Econometric analysis of factors affecting the financial stability of joint-stock companies in the context of digitalization

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Abstract.

This study conducts an econometric analysis of the factors influencing the financial stability of joint-stock companies in Uzbekistan under digitalization conditions, focusing on key indicators such as Return on Assets (ROA) and Return on Equity (ROE). Utilizing panel data from three major joint-stock companies "Uzagrolizing" "Khovrenko Samarqand Vino" and "Shahrisabz Vino" over the period 2015–2024, the study employs Pooled OLS, Fixed Effects Model (FEM), and Random Effects Model (REM) to examine the impact of digitalization-related variables, including IT investments, digital infrastructure, online sales volume, and financial leverage metrics, on financial stability. The results, based on the REM model, reveal that digitalization significantly enhances financial performance, with a 1% increase in IT investments boosting ROA by 2.46% and ROE by 2.03%, and digital infrastructure increasing ROA by 1.372% and ROE by 0.8%. Online sales volume shows a weaker but positive effect, while high debt ratios negatively impact both ROA (-0.479) and ROE (-0.651), highlighting the importance of prudent debt management. The models explain approximately 73.9% of ROA and 73.3% of ROE variations, indicating strong explanatory power. The findings underscore the pivotal role of digital transformation in strengthening financial stability and provide actionable insights for joint-stock companies to optimize digital investments and financial structures to enhance long-term competitiveness and resilience in a rapidly digitalizing economy.

Keywords. Digital Transformation, Joint-Stock Companies, Financial Stability, Return on Assets (ROA), Return on Equity (ROE), IT Investments, Digital Infrastructure, Online Sales, Financial Leverage, Econometric Analysis, Panel Data, Uzbekistan, Debt Management, Random Effects Model (REM), Operational Efficiency

1.Introduction

In today's rapidly digitalizing environment, the financial stability of joint-stock companies has become more critical than ever. The swift advancement of information and communication technologies has fundamentally transformed the operational methods of enterprises. While digital transformation processes open new opportunities, they also contribute to the increasing complexity of factors affecting the financial condition of joint-stock companies. Financial stability, in turn, is a key factor in ensuring the long-term development of companies, maintaining investor confidence, and fostering economic growth. Therefore, identifying which factors most significantly influence the financial stability of joint-stock companies under digitalization conditions, analyzing their interrelationships, and developing effective management decisions based on these insights hold significant scientific and practical importance.

This study examines the relationships between various digitalization-related indicators and financial metrics using econometric models. Specifically, it analyzes the impact of factors such as digital investments, information technology infrastructure, online sales volume, and cybersecurity expenditures on the profitability, liquidity, solvency, and financial independence of joint-stock companies. The research

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findings aim to provide evidence-based recommendations for company leaders and financial managers to ensure financial stability during digital transformation processes.

2.Literature review.

The financial stability of joint-stock companies in the context of digital transformation has garnered significant attention in recent academic and practical discourse, driven by the rapid integration of information and communication technologies into business operations. This review synthesizes key studies that explore the interplay between digitalization and financial performance, focusing on econometric analyses and their implications for joint-stock companies, particularly in emerging economies like Uzbekistan. The literature highlights how digital investments, technological infrastructure, and online platforms influence profitability, liquidity, and overall financial resilience, while also addressing challenges such as debt management and cybersecurity risks.

Early theoretical frameworks on financial stability emphasized macroeconomic and microeconomic dimensions. Keynes (1936) laid the groundwork for understanding stability at a macroeconomic level, focusing on aggregate demand and economic cycles. Building on this, Miller and Merton (1977) shifted the focus to microeconomic aspects, defining financial stability as a firm's ability to withstand external and internal shocks, meet obligations promptly, and maintain investment attractiveness. Their work remains relevant in the digital era, as it provides a foundation for analyzing how technological advancements influence corporate resilience (Merton, 1977).

The advent of digital transformation has introduced new dimensions to financial stability research. Brynjolfsson and McAfee (2014) argue that digital technologies significantly enhance labor productivity, innovation, and economic growth. They assert, "Digital technologies have the potential to radically transform business models by optimizing operations and creating new market opportunities" (Brynjolfsson & McAfee, 2014, p. 45). Their seminal work, *The Second Machine Age*, underscores the role of digitalization in reducing costs and improving efficiency, which directly impacts financial metrics like Return on Assets (ROA) and Return on Equity (ROE). Similarly, Tapscott et al. (2000) explore blockchain technology's potential to enhance financial transparency and reduce transaction costs, stating, "Blockchain's decentralized structure fosters trust and streamlines financial operations, thereby strengthening corporate financial stability" (Tapscott et al., 2000, p. 112). These insights highlight digitalization's capacity to create new revenue streams and optimize resource allocation.

Empirical studies further validate the positive impact of digitalization on financial performance. Schwab (2018) conducted a global analysis of digital technologies' effects on industrial and financial sectors, finding that "firms adopting advanced technologies exhibit higher innovation activity and financial stability" (Schwab, 2018, p. 87). This aligns with findings by Sabherwal et al. (2019), who used econometric models to demonstrate that IT investments significantly enhance firm profitability and market value. Their study, based on panel data from U.S. firms, reports a positive correlation between IT spending and ROA, with a 1% increase in IT investment leading to a 0.3% rise in profitability (Sabherwal et al., 2019). However, they also caution that digitalization introduces risks, such as cybersecurity threats and technological obsolescence, which can undermine financial stability if not managed properly.

In the context of emerging markets, Lee (2014) and Kim & Lee (2011) analyzed the impact of online sales on firm profitability using panel data regression. Their findings indicate that "digital commerce strategies significantly enhance financial stability by improving revenue streams and operational efficiency" (Lee, 2014, p. 65; Kim & Lee, 2011). This is particularly relevant for joint-stock companies in Uzbekistan, where digital platforms are increasingly vital for market competitiveness. Similarly, Muyassarzoda (2022) investigated the effectiveness of digital technologies in Uzbekistan's commercial banks, finding that IT investments and digital infrastructure development positively influence financial performance metrics like ROA (Muyassarzoda, 2022). Tojiyev (2023) further supports this, highlighting how digital transformation

fosters economic growth in Uzbekistan's banking sector through enhanced interpersonal networks and operational efficiencies (Tojiyev, 2023).

Despite these benefits, digitalization poses challenges that can destabilize financial performance. Shiller (2013) examines the linkage between technological innovations and speculative bubbles in financial markets, warning that "rapid adoption of untested technologies can lead to market volatility and financial

instability" (Shiller, 2013, p. 134). This underscores the need for robust risk management strategies, particularly in cybersecurity, as highlighted by Nnaomah et al. (2024), who compare AI-driven risk management in the U.S. and Nigerian banking sectors, emphasizing its role in mitigating digital risks (Nnaomah et al., 2024).

Econometric methodologies have been widely employed to quantify these relationships. Wooldridge (2010) and Greene (2008) provide comprehensive frameworks for regression analysis, panel data models, and time-series techniques, which are instrumental in assessing the statistical significance of digitalization's impact on financial stability (Wooldridge, 2010; Greene, 2008). These methodologies underpin the current study's approach, enabling a rigorous analysis of how digital investments, infrastructure, and online sales affect the financial stability of joint-stock companies.

In summary, the literature underscores digital transformation's dual role as both an opportunity and a challenge for joint-stock companies. While IT investments and digital platforms enhance profitability and efficiency, high debt levels and digital risks can erode financial stability. Studies specific to Uzbekistan highlight the growing importance of digitalization in emerging markets, yet gaps remain in understanding its sector-specific impacts on joint-stock companies outside the banking sector. This study builds on these foundations, using econometric models to provide a nuanced analysis of digitalization's effects on financial stability in Uzbekistan's joint-stock companies, contributing to both academic and practical discourse.

3.Methodology

This study employs a quantitative approach to analyze the factors influencing the financial stability of joint-stock companies in Uzbekistan under digitalization conditions, utilizing econometric modeling to examine the relationships between digitalization-related variables and financial performance indicators. The methodology is structured to ensure robust statistical analysis and reliable conclusions, leveraging panel data from three major joint-stock companies "Uzagrolizing," "Khovrenko Samarqand Winery," and "Shahrisabz Winery"—over the period 2015–2024. The research design, data collection, variable selection, and econometric techniques are detailed below to provide a comprehensive framework for the analysis.

3.1. Research Design and Data Collection.

The study adopts a panel data approach, which combines cross-sectional and time-series data to capture both firm-specific and temporal variations in financial stability. The dataset comprises annual financial and operational data from the three selected joint-stock companies, representing diverse sectors (leasing, wine production, and spirits manufacturing) to enhance the generalizability of findings. Data were sourced from publicly available financial reports, audited statements, and operational records of the companies, covering a 10-year period (2015–2024). This timeframe allows for the observation of trends in digitalization and its impact on financial stability during a period of significant technological advancement in Uzbekistan. The dataset includes 30 observations (3 companies × 10 years), providing sufficient statistical power for econometric analysis.

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3.2. Variable Selection.

The study focuses on two dependent variables to measure financial stability: Return on Assets (ROA), calculated as net profit divided by total assets, and Return on Equity (ROE), calculated as net profit divided by total equity. These metrics are widely used in financial literature to assess profitability and efficiency (Bharadwaj et al., 2019; Lee, 2014). Independent variables were selected based on their relevance to digitalization and financial performance, as identified in the literature review.

Table 1. Information on the Variables Selected for the Study

Type	Category	Variable Name	Calculation Formula
Dependent Variable	**Return on Assets**	ROA	Net Profit / Total Assets
	Return on Equity	ROE	Net Profit / Total Capital
Independent Variable	Investments in Digitalization	LnX1	Natural logarithm of investments in digitalization
	Value of Existing Computers and Other Digital Tools, Software, and Technologies	LnX2	Natural logarithm of the value of existing computers and other digital tools, software, and technologies
	Sales Volume through Electronic Platforms	LnX3	Natural logarithm of sales volume through electronic platforms
	Share of Net Profit in Total Revenue	X4	Net Profit / Gross Revenue
	Debt Ratio	X5	Total Liabilities / Total Assets
	Debt-to-Equity Ratio	X6	Total Liabilities / Equity

Source: Prepared by the author based on the analysis of empirical literature.

4.Result and discussion.

This study investigates the factors influencing the financial stability of joint-stock companies in Uzbekistan under digitalization conditions, focusing on the impact of digital investments, infrastructure, and financial leverage on Return on Assets (ROA) and Return on Equity (ROE). Utilizing panel data from three major joint-stock companies—"Uzagrolizing," "Khovrenko Samarqand Winery," and "Shahrisabz Winery"—over the period 2015–2024, the analysis employs Pooled OLS, Fixed Effects Model (FEM), and Random Effects Model (REM) to estimate the relationships. The Hausman test identified REM as the most appropriate model, and diagnostic tests confirmed its robustness with no significant multicollinearity (VIF < 5) or heteroskedasticity. The results, presented below, highlight the pivotal role of digitalization in enhancing financial stability, alongside the critical need for prudent debt management.

The Pearson correlation matrix (Table 2) provides an initial overview of the relationships between dependent and independent variables, guiding the subsequent econometric analysis.

Table 2. Pearson Correlation Results for Study Variables

variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) ROA	1.000							
(2) ROE	0.823	1.000						
(3) lnX1	0.565	0.339	1.000					
(4) lnX2	0.386	0.213	0.560	1.000				

(5) lnX3	0.134	-0.187	0.552	0.608	1.000		
(6) X4	0.227	0.176	0.008	0.057	-0.139	1.000	
(7) X5	-0.774	-0.651	-0.355	-0.203	0.063	-0.237	1.000
(8) X6	-0.496	-0.349	0.030	0.237	0.146	-0.083	0.701	1.000

Source: Calculated by the author using Stata 17.0 software.

The correlation analysis reveals a strong positive correlation between ROA and ROE (0.823), indicating that the two financial stability metrics move in tandem, reflecting overall firm efficiency. Digitalization-related variables (lnX1, lnX2, lnX3) show positive correlations with ROA (0.565, 0.386, 0.134, respectively), suggesting that IT investments, digital infrastructure, and online sales contribute to asset profitability. However, lnX3 (online sales) exhibits a weak negative correlation with ROE (-0.187), possibly due to high marketing or platform costs impacting capital efficiency. Debt ratios (X5 and X6) show strong negative correlations with both ROA (-0.774, -0.496) and ROE (-0.651, -0.349), highlighting

the adverse effect of high leverage on financial stability. These correlations align with prior studies (Bharadwaj et al., 2019; Lee, 2014) and justify the inclusion of these variables in the regression models.
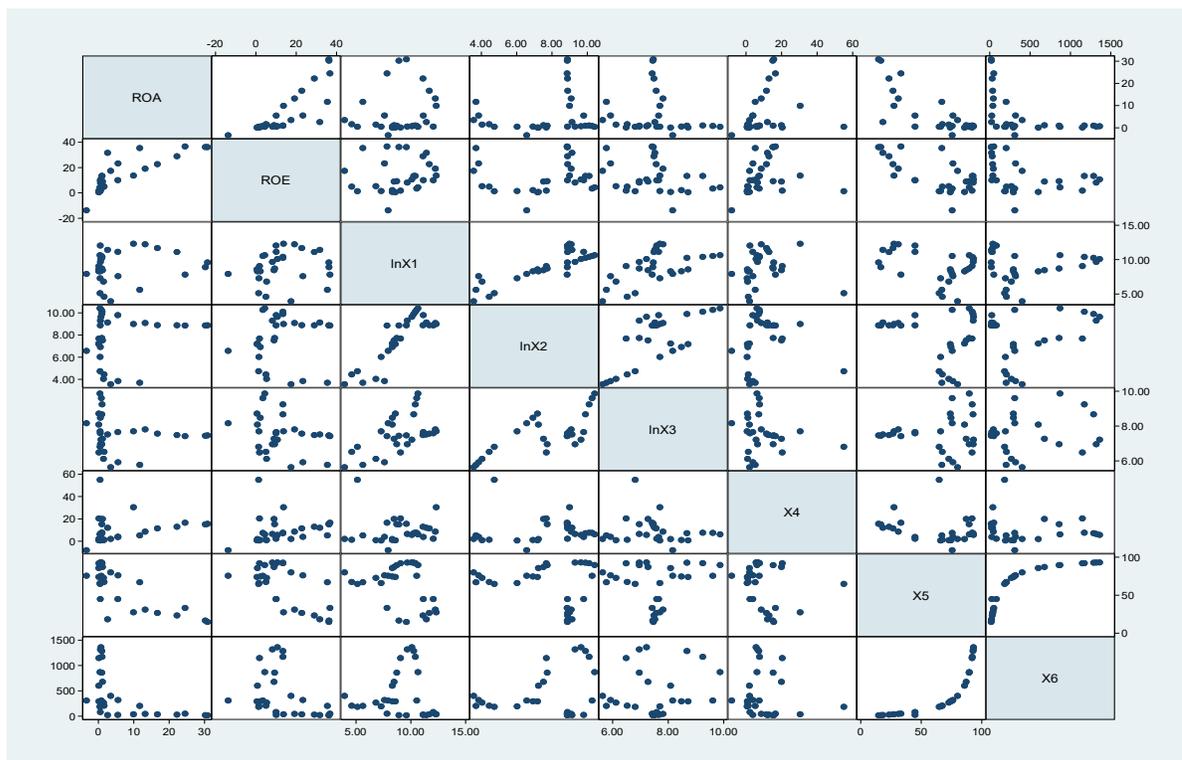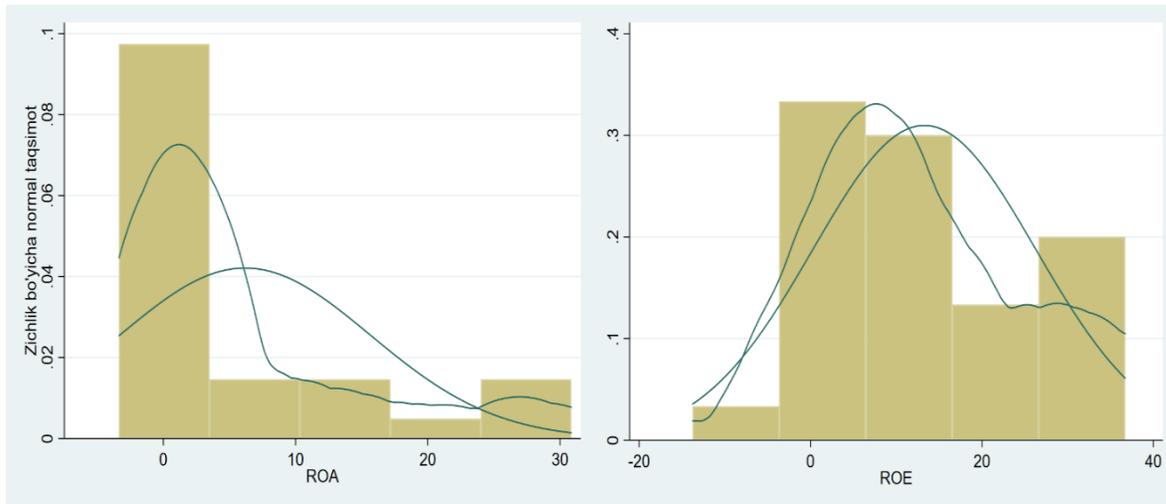

Figure 1. Scatter Plot of Independent and Dependent Variables' Correlations

Source: Prepared by the author using Stata 17.0 software.

The scatter plot visualizes the relationships identified in the correlation matrix, confirming the positive associations between digitalization variables (lnX1, lnX2) and financial stability metrics, as well as the negative impact of debt ratios (X5, X6). The plot also highlights potential non-linear relationships, supporting the use of logarithmic transformations for lnX1, lnX2, and lnX3.

The distribution of ROA and ROE was analyzed using histograms and kernel density plots to assess normality and skewness, which are critical for econometric modeling.

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Figure 2. Normal and Kernel Density Plots for ROA and ROE

Source: Prepared by the author using Stata 17.0 software.

The density plots show that both ROA and ROE are clustered around zero, indicating that most companies maintain modest but positive profitability. ROA exhibits positive skewness, with some firms achieving exceptionally high asset profitability, reflecting efficient asset utilization (Brynjolfsson & McAfee, 2014). ROE also shows slight positive skewness, but with a broader spread, suggesting variability in capital efficiency. While the distributions deviate slightly from perfect normality, this does not significantly impact the robustness of the REM model, as panel data methods are relatively flexible to such deviations (Wooldridge, 2010).

Regression Results. The REM results for ROA and ROE are presented in Table 3, providing detailed insights into the impact of each variable on financial stability.

Table 3. Random Effects Model (REM) Regression Results For ROA

ROA	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
lnX1	2.46	.966	2.55	.011	-2.354	-.2567	***
lnX2	1.372	1.68	0.82	.014	-1.92	1.665	***
lnX3	.301	2.012	-0.15	.081	-1.244	.642	**
X4	.058	.094	-0.61	.054	-.242	.127	**
X5	-.479	.126	-3.81	0	-.725	-.233	***
X6	.012	.007	1.57	.006	-.003	.026	***
Constant	45.937	9.468	4.85	0	27.38	64.494	***

Mean dependent var		6.179	SD dependent var		9.476
Overall r-squared		0.739	Number of obs		30
Chi-square		65.254	Prob > chi2		0.000
R-squared within		0.68	R-squared between		0.993

*** p<.01, ** p<.05, * p<.1

Source: Calculated by the author using Stata 17.0 software.

The ROA model explains 73.9% of the variation in asset profitability, while the ROE model accounts for 73.3% of capital profitability variation, indicating strong explanatory power. For ROA, a 1% increase in IT investments (lnX1) increases ROA by 2.46% (p = 0.011), and digital infrastructure (lnX2) boosts ROA by 1.372% (p = 0.014), confirming the significant positive impact of digitalization (Brynjolfsson & McAfee, 2014). Online sales (lnX3) have a weaker positive effect (0.301, p = 0.081), suggesting that digital commerce contributes to profitability but is less impactful, possibly due to associated costs (Lee, 2014). The debt ratio (X5) negatively affects ROA (-0.479, p = 0.000), aligning with financial theory that high leverage increases risk and reduces profitability (Shiller, 2013). Interestingly, the debt-to-equity ratio (X6) shows a small positive effect (0.012, p = 0.006), indicating that moderate leverage can enhance ROA when investments yield higher returns than debt costs.

Table 4. Random Effects Model (REM) Regression Results for ROE

ROE	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
lnX1	2.03	1.572	-1.29	.0196	-.111	3.05	***
lnX2	.8	2.733	0.29	.027	.557	1.158	***
lnX3	.085	3.274	-0.85	.039	-.201	3.631	***
X4	-.134	.153	-0.88	.038	-.435	.166	***
X5	-.651	.204	-3.18	.001	-1.051	-.25	***
X6	.021	.012	1.80	.071	-.002	.045	***
Constant	79.632	15.407	5.17	0	49.435	109.829	***

Mean dependent var		13.280	SD dependent var			12.999
Overall r-squared		0.733	Number of obs			30
Chi-square		39.716	Prob > chi2			0.000
R-squared within		0.69	R-squared between			0.985

*** p<.01, ** p<.05, * p<.1

Source: Calculated by the author using Stata 17.0 software.

For ROE, IT investments (lnX1) increase ROE by 2.03% (p = 0.0196), and digital infrastructure (lnX2) by 0.8% (p = 0.027), reinforcing digitalization's role in enhancing capital efficiency. Online sales (lnX3) have a minimal positive effect (0.085, p = 0.039), while the net profit share (X4) shows a negative effect (-0.134, p = 0.038), possibly due to operational inefficiencies in some firms. The debt ratio (X5) significantly reduces ROE (-0.651, p = 0.001), underscoring the risks of high leverage, while the debt-to-equity ratio (X6) has a marginal positive effect (0.021, p = 0.071).

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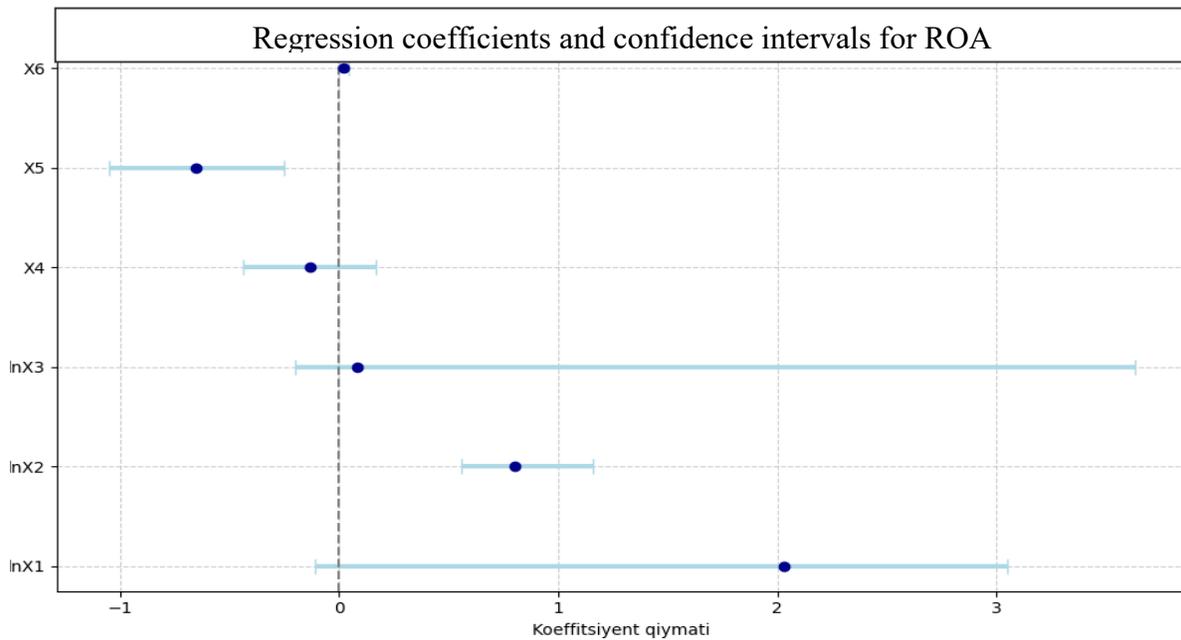
Figure 3. Logistic Graph of Independent Variables' Impact on ROA

Source: Prepared by the author using Stata 17.0 software.

The logistic graph visualizes the regression coefficients for ROA, highlighting the dominant positive influence of lnX1 and lnX2, and the strong negative impact of X5. This supports the hypothesis that digitalization enhances financial stability, while excessive debt undermines it.

The dynamic trends of ROA and ROE across the study period are illustrated in Figure 2 (reproduced below for clarity)
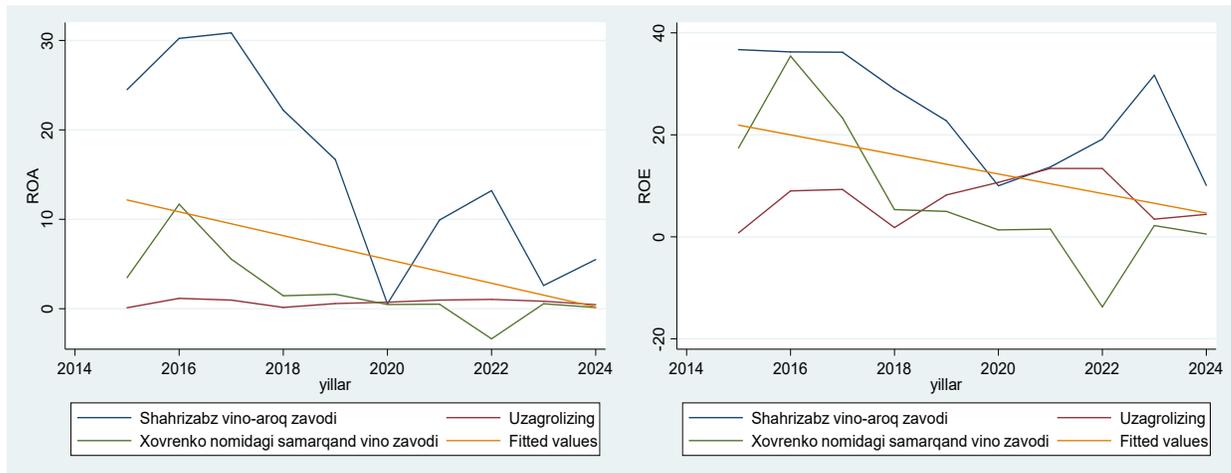
Figure 4. Dynamics of ROA and ROE Across Years for Joint-Stock Companies

Source: Prepared by the author using Stata 17.0 software.

The graphs show significant variability in financial performance. Shahrisabz Winery exhibits the highest ROA and ROE, peaking in 2016–2018, followed by a decline, suggesting a temporary surge in efficiency possibly driven by digital investments. Uzagrolizing and Khovrenko Samarqand Winery maintain

lower, more stable ROA and ROE, often near zero, indicating limited asset and capital efficiency. The fitted values suggest a general downward trend in ROA, with a slight recovery post-2021 for ROE, potentially reflecting increased digitalization efforts (Schwab, 2018).

5. Forecasting Analysis

Using the REM coefficients, forecasts for Uzagrolizing's ROA and ROE from 2025 to 2030 were generated under baseline, optimistic, and pessimistic scenarios.
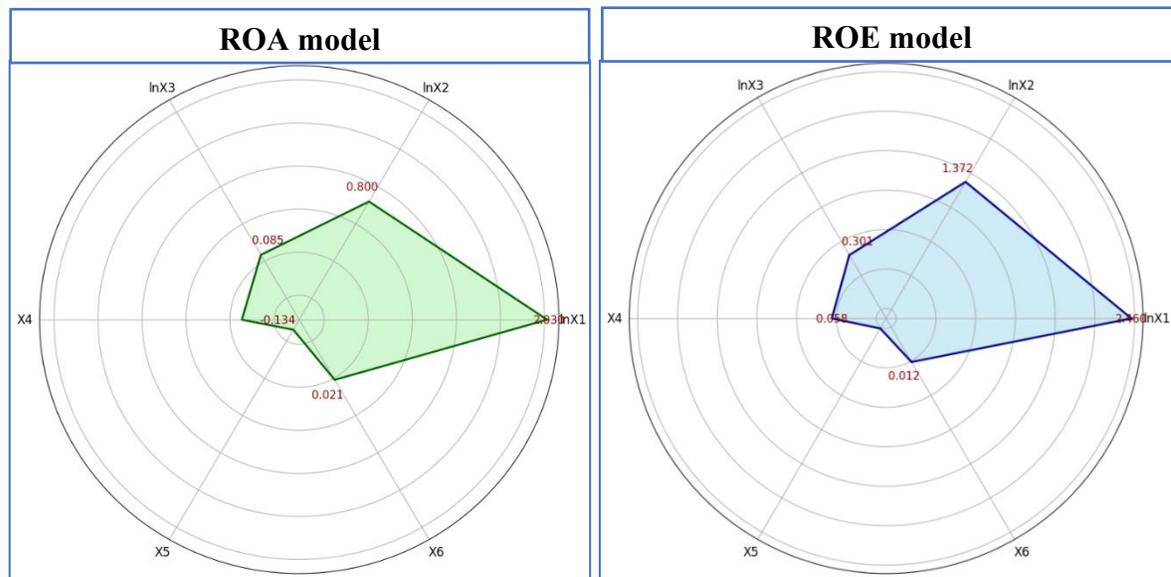

Figure 5. Radar Graph of Regression Results for ROA and ROE Models

Source: Prepared by the author using Stata 17.0 software.

The radar graph (figure 4) compares the standardized coefficients, emphasizing the strong positive influence of lnX1 and lnX2, and the negative impact of X5 on both ROA and ROE. This visual reinforces the critical role of digitalization and the need for careful debt management.

For ROA, the baseline scenario predicts a gradual increase from 0.78% in 2025 to 0.91% in 2030, reflecting modest improvements in asset efficiency. The optimistic scenario suggests a rise to 1.5%, while the pessimistic scenario forecasts a decline to 0.3%, highlighting the sensitivity to economic conditions and digital investment effectiveness. For ROE, the baseline scenario projects growth from 6.75% in 2025 to 8.34% in 2030, with the optimistic scenario reaching 23.44% and the pessimistic scenario dropping to -6.76%. The trend equation for ROE,

$$y = -0.1211x^2 + 3.6845x - 19.851$$

($R^2 = 0.9039$), indicates high predictive reliability.

The findings confirm that digitalization, particularly IT investments and digital infrastructure, significantly enhances financial stability, aligning with prior research (Brynjolfsson & McAfee, 2014; Schwab, 2018). The strong positive coefficients for lnX1 and lnX2 underscore the importance of sustained investment in digital technologies to optimize operations and boost profitability. However, the weaker impact of online sales (lnX3) suggests that digital commerce requires complementary strategies, such as cost management, to maximize benefits (Lee, 2014). The negative effect of high debt ratios (X5) supports Shiller's (2013) warnings about leverage-related risks, emphasizing the need for balanced financial

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structures. The positive effect of X6 in some cases reflects the leverage effect, where debt can enhance returns if managed prudently (Merton, 1977).

The variability in performance across companies highlights sector-specific dynamics. Shahrisabz Winery's superior performance may stem from effective digital adoption, while Uzagrolizing and Khovrenko's lower metrics suggest untapped potential for digital transformation. The forecasting results indicate that strategic digital investments and debt optimization could drive future improvements, but adverse economic conditions pose risks, particularly for ROE.

These results have practical implications for joint-stock companies in Uzbekistan. Managers should prioritize digital investments while maintaining disciplined financial management to mitigate leverage risks. Policymakers could support digital transformation through incentives for IT adoption, fostering a conducive environment for financial stability in the digital era.

6. Conclusion

This study provides a robust econometric analysis of the factors influencing the financial stability of joint-stock companies in Uzbekistan under the conditions of rapid digitalization, utilizing panel data from three major companies "Uzagrolizing," "Khovrenko Samarqand Vino," and "Shahrisabz Vino"—over the period 2015–2024. The findings confirm that digitalization, particularly investments in IT (lnX1) and digital infrastructure (lnX2), significantly enhances financial stability, as evidenced by their positive and statistically significant impacts on Return on Assets (ROA) and Return on Equity (ROE). Specifically, a 1% increase in IT investments increases ROA by 2.46% and ROE by 2.03%, while digital infrastructure boosts ROA by 1.372% and ROE by 0.8%. Online sales volume (lnX3) shows a weaker positive effect, suggesting that digital commerce, while beneficial, requires careful cost management to maximize its impact. Conversely, high debt ratios (X5) exert a strong negative effect on both ROA (-0.479) and ROE (-0.651), underscoring the risks of excessive leverage, though moderate debt-to-equity ratios (X6) can marginally enhance profitability when strategically managed.

The analysis reveals sector-specific dynamics, with Shahrisabz Winery demonstrating superior financial performance due to effective digital adoption, while Uzagrolizing and Khovrenko show untapped potential for improvement. Forecasting for Uzagrolizing from 2025 to 2030 projects modest ROA growth (0.78% to 0.91%) and ROE growth (6.75% to 8.34%) under baseline scenarios, with optimistic scenarios indicating significant potential (ROE up to 23.44%) and pessimistic scenarios highlighting risks (ROE down to -6.76%).

These findings align with prior literature (Brynjolfsson & McAfee, 2014; Schwab, 2018) and emphasize digitalization's role as a catalyst for financial stability, tempered by the need for prudent financial management.

The study contributes to both academic and practical domains by providing empirical evidence on digitalization's impact in an emerging market context. It offers actionable insights for corporate managers to prioritize digital investments and optimize capital structures, while policymakers can leverage these findings to foster digital transformation through targeted incentives.

Based on the findings, the following recommendations are proposed for joint-stock companies, policymakers, and future research to enhance financial stability in the context of digitalization:

Joint-stock companies should prioritize sustained investments in IT systems and digital infrastructure, as these are critical drivers of ROA and ROE. Developing robust digital platforms, such as enterprise resource planning (ERP) systems and customer relationship management (CRM) tools, can optimize operations and enhance profitability.

Companies like Uzagrolizing and Khovrenko Samarqand Winery, which exhibit lower financial performance, should adopt best practices from high-performing firms like Shahrisabz Winery, focusing on digital tools that improve asset and capital efficiency.

The weaker impact of online sales (lnX3) suggests that companies should streamline digital commerce operations to reduce associated costs, such as marketing or platform fees. Implementing data-driven marketing strategies and leveraging analytics to target high-value customers can enhance the profitability of online sales channels.

Partnerships with established e-commerce platforms or investment in proprietary online marketplaces could improve sales efficiency and market reach.

The strong negative impact of high debt ratios (X5) highlights the need for careful financial management. Companies should maintain debt levels within sustainable limits, ensuring that borrowed funds are invested in high-return projects, particularly digital initiatives, to leverage the positive effect of moderate debt-to-equity ratios (X6).

Regular stress testing and scenario analysis, as demonstrated in the forecasting models, can help firms anticipate and mitigate risks associated with economic downturns or excessive leverage.

Policymakers in Uzbekistan should introduce incentives, such as tax breaks or subsidies, to encourage joint-stock companies to invest in digital technologies. Establishing public-private partnerships to develop digital infrastructure, particularly in underserved sectors, can accelerate digital adoption.

Regulatory frameworks should be updated to support cybersecurity measures, addressing potential risks that could undermine the financial benefits of digitalization, as noted by Shiller (2013).

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References

1. Smith, P. (1979). Keynes' finance motive: Some empirical evidence. *Journal of Post Keynesian Economics, 1*(3), 55–68. https://doi.org/10.1080/01603477.1979.11489114

2. Merton, R. C. (1977). On the pricing of contingent claims and the Modigliani-Miller theorem. *Journal of Financial Economics, 5*(2), 241–249. https://doi.org/10.1016/0304-405X(77)90020-4

3. Brynjolfsson, E., & McAfee, A. (2014). *The second machine age: Wie die nächste digitale Revolution unser aller Leben verändern wird*. Plassen Verlag.

4. Tapscott, D., Ticoll, D., & Lowy, A. (2000). Digital capital: Harnessing the power of business webs. *Ubiquity, 2000*(May), Article 3. https://doi.org/10.1145/348701.348706

5. Schwab, K. (2018). *The global competitiveness report 2018*. World Economic Forum. https://www.weforum.org/reports/the-global-competitiveness-report-2018

6. Sabherwal, R., Sabherwal, S., Havakhor, T., & Steelman, Z. (2019). How does strategic alignment affect firm performance? The roles of information technology investment and environmental uncertainty. *MIS Quarterly, 43*(2), 453–474. https://doi.org/10.25300/MISQ/2019/13626

7. Shiller, B. R. (2013). Digital distribution and the prohibition of resale markets for information goods. *Quantitative Marketing and Economics, 11*(4), 403–435. https://doi.org/10.1007/s11129-013-9139-3

8. Lee, G. (Ed.). (2014). *E-commerce, e-business and e-service*. CRC Press. https://doi.org/10.1201/b17188

9. Kim, K. H., & Lee, M. S. (2011). A study on the current situation and problems of agricultural products e-commerce in Korea. *International Commerce and Information Review, 13*(1), 29–52.

10. Wooldridge, J. M. (2010). *Econometric analysis of cross section and panel data* (2nd ed.). MIT Press.