Financial Structure, Profitability and Productivity in the Romanian Pharmaceutical Industry: A 2020–2024 Analysis

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Abstract: The pharmaceutical manufacturing sector is one of the most stable and high-performing sectors of the Romanian economy. This study analyzes the evolution of the financial performance of companies classified under NACE code 2120 (Manufacture of pharmaceutical preparations) for the period 2020–2024. To this end, key financial performance indicators are examined, such as revenue, debt-to-equity ratio, return rates, and labor productivity. The results highlight a constant increase in revenue and net profit, the consolidation of equity, and improved operational efficiency. Ratios of profitability (ROA, ROE, ROS) show an upward trend, and labor productivity confirms the increasingly efficient allocation of resources. The paper provides an integrated perspective on the performance of the pharmaceutical sector during the 2020–2024 period.

Keywords: pharmaceutical industry, financial performance; profitability; rate of return; labor productivity
JEL Classification: L65, M21, G30, O14.

1. Introduction

According to Eurostat data, the pharmaceutical industry generates the highest added value per employee among high-technology sectors, far exceeding the average levels recorded in both high-tech and manufacturing industries. The pharmaceutical industry also records the highest ratio of R&D investment to net sales. As reported in the 2024 EU Industrial R&D Investment Scoreboard, health industries invested around €258.1 billion in research and development in 2023, accounting for 20.5% of worldwide business R&D spending.

The pharmaceutical industry is also a key sector for the Romanian economy. Its importance stems both from its contribution to public health and from its role in economic development and in fostering innovation. The pharmaceutical manufacturing sector (NACE code 2120) is characterized by high levels of investment, strict quality standards, and a highly dynamic market. It is influenced by factors such as demographic trends, legislative changes, and growing demand for medicines. In this context, analyzing the sector's performance is necessary to understand its operating mechanisms and future development directions.

The importance of this study derives from the necessity to identify the sector's financial and structural trends in a period of significant changes. These transformation processes include market consolidation and companies' adjustments to post-pandemic economic conditions. The study aims to analyze the evolution of the pharmaceutical sector's financial performance over the period 2020–2024, focusing on the dynamics of revenue, profitability, financial structure, and labor productivity. At the same time, the study seeks to highlight the competitive position of the industry's leading manufacturers, without focusing on any single company.

The research methodology is based on an analysis of financial data obtained from the platforms risco.ro and listafirme.ro for companies classified under NACE code 2120 (Manufacture of pharmaceutical preparations). The data were statistically processed and interpreted using relevant key performance indicators: revenue, net profit, debt-to-equity ratio, profitability ratios (ROA, ROE, ROS), and labor productivity. This approach enables

a comprehensive assessment of the sector's performance and provides a clear overview of its dynamics during the period under review. At the same time, it contributes to a better understanding of recent trends in the pharmaceutical industry.

2. State of knowledge

The performance of the pharmaceutical industry is frequently analyzed in the economic literature due to its essential role in the economy and the healthcare system. The pharmaceutical sector is considered a strategic one, as it contributes to ensuring access to medicines, developing new therapies, and improving quality of life. Studies highlight the changes that occurred during the pre- and post-pandemic periods and how companies have adapted to shifting demand and the regulatory framework (Hada, 2024). Companies have had to adapt rapidly to changes in demand, fluctuations in drug consumption, and frequent adjustments to the regulatory framework.

The literature emphasizes the importance of return rates in evaluating company performance, as they reflect the efficiency of invested capital and provide information on the causes and effects of changes when the analysis covers several successive fiscal years. Studies show that pharmaceutical firms tend to record high levels of profitability due to stable demand, diversified portfolios, and continuous investment in modern technologies.

Another issue debated in the specialist literature is the importance of using labor productivity to assess firms' operational efficiency. Research shows that productivity in the pharmaceutical sector is impacted by digitization, automatization, and workforce specialization. In addition, the authors emphasize that firms that invest in advanced technologies and employee training manage to achieve superior performance. At the same time, they also succeed in consolidating their position in the market (Buelvas et al., 2023).

Furthermore, the literature analyzes the structure of the pharmaceutical market, highlighting the trend toward concentration around a few large companies. These companies possess the resources necessary to support significant investments and influence market dynamics. This concentration is associated with financial stability, but also with competitive pressures on small and medium-sized firms.

In conclusion, the current state of knowledge shows that the performance of the pharmaceutical sector is influenced by several factors, including market structure and the allocation of resources. The level of innovation plays an important role, as does the ability of firms to adapt to economic changes.

3. Research Methodology and Data Set

The purpose of this study is to highlight the general trends in the financial performance of the pharmaceutical manufacturing sector for the period 2020–2024. The study uses an empirical approach based on the analysis of financial data reported by companies classified under NACE code 2120.

To calculate profitability indicators, we used data including net turnovers, net profit, fixed assets, current assets, equity, total liabilities, number of employees, and number of active firms, from risco.ro (Table 1).

Table 1 – Financial data for the NACE code 2120 sector for the period 2020–2024

Year / Indicators	2020	2021	2022	2023	2024
Turnover (RON)	3195647011	3455106886	3979347978	4687114136	5233406484
Net profit (RON)	509105295	526876142	776473303	901422374	1502859347
Fixed assets (RON)	1907461314	2021967250	2318480785	2471347604	3111493704
Current assets (RON)	2827182219	3227851801	3743860521	4401612144	4755494899
Equity (RON)	3293488176	3764645899	4234908902	4858031210	5647694905
Total liabilities (RON)	1441155357	1485173152	1827432404	2014928538	2219293698
Number of employees	6791	6843	6731	6897	6960
Number of companies	122	119	115	113	104
Average turnover (RON/company)	26193828	29034512	34603026	41478886	50321216
Average net profit (RON/company)	3195647011	3455106886	3979347978	4687114136	5233406484

Source: Authors' processing based on data from risco.ro, accessed on July 27, 2025

The formulas used to calculate the profitability indicators analyzed in this study are:

- Return on Assets: ROA = (Net profit)/(Total assets) x 100
- Return on Equity: ROE = (Net profit)/(Equity) x 100
- Return on Sales: ROS = (Net Profit)/(Turnover) x100
- Labor Productivity: W = (Turnover)/(Number of Employees)

4. Results and Comments

4.1 Turnover Trends in the Pharmaceutical Industry

The evolution of turnover reflects both the dynamics of demand and the ability of companies to adapt their operations to economic conditions. The data summarized in Table 1 highlight a clear upward trend for the 2020–2024 period, confirming the sector's resilience in an economic context marked by additional pressures on the healthcare system.

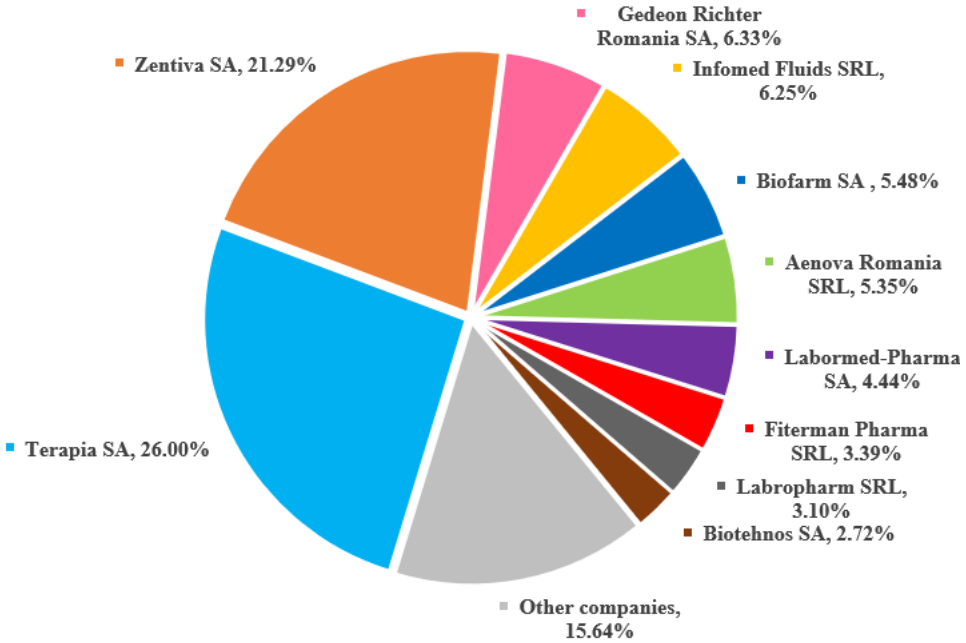
Total revenue increased from 3.19 billion RON in 2020 to 5.23 billion RON in 2024, representing an increase of over 63%. This trend reflects the expansion of economic activity and the rise in demand for pharmaceutical products, particularly in the post-pandemic period.

A notable aspect is the increase in average turnover per firm, which nearly doubled during the period analyzed, from 26.19 million RON to 50.32 million RON. This trend indicates a process of structural consolidation within the sector, also confirmed by the decrease in the number of active companies (from 122 to 104). The businesses remaining in the market are, on average, larger and more efficient.

The market share reflects the proportion of a company's revenue relative to the total sales of the sector in which it operates. For 2024, an analysis of the market shares of the main competitors has revealed significant trends in Romania's pharmaceutical industry. It also provides a clearer picture of the competitive structure within this sector.

Figure 1 presents the market structure of pharmaceutical manufacturers in Romania, based on data from 2024. It includes companies classified under NACE code 2120 that recorded a turnover of over 100 million RON.

Figure 1 – Market Position of Pharmaceutical Manufacturers in Romania in 2024



Source: Authors' processing based on data from risco.ro, accessed on July 27, 2025

The top three manufacturers account for nearly 54% of the market, indicating a dominant position and a strong ability to influence the sector's dynamics.

The market leader is Terapia SA, with a 26% share, followed by Zentiva SA, with 21.29%, and Gedeon Richter Romania SA, with 6.33%. The combined market share of these companies indicates the existence of a

group of firms with significant competitive influence in the sector. These firms are distinguished by high production levels, diversified portfolios, and stable access to the main sales channels.

The next positions are held by manufacturers with smaller individual market shares, yet still relevant to the market structure: Infomed Fluids SRL (6.25%), Biofarm SA (5.48%), Aenova Romania SRL (5.35%), Labormed Pharma SA (4.44%), Fiterman Pharma SRL (3.39%), Labropharm SRL (3.10%), and Biotehnos SA (2.72%). These companies contribute to the sector's diversity through their activity in specific therapeutic segments or in contract manufacturing. They also develop product lines with low volume but high added value. This allows the firms to remain competitive within the industry.

The "Other Companies" category, which accounts for 15.64% of the market, includes companies with turnover below 100 million RON. Although they have small market shares individually, together they form a significant segment. This segment is characterized by flexibility, specialization, and the ability to address therapeutic niches or specific market demands.

4.2 Trends in equity and liabilities in the pharmaceutical industry

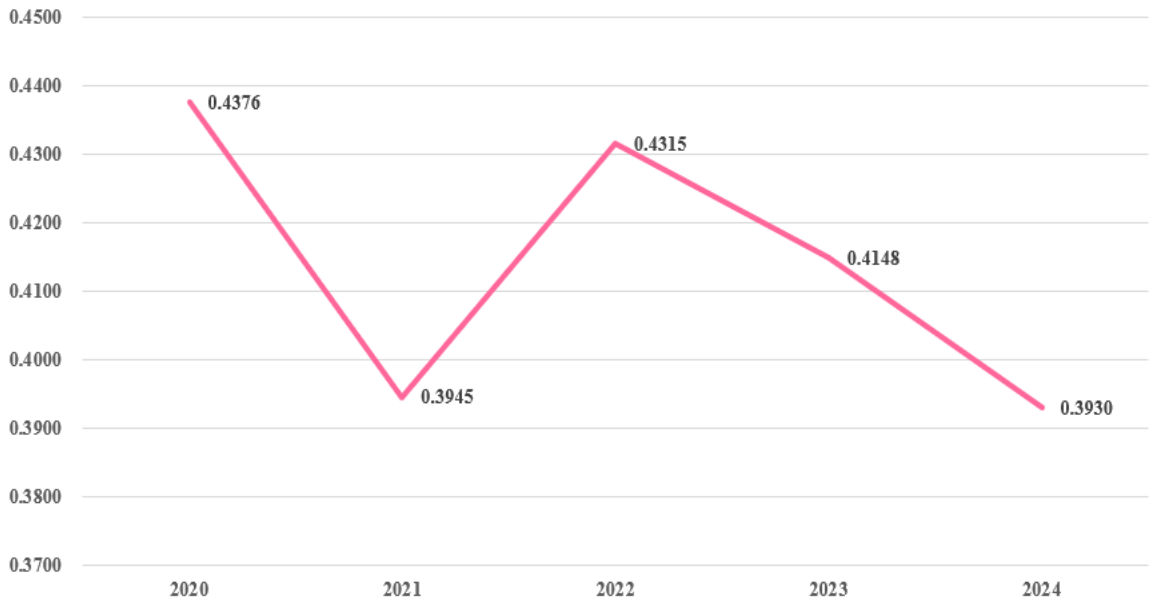
The evolution of equity between 2020 and 2024 shows a constant rising trend, indicating financial consolidation of companies in the pharmaceutical manufacturing sector. The value of equity has increased significantly, from approximately 3.29 billion RON in 2020 to over 5.64 billion RON in 2024. This trend shows that companies have managed to strengthen their equity, either by reinvesting profits or by attracting external capital through stock offerings.

The increase in equity reflects a process of sustainable development, based on long-term investments and efficient resource management. Overall, companies in the sector have become more stable and more capable of sustaining their operations with their own funds. Furthermore, as stability increases, firms are also reducing their dependence on external financing.

Total debt also increased, though at a more moderate pace. From RON 1.44 billion in 2020, debt reached RON 2.22 billion in 2024, indicating that companies took out loans only when necessary. Through this strategy, companies maintain a controlled level of financial exposure.

According to the literature, a debt-to-equity ratio between 0.5 and 2.0 is considered appropriate, depending on the sector's specific features (Popescu, 2019). In the pharmaceutical sector, companies tend to have lower debt levels. Figure 2 highlights the maintenance of a balanced ratio between equity and debt. This indicates a low level of financial risk and a healthy financing structure across the entire sector.

Figure 2 – Trend in the debt-to-equity ratio in the pharmaceutical industry (2020–2024)



Source: Authors' processing based on data from risco.ro, accessed on July 27, 2025

Figure 2 shows that the debt-to-equity ratio remained consistently below the 0.5 threshold throughout the entire period analyzed. In 2020, the ratio was 0.4376, falling to 0.3945 in 2021, followed by a slight increase in

2022 to 0.4315. In 2023 and 2024, the ratio returned to a downward trend, reaching 0.4148 and 0.3930, respectively.

This trend indicates a stable financial structure, characterized by a low level of indebtedness that has been declining in recent years. The ratio remaining below 0.5 shows that company rely mainly on equity to finance their operations, which limits financial risk and vulnerability to potential repayment difficulties.

Overall, the pharmaceutical manufacturing sector has a solid financial position, supported by growth in equity and prudent debt management. These factors confirm the stability and ability of companies to respond to future economic challenges.

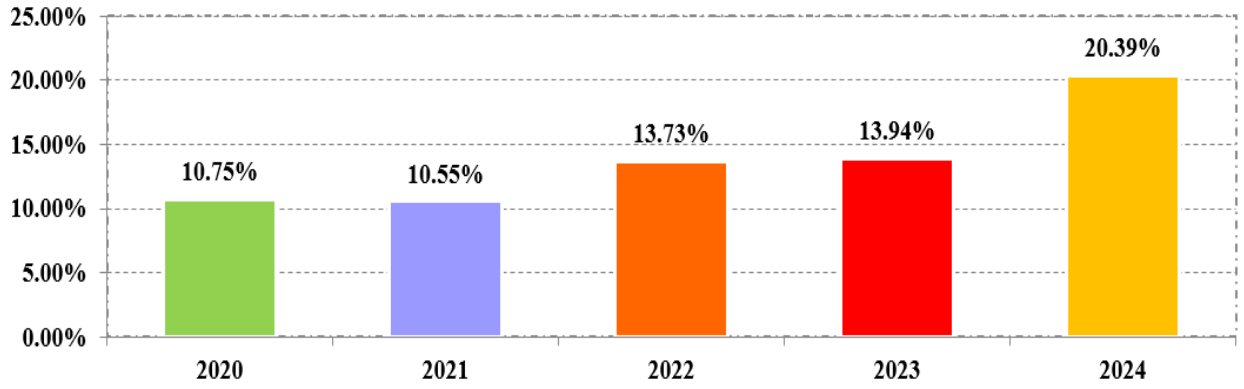
4.3 Profitability trends in the pharmaceutical industry

Profitability in the pharmaceutical manufacturing sector showed a positive trend between 2020 and 2024. Total net profit increased from approximately 509 million RON in 2020 to over 1.5 billion RON in 2024, indicating a significant improvement in economic performance. Furthermore, the average net profit per firm rose from 4.17 million RON to 14.45 million RON, reflecting increased operational efficiency at the individual firm level.

To measure profitability in relative terms, three key indicators were analyzed: ROA, ROE, and ROS. These provide a clearer view of how firms use assets, equity, and revenue to generate profit.

Return on assets (ROA) measures the efficiency of using assets to generate profit. The evolution of ROA for the industry is illustrated in Figure 3.

Figure 3 – ROA Trends in the pharmaceutical industry (2020–2024)



Source: Authors' processing based on data from Table 1

The trend in ROA shows a significant increase in economic efficiency. The indicator increased from 10.75% in 2020 to 20.39% in 2024, the highest level of the period. After a slight decline in 2021, ROA shows growth in 2022, and in 2023 the trend is nearly stagnant, with very modest but still positive growth. In 2024, a more pronounced increase is observed, suggesting a more efficient use of assets and a strengthening of economic performance in the sector.

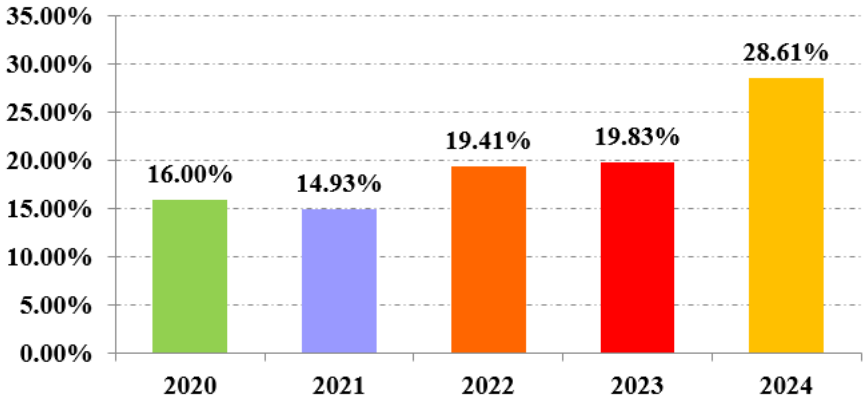
This trend indicates that firms in the pharmaceutical manufacturing sector have consistently improved their economic efficiency. They have managed to achieve higher profits relative to the assets used. This reflects solid financial management. At the same time, it also highlights an increasing ability to adapt to market demands and capitalize on opportunities in the field.

The return on equity ratio expresses a firm’s ability to generate net profit using the equity capital invested in its operations.

Figure 4 shows that ROE increased from 16% in 2020 to 28.61% in 2024, nearly doubling over the period analyzed. After a decline in 2021, the indicator returned to an upward trend, reflecting efficient use of equity and increasingly solid financial performance. The high level in 2024 suggests an attractive sector for investors.

This trend reflects an increasing ability of companies in the pharmaceutical manufacturing sector to generate profit from their own resources. The 2024 figure suggests solid financial performance, supported by efficient use of equity and a well-defined growth strategy.

Figure 4 – ROE Trends in the Pharmaceutical Industry (2020–2024)

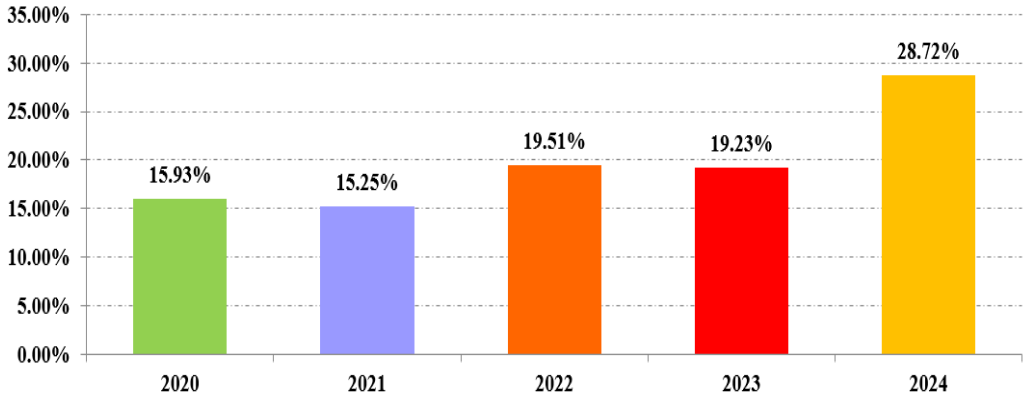


Source: Authors' processing based on data from Table 1

Return on sales is a financial indicator that measures a company's efficiency in generating profit from revenue. ROS shows what percentage of sales revenue is converted into net profit.

Figure 5 highlights a positive trend in ROS, with an increase from 15.93% in 2020 to 28.72% in 2024. Although there were moderate fluctuations in 2021 and 2023, the overall trend is upward. The most significant change occurs in 2024, when the return on sales reaches 28.72%. This result reflects exceptional performance, driven by a combination of innovation, cost optimization, rising demand, and a strengthened market position.

Figure 5 – ROS Trends in the Pharmaceutical Industry (2020–2024)



Source: Authors' processing based on data from Table 1

Overall, this sustained growth in ROS indicates that the pharmaceutical manufacturing sector has become increasingly profitable. It also points to greater efficiency in converting sales into profit. This progress is particularly evident in the post-pandemic period, when companies have managed to adapt more effectively to new market conditions.

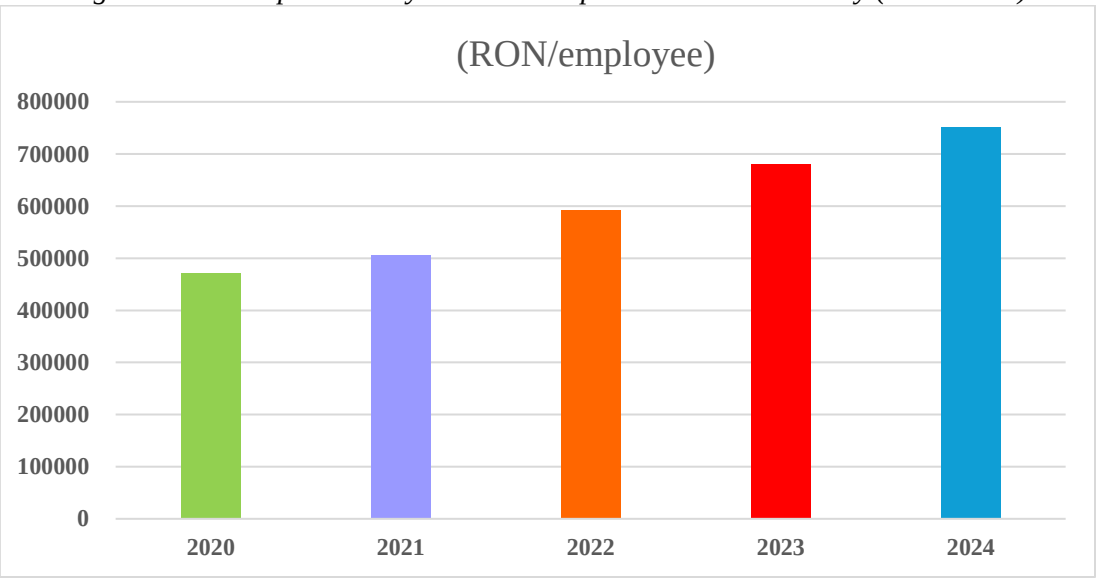
4.4 Trends in labor productivity in the pharmaceutical industry

Labor productivity is a key indicator of workforce efficiency, expressing the amount of revenue generated by each employee. A high level of this indicator reflects an efficient use of human resources and an increased ability to convert inputs into economic outcomes. Labor productivity is calculated by dividing turnover by the average number of employees.

Figure 6 illustrates a continuous increase in labor productivity between 2020 and 2024, indicating a sustained improvement in economic performance. In 2021, productivity rose by 7.30% compared to the previous year. However, in 2022, there was a significant increase of 17.09%, reflecting a much more efficient use of the workforce. The upward trend continued in 2023, with a 14.95% increase, confirming the strengthening of operational efficiency in the pharmaceutical sector.

In 2024, the growth rate tempered, but remained positive, with labor productivity increasing by 10.64% compared to 2023 and reaching the highest level of the period. This sustained evolution reflects both the modernization of production processes and companies' adaptation to market demands and changes in the economic environment.

Figure 6 – Labor productivity trends in the pharmaceutical industry (2020–2024)



Source: Authors' processing based on data from Table 1

5. Conclusions

In recent decades, the global healthcare market has experienced steady growth, particularly during the global COVID-19 pandemic. Along with this rapid growth, the pharmaceutical sector has experienced significant development.

The analysis of the Romania's pharmaceutical manufacturing sector for the period 2020–2024 reveals a solid increase in financial performance. At the same time, it highlights the fact that companies have managed to adapt successfully to the economic challenges of recent years (the COVID-19 pandemic, the energy crisis, etc.).

The analysis presented in this paper shows a steady increase in both turnover and net profit, confirming the sector's strengthened position within the Romanian economy. Equity has trended upward, while debt has grown at a slower rate, maintaining a debt-to-equity ratio below 0.5. This financial structure indicates a low level of risk and limited dependence on external financing.

Return rates (ROA, ROE, ROS) showed a clear upward trend, reflecting an increasingly efficient use of assets, equity, and sales revenue. The high 2024 values confirm the sector's maturity and the companies' ability to generate profit in a competitive environment.

At the same time, labor productivity has grown steadily, indicating greater efficiency in operational processes and improved leverage of human resources. This trend is supported by technological modernization and companies' adaptation to market demands.

Recent developments in the Romania's pharmaceutical manufacturing sector have been characterized by stability and financial performance. At the same time, this sector has significant growth potential and remains one of the most dynamic sectors of the Romanian economy.

This paper makes a valuable contribution to the literature by analyzing both the financial and structural performance of the sector. This approach provides an up-to-date picture of recent trends and the directions in which the pharmaceutical industry is evolving.

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