

Determinants of Financial Performance in Listed Firms: The Role of Inventory Turnover, Sales Growth, and Operating Cash Flow in the Egyptian Context

Ingy Essam Eldin Salama

Lecturer in Accounting

College of Management and Technology, Arab Academy for Science, Technology and Maritime Transport (AASTMT), Alexandria, Egypt

Menan Mohamed Etab

Lecturer in Accounting and Finance

College of Management and Technology, Arab Academy for Science, Technology and Maritime Transport (AASTMT), Alexandria, Egypt

الملخص

تُعنى هذه الدراسة بتحليل العوامل المؤثرة في الأداء المالي للشركات غير المالية المدرجة في البورصة المصرية، مع التركيز بشكل خاص على تأثير معدل دوران المخزون، ونمو المبيعات، والتدفق النقدي من الأنشطة التشغيلية على العائد على الأصول (ROA). وقد تم اعتماد منهج كمي تفسيري، حيث تم جمع بيانات لوحية (Panel Data) من التقارير السنوية للشركات المدرجة ضمن مؤشر EGX100 على مدى خمس سنوات (٢٠١٩-٢٠٢٣). وتم استخدام نموذج الانحدار الخطي المتعدد لتحليل العلاقات بين المتغيرات المستقلة والعائد على الأصول، وذلك بعد إجراء اختبارات تشخيصية شاملة للتحقق من وجود الارتباط التسلسلي، واختلاف التباين، والتعدد الخطي. أظهرت النتائج أن المتغيرات الثلاثة – معدل دوران المخزون، ونمو المبيعات، والتدفق النقدي من الأنشطة التشغيلية – تؤثر تأثيراً إيجابياً وذا دلالة إحصائية على العائد على الأصول. ويُفسر النموذج ما يقارب ٦٠.١% من التباين في الأداء المالي، مما يدل على قدرة تفسيرية قوية. وتشير هذه النتائج إلى أهمية الكفاءة التشغيلية وإدارة السيولة الداخلية في دفع عجلة الربحية، لا سيما في

سياق الأسواق الناشئة التي تتميز بالتقلبات الاقتصادية والقيود على الوصول إلى التمويل الخارجي. تسهم هذه الدراسة في الأدبيات الحالية من خلال تقديم أدلة تجريبية حول التأثير المشترك لعوامل تشغيلية ومالية رئيسية في إطار تحليلي موحد ضمن السوق المصري. كما تُناقش الآثار التطبيقية للنتائج بالنسبة لمديري الشركات والمستثمرين وصناع السياسات، مع تقديم توصيات للدراسات المستقبلية لاستكشاف ديناميكيات قطاعية محددة ومتغيرات إضافية مرتبطة بالحوكمة.

الكلمات المفتاحية: الأداء المالي، العائد على الأصول (ROA)، معدل دوران المخزون، نمو المبيعات، التدفق النقدي من الأنشطة التشغيلية، البورصة المصرية (EGX)، البيانات اللوحية، الانحدار المتعدد.

Abstract

This study investigates the determinants of financial performance in non-financial firms listed on the Egyptian Exchange (EGX), with a specific focus on the impact of inventory turnover, sales growth, and cash flow from operations (CFO) on Return on Assets (ROA). Using a quantitative, explanatory research design, panel data were collected from annual reports of firms in the EGX100 index over a five-year period (2019–2023). A multiple linear regression model was employed to analyze the relationships between the independent variables and ROA, following rigorous diagnostic tests for autocorrelation, heteroscedasticity, and multicollinearity. The results reveal that all three variables—inventory turnover, sales growth, and CFO—have a statistically significant positive effect on ROA. The model explains approximately 60.1% of the variation in financial performance, indicating strong explanatory

power. These findings underscore the importance of operational efficiency and internal liquidity management in driving profitability, particularly in an emerging market context marked by economic volatility and constrained access to external financing. The study contributes to the existing literature by providing empirical evidence on the joint influence of key operational and financial factors within a single framework in the Egyptian market. Practical implications are discussed for corporate managers, investors, and policymakers, along with recommendations for future research to explore sector-specific dynamics and additional governance-related variables.

Keywords: Financial performance, Return on Assets (ROA), Inventory turnover, Sales growth, Cash flow from operations, Egyptian Exchange (EGX), Panel data, Multiple regression.

1. Introduction

Achieving and sustaining strong financial performance remains a central concern for corporate managers, investors, and policymakers alike. A firm's financial health not only reflects its ability to efficiently mobilize and allocate resources but also serves as a critical indicator of long-term flexibility and value creation (Ajibola et al., 2024). While financial performance is often discussed in broad terms, empirical research typically relies on specific quantitative metrics to assess profitability, operational efficiency, and overall business strength (Akintola, 2023). Among these, Return on Assets (ROA) stands out as one of the

most important indicators due to the direct relationship that exists between a company's net income and the total assets it utilizes.

Return on Assets (ROA) is calculated by dividing a company's net profit by its total assets and shows how well the business turns its investments into earnings (Alnaim & Kouaib, 2023). It not only reflects day-to-day operational efficiency but also the capability of management to make the most of the available resources. In general, a higher ROA suggests that assets are being used productively, while a lower figure may indicate that there are inefficiencies or underutilization (Ajibola et al., 2024; Hidayat et al., 2024)."

Understanding the key drivers behind variations in ROA has become a key topic in corporate finance and strategic management research. Several operational and financial variables have been identified as potential influencers of ROA. Inventory turnover, for instance, measures the frequency with which a firm sells and replaces its inventory over a given period. Efficient inventory management can enhance liquidity, reduce holding costs, and improve cash flow—all of which may positively impact profitability. However, empirical evidence suggests that the effect of inventory turnover on ROA varies significantly across industries and market environments (Moses et al., 2023; Abubakar & Madawaki, 2025; Ajibola et al., 2024).

Sales growth is another important determinant, reflecting a firm's capacity to expand its revenue base and improve asset utilization. Although many studies report a positive association between sales growth and profitability, this relationship tends to weaken in capital-intensive sectors where rising revenues may be accompanied by disproportionately high operating expenses (Rakhmawati et al., 2024; Olaoye & Olaoye, 2022; Hidayat et al., 2024).

Similarly, cash flow from operations (CFO) serves as a vital measure of the liquidity generated from a company's main business activities. It reflects the firm's ability to fund day-to-day operations, meet financial obligations, and pursue investment opportunities without relying on external financing. While numerous studies have established a positive link between CFO and ROA, others suggest that this relationship may be moderated by factors such as capital structure, asset utilization efficiency, and macroeconomic conditions (Ahmad et al., 2024; Arifaj et al., 2023; Liman & Mohammed, 2018).

Although these variables have been widely studied individually, there remains a notable gap in the literature regarding their combined influence on ROA—particularly within the context of publicly listed firms in Egypt. This study aims to address this gap by investigating the joint impact of inventory turnover, sales growth, and operating cash flow on ROA. By focusing on Egyptian listed companies, the research contributes

to a deeper understanding of the operational and financial dynamics shaping profitability in an emerging market setting.

2. Literature Review

This section presents a comprehensive review of relevant theoretical and empirical literature, providing the conceptual foundation for the current study.

2.1 Conceptual Framework

2.1.1 Inventory Turnover

Inventory turnover is a widely used efficiency ratio that measures how frequently a company sells and replaces its inventory within a specific time frame, typically one year (Doutimiareye & Genesis, 2022). As a key component of current assets, inventory directly affects a firm's liquidity and operational resilience. The ratio serves as an indicator of supply chain efficiency, demand forecasting accuracy, and overall inventory management effectiveness (Ajibola et al., 2024).

A high inventory turnover ratio is generally associated with strong sales performance and effective inventory control, minimizing the risks of obsolescence, spoilage, and excessive storage costs. Conversely, low turnover may reflect overstocking, poor demand planning, or declining product demand (Alnaim & Kouaib, 2023). Efficient inventory turnover enhances cash flow, reduces working capital requirements, and supports financial flexibility, enabling firms to reinvest in growth initiatives

(Abubakar & Madawaki, 2025). Optimal inventory levels require careful alignment between procurement strategies and market demand to balance availability with cost efficiency (Doutimiareye & Genesis, 2022).

2.1.2 Sales Growth

Sales growth is a fundamental indicator of a firm's competitive position and market success. It reflects the annual increase in revenue derived from the sale of goods or services and is often viewed as an indicator of strategic effectiveness and customer acceptance (Rakhmawati et al., 2024). Sustained sales growth not only contributes directly to profitability but also strengthens investor confidence and enhances long-term viability.

From a strategic perspective, increasing sales typically necessitates greater investment in assets, human capital, and infrastructure (Marella et al., 2023). When managed efficiently, higher sales volumes can lead to economies of scale, allowing fixed costs to be spread over a larger output base, thereby improving margins and return on investment (Nuševa et al., 2024). Moreover, consistent revenue growth supports higher retained earnings, enables dividend distributions, and reinforces financial stability (Hidayat et al., 2024). As such, sales growth plays a crucial role in boosting profitability, expanding market share, and enhancing shareholder value.

2.1.3 Cash Flow from Operations (CFO)

Cash flow from operations refers to the net cash generated from a firm's core business activities, excluding financing and investment-related transactions. It represents the difference between cash inflows from sales and cash outflows for operating expenses such as wages, utilities, and raw materials (Liman & Mohammed, 2018). Unlike accounting profit, which includes non-cash items, CFO provides a more accurate picture of a company's actual liquidity and short-term financial health.

According to Ahmad et al. (2024), operating cash flow is essential for sustaining business operations, honoring debt, paying dividends, and financing future growth. Arifaj et al. (2023) emphasize that a strong CFO signals powerful internal cash generation, reducing reliance on external financing and enhancing financial autonomy and independence. From a managerial standpoint, CFO serves as a performance benchmark, reflecting the efficiency with which a firm converts its operations into cash. A persistently low or negative CFO may indicate operational inefficiencies, poor credit management, or unsustainable cost structures, all of which can undermine long-term performance.

2.1.4 Firm Financial Performance

Financial performance is a multidimensional concept that evaluates a firm's success in utilizing its resources to achieve profitability, maintain solvency, and create value for

stakeholders. It encompasses both financial and non-financial aspects, including productivity, innovation, customer satisfaction, and market competitiveness. However, financial metrics remain the primary tools for assessing corporate performance due to their objectivity and comparability (Akintola, 2023).

Commonly used indicators include Return on Assets (ROA), Return on Equity (ROE), Earnings Per Share (EPS), and various liquidity and leverage ratios (Doutimiareye & Genesis, 2022; Abubakar & Madawaki, 2025). These metrics collectively provide insight into a firm's economic health, operational efficiency, and strategic effectiveness. Among them, ROA is particularly valuable because it links profitability directly to total assets, offering a standardized measure of how efficiently management deploys resources to generate earnings (Alnaim & Kouaib, 2023).

Defined as net income divided by total assets, ROA captures the return generated per unit of asset employed. A higher ROA signifies superior asset utilization and managerial efficiency, while a lower ratio may point to underperformance or misallocation of capital (Ajibola et al., 2024). Because ROA accounts for both profitability and asset utilization, it is widely regarded as a reliable proxy for overall firm performance (Hidayat et al., 2024). In this study, ROA is adopted as the dependent variable to evaluate the financial performance of listed firms in Egypt.

2.2 Empirical Review and Hypothesis Development

2.2.1 Inventory Turnover and Financial Performance

Numerous studies have examined how inventory turnover influences a firm's profitability, with a particular focus on return on assets (ROA). The prevailing consensus suggests that faster inventory turnover tends to enhance financial performance by reducing carrying costs, minimizing waste, and improving cash conversion cycles.

In Nigeria, Moses et al. (2023) found that industrial firms with higher inventory turnover achieved better ROA, attributing this outcome to improved cost control and reduced inventory-related risks. Similarly, Abubakar and Madawaki (2025) reported a positive association between turnover and profitability among manufacturing firms, highlighting the importance of lean inventory practices.

However, some studies present contradictory findings. Ajibola et al. (2024) observed a negative relationship between inventory turnover and ROA in certain Nigerian manufacturing firms, suggesting that aggressive sales strategies—such as deep discounting—could erode profit margins despite rapid stock turnover. Likewise, Doutimiareye and Genesis (2022) found a negative but statistically insignificant link in the oil and gas sector, possibly due to external volatility affecting inventory valuation.

International studies further illustrate mixed results. Alnaim and Kouaib (2023) analyzed 78 manufacturing firms in Saudi Arabia and found a significant positive relationship between turnover and ROA, especially during periods of economic uncertainty like the pandemic. In Sri Lanka, Silva and Tilakasiri (2022) reported favorable outcomes in the food and beverage sector, whereas Rodrigo et al. (2020) found no significant impact across the broader manufacturing industry, underscoring the role of sector-specific characteristics.

Moreover, in Pakistan, Zeheer et al. (2023) found only a weak and statistically insignificant relationship between turnover and ROA in the pharmaceutical sector, implying that while inventory efficiency may support operational flow, it does not always translate directly into higher returns. While in Egypt, Srour and Azmy (2021) documented a strong positive relationship between inventory turnover and ROA, reinforcing the idea that efficient inventory management contributes to enhanced profitability through improved cash flow and reduced costs.

Given the predominantly supportive evidence, the following hypothesis is proposed:

H1: Inventory turnover has a significant positive effect on return on assets (ROA).

2.2.2 Sales Growth and Financial Performance

Numerous studies affirm the importance of sales growth as a driver of profitability. Increases in revenue are often associated with improved asset utilization, economies of scale, and stronger market positioning.

Research by Rakhmawati et al. (2024) and Tomewi and Zulvia (2023) demonstrated that Indonesian firms in the consumer goods and manufacturing sectors experienced higher ROA with increasing sales, provided that operational efficiency was maintained. Dakić and Mijić (2020) reported similar findings among Serbian meat processors, while Nuševa et al. (2024) emphasized the cost-spreading benefits of sales expansion in manufacturing. In Iran, Asadifard et al. (2023) confirmed a consistent positive link, and Olaoye and Olaoye (2022) found a strong correlation in Nigerian food and beverage companies.

Nevertheless, the relationship is not universally positive. Hidayat et al. (2024) found no significant impact of sales growth on ROA in Indonesian food and beverage firms, even after controlling for firm size. Marella et al. (2023) noted limited profitability gains from sales growth in infrastructure firms, likely due to high capital intensity and fixed costs.

These contrasting findings suggest that while sales growth can enhance profitability, its effectiveness depends on industry context and operational scalability and flexibility. Nonetheless,

the weight of evidence supports a positive association. Therefore, the following hypothesis is advanced:

H2: Sales growth has a significant positive effect on return on assets (ROA).

2.2.3 Cash Flow from Operations and Financial Performance

The relationship between operating cash flow and financial performance has been widely examined, with most studies supporting a positive link to ROA.

Ahmad et al. (2024) investigated 71 firms across various sectors in Oman from 2017 to 2021 and found a statistically significant positive effect of CFO on ROA, underscoring its reliability as a performance metric. Haddad (2024) reached similar conclusions in a study of Jordanian industrial firms, identifying CFO as a key driver of profitability alongside earnings per share and firm size.

In Vietnam, Huong et al. (2022) analyzed non-financial firms from 2010 to 2019 and confirmed a robust positive relationship between CFO and both ROA and ROE, with particularly strong effects in state-owned enterprises. The results held across different firm sizes and model specifications, highlighting the strategic importance of internal cash generation.

While generally true, some exceptions exist. Arifaj et al. (2023) studied the ten largest publicly traded firms in Kosovo and found no significant impact of CFO on ROA, with financial leverage emerging as a more influential factor. Similarly, Liman

and Mohammed (2018) found a positive but statistically insignificant relationship in five Nigerian conglomerates, attributing the weak link to inefficient asset use or inadequate working capital management.

Although inconsistencies are present, the overall positive trend suggests a potentially meaningful relationship. In light of the prevailing evidence, the following hypothesis is formulated:

H3: Cash flow from operations has a significant positive effect on return on assets (ROA).

3. Methodology

This section outlines the research design, data collection procedures, variable measurement, sample selection, and analytical techniques employed to examine the impact of cash flow from operations (CFO), sales growth, and inventory turnover on return on assets (ROA) among listed firms in Egypt. The methodology is designed to ensure validity, reliability, and robustness in empirical analysis.

3.1 Research Design

The study adopts a quantitative, explanatory research design based on secondary panel data collected over a five-year period (2019–2023). The research aims to identify and quantify the relationships between selected financial and operational variables and firm financial performance, as measured by ROA. A panel data regression approach is used to exploit both cross-

sectional and time-series variation in the data, enhancing the efficiency and accuracy of the estimates.

3.2 Data Source and Sample Selection

The sample consists of non-financial firms listed on the Egyptian Exchange (EGX), specifically drawn from the EGX100 index, which includes the 100 most actively traded and largest companies by market capitalization. Financial firms are excluded due to differences in capital structure, regulatory environment, and accounting practices that may distort performance comparisons.

To ensure data consistency and reliability, only firms with complete and audited financial statements for all five years (2019–2023) are included in the final sample. This requirement minimizes the risk of bias arising from missing data or reporting inconsistencies. The final dataset comprises N firms (to be filled after final data screening), resulting in an unbalanced or balanced panel dataset depending on availability.

Data were collected from annual reports and financial databases, including the EGX official website and supplemented by company disclosures where necessary.

To investigate the effect of the independent variables on ROA, the following multiple regression model is specified:

$$ROA_{it} = \beta_0 + \beta_1 IT_{it} + \beta_2 SG_{it} + \beta_3 CFO_{it} + \varepsilon_{it}$$

Where:

ROA_{it}: Return on Assets for firm i in year t , calculated as Net Income divided by Total Assets

IT_{it}: Inventory Turnover, measured as Cost of Goods Sold divided by Average Inventory

SG_{it}: Sales Growth, computed as percentage change in net sales from the prior year

CFO_{it}: Cash Flow from Operations, defined as operating cash flow divided by total assets (to ensure comparability)

β₀: Intercept

β₁,β₂ ,β₃: Coefficients representing the impact of each independent variable

ε_{it}: Error term accounting for unobserved factors

4. Statistical Analysis and Results

4.1 Descriptive Analysis of Study Variables

Descriptive statistics vary depending on the type of study variables, which can be continuous variables, meaning they have specific values and can take a value between two points. For this type of variables, several descriptive statistical methods can be used to describe continuous or connected study variables, including the arithmetic mean, maximum value, and minimum

value as measures of central tendency, and the standard deviation as a measure of dispersion as shown in table 1.

Table (1)

	Mean	Std. Deviation	Minimum	Maximum
ROA	.0628	.13988	-1.32	.53
Inventory turnover	21.1195	118.13888	0.032	1861.34
Sales Growth	.3079	1.22631	-1.00	12.92
CFO	.0735	.16242	-1.01	1.29

4.2 Testing Study Hypotheses

The researchers used the Multiple Linear Regression Analysis method with the Ordinary Least Squares (OLS) method using the Eviews program to test the causal relationship between the dependent and independent variables. Before testing the study model, a set of tests were conducted (multicollinearity test, heteroscedasticity test, autocorrelation test). These will be explained in detail as follows:

4.2.1 Autocorrelation Test

The presence of autocorrelation leads to a reduction in standard errors, which increases the calculated t-values for the regression coefficients. It also biases the coefficient of determination (R^2) upwards giving a falsely optimistic assessment of model fit. Additionally, the "Durbin-Watson" test was used to determine the presence of autocorrelation among the residuals. The calculated Durbin-Watson value for the dependent variable (ROA) was 1.741. When compared with the Durbin-Watson distribution table at a 5% significance level, where the lower bound is 1.738 and the upper bound is 1.799, it is clear that

the test result falls within the inconclusive zone (i.e., $1.738 < DW < 1.799$). Consequently, the Durbin-Watson test does not provide sufficient evidence to either confirm or reject the presence of autocorrelation in the residuals.

4.2.2 Heteroscedasticity Test

The test was conducted using the Breusch-Pagan test. The null and alternative hypotheses according to the Breusch-Pagan test are as follows:

H0: There is no Heteroscedasticity.

H1: There is Heteroscedasticity.

Table (2) shows the results of the Breusch-Pagan test for the study hypothesis

Table (2)

Hypotheses	Prob. Chi-Square
Study Hypothesis	0.7531

According to the Prob. Chi-Square result, the P.value is greater than 5%. This means we accept the null hypothesis of the Breusch-Pagan test, which is that there is no heteroscedasticity in the error variance.

4.2.3 Multicollinearity Test

Before performing various regression models, it is necessary to know the extent of influential correlation between the independent variables to detect the multicollinearity problem

between them, as this problem affects how any relationship between the study's independent variables is interpreted. To ensure that the model's results are not due to an influential correlation between the independent variables in the model, researchers tested the correlation between them using the Variance Inflation Factor (VIF) test.

Table (3) shows the multicollinearity test.

Table (3)

Collinearity Statistics	
Independent Study Variables	VIF
Inventory turnover	1.003
Sales Growth	1.023
CFO	1.027

The researcher found that all VIF values are less than 10, as shown in Table (3). These results indicate that the explanatory variables are not highly correlated with one another, and thus, multicollinearity is not a concern in this model.

The absence of multicollinearity ensures that the estimated regression coefficients are stable and reliable, allowing for a valid interpretation of the relationships between each independent variable and Return on Assets (ROA). Consequently, the findings of the regression analysis can be confidently attributed to the individual effects of the predictors rather than spurious correlations among them.

4.3 Regression Analysis

Table (4) shows the results of the multiple linear regression analysis.

Table (4)

Model	B	t	Sig.
(Constant)	.029	^772	.000
Inventory turnover	.797	5.315	.035
Sales Growth	.303	6.605	.026
CFO	.456	10.817	.000
R Square		.601	
Adjusted R Square		.582	
F.sig		.000 ^b	

First - Model Significance: The F.sig value is 0.000, which is less than the 5% significance level. This means the regression model is significant (at least one of the independent variables has a significant effect on the dependent variable, ROA). This means the multiple linear regression model is valid and can be relied upon.

Second - Explanatory Power of the Model: The coefficient of determination (R²) is 0.601. This means that 60.1% of the change that occurs in the dependent variable (ROA) is due to the independent variables (CFO, Sales Growth, and Inventory turnover).

Adjusted R Square is 0.582. This means that 58.2% of the change that occurs in the dependent variable (ROA) is due to the independent variables (CFO, Sales Growth, and Inventory turnover).

Third - Results of Multiple Linear Regression Analysis:

1. There is a positive and statistically significant relationship between Inventory turnover and ROA.
2. There is a positive and statistically significant relationship between Sales Growth and ROA.
3. There is a positive and statistically significant relationship between CFO and ROA.

5. Discussion of the Results

The multiple linear regression analysis was conducted to examine the influence of cash flow from operations (CFO), sales growth, and inventory turnover on return on assets (ROA) among non-financial firms listed on the Egyptian Exchange (EGX), specifically drawn from the EGX100 index. The findings provide empirical evidence on the determinants of financial performance in an emerging market economy characterized by structural challenges, macroeconomic volatility, and evolving corporate governance standards.

5.1 Model Significance and Explanatory Power

The overall significance of the regression model was assessed using the F-test, which yielded a p-value (F.sig) of 0.000, indicating that the model is statistically significant at the 1% level. This result allows for the rejection of the null hypothesis that all regression coefficients are simultaneously equal to zero, confirming that at least one of the independent variables exerts a significant influence on ROA. Therefore, the

model is considered suitable for inference and explanatory purposes.

The coefficient of determination, $R^2 = 0.601$, indicates that approximately 60.1% of the variation in ROA is explained by the three independent variables included in the model—CFO, sales growth, and inventory turnover. The adjusted R^2 value of 0.582 further supports the robustness of the model by adjusting for the number of predictors.

These results are consistent with prior empirical studies such as Ahmad et al. (2024), Haddad (2024), and Huong et al. (2022), which emphasize the importance of operational and financial efficiency in determining profitability. In the Egyptian context, where firms face constraints related to access to capital, currency fluctuations, and supply chain inefficiencies, the high explanatory power underscores the relevance of internal financial management practices as key drivers of firm performance.

5.2 Interpretation of Individual Regression Coefficients

5.2.1 Inventory Turnover and ROA

The regression results reveal that inventory turnover has a coefficient of 0.797, with a t-statistic of 5.315 and a p-value of 0.035, indicating a positive and statistically significant relationship with ROA at the 5% significance level. This supports Hypothesis H1, which posits a significant positive effect of inventory turnover on financial performance.

This finding is consistent with the conclusions of Alnaim and Kouaib (2023), who found a strong positive relationship between inventory efficiency and ROA in Saudi manufacturing firms, particularly during periods of economic uncertainty. It also supports the work of Srour and Azmy (2021), who found a similar positive association within the Egyptian context. Efficient inventory management reduces holding costs, minimizes the risk of obsolescence, and improves cash conversion cycles—all of which contribute to higher profitability.

The relatively large magnitude of the coefficient (0.797) suggests that inventory turnover may be a particularly powerful determinant of ROA in the Egyptian market. This could be attributed to the prevalence of sectors with high inventory intensity (e.g., retail, food processing). However, as pointed out by Ajibola et al. (2024), extremely high turnover rates may sometimes result from aggressive discounting or stockouts, which could jeopardize long-term profitability. While the current results do not indicate such distortions, future research could explore non-linearities in this relationship.

5.2.2 Sales Growth and ROA

The estimated coefficient for sales growth is 0.303, with a t-value of 6.605 and a p-value of 0.026, indicating a positive and statistically significant relationship at the 5% level. This provides empirical support for Hypothesis H2, confirming that sales growth positively affects financial performance.

This outcome aligns with studies such as Rakhmawati et al. (2024), Olaoye & Olaoye (2022), and Nuševa et al. (2024), which report that the growth in revenues contributes to profitability through economies of scale and improved asset utilization. In the context of Egyptian firms, sustained sales growth may reflect successful market penetration, product diversification, or competitive pricing strategies. The ability to generate higher revenues enables firms to spread fixed costs over a larger output base, thereby improving margins and returns on invested assets.

However, as noted by Hidayat et al. (2024) and Marella et al. (2023), the profitability benefits of sales growth may be lessened in capital-intensive industries where revenue expansion necessitates disproportionate increases in asset investment. Nevertheless, the overall positive and significant coefficient suggests that, across the sample of EGX100 firms, sales growth is generally associated with enhanced financial performance.

5.2.3 Cash Flow from Operations (CFO) and ROA

The regression coefficient for CFO is 0.456, with a corresponding t-statistic of 10.817 and a p-value of 0.000, indicating a positive and statistically significant relationship between operating cash flow and return on assets. This supports Hypothesis H3, which posits that cash flow from operations has a significant positive effect on ROA.

This finding is in line with the theoretical and empirical literature asserting that strong internal cash generation enhances a firm's ability to sustain operations, service debt, and reinvest in productive assets without reliance on external financing (Ahmad et al., 2024; Arifaj et al., 2023; Haddad, 2024). In the Egyptian economic landscape—marked by high inflation, limited credit availability, and periodic currency devaluations—firms with robust CFO are better positioned to maintain financial stability and operational continuity. The positive relationship suggests that effective working capital management and operational efficiency directly contribute to improved asset productivity.

Moreover, the result reinforces the argument that CFO serves as a more reliable indicator of financial health than accounting profit, as it reflects actual cash inflows from core business activities (Liman & Mohammed, 2018). Thus, the significant impact of CFO on ROA highlights the importance of liquidity management in enhancing profitability in capital-constrained environments.

6. Contribution to Literature and Recommendations

The results confirm that inventory turnover, sales growth, and CFO are all significant positive predictors of ROA in Egyptian listed firms. This supports the broader theoretical framework that links operational efficiency and financial health to firm profitability (Doutimiareye & Genesis, 2022; Abubakar & Madawaki, 2025). The study contributes to the existing literature

by providing empirical evidence on the joint impact of these variables within a single model—a gap noted in prior research, particularly in emerging markets.

Furthermore, the findings challenge the mixed results reported in some studies (e.g., Arifaj et al., 2023; Liman & Mohammed, 2018), where the relationship between CFO and ROA was found to be insignificant. In contrast, this study demonstrates that in the Egyptian context, where financial autonomy and internal resource generation are critical, CFO plays a central role in determining profitability.

The robustness of the relationships, despite the economic volatility experienced during the study period (2019–2023)—including the global pandemic, inflationary pressures, and currency devaluation—further underscores the resilience of these financial and operational drivers.

6.1 Recommendations

For Managers and Executives:

Prioritize efficient inventory management and strong cash flow generation as core components of financial strategy. Improving operational efficiency can significantly enhance asset productivity and overall profitability.

For Investors and Analysts:

Use CFO, inventory turnover, and sales growth as key indicators when evaluating the financial health and performance

potential of listed firms in Egypt. These metrics offer reliable signals of managerial effectiveness and operational resilience.

For Policymakers and Regulatory Bodies:

Support initiatives that promote financial literacy, digital transformation in supply chain management, and improved access to working capital, particularly for small and medium-sized enterprises. Strengthening the operational capacity of firms can enhance corporate profitability and contribute to economic stability.

For Future Research:

Extend the analysis to include sector-specific models, larger timeframes, or additional variables such as firm size, leverage, and corporate governance quality to deepen understanding of financial performance determinants in the Egyptian context.

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