examined, including relevant national legislation and EU regulations, government reports, academic publications and specialist articles. This analysis enabled the identification and interpretation of current legislative trends and their impact on the capital market.

Also a critical appraisal of the information collected was conducted, discussing the implications of the findings and recommendations for future capital market policies and practices. To ensure a thorough analysis, there were gathered and scrutinized data and information from a variety of sources to present case studies of countries. Thus, the article provides a detailed and critical assessment of the data gathered, addressing the significance of the findings and formulating recommendations for future directions in capital market policy. Various examples from different countries were also presented, illustrating how cooperatives contribute to the circular economy, with a particular focus on their relevance for capital market regulations. These case studies provide a global perspective and bring to the fore effective practices and specific challenges, thus providing a valuable framework to inform and guide future regulatory strategies. Therefore, this study not only highlights the essential role of cooperatives in promoting the circular economy, but also paves the way for the adoption of innovative and sustainable regulatory approaches in the capital market.

#### 4. Results obtained and discussion

The globalization of the capital market in the Republic of Moldova took place to a certain extent due to the adoption of the acquis communautaire within the national legislation.

The implementation of the Community acquis in the Republic of Moldova in the field of the capital market required a series of legislative and institutional reforms to align the legal and regulatory framework of the capital market with European standards. In the process, new laws and regulations were introduced to promote transparency and investor protection, encourage investment and develop new financial instruments.

The infrastructure and transaction monitoring and reporting system have also been created to ensure proper supervision of the capital market.

Despite the progress made, there are still challenges and improvements needed to ensure the sustainable and stable development of the capital market in the Republic of Moldova.

The harmonization of domestic legislation with EU requirements has allowed the development of alternative financing instruments, such as corporate bond issues, which will certainly have a positive impact on the development of the private sector and the economy in general. These issues will allow companies to raise finance directly from the capital market, thereby reducing reliance on bank financing and improving access to capital.

In addition, the implementation of the acquis communautaire also brought greater confidence on the part of foreign investors, which led to an increase in the volume of foreign investments on the capital market of the Republic of Moldova. These investments have brought significant economic benefits, such as job creation, increased production and improved living standards of the population.

More precisely, the implementation of European legislation led to an increase in the level of regulation and supervision of financial activities, which improved transparency and investor protection. These measures reduced the risk of dishonest practices and encouraged the growth of investors' confidence in the capital market of the Republic of Moldova.

Also, the implementation of European legislation has improved Moldovan companies' access to financing, by creating higher standards of transparency and financial reporting, which have attracted international investors. In addition, the implementation of European legislation stimulated the development of professional participants on the capital market in the Republic of Moldova, by creating a clear and predictable regulatory framework, which facilitated their activity. This has led to an increase in competition and a diversification of financial services offered in the Republic of Moldova.

The reform efforts of the National Commission for Financial Markets (NCFM) on the dimension of alignment with the community acquis will be further directed as a priority towards further strengthening the regulatory and supervisory framework, increasing the degree of implementation of corporate governance at the level of entities licensed/authorized on the capital market and ensuring genuine transparency of the shareholders of these entities.

To achieve the proposed objective, the following actions will be undertaken:

a) the transposition and implementation of the normative framework related to Directive 2013/36/UE1 (CRD-IV) [9] in terms of prudential requirements for investment

companies, which essentially aims to increase the importance of internal risk management functions, the assurance by companies of investments of an initial capital sufficient to absorb losses in case of crisis situations, ensuring effective on-site and ex officio monitoring by the CNPF regarding the degree of capital adequacy of investment companies. For this purpose, the following will be carried out:

- o elaboration and implementation of amendments and additions to the capital market legislation in the context of Directive 2013/36/EU;
- o the elaboration, approval and implementation of the normative framework subordinated to the Law no. 171/2012 regarding the capital market, including the transposition of Regulation (EC) no. 575/2013 [56].
- b) examination, under the aspect of the reality of the domestic capital market, of the opportunities of transposition of Directive 2014/65/UE3 [5] and Delegated Regulation (EU) no. 600/20144 (of the MiFID-II framework). These rules adjust the MiFID-I framework to the needs of today's market and bring news in terms of trading platforms, types of financial instruments, reporting requirements, etc.;
- c) the elaboration and implementation of amendments and additions to the legislation on joint-stock companies in the context of Directive (EU) 2017/1132 and Directive (EU) 2017/828 [8].
- d) monitoring the application of the community acquis for the purpose of permanent revision of domestic regulatory norms.

At the same time, the NCFM aims to quantify the most suitable solutions for the revival of this sector for the coming years, among which are:

- a) stimulating the increase in the attractiveness of the capital market. In order to encourage investors and issuers of securities, fiscal measures aimed at redirecting capital towards long-term investments in various attractive fields are needed to stimulate public offers;
- b) the development of the bond market through:
  - the development and implementation of the normative framework related to the issuance of corporate bonds by joint-stock companies and limited liability companies, including their admission and circulation on the regulated market or within the MTF;
  - intensifying the dialogue with the institutions responsible for issuing state financial instruments, especially bonds with a circulation term of more than one year, in order to admit them to trading on the regulated market;
  - revision of the normative framework related to the issuance and circulation of municipal bonds in order to ensure optimal financing conditions for the investment programs carried out by the local public administration bodies.
- c) revision of the normative framework in order to develop the organized market (regulated market and MTF). Considering that the globally organized markets are the ones that ensure adequate protection for consumers of financial services, through the creation of investment guarantee schemes, NCFM continues to propose priorities in the development of this market segment through activities aimed at:
  - the development and implementation, in agreement with the operator of the organized market, of an action plan aimed at ensuring the improvement of trading mechanisms and rules according to the best practices in the field;

- drafting amendments to Law no. 171/2012 on the capital market in order to attract investments through public offers of securities carried out on the regulated market or within the MTF;
- stimulating the attraction on the regulated market of large companies with significant trading values by highlighting the advantages of being present on this segment in relation to traditional financing methods.

In conclusion, the implementation of the community acquis had a significant positive impact on the activity of professional participants on the capital market in the Republic of Moldova. The harmonization of domestic legislation with EU requirements created a favorable environment for the development of the capital market, attracted new investments and improved the protection of investors, which led to the growth of the economy and the improvement of the living standards of the population.

At the same time, the NCFM's efforts regarding the continuation of the process of adjusting the domestic legislation to European standards are welcome. These efforts are essential to ensure the transparency, safety and stability of the capital market in the Republic of Moldova and to make it attractive for foreign investors.

In addition, the harmonization of legislation with EU requirements can contribute to increasing the volume of transactions and liquidity on the capital market, which can stimulate the economic development of the country. Therefore, it is important that these efforts continue and be consolidated to ensure a robust and well-regulated capital market in the Republic of Moldova.

Globalization has had a significant impact on the capital market and the laws that govern it. In this context, there are several strategic directions for the development of capital market legislation that can be traced in the context of globalization trends.

#### These include:

➤ Continuing and maximizing efforts on harmonizing national legislation with international standards: In the context of globalization, investors and companies expect capital market legislation to be harmonized with international standards. This includes, among others, transparency standards, information disclosure and financial audit regulations.

In a global economy, investors and companies are increasingly interested in investing and doing business abroad. This means that there is an increased need for international capital market standards to be respected by all countries. Investors and companies are looking for a clear legal framework and stability in capital market regulations to be able to make safe investments and plan for the long term. International standards in the field of capital markets include transparency of financial information, disclosure of information and financial audit regulations.

In terms of transparency of financial information, companies must provide clear and accurate information about their financial activities, as well as business risks and opportunities. Disclosure must be made in an accessible and understandable way for all investors so that they can make informed decisions.

Financial audit regulations are also essential to ensure that companies are supervised and that the information provided is reliable. A full and independent financial audit can help identify potential problems with a company's business and give investors the confidence they need when making investment decisions.

By harmonizing with these international standards, capital market legislation can provide a clear and stable legal framework for investors and companies interested in investing in those countries. This can contribute to increased investment, more efficient allocation of resources and ultimately to the growth of national economies.

There are several countries that have harmonized their capital market legislation with European standards, but the best examples are Estonia, Lithuania and Latvia, which are all member states of the European Union.

Estonia has made significant progress in harmonizing its capital market legislation with European standards in recent years. In 2017, Estonia implemented a new legal framework for transactions in financial instruments, which was harmonized with the EU's Markets in Financial Instruments Directive (MiFID II). This legal framework brought greater transparency and protection for investors and strengthened supervision of the capital market in Estonia.

*Lithuania* has also made significant progress in harmonizing its capital market legislation with European standards in recent years. In 2015, Lithuania adopted a new capital market code, which strengthened and modernized the country's capital market regulation and created a modern legal structure for the capital market [7]. This code has also been harmonized with the EU's Markets in Financial Instruments Directive (MiFID II).

Latvia was also one of the first countries to harmonize its capital market legislation with European standards. In 2004, Latvia adopted a capital market law that was harmonized with the Directive on transparency of information published by issuers and introduced stricter rules for the disclosure of financial information. These rules were introduced by the Capital Markets Act of 2004, which transposed into national law the EU Directive on the transparency of information published by issuers. The Capital Markets Act of 2004 established the obligation for all issuers of financial instruments to publish periodic financial information and periodic information to enable investors to make informed investment decisions. This information includes annual and semi-annual financial reports as well as corporate governance reports. Also, the Capital Market Law of 2004 established the obligation for all issuers to publish information regarding important events that could affect the price of the financial instruments issued by them. This information must be published without undue delay and be available to all investors.

These countries have demonstrated that the harmonization of capital market legislation with European standards is essential for the development of the capital market and to provide a clear and stable legal framework for investors and companies.

➤ Increasing the accessibility of the capital market: Capital market legislation must allow greater accessibility for investors and issuers, both domestic and foreign. This can be achieved by reducing obstacles to cross-border investment and by improving the procedures for listing and issuing financial instruments.

In terms of accessibility for investors and issuers in the capital market, there are a number of countries that are considered to have best practices and have implemented measures to

improve access to the capital market for investors and issuers, both domestically, as well as from outside the country.

One example is *Estonia*, which created an electronic trading system for financial instruments, which led to a significant increase in the number of transactions and increased accessibility for investors, especially those outside the country. In addition, Estonia has introduced a number of legislative reforms to support cross-border investment, such as the adoption of clearer rules on the listing and regulation of financial instruments and issuance procedures.

These reforms include the adoption of clearer rules on the listing and regulation of financial instruments and issuance procedures. Specifically, Estonia has introduced a number of measures to increase transparency and promote accessibility for investors and issuers, such as:

- Clearer regulation of the listing and issue of financial instruments: Estonia has established a set of clearer and more detailed rules to regulate the listing and issue of financial instruments. These rules set clear and transparent requirements for the issuer, such as disclosure information and financial reporting requirements, which help improve accessibility and transparency for investors. Promotion of electronic transactions: Estonia has developed a modern electronic trading platform, which has led to a significant increase in the number of transactions and improved access to the capital market for investors, especially those outside the country.
- Investor protection: Estonia has instituted a number of investor protection measures, such as stricter issuer disclosure information requirements and increased capital market transparency.

These legislative reforms have improved accessibility for investors and issuers, and Estonia is now considered one of the most investment-friendly countries in Europe.

Another country that has implemented measures to improve access to the capital market is *Poland*, which has developed a modern electronic trading platform and instituted a number of legislative reforms to increase accessibility for investors and issuers. For example, Poland simplified listing procedures and instituted a number of investor protection measures, such as stricter disclosure information requirements for issuers and increased capital market transparency.

Finally, EU countries, especially those that have recently joined, have implemented and harmonized their legislation with the Markets in Financial Instruments Directive (MiFID II), which sets the rules for trading financial instruments and promotes greater accessibility for investors and issuers throughout the EU. In this respect, capital market legislation in the EU has evolved to improve accessibility and reduce obstacles to cross-border investment, which has stimulated capital market development and increased competition across the EU.

➤ Improving supervision and regulation: In the context of globalization, it is important to have an adequate framework for supervision and regulation of the capital market to prevent fraud and abuse. Improved regulation and supervision can help increase investor confidence in the capital market.

In this regard, there are some countries that have implemented best practices to ensure an adequate capital market supervision and regulatory framework to protect investors' interests and promote sustainable economic growth. An example of a country that has implemented strong capital market regulation legislation is the *United States of America* (USA). The US

adopted laws such as the Sarbanes-Oxley Act, which was enacted in the wake of the Enron scandal and other accounting frauds, to more strictly regulate financial reporting information and protect the interests of investors. Also, the Securities and Exchange Commission (SEC), the US capital market watchdog and regulator, has extensive powers to investigate and sanction violations of the law by companies and investors.

Another country that has implemented adequate capital market supervision and regulation measures is *Germany*. Germany's capital market watchdog, BaFin, has an important role in capital market regulation and has implemented a number of measures to prevent fraud and abuse, such as stricter disclosure information requirements and regulations on securities transactions. Thus, BaFin (Federal Financial Supervisory Authority), as an independent supervisory organization, has a key role in the regulation of the capital market in Germany and has implemented a number of legislative measures to prevent fraud and abuse in the capital market. These include stricter financial disclosure requirements, stricter shareholder transparency requirements and insider trading regulations. BaFin has also implemented a system to supervise investment firms and introduced strict rules on trading practices.

Another country with strong legislative measures to supervise and regulate the capital market is the **UK**, which has the Financial Conduct Authority (FCA) as its independent supervisory body. The FCA is responsible for the regulation and supervision of UK financial institutions, including the capital market. It also implemented stricter financial disclosure requirements and insider trading regulations, as well as investor protection requirements and unfair business practice regulations. In addition, the FCA has created an early warning system that detects potential compliance and risk management issues before they escalate. This system enables the FCA to take swift and effective action to prevent capital market abuse and fraud.

➤ Use of technology and new business models: In recent years, technology has revolutionized the capital markets, with the emergence of new business models such as crowdfunding and fintech.

Capital market legislation needs to adapt to these changes to enable innovation and support capital market development. In an increasingly digitized world, the development of technology has brought a number of changes and opportunities in terms of capital markets. It is therefore important that legislation adapts and facilitates these changes.

A recent trend is the use of blockchain technology in financial instrument transactions. This offers a number of advantages, such as increasing the transparency and security of transactions, reducing costs and eliminating intermediaries. In this regard, *Switzerland* is an example of a country that has adopted blockchain and cryptocurrency friendly legislation. In 2018, a law was passed that regulated blockchain-related activities and created a legal framework for the issuance and trading of cryptocurrencies. This law also allowed investment funds to invest in cryptocurrencies and blockchain [10].

Another important trend is the use of artificial intelligence in analyzing market data and making investment decisions. In this regard, the *United States of America* passed a law in 2021 that allowed the use of artificial intelligence in data analysis and investment decision-making, provided that these decisions are consistent with the interests and needs of investors.

Cryptocurrency investments are a topic of increased interest for many investors in the capital markets, and financial supervisory authorities must find ways to control these investments to protect investors and prevent illegal activities such as money laundering and terrorist financing.

One of the most important measures that financial supervisory authorities can take is to regulate cryptocurrency markets and cryptocurrency transactions. Regulations should set stricter requirements for cryptocurrency transactions, such as identifying customers and monitoring suspicious transactions. There should also be clear requirements for cryptocurrency market operators and financial service providers offering services related to cryptocurrencies [4]. In addition, financial supervisory authorities should have the power to monitor cryptocurrency transactions and be able to intervene if suspicious activities are observed. This can be achieved through the use of blockchain technology, which enables transparent tracking of cryptocurrency transactions.

Finally, it is important that financial supervisory authorities work together internationally to combat illegal cryptocurrency investments and to regulate cryptocurrency markets globally. This can be done through international organizations such as the G20, which has already adopted some rules and recommendations regarding cryptocurrencies [4]. In conclusion, there are many countries that have implemented best practices to ensure an adequate framework for capital market supervision and regulation. These practices are essential to prevent fraud and abuse and to protect the interests of investors and promote sustainable economic growth.

- 1. The supervision and monitoring of the activity of professional participants on the capital market in the Republic of Moldova can be improved by implementing effective measures, such as:
- 2. **Improving inter-institutional cooperation** financial supervisory authorities should cooperate more closely with each other and share relevant information on the activity of professional capital market participants. It would also be useful to establish links with financial supervisory authorities in other countries to share best practices and coordinate cross-border supervisory activities.
- 3. **Implementation of stricter rules on disclosure of information** professional capital market participants should be required to provide clear and complete information on their activities and associated risks. This information should be available to investors and financial supervisory authorities so that they can better assess risks and take appropriate action in the event of non-compliance.
- 4. **Development of mechanisms for monitoring suspicious transactions** financial supervisory authorities should develop effective mechanisms for monitoring suspicious transactions to prevent money laundering and terrorist financing. These mechanisms should be used regularly and updated according to new threats and trends in the capital market.
- 5. **Strengthening the capacities of financial supervisory authorities** financial supervisory authorities should be adequately resourced and equipped with well-trained and specialized staff. They should be able to identify and respond quickly to risk situations and be able to take appropriate measures to protect investors and capital market stability.

# 6. Implementation of a tighter and more coherent legal framework to prevent unfair practices and protect investors. These measures could include:

- Increasing the capacity of financial supervisory authorities, by improving their resources and competences, so that they can supervise more carefully the activity of professional participants in the capital market.
- Development of a strong and secure technological infrastructure to enable effective supervision of transactions and facilitate the exchange of information between financial supervisory authorities and capital market participants.
- Creating a clearer and more detailed legal framework for the activity of professional capital market participants, so as to prevent unfair practices and protect investors.
- The introduction of stricter requirements for obtaining the necessary licenses and accreditations for activity on the capital market, as well as for compliance with standards of conduct and ethics.
- Close collaboration between financial supervisory authorities in different countries, so that illegal and unfair activities that may take place across borders can be identified and prevented.

The implementation of these measures could contribute to improving the supervision and monitoring of the activity of professional participants in the capital market in the post-Soviet space and increasing investor confidence in this market. At the same time, it is to note that the development of capital market legislation must follow globalization trends, by harmonizing with international standards, increasing market accessibility, regulating emerging markets, improving supervision and regulation, as well as using technology and new business models.

#### 5. Conclusions

Although the Republic of Moldova has adopted a series of laws and regulations that regulate the capital market, their implementation can be deficient. This may affect investor protection and create an unsafe investment environment.

In addition, in the Republic of Moldova, there are also problems related to corruption and the uneven application of laws and regulations. These problems can affect investor confidence and slow down the development of the capital market.

Therefore, it is important that regulatory and supervisory authorities work together with capital market participants to improve the implementation of legislation and regulations, as well as to ensure their uniform and non-discriminatory application. In this sense, a close and continuous collaboration between all the factors involved is necessary to ensure a favorable environment for investments and the development of the capital market in the Republic of Moldova.

In the Republic of Moldova, a significant problem regarding transparency and availability of information is related to the fact that many companies do not publish sufficient or quality financial and business information. This can make it difficult to assess investment potential and discourage investors from participating in the capital market. In addition, there are other transparency issues, such as a lack of information on the shareholding structure, relationships

with other affiliates or the state, or incomplete or inaccurate information on risk management. These problems can reduce investor confidence and affect the development of the capital market.

It is also important that there is adequate transparency in the process of issuing and trading securities. This may include information regarding the price and volume of transactions, information regarding commissions and fees involved in the transaction process, and the regulations governing these transactions. These challenges must be addressed through the implementation of appropriate regulatory and financial education policies, which will stimulate the development of the capital market in the Republic of Moldova.

Following the analysis of the regulations regarding the capital market in the Republic of Moldova, the following recommendations can be proposed to improve the regulatory framework of the capital market:

- Establishing a coherent and stable legal and regulatory framework that provides investors with a safe and predictable environment.
- Consolidation and periodic updating of capital market legislation so that it is consistent with international standards and provides adequate protection to investors.
- Increasing the transparency and availability of financial information of companies and issuers of securities, by establishing clear and mandatory requirements regarding the disclosure of information.
- Ensuring effective supervision and regulation of the capital market, by strengthening the capacity and independence of regulatory and supervisory entities, as well as by improving control and sanctioning mechanisms.
- Stimulating the development of the capital market by introducing innovative financial instruments, encouraging the listing of companies on the capital market and creating a favorable environment for investors.

These recommendations could contribute to the improvement of regulations and the development of the capital market in the Republic of Moldova, which could increase the attraction of investments and the economic development of the country.

At the same time, in order to streamline the transposition of European legislation on the capital market of the Republic of Moldova, the following recommendations can be taken into account:

- Elaboration of a detailed plan for the implementation of European legislation in the field of the capital market in the Republic of Moldova. This plan should identify the transition points, deadlines and responsibilities of the institutions involved in the transposition process.
- Ensuring transparent and efficient communication between the institutions responsible
  for transposing European legislation, issuers and investors. This should include the
  publication of relevant information on the websites of the institutions involved and the
  organization of information and consultation events for interested parties.
- Ensuring adequate financial and human resources for the implementation of European legislation in the field of the capital market in the Republic of Moldova. This should include the training of specialized personnel and the development of the necessary infrastructure to support the effective implementation of the new regulations.

- Continuous monitoring of the transposition process of European legislation and updating of national regulations and directives to reflect legislative and normative changes at the EU level. This should be done in a transparent way, by consulting stakeholders and publishing relevant information in time.
- Promotion of regional and international cooperation in the field of the capital market, including through the active participation of the Republic of Moldova in regional and international organizations and forums relevant to the capital markets. This could help improve transparency, regulatory standards and increase investment in the capital market of the Republic of Moldova.

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#### Rezumat

În contextul actual al economiei globale, piața de capital și valorile mobiliare au o importanță semnificativă, permițând mobilizarea și utilizarea eficientă a resurselor financiare. Dezvoltarea legislației pieței de capital trebuie să urmeze tendințele globalizării, prin armonizarea cu standardele internaționale, creșterea accesibilității piețelor, reglementarea piețelor emergente, îmbunătățirea supravegherii și reglementării, precum și prin utilizarea tehnologiei și a noilor modele de afaceri. Analiza legislativ-normativă este crucială pentru înțelegerea funcționării și mecanismelor de reglementare ale pieței de capital. Acest lucru ajută nu numai la identificarea punctelor slabe și a provocărilor din sistem, ci și la consolidarea încrederii investitorilor prin asigurarea unei concurențe loiale și transparente. Creșterea accesibilității pieței, armonizarea cu standardele internaționale și îmbunătățirea supravegherii sunt aspecte esențiale în acest proces. Scopul central al acestui articol este de a analiza în profunzime impactul legislației și normelor de reglementare asupra pieței de capital, cu o atenție deosebită acordată impactului normelor comunitare în procesul de implementare a acquis-ului comunitar. Articolul se concentrează pe dezvoltarea unor strategii de investiții adaptate și conforme cu legislația și reglementările în vigoare, evidențiind astfel dinamica și complexitatea pieței de capital în contextul de reglementare internațional și comunitar.

**Cuvinte-cheie**: piața de capital, globalizare, cadru instituțional, protecția investitorilor, reglementarea valorilor mobiliare, legislația financiară

#### Аннотация

В современных условиях глобальной экономики рынок капитала и ценных бумаг имеют важное значение, позволяя мобилизовать и эффективно использовать финансовые ресурсы. Развитие законодательства о рынке капитала должно следовать тенденциям глобализации путем его гармонизации с международными стандартами, повышения доступности рынков, регулирования развивающихся рынков, улучшения надзора и регулирования, а также использования технологий и новых бизнес-моделей. Законодательно-нормативный анализ имеет решающее значение для понимания функционирования и механизмов регулирования рынка капитала. Это помогает не только выявить слабые места и проблемы в системе, но и укрепить доверие инвесторов за счет обеспечения честной и прозрачной конкуренции. Повышение доступности рынка, гармонизация с международными стандартами и улучшение надзора являются важными аспектами этого процесса. Основная цель данной статьи — углубленный анализ влияния законодательства и нормативных норм на рынок капитала, при этом особое внимание уделяется влиянию норм сообщества на процесс реализации норм сообщества. В статье основное внимание уделяется разработке инвестиционных стратегий, адаптированных и соответствующих действующему законодательству и правилам, тем самым подчеркивая динамику и сложность рынка капитала в международном и нормативном контексте сообщества.

**Ключевые слова:** рынок капитала, глобализация, институциональная основа, защита инвесторов, регулирование ценных бумаг, финансовое законодательство

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# FINANCIAL STABILITY MANAGEMENT OF THE AGRO-INDUSTRIAL COMPLEX ENTERPRISE IN THE MARKET ECONOMY

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#### Abstract

The most important characteristic of the organization's financial management is to ensure its liquidity and market stability. This is especially relevant for agricultural organizations whose activities depend on the management quality for managing both internal and external factors. The specifics of the industry require ensuring effective asset management throughout the entire period (year), and not during the season, which will contribute to the stability of the financial situation as a basis for development.

The article analyzes the activities of the enterprise in recent years in terms of improving the organizational and legal form of management, technical development, financial stability and identifies the ways to improve it.

**Keywords**: market economy, technical re-equipment, raw materials market, financial stability, financial management, investments

#### 1. Introduction

The transition from centralized state management of the economy to the market economy requires a revision of the philosophy of managing economic processes, both at the level of business structures and at the regional and state level. At the same time, the full responsibility for the results of the business lies entirely with its owners.

The requirements for the quality of financial management, the ability to form and effectively manage operational assets and, on this basis, ensure the financial stability of the enterprise are significantly increased.

In addition to that state and regional government bodies also participate in regulating economic processes using tax, monetary and investment policies; the quality of this policy also significantly affects the financial stability of business structures.

# 2. The degree of investigation of the problem at the present moment, the purpose of the research

The change of the economic management system is a complex and lengthy process that requires fundamental scientific and practical study, especially when the destruction of the

single economic mechanism occurred, having been replaced by many independent economic regions that completely lost inter-economic cooperative ties and powerful scientific support for economic development.

In this article, the author examines the causes of bankruptcy and complete liquidation of the large enterprises of the food industry in the region. This problem needs in-depth research and analysis. Using the example of the important for the region Kamensky cannery, which continues to operate, the author confirms the importance of the quality of management decisions made, both at the level of regional government bodies and at the enterprise level, in terms of strengthening their market positions and financial stability.

The problems of reforming forms of ownership in rural areas and the agro-industrial complex and financial stability have been given much attention by the following local scientists: Sheremet A.D., Bakanov M.I., Kovalev V.V., Volkova O.N., Markin Y.P., Blank I.A., Stratan A., Tsurkanu P., Timofti E., Akulai E., etc. [1, 2, 3, 4, 5, 6, 7, 8].

At the same time, the issues of organizational transformations of the agro-industrial complex, ensuring financial stability and liquidity of agricultural organizations and agricultural protectionism on the part of the state require further development.

### 3. Methods and materials applied

In order to ensure the financial stability of a business, a scientific system of management of its activities should be built with the position of the long-term perspective. Such a management system should be based on appropriate algorithms (indicators) for evaluating activities and forecast goals. In practice, various methods of analysis are used, which can be explained by the difference in goals and priorities set by analysts.

While writing this article, the results of systematic, scientifically organized work on the analysis of the current results of socio-economic transformations of the region as a whole and the agro-industrial complex in particular were used.

### 4. Results obtained and discussions

At the end of the twentieth century on the territory of the Northern region of pridnestrovie (the Rybnitsa and Kamenka districts), the following large food industry enterprises functioned: the Rybnitsky meat processing plant, dairy plant, the only and one of the oldest in the region sugar distillery, and the Kamensky cannery. However, the collapse of the single economic mechanism, the change of the economic management system, the lack of experience in managing the economy in market conditions at the regional level led to their bankruptcy and unjustified liquidation, with the exception of the Kamensky cannery. The main reason for this tragedy was the lack of a scientifically sound concept of reforming the agro-industrial complex, which led to the hasty liquidation of collective farms, the result of which was "A domino effect" – all large food enterprises of the agro-industrial complex of the northern region of pridnestrovie ceased to exist. The reason for this was a violation of the main principles that were taken as a basis when choosing the location and the size of the

production capacity of the construction of the enterprises. The main damage was caused to the raw material base for these enterprises.

The division of the land into shares for rural residents led to its fragmentation and, at best, to the formation of small businesses. Thus, there is a small-scale production, which is characterized by the diversified production of agricultural products in small quantities and their financial weakness. In addition, they try to avoid labor-intensive industries such as the production of vegetables, fruits, berries, legumes, while for the industrial production of canned fruits and vegetables, a reliable, developing raw material base is needed, which requires an appropriate concentration of the land. Only in this case it is possible to organize the production of these raw materials using new technologies, equipment, in compliance with all the requirements of the "Green Standard" in large quantities.

In the current situation, namely, the fragmentation of land by small users on lease terms, it will be economically feasible to improve the system of territorial placement and development of production capacities of the food industry [9].

At the same time, regarding the Kamensky cannery, which continues to operate, it will be economically expedient to preserve it, taking into account the technical equipment level of the production, professional management team and social significance for the densely populated region.

The cannery was put into operation in 1958, with a design capacity of 25 million conventional cans of canned food. After the collapse of the unified economic mechanism the staff of the enterprise made significant efforts to preserve it. The organizational and legal form of the management has repeatedly changed, which indicates the absence of the concept of reforming the agro-industrial complex at the state level.

Every year the cannery's staff increased the production of canned products due to the introduction of new equipment, technology and innovation proposals.

Due to the annually increasing volumes of growing vegetables and fruits in the region, which was dictated by the need to ensure the employment of the rural population, as well as thanks to favorable climatic conditions for this, it was necessary to increase the production capacity of the enterprise, which in 1989 was brought to 120 million conventional cans of canned food. Manual labor was maximally mechanized, the introduction of new technologies, containers and packaging continued. The number of employees of the enterprise has accordingly increased from 1200 people to 2100 people.

In 2004, the plant was privatized. Thanks to the investments and efforts of the management, the process of its technical re-equipment and the expansion of auxiliary and service workshops and farms continued. In 2006 a production line for "green peas", "sugar corn" was installed, a high-performance combine harvester for harvesting corn cobs was purchased.

However, the inefficient state policy regarding the use of the land, which resulted in their fragmentation by small users, led to the complete elimination of the horticultural industry, to a significant reduction in the area for the cultivation of vegetable and melon crops, and, accordingly, to a sharp reduction in raw material opportunities for the enterprise. All this, as well as the frequent and not always successful change of the company's management, since

2008 has led to a significant deterioration in its activities. Therefore, at the end of 2012, the cannery was returned to the state ownership.

However, despite this, the decline in production volumes continued, and the utilization rate of production capacity decreased to 0,05 (Table 1).

Table 1. The output of canned products of CJSC "The Kamensky cannery" for 2013-2022, a thousand conventional cans

Year	Produced in accounting terms, a thousand conditional cans	Capacity utilization rate
2013	38595,7	0,32
2014	21862,0	0,18
2015	7907,5	0,07
2016	6340,4	0,05
2017	8926,8	0,07
2018	28306,2	0,24
2019	15438,9	0,13
2020	10762,6	0,09
2021	36289,7	0,30
2022	45330,5	0,38

<sup>\*</sup>The production capacity is 120 million conventional cans.

Source: designed by the author

The reason for this was the same problem, namely, the insecurity of the enterprise with raw materials and the weakness of the state policy (owner) for its development. The hope that the management of the enterprise will be able to solve the problem of providing production with raw materials in a market economy has not justified itself, especially in the limited economic space of the region and the fragmentation of the land by small users. In this regard, in 2020, the Kamensky cannery again became private property.

Considering the history of the enterprise we can conclude that in the market economy who is the owner of the business is of great importance. It is not enough to have money capital. It is necessary to have a clear vision of the development prospects and, what is extremely important, to be able to provide production capacity with the necessary quantity and quality of raw materials, to have access to sales markets, as well as to manage cash flows effectively.

So, the new owner managed to be given fifteen hundred hectares of arable land by the state, which will significantly improve the provision of production with its own raw materials. In addition, the new owner has established good business contacts with contractors on the Right Bank of the Dniester, which will also contribute to solving the problem of raw materials supply.

The positive dynamics in the development of the enterprise is already being observed. Thus, the output in 2022 increased by a factor of 4,5 compared to 2020, the capacity utilization rate increased accordingly from 0,09 to 0,38 (Table 1).

Considerable work is being carried out to invest funds for the modernization and renewal of the existing production. For these purposes the owner invested 14,7 million rubles, which will expand the range of products by diversifying production; reduce production costs and improve product quality; increase the efficiency of the enterprise as a whole.

Table 2. Income and expense plan

Name of the	The year					
item	of	of	of	of	of	Total
Item	2023	2024	2025	2026	2027	
Income	19334839	24313450	29895885	40141545	44164361	157850080
Production costs						
- raw materials	9087374	13372398	17339613	26493420	30031765	96324570
and supplies						
Gross profit	10247465	10941053	12556271	13648125	14132595	61525510
Total operating						
expenses,	8538353	8702266	8815278	8898294	8846626	43800817
including						
Salary and UST	7300200	7300200	7300200	7300200	7300200	36501000
Other expenses						
(taxes,						
communications,	1238153	1402066	1515078	1598094	1546426	7299817
advertising, bank	1236133	1402000	1313078	1390094	1340420	1299011
services, fuel and						
lubricants)						
Net profit	1709112	2238786	3740993	4749832	5285969	17724692

Source: designed by the author

The payback period of the project is defined as the amount of investments divided by the average annual net profit:

- the amount of investments is 14 691 798 rubles;
- the project implementation period is 5 years;
- average annual net profit = <u>net profit for the entire project period</u> =

project implementation period

= 17 724 692 / 5 years = 3 544 938 rubles;

payback period of the project = 14 691 798 / 3 544 938= 4 years.

In addition, 315 hectares of intensive orchard have been designed for growing apples. A significant effect is expected from the expansion of irrigated farming areas.

Regarding the sales markets, it should be noted that the products produced by CJSC "The Kamensky Cannery" are of high quality and are in demand both in the domestic and foreign markets.

To confirm the expediency of preserving this enterprise, we will analyze its financial stability for 2020-2022 [10, 11].

The initial information of such an analysis is the data of the comparative analytical balance sheet.

Table 3. Comparative analytical balance sheet, million rubles

Balance indicators		2022 in % to 2020		
	2020	2021	2022	
Assets				
1.Non-current assets	74387,5	156114.0	202974,9	272,9
(A1)				
2. Current assets (A2)	66661,0	115190,9	126379,7	189,6
a) stock	43912,1	95481,2	94011,8	214,1
b) accounts	22597,9	19527,9	30068,0	133,1
receivable, short-term				
financial investments,				
cash and other assets				
c) short-term financial	151,0	181,8	2299,9	>15 times
investments and cash				
d) accounts receivable				
3. Losses				
Balance	1410048,5	2711304,9	329354,6	233,5
Liability				
4. Shareholders' funds	71902,2	118532,7	120186,2	167,2
(П3)				
5. Non-current loans	60061,2	92041,2	117714,7	196,0
and borrowings (Π4)				
6. Short-termliabilities	9085,1	60730,9	91453,7	>10 times
(П5)				
Balance	141048,5	271304,9	329354,6	233,5

Source: designed by the author

The data of the comparative analytical balance sheet indicate an increase by a factor of 2,3 in the balance sheet currency in 2022 compared to 2020. At the same time, non-current assets increased by a factor of more than 2,7, and current assets – by a factor of 1,9. The growth of non-current assets is caused by the technical re-equipment of production, which characterizes the quality of the company's development strategy. Short-term financial investments and cash have increased by a factor of 15. Non-current loans and borrowings have also increased by a factor of almost 2 and short-term liabilities by a factor of more than 10.

Using the data of the comparative analytical balance sheet, we will analyze the financial stability of the enterprise. There are several options for the degree of the financial stability of the enterprise [12]:

- 1. Absolute financial stability will take place provided that the stock figure is less than the amount of own working capital and short-term loans and borrowings.
- 2. Normal stability is possible provided that the sock figure is equal to the total figure of the main sources of stock formation and costs.
- 3. A financial crisis occurs when the sock figure exceeds the total figure of the main sources of stock formation and costs.

According to Table, in 2020 line 7 < line 6 or 43912,1 < 66661,0 million rubles; in 2021 95481,2 million rubles < 115190,8 million rubles; in 2022 94011,8 million rubles < 126379,7 million rubles.

The calculations are presented in Table 4.

Table 4. The analysis of the financial stability, million rubles

Financial indicators	Years			
Financial mulcators	2020	2021	2022	
1. Shareholders' funds	71902,2	118532,7	120186,2	
2. Non-current assets	74387,5	156114,0	202974,9	
3. Non-current loans and	60061,2	92041,2	117714,7	
borrowings				
4. Availability of net working	57575,9	54459,9	34926,0	
capital (line1+line3-line2)				
5. Short-term loans and borrowings	9085,1	60730,9	91453,7	
6. Total figure of the main sources	66661,0	115190,8	126379,7	
of stock formation and costs				
(line4+line5)				
7. Stock	43912,1	95481,2	94011,8	
8. Surplus (+) or shortage (-) of net	13663,8	-41021,3	-59085,8	
working capital (line4-line7)				
9. Surplus (+) or shortage (-) of the	22748,9	19709,6	32367,9	
total figure of the main sources of				
stock formation and costs				
(line6-line7)				
10. Type of financial condition	stable	stable	stable	

Source: designed by the author

### 5. Conclusions

Thus, the results of the analysis indicate that the financial condition of the enterprise is stable. At the same time, it should be noted that in 2021 and in 2022, due to the lack of own working capital (-41021.3 million rubles and -59085.8 million rubles, respectively) it is secured by attracting non-current loans and borrowings.

Attention is also drawn to the owner's active investment policy in fixed assets, the value of which in 2022 increased by a factor of 1,3 compared to 2020. In 2021 and 2022 alone, 58,8 million rubles were invested in the technical re-equipment of the production, 315 hectares of fruit-bearing orchards were planted, seedlings for another 300 hectares were purchased and are being prepared for rooting. This is a good groundwork for improving the raw material production capacity, increasing production volume, expanding the range of products, improving their quality and reducing cost.

Provided that the owner implements the business plan developed for the next five years, and, most importantly, strengthens the position in the raw materials market, the liquidity of the enterprise and its market stability will improve. According to the forecast calculations, the company's revenues in 2027 will increase 8,2 times compared to 2023, net profit -10,4 times, the investment project will pay off in four years. The conducted research confirms the effectiveness of the financial management of the new owner.

At the same time, given the importance of the agro-industrial complex for the socio-economic development of the region, this industry needs state support (agrarian protectionism) in terms of tax exemption of the amount of income allocated for technical re-equipment, differentiation of rent for land for perennial plantations, taking into account their maturation, protection of producers' interests in the sales markets. The state policy of the land use is extremely important. This policy should be based on the following objectives: creation of modern agricultural organizations; effective use of the land; preservation of its fertility; consideration of the social and economic interests of rural residents. There are significant reserves for improving the financial condition of the enterprise in the development of production diversification. The specifics of agricultural raw materials and their processing make it possible to significantly expand the range of products produced, which will lead to an increase in the efficiency of the use of fixed assets, an increase in the production and sales, an increase in profits, and, accordingly, to an improvement in the financial condition of the enterprise.

A significant social effect will also be achieved. So, if at present the average number of employees of the enterprise is 190 people, then taking into account the full utilization of production capacity, as well as the cultivation of raw materials on the company's lands, the total number of employees will exceed 2000 people.

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#### Rezumat

Caracteristica principală a managementului financiar al entitătii este asigurată prin lichiditatea și stabilitatea acesteia pe piața economică. Acest aspect devine cu atât mai relevant pentru organizațiile agricole, activitățile cărora depind de calitatea managementului luînd în vedere atît influența factorilor interni, cât și a celor externi. Specificul ramurii date necesită asigurarea unei gestionări eficiente a activelor pe parcursul

întregului an, nu doar în timpul sezonului, contribuind astfel la stabilitatea poziției financiare ca baza a dezvoltării.

În articol, s-a efectuat o analiză a activității întreprinderii în ultimii ani, concentrându-se pe perfecționarea formei organizațional-juridice a gestionării, dezvoltarea tehnică și determinarea căilor de modernizare a acesteia.

**Cuvinte-cheie**: economie de piață, asigurare tehnică, piață a materiilor prime, stabilitate financiară, management financiar, investiții

#### Аннотация

Важнейшей характеристикой финансового менеджмента организации является обеспечение ее ликвидности и рыночной устойчивости. Это тем более актуально для сельскохозяйственных организаций, деятельность которых зависит от качества менеджмента по управлению как внутренними, так и внешними факторами. Специфика отрасли требует обеспечения эффективного управления активами в течении всего периода (года), а не в сезон, что будет способствовать стабильности финансового положения, как основы развития.

В статье проведен анализ деятельности предприятия за последние годы в части совершенствования организационно-правовой формы хозяйствования, технического развития, финансовой устойчивости и определены пути ее улучшения.

**Ключевые слова**: рыночная экономика, техническое перевооружение, рынок сырья, финансовая устойчивость, финансовый менеджмент, инвестиции

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# ANALYSIS OF THE INSURANCE AND FACILITATION OF THE FINANCIAL SUSTAINABILITY OF THE PENSION SYSTEM IN THE REPUBLIC OF MOLDOVA

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#### Abstract

The objective of this article is to analyze the main macroeconomic aspects that directly have a major influence on ensuring the sustainability of the social protection system, including the pension system. The need to improve the financial sustainability of the pension system is required by increasing and unifying the conditions regarding the contribution period and retirement age, by increasing GDP and income from contributions and taxes, and by, by accumulating financial means in the reserve fund of state social insurance, ensuring a closer link between the state social security contributions paid and the amount of pension established for insured persons.

Pension projections and the mobility of powers that are behind the foreseeable increase in pension expenditure, could meet political commitments to revise the pension system through a systemic or parametric reform of the PAYG scheme and the adjustment capacity of the selected pension indicators.

The fundamental task of developing the system of social protection in the Republic of Moldova should be to improve the quality of life, welfare, and social peace. In turn, social insurance can contribute to the revival of the real economy, to the socio-economic progress of the country, as well as to the promotion of a positive image of Moldovan society at international level.

**Keywords**: welfare, inflation, projection, social security, pension system

#### 1. Introduction

In the Republic of Moldova, there are measures that are administered by national bodies governed by national rules and procedures related to the number of benefits, benefits, conditions for granting rights and duration of payment under the social security system.

The reference projections for 2022-2026 related to the Republic of Moldova assume that these measures are and will be paid in accordance with what is scheduled according to the legislation in force. Using the current laws, respectively, Law no. 357/2022 of the state social insurance budget for 2023, Law no. 489/1999 on the public social insurance system and Law no. 156/1998 on the public pension system, with its subsequent amendments and additions [4], as a reference basis, one can overestimate the well-being of future pensioners. However,

by design, all predictions are sensitive to their underlying assumptions and represent potential, not real, results.

Solving the problems of social protection system administration, social policy reform, social programs efficiency remains the responsibility of the Government, decisively influencing the orientation of social policies through the following:

- the strategic component of social policies materialized in the social objectives of the government program and the official strategies by increasing the base of calculation of social security contributions, indexing revenues taking into account the inflation rate, and, as well as adjusting revenue to the average between rising consumer prices and wages, necessary tactics in the public pension system, later materialized in draft laws, laws and government decisions;
- governance capacity/management competence: quality, efficiency of concrete decisions taken to prevent or solve social problems;
- the value/professional competence of the human resources available to the government for the implementation of the programs.

Since no measure can fully surprise whether future pensioners will have adequate resources to meet their needs, we use more macroeconomic indicators to assess their retirement prospects, he said, a reform of the public pension system based on the payment of compulsory social contributions by insured persons and employers is necessary, by the existence of a correlation to maintain a balance between the revenues of the state social insurance budget and the increase of the life expectancy of the population aged 65 and of the number of beneficiaries, minimum and average annual employee income, as well as a decrease in the budget deficit and public debt.

The actuality of the article is supported by the fact that the financial sustainability of the paid public pension system (PAYG) is a topical subject from a socio-demographic and economic-financial point of view, as well as from a socio-demographic and financial point of view, considering the free movement of persons, goods, services, and capital that involve important changes, correlated with the ageing of the population.

# 2. The degree of investigation of the problem at the moment, the purpose of the research

Currently, the issue of ensuring the financial sustainability of the pension system is a research topic for various researchers in the field of social protection, including, but also for certain national and international organizations and institutions involved in this field.

Ensuring and facilitating the financial sustainability of the pension system in the Republic of Moldova has become a major problem for governors. Thus, studies related to macroeconomic indicators that would have a direct influence on the sustainability of the pension system are found in the publications of the NBM, Ministry of Finance, Ministry of Health and Social Protection, Government of RM. The problem has become current for expansion associations of the Republic of Moldova. Studies on ensuring the financial sustainability of the pension system of the RM are addressed by the EU Diplomatic Service and the World Bank.

In the study "Long-term demographic development and sustainability of the pension system", authors Mihai Seitan, Mihaela Arteni and Adriana Nedu, authors, they mentioned that "an

important role in assessing the long-term financial sustainability of the pension system, given the projected demographic developments under different scenarios, the long-term macroeconomic indicator forecast, the, but also of the needs for internal reform of the system (increase of retirement ages, tightening of pension conditions in case of invalidity or anticipation, contributions and their collection, reduction of errors, and, fraud and abuse, etc.), it may have the use of tools containing long-term simulation options based on mathematical modeling [9, p. 5-6]".

Juha M. Alho, Jukka Lassila, and Tarmo Valkonen, in the article "Demographic Uncertainty and Evaluation of Sustainability of Pension Systems", specifies that "considerations on sustainable pension policies are usually based on a set of basic assumptions about key factors, such as future demographics, productivity and interest rate. Instead, in return, consideration of pension strategies that can be adapted must be based on a large number of possible world states covering a realistic range of economic and demographic developments. For an individual taxpayer or pensioner, sustainability is related to both trust and predictability [3, p. 96-97]."

Also, the authors Oleg Tofilat and Nelea Rusu, in their documentation, carried out "analysis of issues of equity and sustainability of the pension system, taking into account the 2018 tax reform. Thus, the new provisions on the formula for calculating pension, retirement age and equal length of service for women and men, the unification of the method of calculating pensions and valuing the pension offers more equity between beneficiaries of social benefits, compared to the pre-reform conditions [6, p. 4]."

The purpose of the research is to analyze how to ensure the sustainability of the pension system in the Republic of Moldova through the influence of macroeconomic indicators, such as inflation rate, GDP indicators, income, etc., as well as addressing the need to ensure the financial viability of this system by assimilating action plans that set out the objectives of fulfilling the requests and concretizing activities that are meant to favor and support the resources financial services for beneficiaries of social benefits.

# 3. Applied methods and materials

This article is based on the theoretical and empirical study of the effects of macroeconomic indicators on ensuring and facilitating the financial sustainability of the pension system in the Republic of Moldova. Various scientific research processes were used in the preparation of the article:

- The dialectical method, which was applied on the basis of various general scientific methods, such as: analysis, synthesis, documentation, observation, comparison;
- Quantitative evaluation research, which was applied using statistical-mathematical methods.

To select the information required for the elaboration of the article, classical research methods such as systemic analysis and retrospective analysis were used.

During the research process, in order to support the arguments, the authors used a combination of two types of sources, namely: primary sources (statistical results) that provide

direct evidence about the research carried out and secondary sources (books, journal articles, documentaries) that analyze, describe, and evaluate primary sources.

#### 4. The obtained results and discussions

Over the past decade, considerable progress has been made in reforming pension agreements, which are system projects that differ significantly from country to country, where most have adapted their pension systems to better withstand demographic change, support higher participation rates of older workers and ensure the sustainability of pensions. Each country must find different solutions to achieve the main objectives of pension systems by preventing poverty, securing pensions, flattening consumption, and redistributing income, and solutions that provide added value in making progress on adequate, sustainable, and safer pension provision.

If a pension system is tax unsustainable, it risks providing long-term inadequate pension benefits, sudden corrections are immediately needed.

"Public pension schemes in the European Economic Community are financed on the basis of the contributions of insured persons, being directly dependent on the number of taxpayers, the tax base and the share of social contributions. As a result, reduced birth rates and increased life expectancy raise the question of the unsustainability of public pension systems PAYG [8, p. 384]."

We believe that a political option for strengthening the sustainability of pension systems is the introduction of automatic adjustment mechanisms. These mechanisms can enable pension systems to react immediately to a shock to asset prices and economic growth and can help to adjust the parameters of the system to demographic changes. In general, automatic mechanisms could be linked to life expectancy, economic performance or investment and may act according to retirement ages, indexation rules, and replacement rates or contribution rates. A combination of automatic mechanisms may also be provided. While providing a useful way to maintain sustainability and avoid large, ad hoc, and potentially disruptive reforms in the future, the impact of these mechanisms needs to be closely monitored.

"Taking into account the major challenges faced by the Republic of Moldova, the government has set itself as a fundamental objective ensuring a sustainable increase in pensions through the Government's work program approved by the Parliament Decision of 16 February 2023 [7, p. 3]."

In December 2022, the Government of the Republic of Moldova approved the Program of statistical works (PLS) for 2023 of the National Bureau of Statistics, which is a basic tool for ensuring information on consumer price indices, and as a result of these works, the National Bank of Moldova (NBM) promotes monetary and foreign exchange policy in the Republic of Moldova. The NBM sets the inflation target based on the consumer price index (CPI) of 5.0% annual (inflation rate for the last 12 months – the respective month of the current year compared to the same month of the previous year) with a possible deviation of  $\pm 1.5$  percentage points in order to maintain and ensure stability prices and economic development and growth of the Republic of Moldova in the medium term.

The Ministry of Finance of the Republic of Moldova, according to the Budgetary Circular, has developed the forecast of macroeconomic indicators for the years 2022-2025. Figure 1 shows the projection of the inflation rate for the period 2019-2025.

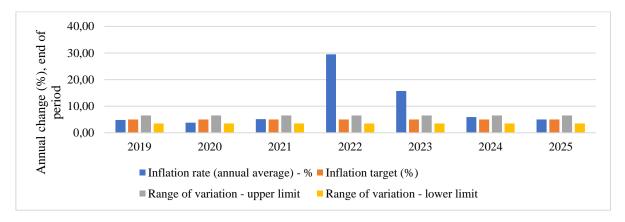


Figure 1. Evolution and projection of inflation rate, 2021-2025, %

Source: Developed by the authors based on the data presented by the National Bank of Moldova and the Ministry of Finance of the Republic of Moldova

https://www.bnm.md/ro/tipuri-de-publicatii/evolutia-ratei-inflatiei [16]; https://mf.gov.md/ro/content/circulara-bugetar%C4%83-2023-2025-apl [5]

From those analyzed, we note that the annual inflation rate in the Republic of Moldova has increased because food and service prices have continued to accelerate, and consumer prices have increased from month to month.

Thus, we specify that the annual inflation rate is an important macroeconomic indicator for pension growth in order to ensure a decent living income for the beneficiaries of the public pension system.

The increase in inflation in the Republic of Moldova is the repercussion of the postponement of the price increase and the increase in the prices of goods and services at international level, and in order for the citizens of this country to cope financially, it was also necessary to increase pensions and salaries. Taking also into account the provisions of Article 13 of the Law no.156/1998 on the public pension system, the Government established in March 2023, an increase in the indexation coefficient that will not exceed the percentage increase in the own revenues of the state social insurance budget for 2022 compared to 2021, the increase that will be applied only to that part of the pension that does not exceed the average monthly salary forecasted for 2023, respectively of 11,700 lei. Thus, the Government, by Government Decision on the indexation of social benefits no. 148 of 22.03.2023, determined that "la April 1, 2023, is indexed with the indexation coefficient 15% [1]."

Considering the statistics made by the National Bank of Moldova (NBM) and the forecasts of the Ministry of Finance of the Republic of Moldova, we present below the rate of the annual inflation rate for the period 2019-2025 (Figure 2).

From the ones reflected graphically in Figure 2, we note that the National Bank of Moldova will try to ensure through financial and foreign exchange policies an inflation rate close to the target value of 5%, as internal supply factors compensate for slowdown effects caused by weaker demand.

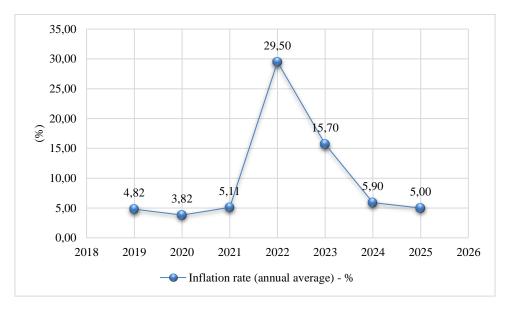


Figure 2. Dynamics of the annual inflation rate from RM, 2019-2025, %

Source: NBM, Ministry of Finance of RM

https://www.bnm.md/ro/content/rata-inflatiei-0 [18]; https://mf.gov.md/ro/content/circulara-bugetar%C4%83-2023-2025-apl [5]

Indicators that quantify the factors that influence welfare: are the degree of coverage and the level of generosity of the social security system and welfare services, the availability and quality of leisure and culture, and communication and public security.

The annual growth rate of the gross domestic product of the Republic of Moldova is another important parameter with influence on the pension system. The evolution of this indicator is presented by the authors in Figure 3.

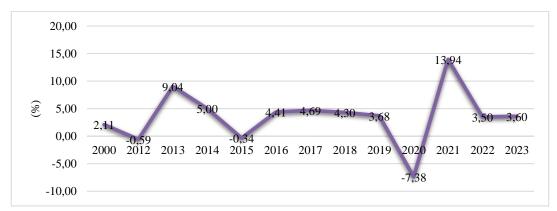


Figure 3. Annual rate of GDP growth at market prices based on the constant local currency of the Republic of Moldova, 2000-2023, %

Note: Aggregates are based on the constant prices in 2015, expressed in US dollars. GDP is the sum of gross value added by all residents.

Source: Based on data presented by World Bank and OECD, Trading Economics https://www.macrotrends.net/countries/MDA/moldova/gdp-growth-rate [10]

From the data presented in Figure 3, we find that in the period 2000 - 2023, the annual percentage growth rate of gross domestic product in RM was oscillating, decreasing significantly in 2020 and increasing substantially in 2021, followed by a considerable

decrease of over 10 percentage points in the period 2022-2023, this also directly affects the financial sustainability of the social protection system.

The number of pensions is increased annually in a fixed amount and is determined by indexing the average pension amount by 50% of the gross domestic product growth in real terms in the previous year, amount established by the Government and paid from the state social insurance budget.

High inflation, the likelihood of financial, social, and political instability against the background of recession in the national economy and the volatility of the Moldovan leu subject to depreciation pressures will decrease the attractiveness of investments in the national economy, as well as, thus affecting the sustainability of public finances and the ability of the Ministry of Finance to finance the expenditure of the national public budget. At the same time, maintaining the current system of indexation of pensions, salaries by the state and social spending continues to fuel inflationary pressures and increases the financing needs of budget expenditures, eroding the stability of public finances.

The level of well-being and the risk of poverty of the elderly, as well as the sustainability of the state social insurance system to pay pensions according to the contributions made, it can be measured by means of the indicator "The replacement coefficient", which in the context of social exclusion measurement is a derivative one, reflecting the percentage value of the differences between two main sources of income: salary income and state social insurance pensions. "Currently, work is being done on changing the calculation formula to adjust the replacement coefficient for these categories, considering possible risks and challenges. The new pension formula will be much simpler and will ensure the interdependence between social contributions and pension size, as well as the valorization of income earned in the past [14]."

Taking into account the absolute poverty rate, the rate representing the proportion of persons whose equivalent disposable income is below the absolute poverty threshold, for persons aged 60 and over in the Republic of Moldova, the rate represents, it is shown in Figure 4:

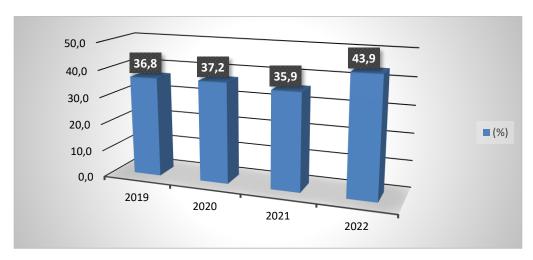


Figure 4. Absolute poverty rate of the age group 60 years and fish, 2019-2022, %

Source: Elaborated by the authors on the basis of the data presented by the National Bureau of Statistics, Research on Household Budgets of the Republic of Moldova http://statbank.statistica.md/PxWeb/sq/9780dafd-0b99-4b49-b0b0-a9eb8751c342 [12]

From the data presented in Figure 4, according to the data of the National Bureau of Statistics, we find that the absolute poverty rate of the age group of 60 years and over, is, in 2022, it recorded a considerable increase of 8 pp, caused by both the increase in inflation rate in 2022 and the decrease in GDP.

Related to the above threshold, it is inferred that exclusion from the labor market is a particularly important factor which directly leads to vulnerability to social exclusion on the grounds of the possibility or impossibility of obtaining the necessary income for existence. The starting indicator in this context is the unemployment rate, expressing the ratio between the number of jobseekers and the active population.

Over the past 4 years (2019-2022), monthly average disposable income for age groups ranging from 50 to 65 years and above has increased significantly by 48.85% (Figure 5).

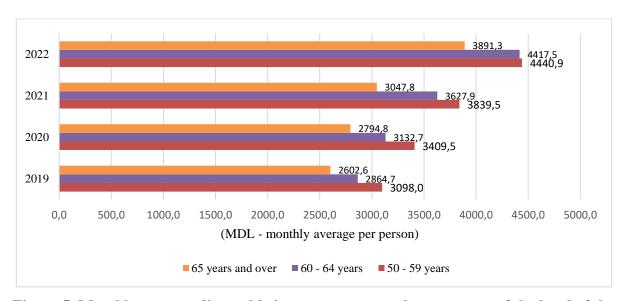


Figure 5. Monthly average disposable income per person by age group of the head of the household in R. Moldova, 2019-2022, MDL

Source: Elaborated by the authors based on the data presented by the National Bureau of Statistics of the RM http://statbank.statistica.md/PxWeb/pxweb/ro/30%20Statistica%20sociala/30%20Statistica%20sociala\_\_\_04%20NIV\_\_NIV010/NIV011000.px/?rxid=b2ff27d7-0b96-43c9-934b-42e1a2a9a774 [11]

In the period 2019-2022, the activity rate in the age groups 45-54 years and 55-64 years had minor decreases and increases, and in the 65-year-old and older group had a decreasing evolution, given that in 2021, men retired at the age of 63, and women at 59 years and 6 months (Figure 6).

The pension system, built on the principles of social equity, adds to political and economic life qualities of stability, predictability, and social solidarity. The extent to which these qualities are provided by the pension system in Moldova is represented by several indicators, among which a central place is held by the indicator "Legal retirement age". The analysis of this indicator allows to reflect not only the evolution of the increase in the retirement age, but also the causes that contributed to it and the impact on the change in the number of pensioners. This is largely due to the fact that pension reform has sought to meet the interests of most pre-retired citizens by determining the size of pensions more significant than before, taking into account the length of service and salary contributions.

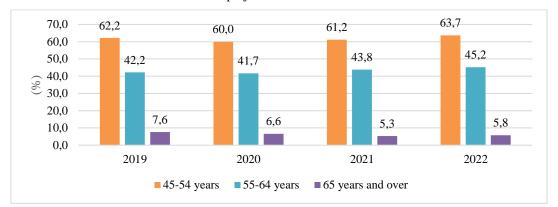


Figure 6. Evolution of the activity rate by age group, both sexes, in the Republic of Moldova, 2019-2022, %

Source: Elaborated by the authors on the basis of the data presented by the National Bureau of Statistics of the RM and the Labor Force Survey of the RM

http://statbank.statistica.md/PxWeb/pxweb/ro/30%20Statistica%20sociala/30%20Statistica%20sociala\_03%20FM\_03%20MUN\_MUN010/MUN110400.px/?rxid=b2ff27d7-0b96-43c9-934b-42e1a2a9a774 [17]

As of April 1, 2022, the minimum old-age pension for a full contribution period is 2278.8 lei MDL, up 13.94% compared to the previous year (Figure 7).

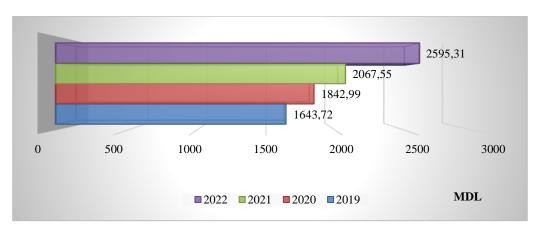


Figure 7. Average pension size for the age limit in the Republic of Moldova, 2019-2022, MDL

Sursa:https://statbank.statistica.md/PxWeb/pxweb/ro/30%20Statistica%20sociala/30%20Statistica%20sociala\_\_\_\_\_09%20PRO/PRO011700reg.px/?rxid=9a62a0d7-86c4-45da-b7e4-fecc26003802 [15]

In accordance with the provisions of Article 8 (1¹) of the Law no. 156/1998 on the public pension system, "valuation represents the indexation of the average monthly insured income, realized starting with January 1, 1999, what is apparent from the coefficient of growth of the average wage in the economy from the contributory periods up to the year preceding the year of pension fixing [4]".

According to Annex no.3 of Government Decision no.165/2017 [2], the coefficients of valuing the insured income for the years 2019-2022 are increased according to the average monthly salary, every year since April 1 by the Government. Thus, a decrease of 3.9% in 2020 compared to 2019, an increase of 2.2% in 2021 compared to 2020 and an increase of 3.1% is observed in 2022 compared to 2021 (Figure 8).

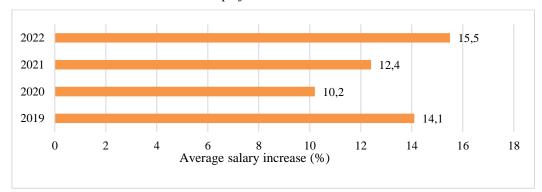


Figure 8. Evolution of the coefficient of valorization of the insured income in the Republic of Moldova, 2019-2022, %

Source: Elaborated by the authors on the basis of Annex no.3 to the Regulation on how to calculate pensions and how to confirm the length of service for determining pensions, approved by Government Decision no. 165/2017, as amended and supplemented

https://cancelaria.gov.md/sites/default/files/document/attachments/188-mmps.pdf [13]

The challenges and reforms of the pension system in Moldova are important for the categories of people where the pensions for the age limit are directly related to the contribution stage of the pension system and the level of individual incomes, as well as the level of individual incomes, a cost-effective organization is necessary to incentivize employees to contribute further during their work to achieve a sufficient pension for a better standard of living in retirement time.

At the same time, people receive the minimum pension at a state guaranteed level, if they have the necessary service years – but their benefits are lower than the minimum threshold.

Simultaneously, another factor affecting pension system revenues is social and preferential pensions, because there is a category of the working population that does not retain state social security contributions, therefore, I believe that a review of the formula for calculating all pensions would also be necessary, including the abolition of pensions "de lux", such as those received by judges and prosecutors, as well, as well as the privileges offered, to obtain a fair system among all taxpayers.

In the Republic of Moldova, the national statistics has made and makes efforts to align, conceptually and methodologically, the system of calculation and macroeconomic analysis, providing synthetic information on the essential sides of the national economy that are materialized by macroeconomic indicators that need to express real, truthful data and to highlight the changes in size, size, structure and dynamics of economic potential, results obtained from economic activity, financial-monetary indicators and livelihoods, as well as specific values of population life.

## 5. Conclusions

At the macroeconomic level, the pension system in the Republic of Moldova fulfils its purpose only if it manages to provide an adequate financial flow to ensure a decent standard of living among the population. The results obtained from the interpretation of the experimental data underline the correlation between the average net income of the population

and the level of inflation, the risk of poverty and the severe material and social deprivation rate, and, emphasizing the need to adjust the benefits of pension schemes to the rate of inflation.

The persistent decline in the number of contributors seriously jeopardizes the future of the pension system in the Republic of Moldova. The responsible political parties must obtain the right incentives to combat the complementary erosion of the system.

The pension system in the Republic of Moldova has the role of making a financial distribution through which to reduce the risk of poverty and ensure a decent and dignified life at an advanced age, regardless of the form of organization, structure, and principles on which this system is based.

The competence of the population to ensure the necessary income after retirement is an opportunity for the expansion of financial markets, and, but the lack of financial education and poor knowledge of financial concepts poses a major risk that the investments made do not produce the expected return. For these reasons, public pension systems eliminate risk, but instead pose a risk to demographics and intergenerational redistribution.

As a result of theoretical research, methodological and empirical research on the implications of public finances in the system of social security regulation in the Republic of Moldova allows us to formulate relevant recommendations that can be applied by decision makers concerned for improving the financial sustainability of the pension system:

- maintaining a constant ratio between the average pension and the average salary by updating pensions based on current salaries;
- increase in gross domestic product and income from contributions and taxes;
- tightening eligibility conditions by reducing the duration of payments of benefits.

The authors consider that the performance and profitability of the pension system in the Republic of Moldova is conditioned by the importance of the national context and is caused by the influence of economic, demographic, social, financial, medical and budgetary factors. Ensuring the financial sustainability of the pension system is achievable through the full cooperation of all branches of the economy in order to stimulate sustainable economic growth.

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#### Rezumat

Obiectivul acestui articol constă în analiza principalelor aspecte macroeconomice care în mod direct au o influență majoră asupra asigurării sustenabilității sistemului de protecție socială, inclusiv asupra sistemului de pensii. Necesitatea îmbunătățirii sustenabilității financiare a sistemului de pensii se impune prin creșterea și unificarea condițiilor privind perioada de contribuție și vârsta de pensionare, prin creșterea PIB-ului și a veniturilor din contribuții și impozite, prin acumularea mijloacelor financiare în fondul de rezervă al asigurărilor sociale de stat, asigurarea unei legături mai strânse între contribuțiile de asigurări sociale de stat plătite și cuantumul pensiei stabilite pentru persoanele asigurate.

Proiecțiile pensiilor și mobilitatea puterilor ce se află în spatele majorării previzibile a cheltuielilor cu pensiile, ar putea îndeplini angajamentele politice de revizuire a sistemului de pensii printr-o reformă sistemică sau parametrică a schemei PAYG, precum și prin capacitatea de ajustare a indicatorilor de pensii selectați.

Sarcina fundamentală a dezvoltării sistemului protecției sociale din Republica Moldova ar trebui să fie îmbunătățirea calității vieții, a bunăstării și a păcii sociale. La rândul lor asigurările sociale pot contribui la revigorarea economiei reale, la progresul social-economic al țării, cât și promovarea unei imagini pozitive a societății moldovenești pe plan internațional.

Cuvinte-cheie: bunăstare, inflație, proiecție, securitate socială, sistem de pensii

#### Аннотация

Целью данной статьи является анализ основных макроэкономических аспектов, непосредственно влияющих на обеспечение устойчивости системы социальной защиты, включая пенсионную систему. необходимость повышения финансовой устойчивости пенсионной системы путем увеличения и унификации условий, касающихся периода уплаты взносов и возраста выхода на пенсию, увеличения ВВП и доходов от взносов и налогов; и путем накопления финансовых средств в резервном фонде государственного социального страхования, обеспечения более тесной связи между выплаченными государственными отчислениями по социальному обеспечению и размером пенсии, установленной для застрахованных лиц.

Пенсионные прогнозы и мобильность полномочий, которые стоят за предсказуемым ростом пенсионных расходов, может выполнить политические обязательства по пересмотру пенсионной системы посредством системной или параметрической реформы системы СПОД и корректировочных возможностей отдельных пенсионных показателей.

Основной задачей развития системы социальной защиты в Республике Молдова должно быть повышение качества жизни, благосостояния и социального мира. В свою очередь, социальное страхование может способствовать возрождению реальной экономики, социально-экономическому прогрессу страны, а также формированию позитивного имиджа молдавского общества на международном уровне.

**Ключевые слова**: благосостояние, инфляция, прогнозирование, социальное обеспечение, пенсионная система

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#### REVIEW OF THE MONOGRAPH

TRACI D. "Business activity management of the agricultural organization"

**DOI:** https://doi.org/10.59642/JRTMED.2.2023.09

The transition to the market economy and the collapse of a single economic mechanism require significant efforts on the part of both government agencies and the scientific community to develop an effective system for the functioning of the economy. The implementation of this task has particular difficulties in the agricultural sector. Given that the Pridnestrovian region is agrarian, without exaggerating its importance, it can be concluded that the socio-economic development of the region as a whole depends on the development level of this sector of the economy.

In this context the reviewed monograph "Business activity management of the agricultural organization" is extremely relevant. It is part of the author's long-term scientific research of problems and ways to solve them in the most important for the region industry.

This monograph has been prepared on the basis of the materials of one of the leading enterprises in the region, which has been operating for almost 20 years; it started its activity with 20 hectares of land, and currently uses 8144 hectares.

The monograph consists of four sections. The first section discusses the theoretical aspects of the functioning of the agro-industrial complex, as well as its main problems at this stage. In particular, the author draws attention to the low rates of structural and technological modernization of the agricultural organization, the unsatisfactory level of the market infrastructure development, the shortage of qualified personnel, the fragmentation of land by small users. All this affects the financial condition of the enterprise.

The second section examines the theoretical aspects of business activity management of agricultural organizations as the basis of their financial stability.

In the third section the analysis of the business activity is carried out resulting in highlighting both strong and weak points in the organization activities.

Of particular scientific importance are the proposed in the fourth section directions to increase the business activity of the organization. First of all, it is necessary to highlight the proposed methodology for managing operational assets, managing the organization business activity based on a new income structure of operational personnel, improving the system of evaluation and motivation of managerial work.

The monograph summarizes the author's many years of experience in the banking sector, in the process of teaching various financial disciplines to students of economic specialties.

An important feature of the monograph is that it considers this problem on the example of an operating economic entity. The proposed methodology for analyzing the organization business activity, as well as the directions of its improvement, have scientific and practical significance, especially if we take into account the existing problems in the organization of agricultural enterprises activities.

Proposals on the regulation of land relations and the formation of the land market, on the activation of social policy for the sustainable development of rural areas, on methods of effective support for the agro-food complex are of great scientific and practical importance. Given the difficult financial situation of agricultural organizations, the proposal on agrarian protectionism deserves special attention.

#### Reviewer

**Doctor of Habilitation of Economic Sciences, Professor** 

**Tudor BAJURA** 

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**VOLUME 10, ISSUE 2(20)/2023** 







### WORK-BASED LEARNING IN HIGHER EDUCATION

Work-based learning, also known as dual training or apprenticeship, is a system of training that combines theoretical instruction at a training center with professional practice in a company. It is a system of training which integrates work experience where the person concerned, the alternating student, trains periodically in a company and in an educational institution.

The Erasmus+ project "Introducing work-based learning in higher education systems of Armenia and Moldova for better employability of graduates" (WBL4JOB) aims to enhance partnership between enterprises and higher education institutions and to increase graduates' employability through development and implementation of supporting policy, legal framework and generic, flexible Apprenticeships Higher Education Model (AHEM) with the ultimate aim of promoting the work-based learning (WbL) in Armenia and Moldova.

The specific project objectives are:

- benchmark analysis on main policy options of WbL, schemes and tools of apprenticeship in higher education in Europe;
- capacity building of staff from higher education institutions, Ministries and banks' unions from Moldova and Armenia on policies, schemes and approaches of apprenticeship;
- development of National Policy for implementation of WbL in higher education systems of Moldova and Armenia inspired by the European practices;
- development of AHEM for higher education systems of Moldova and Armenia including practical implementation tool: undergraduate one year apprenticeship based programme "Specialized License in Banking and Insurance" (SLBI);
- development of the amendments to national legislations to support the implementation of AHEMs in Moldova and Armenia;
- promoting inter-regional network for long-term cooperation between HEIs from Moldova and Armenia and involved European countries.

The project brings together European, Moldovan and Armenian partners, representing academic environment, central public authorities, and financial institutions banks. A lead institution is the French University in Armenia. Moldovan universities benefit from the opportunity to discover the experience and good European practices in the field of work based

learning development (regulatory framework, implementation mechanisms) due to the openness to collaboration of European institutions, among which Jean Moulin Lyon 3 University (France), University of Strasbourg (France), University of Applied Sciences Krems (Austria), European University Continuing Education Network (Belgium).

In Republic of Moldova part of this project are Trade Co-operative University of Moldova, "Alecu Russo" Balti State University, Moldindconbank, Ministry of Education and Research of Moldova.

The successful implementation of the mentioned Project will end with the National Policy for implementation of WbL in higher education system of Moldova, Concept paper and road map for development of the work-based learning (WbL) in higher education in Moldova for 2024-2030, Guidelines for the implementation of the Apprenticeship based Higher Education Model (AHEM), Curriculum adjustment to the dual model for the undergraduate Program "Finance and Banks".

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