



ANALYSIS OF ENTERPRISES' EFFICIENCY AND MULTIPLIER INDICATORS IN THE FORMATION OF AN INVESTMENT PORTFOLIO

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Abstract

In forming an investment portfolio, examining the efficiency (ROA, ROE) and multiplier (P/B, P/S, P/E) indicators of each enterprise included in the portfolio is an integral part of fundamental analysis. In this article, using the example of five joint-stock companies two banks and three non-bank companies the efficiency and multiplier indicators are analyzed over a period of years. Based on this analysis, relevant conclusions are drawn, and an effective investment portfolio is formed using the obtained results.

Keywords: Investment portfolio, ROA, ROE, P/B, P/S, P/E indicators, net profit margin, Uzbekistan Republican Commodity Exchange (UZRTXB), Hamkorbank JSC, Uzbektelecom, Chilonzor Goods Trade Complex, Uzsanoatqurilishbank JSC.

Literature Review:

Since the mid-20th century, the topic of portfolio theory has been studied by many scholars. The scientific works of foreign economists such as H. Markowitz, W. F. Sharpe, John Lintner, F. Modigliani, L. Modigliani, Eugene F. Fama, Kenneth R. French, J. Stephen A. Ross, L. Treynor, M. C. Jensen, F. Sortino, Z. Bodie, A. Kane, A. J. Marcus, F. J. Jones, M. G. Ferri, F. J. Fabozzi,



E. K. Keating, W. F. Shadwick, Eugene F. Brigham, and Joel F. Houston have examined this subject from various perspectives. Their research highlights the importance of assessing the expected return and risk of an investment portfolio, as well as the issues associated with portfolio formation and management¹.

Methodology:

In the article, empirical statistical data are used, and extensive application is made of grouping, comparison and benchmarking methods, as well as induction and deduction, and sample observation techniques.

Analysis and Results:

First, the efficiency and multiplier indicators of non-bank joint-stock companies are determined. Then, the same indicators for commercial banks are identified, and the differences between them are analyzed. Based on this, it is determined which combination of companies forms an effective portfolio for investors. **Uzbekistan Republican Commodity and Raw Materials Exchange (JSC)** was registered by the Ministry of Justice in April 1994 and today is considered the largest trading platform in Central Asia, as well as one of the steadily developing commodity exchanges among CIS countries. Currently, its market capitalization amounts to 2.3 trillion UZS, and the number of issued shares exceeds 374 million. **Uzbektelecom JSC**, the only telecommunications operator in Uzbekistan, operates in the field of communications and information technologies. Its market capitalization is 1.6 trillion UZS, with 272.78 million shares issued. The final non-bank organization is the **Chilonzor Goods Trade Complex**, which was established with the status of an open joint-stock company

¹ Harry Markowitz, "Portfolio Selection", The Journal of Finance, Vol. 7, No. 1 (Mar., 1952), pp. 77 -91. William F. Sharpe, "Capital Asset Prices: A Theory of Market Equilibrium Under Conditions of Risk", The Journal of Finance, Vol.19, No. 3 (Sep., 1964), pp. 425-442. John Lintner, "The Valuation of Risk Assets and the Selection of Risky Investment in Stock Portfolios and Capital Budgets", The Review of Economics and statistics, Vol 47, No. 1. (Feb., 1965), pp. 13- 37. Eugene F. Fama and Kenneth R. French. "The Capital Asset Pricing Model: Theory and Evidence" Journal of Economic Perspectives—Volume 18, Number 3, Summer 2004. Pages 25–46. F. Modigliani va L. Modigliani, "Riskadjusted performance", Journal of Portfolio Management, Winter 1997; 23. Stephen A.Ross. "The arbitrage theory of capital asset pricing". Journal of Economic Theory. 13 (3): 341–360. Treynor, J. L. (1965). How to rate management of investment funds. Harvard Business Review, 43(1), 63–75. Michael C. Jensen, "The Performance of Mutual Funds in The Period 1945–1964", The Journal of Finance, May 1968. Sortino, F. A., & Price, L. N. (1994). Performance measurement in a downside-risk framework. The Journal of Investing, 3(3), 59–64. Bodie, Z., Kane, A., & Marcus, A. J. Investments (11th edition). McGraw-Hill Education, New York, 2018. NY. Keating, E.K., & Shadwick, W. F. (2002). A universal performance measure (Working Paper). The Finance Development Centre. Eugene F. Brigham, Joel F. Houston, Fundamentals of Financial Management, 15th Edition, Cengage Learning, 2019. Page 866.

(“Chilonzor Goods Market” JSC) in accordance with Resolution No. 40 of the Cabinet of Ministers of the Republic of Uzbekistan dated January 23, 2003. As of today, the number of issued shares is nearly 44 billion, while its market capitalization amounts to 114.2 billion UZS. From these data, it can be understood that although the joint-stock company with the largest market capitalization is the Uzbekistan Republican Commodity Exchange and the smallest is the Chilonzor Goods Trade Complex, the latter leads in terms of the volume of shares issued and circulating in the market².

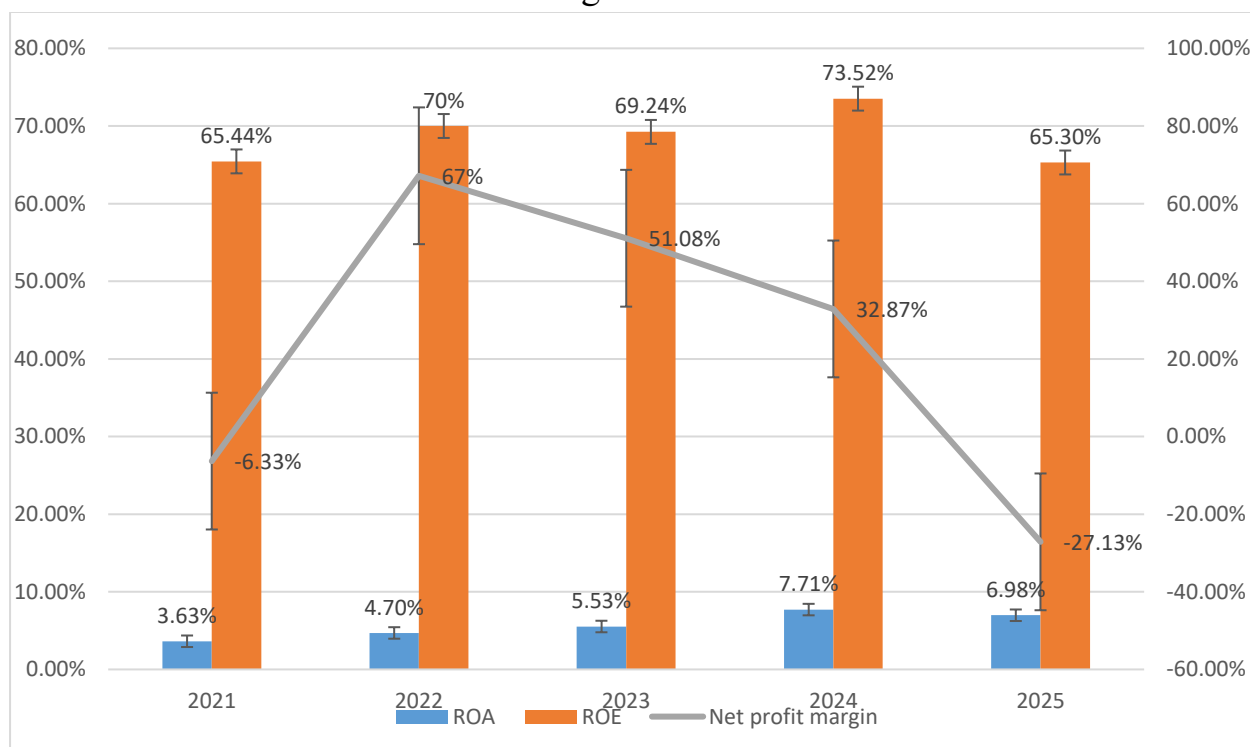


Figure 1: Changes in ROA, ROE, and Net profit margin indicators of UZRTXB³

From this figure, we can see that the ROA (ratio of net profit to total assets) of the Uzbek Stock Exchange is increasing year by year, which means that the joint-stock company used its assets effectively. In 2021, this indicator was 3.63%, but by the end of 2025 it reached 6.98%, almost doubling. ROE (ratio of net profit to shareholders' equity) also amounted to 65.44% in 2021, and in subsequent years it has been 70%, 69.24%, 73.52%, and 65.30%, respectively. The net profit

² Data from the Tashkent Republican Stock Exchange (uzse.uz).

³ Prepared independently by the author using data from the open.info website



margin of the Uzbek Stock Exchange has changed very unevenly, for example, in 2021 it was -6.33 percent, and in 2022 it was 67 percent, that is, the net profit margin is increasing almost 12 times. In 2023 and 2024, this indicator fell from 51.08% to 32.87 percent, a decrease of 18.21 percent. In the last year, we can see that the net profit margin fell to -27.13 percent. In the last trading days of 2025, Uzbek Stock Exchange shares also closed on December 19. On December 22, the share price dropped sharply, reaching 6,000 soums, and on the last trading day it was valued at 6,249.99 soums.

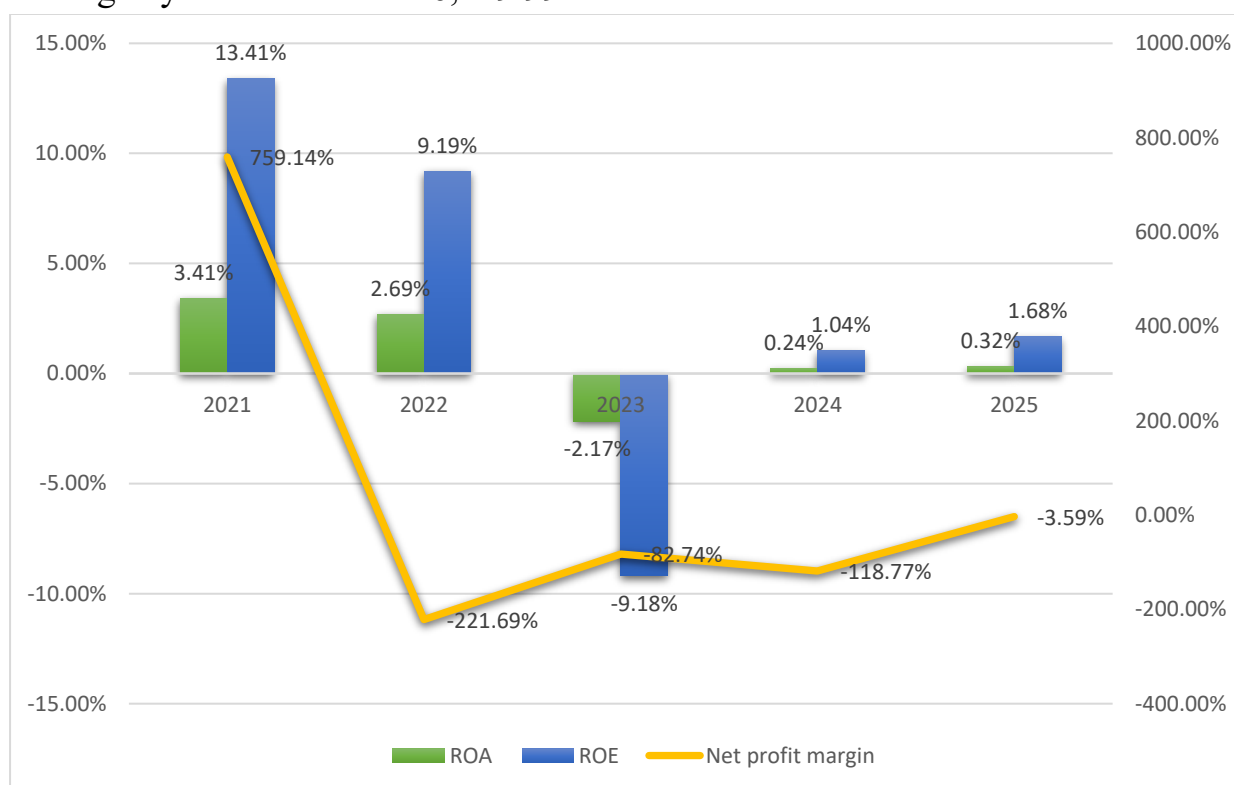


Figure 2: Analysis of ROA, ROE and Net profit margin indicators of Uzbektelecom JSC⁴

Despite the fact that Uzbektelecom JSC is the only telecommunications operator with a monopoly position in Uzbekistan, we can observe that its efficiency indicators are decreasing from year to year. For example, the ratio of net profit to total assets in 2021 was 3.41 percent, this indicator is decreasing from year to year and at the end of 2025 was 0.32 percent, that is, it decreased by 10 times. The utilization rate of Uzbektelecom JSC's equity capital was 13.41 and 9.19

⁴ Prepared independently by the author using data from the open.info website



percent in 2021 and 2022, respectively, but these indicators have decreased sharply over the past 3 years. In the last year, this indicator was 1.68%. Despite the record growth in 2021 of the net profit margin of Uzbektelecom Joint Stock Company, which amounted to 759.14 percent, in subsequent years this indicator decreased unprecedentedly, in 2022 it decreased by -221.69%, or -980.83 percent. At the end of 2025, it reached -3.59%, relatively stabilizing.

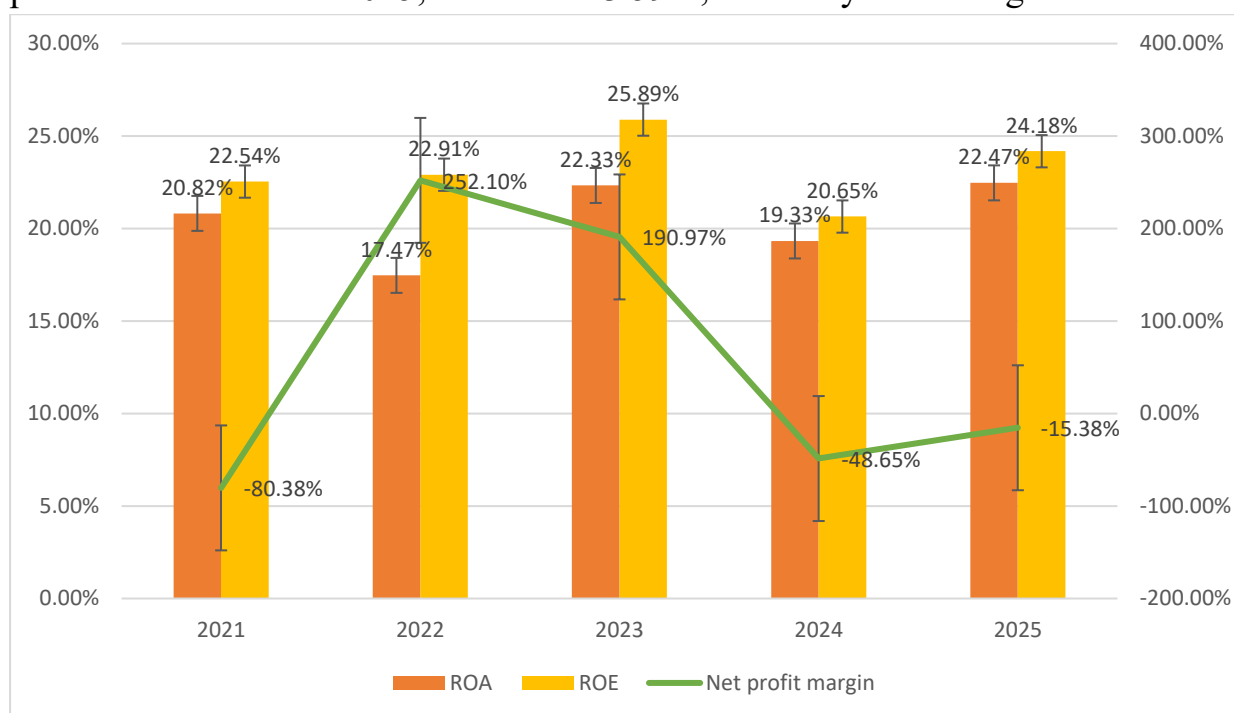


Figure 3: Analysis of ROA, ROE, and Net profit margin indicators of Chilonzor Commodity Trading Complex JSC⁵

Chilonzor Commodity Trading Complex Joint Stock Company is one of the joint stock companies that has been growing steadily in recent years. The fact that there were more than 2 million trading transactions on the last trading day is a vivid example of this. The ROA indicator of the joint stock company was 20.82 percent in 2021, while in 2022 this indicator was 17.47 percent, which is a decrease of 3 percent. In the last 3 years, this indicator has been stable, averaging 21.38 percent. The ROE indicator reached its highest level of 25.89 percent in 2023, but fell to 20.65 percent in 2024. The company's net profit margin indicators began to develop relatively unevenly. For example, in 2021, this

⁵ Prepared independently by the author using data from the open.info website



indicator decreased by -80.38 percent, but the following year it reached 252.10 percent, or 332.48 percent, or in other words, it increased by 3.5 times. In 2018, these indicators decreased compared to previous periods, reaching -48.65% and -15.38%. As we can see, in non-bank joint-stock companies, the ROA and ROE indicators are relatively significant, but the net profit margin indicator is disproportionately formed. Now we will analyze these indicators using the example of 2 banks, Hamkorbank JSCB and Uzsanoatqurilishbank JSCB. Hamkorbank Joint-Stock Commercial Bank is a bank established with foreign capital and has been conducting its own production since 1991. It is also considered one of the strongest and fastest growing joint-stock companies in stock exchange trading. The number of shares issued is more than 125 billion, and the market capitalization is estimated at 5.4 trillion soums.

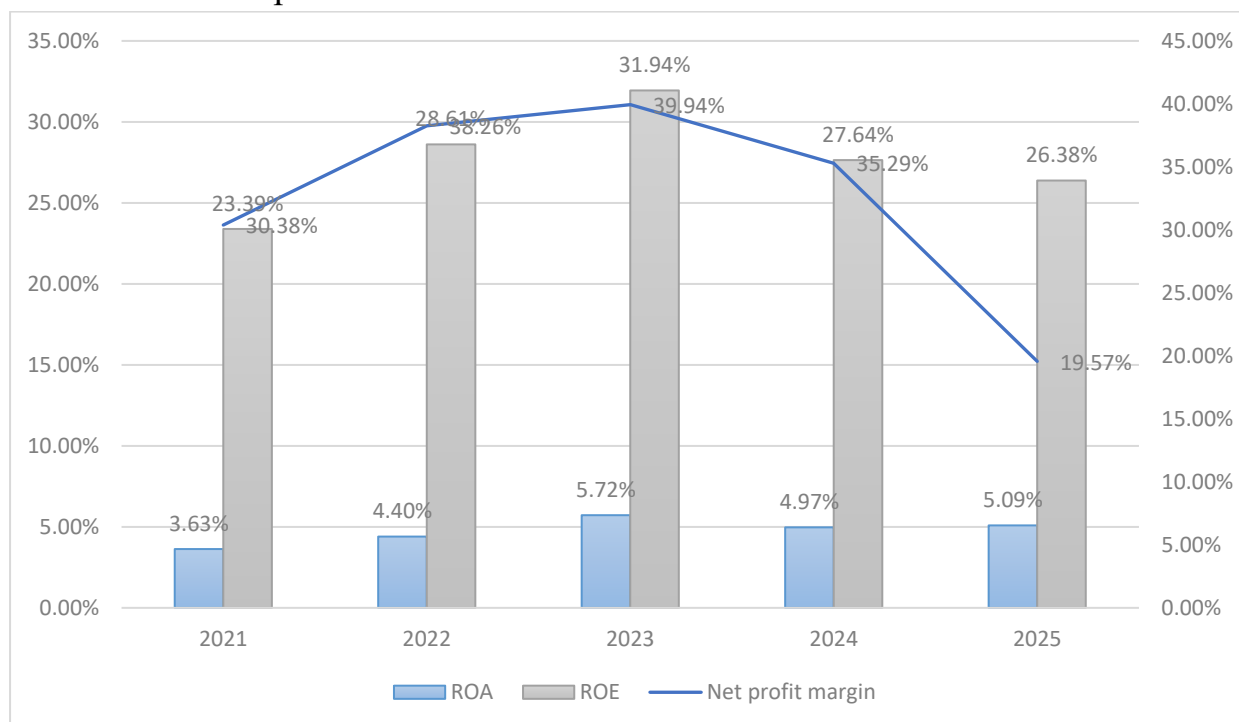


Figure 4: Analysis of ROA, ROE and Net profit margin indicators of Hamkorbank JSCB⁶

From this figure, we can conclude that all performance indicators of Hamkorbank JSCB are very stable. For example, the joint-stock company is effectively using its assets, we can see that this indicator is growing from year

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to year. The ROE indicator increased from 23.39% in the first 3 years to 31.94%, however, in the last 2 years this indicator has a tendency to decrease. The net profit margin The average annual yield over the next 4 years was 36%, and by the end of 2025 it was 19.57%. The object of our latest study, Uzsanotqurilishbank JSCB, has recently proven itself as a very active player in the economic capital market. The bank is increasing its capital by issuing Eurobonds. 400 million US dollars, 8.95% coupon, maturing in 2029 (demand of 650 million US dollars) 2.5 trillion soums, 21.0% coupon, maturing in 2027 (demand of 2.3 trillion soums) July 2024.

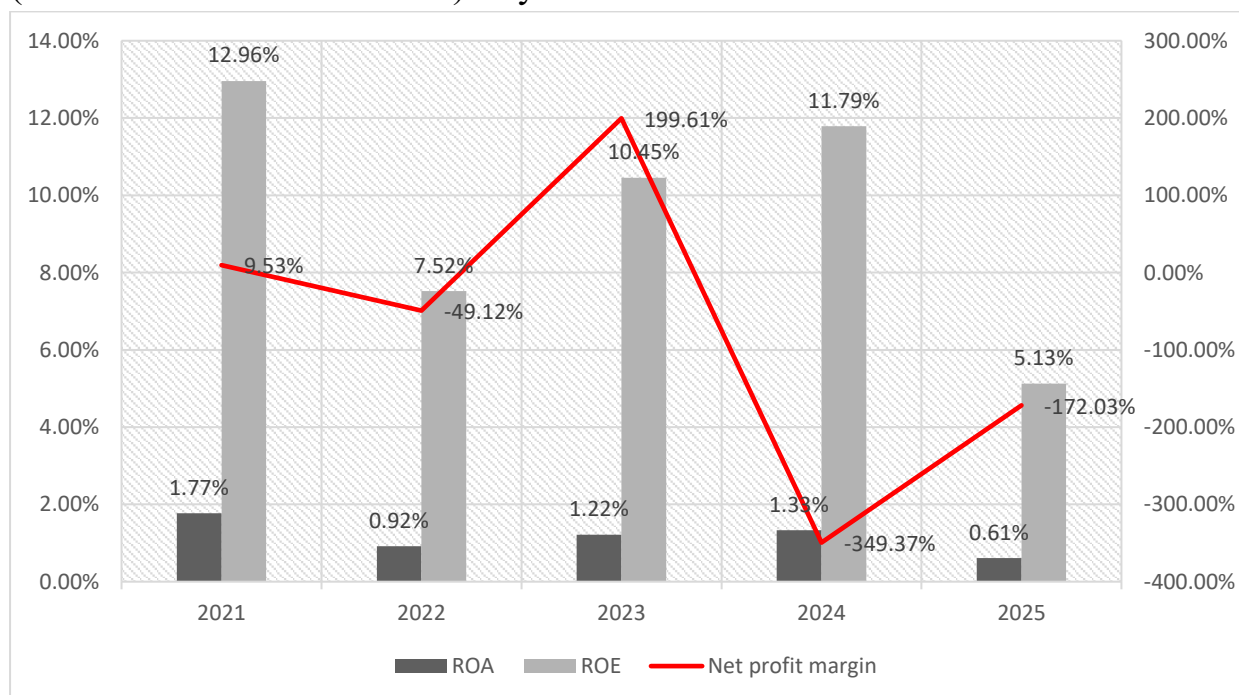


Figure 5: Analysis of ROA, ROE and net profit margin indicators of Uzsanotqurilishbank JSCB⁷

We can see that the return on assets of Uzsanotqurilishbank JSCB is much lower than that of Hamkorbank JSCB, this indicator averaged 1.17 percent over 5 years. ROE, calculated accordingly, decreased from 12.96% in 2021 to 5.13% by the end of 2025. The net profit margin of the joint-stock company is very uneven. For example, in 2021 it was 9.53 percent. In 2023, it increased by 248.73 percent to 199.61 percent. In the last 2 years, it was -349.73 and -172.03 percent.

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These indicators mean that the net profit of Uzsanoatqurilishbank JSCB has been experiencing a very downward trend recently. Our latest research shows the multiplier ratios (P/B, P/S, P/E) of joint-stock companies, as well as the analysis of multiplier indicators for bank and non-bank joint-stock companies. Here, we see that the multiplier ratios of bank and non-bank joint-stock companies are important indicators for shareholders. For example, the P/E ratio shows how much profit 1 share brings to its owner.

Table 1: Average multiplier ratios of non-bank joint-stock companies⁸

Year	Oz'RTXB JSC			Uzbektelecom JSC			Chilonzor Commodity Trading Complex JSC		
	P/B	P/S	P/E	P/B	P/S	P/E	P/B	P/S	P/E
2021	44.66	32.41	68.24	0.15	0.07	1.27	0.5	1.04	2.2
2022	27.61	19.86	39.44	0.16	0.06	1.73	0.75	.12	3.25
2023	19.81	17.4	28.62	0.16	0.05	-1.74	0.83	1.07	3.22
2024	3.15	3.2	4.28	0.46	0.14	44.74	0.58	1.11	2.82
2025	3.19	3.72	4.88	0.66	0.18	39.24	0.59	1.02	2.46

The table you provided appears to show financial or business ratios for three companies across five years, specifically from 2021 to 2025. The columns present values for the following ratios: Oz'RTXB JSC The **P/B** ratio is consistently high, peaking at 44.66 in 2021, indicating that the market values this company at a much higher price relative to its book value. **P/S** fluctuates slightly but remains relatively high across the years. **P/E** ratio starts very high (68.24 in 2021) but decreases significantly over time, which could suggest that the company's earnings are improving relative to its price, making it cheaper in terms of earnings over time. Uzbektelecom JSC This company has a much lower **P/B** ratio, ranging between 0.07 (in 2021) and 0.46 (in 2024), indicating that the market values it much closer to its actual book value. **P/S** ratio also appears to stay low, showing the company's market value is not excessively high compared to its sales. The **P/E** ratio has some fluctuation but does not reach very high values like Oz'RTXB JSC, suggesting lower market expectations relative to

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earnings. Chilonzor Commodity Trading Complex JSC **P/B** ratio stays at a relatively low value, indicating it is valued near or slightly higher than its book value. **P/S** and **P/E** ratios are generally more stable in comparison to the other companies. There is a sharp drop in **P/E** in 2024 (from 3.22 to 2.82), which might suggest improving earnings or stock price adjustments. Oz'bektelekom AJ appears to be more stable with lower ratios, suggesting it is more in line with its book value and earnings. Chilonzor Commodity Trading Complex JSC shows relatively lower volatility in ratios, with a slight improvement in earnings expectations over time.

Table 2: Average multiplier ratios of bank joint-stock companies⁹

Year	Hamkorbank JSCB			Uzsanoatqurilishbank JSCB		
	P/B	P/S	P/E	P/B	P/S	P/E
2021	2.88	4.83	12.31	0.41	2.12	3.18
2022	4.47	6.62	15.61	0.32	1.35	4.2
2023	2.3	3.34	7.2	0.28	1.2	2.69
2024	0.62	1.01	2.24	0.26	0.91	2.25
2025	0.65	1.09	2.46	0.23	0.79	4.4

Hamkorbank JSCB **P/B**: Starts high at **2.88** in 2021, peaks at **4.47** in 2022, then drops sharply to **0.62–0.65** by 2024–2025. Interpretation Market sentiment was very optimistic in 2021–2022 but collapses after 2023, suggesting either the stock price fell or book value grew faster than price. **P/S**: Similar trend — peaks at **6.62** in 2022, then falls to about **1.01–1.09** by 2024–2025. Indicates a declining market valuation relative to revenue. **P/E**: Peaks at **15.61** in 2022, then drops to **2.24–2.46**. This is a huge decline in earnings multiple, indicating lower market confidence or improved earnings (denominator increase), but likely the former due to P/B and P/S trend. Sharp decline in valuation metrics afterward, signaling possible market correction, deteriorating profitability, or risk concerns. Uzsanoatqurilishbank JSCB **P/B**: Starts very low at **0.41** in 2021, gradually decreasing to **0.23** in 2025. Indicates the market consistently values the bank

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below book value undervalued compared to Hamkorbank. P/S: Starts at **2.12**, decreases steadily to **0.79**. Market valuation relative to sales is dropping, indicating weak growth expectations or declining revenue sentiment. P/E: Starts at **3.18**, fluctuates to **4.4** by 2025, Slight upward trend in 2025 suggests marginally higher earnings expectations relative to price. Low P/B and P/S suggest the bank is undervalued or considered risky. P/E is consistently low, meaning the market is cautious about future profits. More stable than Hamkorbank in valuation decline, but growth expectations are modest.

Conclusion: The analysis of enterprises' efficiency and multiplier indicators provides a crucial foundation for the strategic formation of an investment portfolio. Efficiency metrics, such as return on assets (ROA), return on equity (ROE), and net profit margins, allow investors to assess the operational performance and profitability of individual enterprises. Meanwhile, multiplier indicators, including earnings and revenue multipliers, offer insights into growth potential and market valuation relative to investment risk. By combining these indicators, investors can identify enterprises that not only demonstrate strong current performance but also possess the capacity to generate sustainable long-term returns. Consequently, the integration of efficiency and multiplier analyses enhances the decision-making process, optimizes portfolio composition, and supports the achievement of balanced risk-adjusted returns, ultimately contributing to a more resilient and growth-oriented investment strategy.

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