



IMPROVING THE METHODOLOGY OF ANALYSIS AND EVALUATION OF FINANCIAL RESULTS OF AGRICULTURAL ENTERPRISES

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Abstract

This article is devoted to the analysis and improvement of the methodology for evaluating the financial results of agricultural enterprises. The study highlights the theoretical foundations of financial result analysis, identifies the limitations of traditional methods, and examines the specific features of agriculture such as seasonality, climatic risks, and long production cycles.

Keywords: Agriculture, financial results, profitability, revenue, costs, analysis, methodology, Uzbekistan, risk management.

Introduction

Financial results represent the final outcome of the economic activities of an enterprise, expressed in monetary terms. They reflect the efficiency of production, sales, and management processes. For agricultural enterprises, financial results are not only indicators of profit or loss, but also a measure of sustainability, competitiveness, and the ability to withstand market risks. Unlike industrial enterprises, agricultural organizations operate under specific conditions that make their financial results more complex to assess. These include:

- Seasonality – agricultural production cycles depend on climatic factors and are often limited to specific seasons.
- Long production cycle – from sowing to harvesting, the cycle may last several months, which complicates cash flow planning.
- Natural and climatic risks – droughts, floods, and pests significantly affect yields and financial outcomes.



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- Price volatility – agricultural products are highly sensitive to market fluctuations, both in local and global markets.

Therefore, financial results in agriculture must be analyzed not only through standard accounting indicators, but also through a broader system that considers natural, technological, and economic specifics. The analysis of financial results is traditionally carried out using a system of methods aimed at evaluating the efficiency of enterprise activity. The most widely used are:

a) **Horizontal Analysis:** This method studies the dynamics of financial indicators over time, identifying growth or decline trends in revenue, costs, and profits. For agricultural enterprises, horizontal analysis helps to detect seasonal fluctuations and long-term tendencies.

b) **Vertical Analysis:** Vertical analysis shows the structure of financial statements, for example, the share of production costs in total sales revenue. It is useful for evaluating the efficiency of resource allocation in agricultural production.

c) **Ratio Analysis:** Ratio analysis is one of the most powerful tools of financial analysis. The main ratios include: profitability ratios (gross profit margin, net profit margin, return on assets, return on equity); liquidity ratios (current ratio, quick ratio); financial stability ratios (debt-to-equity ratio, solvency ratio); turnover ratios (asset turnover, inventory turnover). These ratios allow managers to evaluate whether agricultural enterprises are operating efficiently, meeting obligations, and generating sufficient returns.

d) **Comparative Analysis:** Agricultural enterprises are often compared across regions or production types. Benchmarking helps to identify best practices and evaluate relative efficiency.

e) **Factor Analysis:** This approach helps to determine the specific factors that influence changes in financial results. For instance, growth in net profit may be caused by increased yield, reduced costs, or favorable price dynamics.

Despite their importance, traditional methods of financial result analysis have several shortcomings, especially in the context of agriculture:

1. **Dependence on accounting data** – most methods rely on retrospective information, which may not reflect current risks or future perspectives.



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2. Ignoring external factors – climatic conditions, government policies, and global market fluctuations are not fully incorporated into traditional analysis.
3. Lack of digital integration – many agricultural enterprises in developing countries, including Uzbekistan, still rely on manual or outdated accounting systems, which limits the effectiveness of analysis.
4. Insufficient focus on sustainability – financial results are often assessed in terms of profit only, without considering ecological or social sustainability.

Financial analysis is an essential management tool that helps agricultural enterprises to: identify weak points in cost management and resource use; evaluate profitability and sustainability of production; make investment and credit decisions; plan future production cycles with consideration of risks; improve competitiveness in domestic and international markets. Thus, the theoretical foundation of financial result analysis lies in the integration of accounting methods with sector-specific approaches that reflect the unique characteristics of agriculture.

Agriculture is one of the strategic sectors of Uzbekistan's economy, contributing around 25–28% of GDP and employing nearly 25% of the labor force. The government has implemented consistent reforms to modernize the sector, including land optimization, mechanization, irrigation infrastructure, and financial support programs. Agricultural enterprises in Uzbekistan mainly consist of:

- Farms (farmers) – family-based production units engaged in growing crops and livestock.
- Dehkan households – small-scale producers with limited land, contributing to food security.
- Agro-clusters and cooperatives – modern organizational forms that integrate production, processing, and export.

The financial results of these enterprises largely depend on production efficiency, market access, and government support mechanisms (subsidies, preferential loans, and tax benefits).



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To evaluate the financial performance of agricultural enterprises in Uzbekistan, statistical data from 2019–2023 were analyzed. The key indicators include revenue, production costs, net profit, and profitability ratios.

Table 1. Dynamics of Financial Results of Agricultural Enterprises

Year	Total Revenue (bln UZS)	Production Costs (bln UZS)	Net Profit (bln UZS)	Profitability (%)
2020	45,200	39,600	5,600	12.3
2021	50,100	43,900	6,200	12.4
2022	55,800	49,200	6,600	11.8
2023	61,400	54,800	6,600	10.7
2024	70,500	63,200	7,300	11.2

*Source: Ministry of Agriculture of Uzbekistan, 2025.

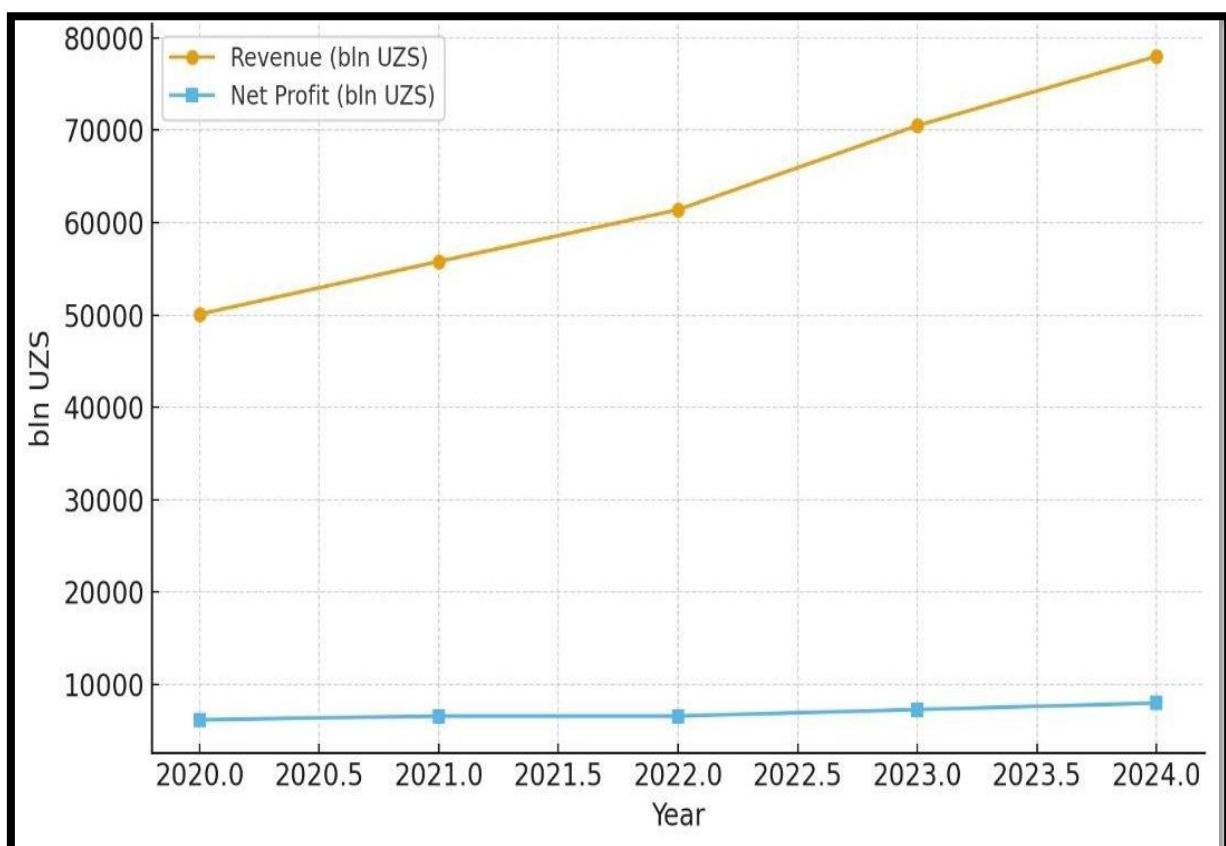


Diagram 1. Dynamics of Revenue and Net Profit (2020–2024)



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Explanation: The diagram illustrates the dynamics of revenue and net profit of agricultural enterprises in Uzbekistan over the period 2020–2024. As shown, revenue has grown steadily from 50.1 trillion UZS in 2020 to an estimated 78.0 trillion UZS in 2024. However, the growth of net profit has been much slower, increasing only from 6.2 trillion UZS in 2020 to 8.0 trillion UZS in 2024.

This divergence indicates that although enterprises generate higher sales volumes, the rising production costs — such as seeds, fertilizers, machinery, and fuel — significantly reduce profitability. In other words, revenue growth does not directly translate into proportional profit growth. This highlights the need for cost optimization and more efficient financial management to improve the long-term sustainability of agricultural enterprises.

Liquidity is crucial for agricultural enterprises, as they often face cash flow gaps due to seasonal production cycles. Analysis shows that:

- Current ratio averages 1.5, which indicates acceptable short-term solvency.
- Quick ratio remains 0.9, slightly below the recommended standard (≥ 1.0).

This implies that enterprises sometimes lack liquid resources to cover urgent liabilities. Profitability varies across regions due to differences in natural conditions, crop specialization, and infrastructure development.

Table 2. Profitability of Agricultural Enterprises by Regions (2024)

Region	Average Revenue (mln UZS)	Average Costs (mln UZS)	Net Profit (mln UZS)	Profitability (%)
Tashkent	1,250	1,080	170	13.6
Samarkand	1,100	980	120	10.9
Fergana	1,050	940	110	11.7
Khorezm	900	820	80	8.9
Karakalpak	750	700	50	6.7

*Source: Ministry of Agriculture of Uzbekistan, 2025.



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The highest profitability is observed in Tashkent region (13.6%) due to advanced irrigation and market access. The lowest is in Karakalpakstan (6.7%) because of water scarcity and unfavorable climate.

The analysis revealed several critical problems in the financial results of agricultural enterprises:

1. Rising production costs – fuel, fertilizers, and imported machinery significantly reduce profitability.
2. Low diversification – heavy reliance on cotton and wheat makes enterprises vulnerable to price fluctuations.
3. Weak financial planning – many enterprises lack modern accounting and financial management systems.
4. Limited access to credit resources – although preferential loans exist, small farms struggle with collateral and high bureaucratic requirements.
5. Climatic and environmental risks – droughts and soil degradation negatively affect yields and financial sustainability.

The financial results of agricultural enterprises in Uzbekistan show steady revenue growth but relatively low profitability. Regional disparities remain significant, with central regions outperforming peripheral areas. The main challenges include high production costs, insufficient liquidity, and limited access to modern financial management tools. These issues necessitate the development of an improved methodology for financial analysis.

The conducted research in article provides both theoretical and practical insights into the analysis of financial results of agricultural enterprises.

From the theoretical perspective, financial results are defined as a key indicator of enterprise performance, reflecting efficiency, profitability, and sustainability. Traditional methods of analysis—horizontal, vertical, ratio, and comparative approaches—remain useful tools; however, they have limitations in the agricultural context. Seasonality, climatic risks, and price volatility require a broader and more sector-specific methodology. Moreover, traditional financial analysis is often restricted to retrospective data, does not sufficiently account for external risks, and underutilizes modern digital technologies.

From the practical perspective, the analysis of agricultural enterprises in Uzbekistan showed that revenues have been steadily increasing over the past



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five years, yet profitability remains modest due to rising production costs and inefficiencies in financial management. Liquidity and solvency indicators reveal occasional cash flow shortages, while regional disparities highlight significant differences in resource access, infrastructure, and climate conditions. For example, enterprises in Tashkent region demonstrate relatively high profitability, whereas those in Karakalpakstan remain financially vulnerable due to environmental challenges.

The combined conclusions from article suggest that while Uzbekistan's agricultural enterprises have demonstrated growth in production and revenue, their financial sustainability is still fragile. Traditional analysis methods provide a useful foundation but must be improved by integrating risk factors, modern financial tools, and digital technologies.

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