Akademik Hassasiyetler **The Academic Elegance**
Yıl/Year: 2024 **Sayı/Issue: 24**
Cilt/Volume: 11 **Sayfa/Page: 624-644**
Araştırma Makalesi

Makale Gönderim Tarihi: 21/11/2023 **Makale Kabul Tarihi: 21/04/2024**

EVALUATING THE IMPACT OF DEPRECIATION ON THE PROFITABILITY: UK FASHION COMPANIES

Isik AKIN[*] & Emily DRAPER [**]

Abstract

This study investigates the sophisticated dynamics of depreciation and its influence on the profitability of fashion companies in the United Kingdom. The UK's fashion industry has gained substantial growth recently and witnessed escalated sales in both new and used apparel. However, the fashion industry faces sustainability challenges due to the predominantly resulting rapid expansion of the fashion sector. In this competitive business environment, understanding the role of depreciation in shaping profitability becomes pivotal. Examining data collected from 17 UK-based fashion companies spanning the 2018 to 2022 period, this research precisely analyses how depreciation influences key financial indicators: return on assets, return on equity, and operational profit. The methodological approach involves the application of quantile regression analysis, and it offers an in-depth exploration of the relationship between depreciation and these vital financial variables. The findings of this study reveal that there is no statistically significant relationship between depreciation and return on equity or return on assets within the purview of UK fashion companies. However, a positive and statistically significant relationship exists between the depreciation and operating profit. This positive relationship potentially arises from various factors such as enhanced asset utilization, long-term investments, involvement in capital-intensive industries, sustained revenue growth, and improvements in asset quality. These findings have significant implications for stakeholders within the UK fashion industry. While depreciation may not strongly influence return on equity or return on assets, its correlation with operational profit reveals a nuanced aspect of financial performance within these companies.

Keywords*: Depreciation, Profitability, UK Fashion Industry, Company Performance, Asset Management.*

[*] Dr., Bath Spa University, Bath Business School, Business and Management Department, i.akin@bathspa.ac.uk, https://orcid.org/0000-0003-0918-7441
[**]Miss, Emily Draper, Bath Business School, Business and Management Department, emily.draper20@bathspa.ac.uk, https://orcid.org/0009-0001-6459-4042

AMORTİSMANIN KARLILIK ÜZERİNDEKİ ETKİSİNİN DEĞERLENDİRİLMESİ: BİRLEŞİK KRALLIK MODA ŞİRKETLERİ

Öz

Bu çalışma, amortismanın karmaşık dinamiklerini ve bunun Birleşik Krallık'taki moda şirketlerinin karlılığı üzerindeki etkisini araştırmaktadır. Birleşik Krallık'ın moda endüstrisi son zamanlarda önemli bir büyüme kaydetti ve hem yeni hem de kullanılmış giyimde artan satışlara tanık oldu. Ancak moda endüstrisi, moda sektörünün hızlı büyümesi nedeniyle sürdürülebilirlik zorluklarıyla karşı karşıya kalmaktadır. Bu rekabetçi iş ortamında, amortismanın karlılığı şekillendirmedeki rolünü anlamak çok önemli hale gelmektedir. 2018-2022 dönemini kapsayan İngiltere merkezli 17 moda şirketinden toplanan verileri inceleyen bu araştırma, amortismanın temel finansal göstergelerini (varlık getirisi, özsermaye getirisi ve operasyonel kâr) nasıl etkilediğini analiz etmektedir. Metodolojik yaklaşım, kantil regresyon analizinin uygulanmasını içerir ve amortisman ile bu temel finansal değişkenler arasındaki ilişkinin derinlemesine araştırılmasını sağlar. Bu çalışmanın bulguları, Birleşik Krallık'taki moda şirketlerinde amortisman ile özsermaye getirisi veya varlık getirisi arasında istatistiksel olarak anlamlı bir ilişki olmadığını ortaya koymaktadır. Ancak amortisman ile faaliyet karı arasında pozitif ve istatistiksel olarak anlamlı bir ilişki bulunmaktadır. Bu olumlu ilişki potansiyel olarak artan varlık kullanımı, uzun vadeli yatırımlar, sermaye yoğun sektörlere katılım, sürdürülebilir gelir artışı ve varlık kalitesindeki iyileşmeler gibi çeşitli faktörlerden kaynaklanmaktadır. Bu bulguların Birleşik Krallık moda endüstrisindeki paydaşlar için önemli etkileri vardır. Amortisman, özsermaye getirisini veya varlık getirisini güçlü bir şekilde etkilemese de, bunun operasyonel kârla olan ilişkisi, bu şirketlerdeki finansal performansın özel bir yönünü ortaya koymaktadır.

***Keywords**: Amortisman, Karlılık, İngiltere Moda Endüstrisi, Şirket Performansı, Varlık Yönetimi.*

Introduction

The dynamic and ever-evolving landscape of the fashion industry in the United Kingdom (UK) has long been a subject of fascination for researchers and practitioners alike. As a sector characterized by rapid product turnover, shifting consumer preferences, and intense competition, fashion companies in the UK face a unique set of challenges and opportunities (Donaldson, 2016; Sommer, 2021). The UK's largest creative industry is fashion, and sales of apparel and textiles are increasing over time (Sommer, 2021). Among the various factors influencing the financial health of fashion companies, one that often remains underestimated but carries significant weight is depreciation. This research examines the relationship between depreciation and profitability within the context of UK fashion companies.

According to Davies and Crawford (2011), depreciation refers to the allocation of the cost of tangible assets over their useful lifespan. It is a fundamental accounting principle that ensures an accurate representation of a company's financial performance and asset valuation. While depreciation is primarily a non-cash expense, it has real implications for a firm's profitability, as it affects the net income reported on financial statements (Chen et al., 2011). In the fashion industry, where aesthetics, trends, and branding play pivotal roles, the valuation and management of assets can be a complex endeavour.

The importance of this topic becomes even more apparent when one considers the rapid pace of technological advancements in the industry. Fashion companies continually invest in cutting-edge machinery, digital infrastructure, and store renovations to stay competitive and meet consumer expectations (Casciani et al., 2022). The accurate assessment and management of depreciation are essential for making informed decisions about resource allocation, pricing strategies, and long-term sustainability.

Considering the existing research, there is an important research gap that this study aims to address. Previous studies, such as those by Imimole and Enoma (2011), Li et al., (2016), Serena and Sousa (2017), Bruno and Shin (2020), and Chinaawa (2023), have indeed explored the relationship between profitability and depreciation. Many of these prior studies have employed global datasets or focused on regions outside the UK, making their findings less directly applicable to the context of UK fashion companies (Imimole and Enoma, 2011; Bruno and Shin, 2020). While some studies have examined multiple industries or sectors (Serena and Sousa, 2017; Forbes, 2002), this research strategically narrows its focus to the fashion industry. This choice is inspired by Li et al.'s (2016) work, which demonstrated the sector's unique characteristics during financial crises. However, it distinguishes itself by explicitly investigating the impact of depreciation on profitability within this specific industry. Notably, the incorporation of depreciation analysis, unlike Li et al.'s (2016) study, is a distinctive feature.

The research aims of the study are shown below.

- To examine the relationship between depreciation and profitability within the dynamic landscape of the UK fashion industry.
- To evaluate the implications of depreciation on the financial health of UK fashion companies.

The research questions of the study are shown below based on the research aims.

- How does depreciation affect the Return on Assets (ROA) of fashion companies?
- How does depreciation impact the Return on Equity (ROE) of fashion companies?
- What impact does depreciation have on the Operating Profit of fashion companies?

This study addresses a pivotal question: *How are depreciation and the profitability of fashion companies in the UK interrelated?*

1. LITERATURE REVIEW

Return on Assets (ROA) stands as a pivotal metric in the realm of financial analysis, providing a concise measure of a company's ability to utilize its assets efficiently for profitability (Strouhal et al., 2018). ROA is calculated by dividing net income by total assets and it offers multifaceted insights into financial performance. A higher ROA suggests effective asset management and robust profitability, as the company generates more earnings per unit of assets deployed (Choiriyah et al., 2020). Conversely, a lower ROA may signify inefficiency in resource utilization. According to Okobo et al. (2022), ROA's significance transcends mere financial assessment; it serves as a critical gauge for investors, creditors, and management alike. For investors, a strong ROA implies the potential for healthy returns on their investments. Creditors view it as an indicator of financial stability and the capacity to meet obligations. Meanwhile, management employs ROA as a tool for assessing the effectiveness of asset management strategies and guiding decisions to enhance profitability. When comparing ROA across industries or over time, this metric unveils important insights into relative performance and potential areas for improvement. In essence, ROA demonstrates a comprehensive portrait of a company's financial prowess, combining efficiency, profitability, and potential for value creation.

According to Kim (2016), Return on Equity (ROE) is a crucial financial metric for assessing a company's profitability from the perspective of its shareholders. ROE is calculated by dividing net income by shareholders' equity and it measures the efficiency with which a company generates profits based on the capital contributed by its equity investors (Wood and Skinner, 2018). A higher ROE signifies better profitability and the effective utilization of shareholder funds. For investors and stakeholders, ROE serves as a key indicator of a company's financial health and management's ability to create value. It is a valuable tool for comparing companies within the same industry or tracking a company's performance over time (Widagdo and Sa'diyah, 2021). High and consistent ROE can instil confidence in investors and attract additional equity investments. However, it's important to analyze ROE in conjunction with other financial metrics to gain a comprehensive understanding of a company's financial performance and risk factors. Additionally, Medcalfe and Miro's (2022) research demonstrates a significant link between ROE and the productivity of fashion businesses. This suggests that this factor is crucial for the fashion.

Operating Profit, also known as Operating Income or Operating Earnings, is a pivotal financial metric that holds significant importance. It plays a central role in financial analysis, particularly when assessing a company's core operational performance and profitability (Abas et al., 2020).

Operating Profit represents the earnings generated by a company's normal business activities before accounting for interest and taxes. Generally, operating profit is utilised to dissect a firm's income statement, aiming to understand the underlying profitability of its core operations (Bialkowski et al., 2012).

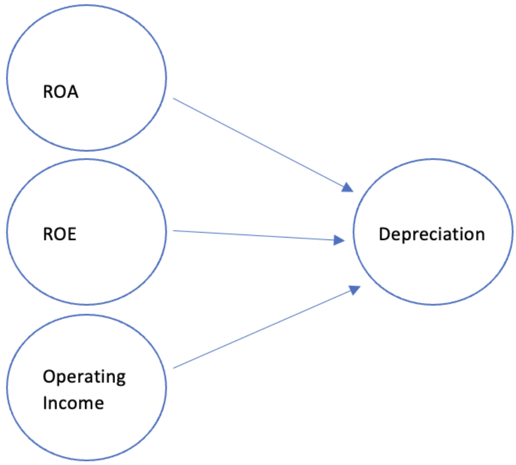
Researchers frequently examine operating profit to identify trends and patterns in a firm's ability to generate profits from its primary activities, regardless of financial leverage or tax considerations (Babaei et al., 2020). By analyzing changes in operating profit over time and comparing it with industry peers, individuals can assess a company's competitive position and the sustainability of its business model. Furthermore, operating profit is a key component in various financial ratios and models used in academic research (Abas et al., 2020). It serves as a building block for metrics like Return on Assets (ROA) and Return on Equity (ROE), enabling academics to investigate the relationships between a company's core profitability, asset utilization, and shareholder returns.

Depreciation is referred to as the gauge of utilisation of 'non-current assets which are used on a daily basis' by Davies and Crawford (2011). It is sometimes referred to as the 'cost of doing business' in terms of physical assets (Sharma and Singh, 2015). Amortisation and depreciation are comparable in what they include and how they operate in a business's accounting. When addressing them in relation to the balance sheet, they are frequently grouped together (Barker et al., 2022; Medcalfe and Miro, 2022; Mattei et al., 2023). The primary distinction between them is that amortisation pertains to intangible assets, whereas depreciation solely refers to non-current assets that are physically visible (Dahmash et al., 2009).

The straight-line approach and the declining balance method are the most popular ways to calculate depreciation (Davies and Crawford, 2011). Businesses employ a variety of depreciation techniques (Jackson et al., 2009); however, according to Ibarra (2013), manufacturing companies primarily use the straight-line approach. According to Gravelle (2011), the straight-line technique subtracts the same amount of depreciation each year, but the declining balance method subtracts more depreciation at the beginning of an asset's life and less as it becomes older (Yao et al., 2015).

Figure 1 shows the conceptual framework of the study.

Figure 1. Employment Data of Free Zones in Turkey (2017)



Source: Authors, 2023.

2. METHODOLOGY

This study used 17 UK-based fashion companies and data was collected from FTSE 100 and their financial reports from 2018 to 2022. The selection of the 17 companies was conducted through a process of randomization, primarily based on the availability and accessibility of pertinent data. The utilization of a random selection method aims to minimize bias and ensure a representative sample and allows for a more comprehensive understanding or analysis within the given context (Crampin et al., 2001). By employing random selection criteria, the intention is to create a sample that reflects the broader population or dataset, thereby enhancing the validity and generalizability of any subsequent findings or conclusions drawn from the selected companies.

The dataset is structured and designed primarily for a comprehensive evaluation at a country-wide level. Companies have been included in the analysis collectively, not individually or based on a longitudinal assessment. The dataset's organization emphasizes a broader perspective of aiming to capture and assess various entities within a specific geographic area or throughout an entire country. This approach enables a more encompassing evaluation by providing insights into overall trends, patterns, or characteristics relevant to the country as a whole, rather than focusing on individual companies or longitudinal observations over time.

The companies used in this study are listed in Table 1, demonstrating that an equivalent quantity of variable came from companies in the UK:

Table 1. Companies Used in This Research

Names of the Companies	Frequency	Percentage	Valid %	Cumulative %
Aeon Company Ltd	5	5.9	5.9	5.9
Boohoo Group Plc	5	5.9	5.9	11.8
Burberry	5	5.9	5.9	17.6
Crocs Inc	5	5.9	5.9	23.5
Dr. Martins Plc	5	5.9	5.9	29.4
eBay Inc	5	5.9	5.9	35.3
Foot Locker Inc	5	5.9	5.9	41.2
H & M Hennes & Mauritz AB	5	5.9	5.9	47.1
Hugo Boss AG	5	5.9	5.9	52.9
KMD Brands Limited	5	5.9	5.9	58.8
Lalique Group S.A.	5	5.9	5.9	64.7
M&S	5	5.9	5.9	70.6
Pandora A/S	5	5.9	5.9	76.5
Raymond Ltd	5	5.9	5.9	82.4
Tesco Plc	5	5.9	5.9	88.2
The Kroger Co.	5	5.9	5.9	94.1
Under Armour Inc	5	5.9	5.9	100
Total	85	100	100	

Source: Authors, 2023.

The purpose of this research is to determine the consequences of depreciation on businesses' profitability. Therefore, the operational profit, return on asset and return on equity were used as independent variables while the depreciation amount was used as a dependent variable.

Quantile regression analysis is a sophisticated statistical technique that expands upon conventional linear regression methods by providing a more comprehensive view of the relationships between variables (Wei et al., 2019). Instead of focusing solely on estimating the conditional mean of the dependent variable, quantile regression allows researchers to estimate multiple quantiles of the conditional distribution. This is particularly valuable when dealing with complex datasets characterized by non-normally distributed dependent variables, the presence of outliers, or heteroscedasticity. According to Hao and Naiman (2007), one of the vital strengths of quantile regression lies in its robustness to outliers, as extreme values have less influence on quantile estimates. Moreover, it can effectively handle cases where the variance of the error term varies across different levels of independent variables, addressing heteroscedasticity concerns. Beyond these advantages, quantile regression finds applications in diverse fields, including economics, environmental science, healthcare research, finance, and social sciences, offering a versatile and insightful approach to modelling relationships in data. Researchers can use it to infer variations in relationships across different parts of the distribution, making it an invaluable tool for nuanced statistical analysis.

Quantile regression extends traditional linear regression by estimating multiple quantiles of the conditional distribution of the dependent variable, offering a more comprehensive understanding of the relationship between variables (Hao and Naiman, 2007; Wei et al., 2019). In mathematical terms, a quantile regression model can be expressed as follows:

For a given quantile τ (where $0 < \tau < 1$), the quantile regression estimates the conditional quantile function $Q(\tau|x)$ as:

$$Q(\tau|x) = \beta_0(\tau) + \beta_1(\tau)x_1 + \beta_2(\tau)x_2 + ... + \beta_p(\tau)x_p$$

Here, $Q(\tau|x)$ represents the τ^{th} quantile of the conditional distribution of the dependent variable y, given the values of predictor variables $x_1, x_2, ..., x_p$. $\beta_0(\tau), \beta_1(\tau), \beta_2(\tau), ..., \beta_p(\tau)$ are the quantile-specific coefficients to be estimated for the intercept and each predictor variable.

Quantile regression aims to find the values of $\beta_0(\tau), \beta_1(\tau), \beta_2(\tau), ..., \beta_p(\tau)$ that minimize a quantile-specific loss function. The loss function typically used is the tilted absolute value loss, given by:

$$L(\tau, \varepsilon) = \tau\varepsilon \text{ if } \varepsilon \geq 0$$

$$L(\tau, \varepsilon) = (1-\tau)\varepsilon \text{ if } \varepsilon < 0$$

Where ε represents the difference between the observed y and the quantile estimate $Q(\tau|x)$.

The quantile regression model is estimated by minimizing the sum of the quantile-specific loss functions across the entire dataset. This results in quantile-specific coefficients, allowing researchers to explore how the relationship between the dependent and independent variables varies across different quantiles of the distribution (Yu et al., 2003).

Due to the non-normal distribution of the data, a quantile regression analysis was used in this study. According to Schlegel *et al.,* (2012) and Schmidt and Finan (2018), linear regression would be preferable if the data were normally distributed since it provides a superior forecast of the data.

3. FINDINGS

This section demonstrates the findings of the study.

Table 2. Descriptive Statistics Part 1

	N	Min.	Max.	Mean	Std. Deviation
ROA	81	-0.10916669	1.06588037	0.08692118	0.149543748
ROE	81	-0.10873440	0.51107940	0.074952833	0.101271101
Operating Income	81	-2827.984	145147	7488.40602	26694.679
Depreciation Amount	81	0.5	299551	15284.369	61098.7779
Valid N (listwise)	81				

Source: Authors, 2023.

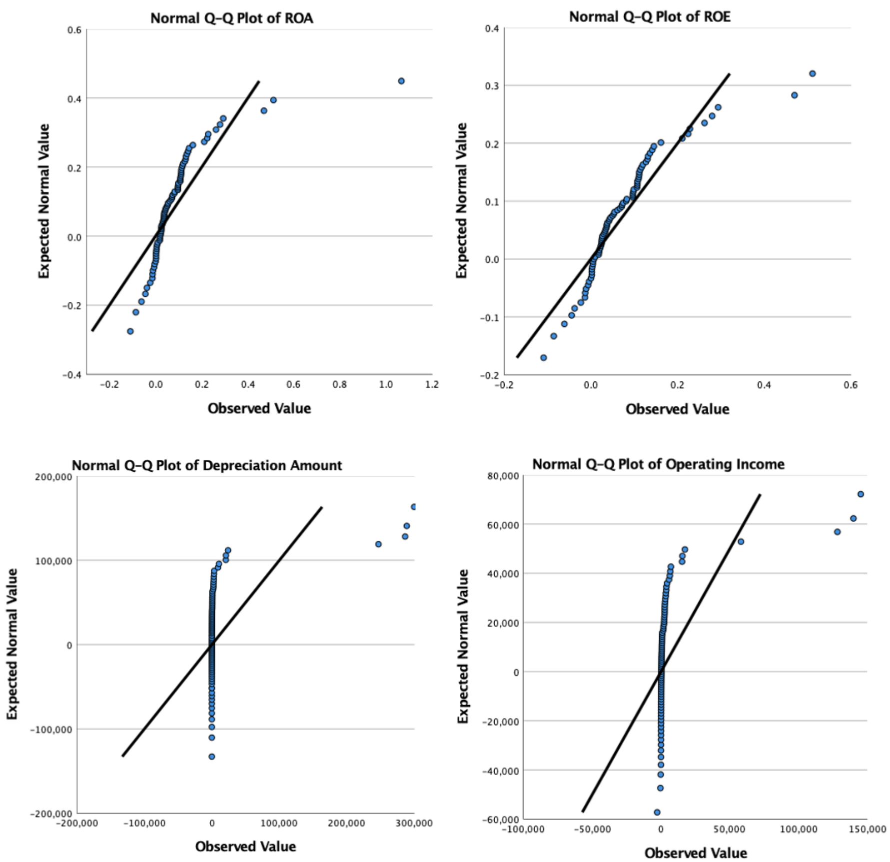
Table 2 presents a dataset with a substantial number of responses, totalling 81 for each dependent variable. This signifies a diverse and robust dataset, likely to yield precise and reliable results. Additionally, there were no missing values in the dataset, indicating the integrity and completeness of the data. Among the three variables examined, depreciation had the highest mean at 15284.36, suggesting considerable variation in this aspect among the sampled fashion companies. Conversely, ROE had the lowest mean at 0.074, closely followed by ROA with a mean of 0.086. These lower means imply a narrower range of values for these variables compared to depreciation. The dataset's distribution across these variables seems to be well-balanced and suitable for the intended analysis.

Table 3. Descriptive Statistics Part 2

	N	Skewness		Kurtosis	
		Statistic	Std. Error	Statistic	Std. Error
ROA	81	4.084	0.267	23.343	0.529
ROE	81	1.938	0.267	5.910	0.529
Operating Income	81	4.578	0.267	20.367	0.529
Depreciation Amount	81	4.240	0.267	16.587	0.529
Valid N (listwise)	81				

Source: Authors, 2023.

Figure 2. Q-Q Plot



Source: Authors, 2023.

The below discussions were written based on Table 3: Descriptive

Statistics Part 2 and Figure 2: Q-Q Plot.

ROA: The skewness value of 4.084 signifies a significant positive skew, indicating that the ROA distribution leans towards higher values. This skewness suggests a likelihood of numerous companies having lower ROA values, alongside a few outliers showcasing notably high ROA values, causing a prolonged tail on the right side of the distribution. The kurtosis value of 23.433 indicates leptokurtosis, showing that the distribution has heavier tails and a sharper peak than a normal distribution. This suggests a higher occurrence of extreme values or outliers in the dataset, leading to greater variability in the data and potential risk.

ROE: The ROE distribution presents a positive skew, revealed by a skewness value of 1.9308, suggesting a right-leaning tendency. This skewness hints at the probability of a higher number of companies having relatively lower ROE values, contributing to the rightward shift in the overall distribution. A kurtosis value of 5.910 denotes leptokurtosis, indicating heavier tails and a more prominent peak in the ROE distribution than in a normal distribution. This emphasizes an increased probability of encountering extreme values or outliers in the ROE dataset, deviating from the anticipated normal distribution pattern.

Operating Income: The distribution of operating income highlights notable positive skew, evident from its skewness value of 4.578. This skewness indicates the likelihood of numerous occurrences of lower operating income values, with fewer instances of notably high values. With a kurtosis value of 20.367, the operating income distribution demonstrates leptokurtosis, highlighting heavier tails and a sharper peak compared to a normal distribution. This heightened kurtosis suggests an increased presence of extreme values or outliers in the operating income data, deviating from the expected characteristics of a normal distribution.

Depreciation Amount: The distribution of depreciation amounts exhibits a substantial positive skew, with a skewness value of 4.240. This skewness implies that there may be a considerable number of periods with lower depreciation amounts, along with fewer instances of notably high depreciation values. The kurtosis value of 16.587 points to leptokurtosis, indicating heavier tails and a more pronounced peak in the depreciation amount distribution compared to a normal distribution. This heightened kurtosis signifies an increased likelihood of extreme values or outliers in the data, potentially arising from specific periods of lower depreciation amounts or irregular depreciation patterns.

These statistical characteristics provide insights into the nature of the data distributions. The positive skewness in each variable's distribution suggests an asymmetry towards lower values, indicating the prevalence of lower financial performance or income in certain periods or companies. The leptokurtosis, denoting heavy tails and peakedness, implies a higher concentration of extreme values or outliers, suggesting potential anomalies or unique financial scenarios within the dataset. These findings underscore the importance of robust data analysis techniques to account for the non-normal distribution characteristics when examining financial performance in the fashion industry.

Table 4. Pearson Correlations

		ROA	ROE	Operating Income	Depreciation Amount
ROA	Pearson Correlation	1	.702**	-.069	-.128
	Sig. (2-tailed)		<.001	.540	.255
	N	81	81	81	81
ROE	Pearson Correlation	.702**	1	-.137	-.177
	Sig. (2-tailed)	<.001		.222	.114
	N	81	81	81	81
Operating Income	Pearson Correlation	-.069	-.137	1	.943**
	Sig. (2-tailed)	.540	.222		<.001
	N	81	81	81	81
Depreciation Amount	Pearson Correlation	-.128	-.177	.943**	1
	Sig. (2-tailed)	.255	.114	<.001	
	N	81	81	81	81
**. Correlation is significant at the 0.01 level (2-tailed).					

Source: Authors, 2023.

Table 4 presents the correlation analysis results, revealing that the most significant correlation exists between ROE and ROA, with a coefficient of 0.702. This finding suggests that a 1% increase in ROA is associated with a 0.7% increase in ROE. Additionally, the analysis indicates that as the depreciation amount increases, ROE tends to decrease as the p-value is less than 5%.

Furthermore, Table 4 demonstrates a significant strong correlation of 94% between depreciation and operating income. When depreciation increases, operating income tends to rise, indicating a potentially substantial impact of operating income on the depreciation amount. This correlation stands out as the highest among the variables examined. In contrast, there are no strong correlations among the other variables, as their p-values are less than 5%. Considering the high correlation between operating income and depreciation, it may be advisable to explore the possibility of removing operating income from the variables. To assess this, a collinearity statistic is provided below, indicating the degree of dependence of the variable on depreciation.

Table 5. Coefficients: ROA

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF

	(Constant)	.092	.017		5.363	<.001		
1	Depreciation Amount	-3.134E-7	.000	-.128	-1.147	.255	1.000	1.000

a. Dependent Variable: ROA

Source: Authors, 2023.

The Variance Inflation Factor (VIF) presented in Table 5, indicates a substantial level of correlation between Return on Assets (ROA) and depreciation. However, it's important to note that this high level of correlation is not expected to significantly impact the overall results. Moreover, the analysis suggests that depreciation does not exert a significant effect on ROA, as evidenced by the p-value of 25%, which is above 5%. These findings collectively indicate that the variables under consideration are independent of each other in the analysis. The variables are distinct and do not suffer from multicollinearity issues. This robust analysis ensures the integrity of the regression model and the validity of its findings.

Table 6. Coefficients: ROE

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
	(Constant)	.079	.011		6.912	<.001		
1	Depreciation Amount	-2.930E-7	.000	-.177	-1.596	.114	1.000	1.000

a. Dependent Variable: ROE

Source: Authors, 2023.

The VIF presented in Table 6, highlights a substantial degree of correlation between ROE and depreciation. However, it's important to emphasize that this high level of correlation is not anticipated to exert a significant influence on the results. Furthermore, the analysis indicates that depreciation does not significantly impact ROE, as indicated by the p-value of 11.4%, which exceeds 5%. This table effectively demonstrates the independence of the data and the absence of multicollinearity issues.

Table 7. Coefficients: Operating Income

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
	(Constant)	1188.603	1020.969		1.164	.248		
1	Depreciation Amount	.412	.016	.943	25.278	<.001	1.000	1.000

a. Dependent Variable: Operating Income

Source: Authors, 2023.

The VIF for depreciation in this context has a value of 1, indicating that the substantial correlation observed does not pose a threat to the integrity of the results. This signifies the absence of collinearity among the data, reaffirming their independence. The presence of a strong correlation between depreciation and operating income is evident, and the collinearity statistic suggests that both variables can be included in the analysis without concern for multicollinearity. These consistent findings across all variables pave the way for the subsequent quantile regression analysis.

3.1. Quantile Regression

In this section, Quantile Regression result is discussed for the ROA, ROE and Operating Income.

Table 8. ROA Model Quality

Model Quality (q=0.5)[a,b,c]	
Pseudo R-Squared	0.031
Mean Absolute Error - MAE	0.0778
a. Dependent variable: ROA	
b. Model: (Intercept), Depreciation Amount	
c. Method: Simple Algorithm	

Source: Authors, 2023.

The pseudo-R squared value of 3.1% indicates that the model's explanatory power is relatively low and cannot sufficiently account for the relationship under investigation. Specifically, the use of ROA as an explanatory variable is not suitable, as it fails to establish a significant relationship with depreciation. In a nutshell, the model does not provide a good fit for the data as the p-value is over 5%, and alternative approaches or variables should be explored to better capture the underlying relationship.

Table 9. ROA Parameter Estimates

Parameter	Coefficient	Std. Error	t	df	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
(Intercept)	.055	.0098	5.573	79	<.001	.035	.074
Depreciation Amount	-1.811E-7	1.5675E-7	-1.155	79	.251	-4.931E-7	1.309E-7

Parameter Estimates (q=0.5)[a,b]

a. Dependent Variable: ROA

b. Model: (Intercept), Depreciation Amount

Source: Authors, 2023.

The significance level is 25.1% in Table 9, and it reveals that ROA is not a suitable explanatory variable for accounting for depreciation amount. Consequently, ROA lacks the capacity to effectively explain variations in depreciation.

Table 10. ROE Model Quality

Model Quality (q=0.5)[a,b,c]	
Pseudo R-Squared	0.036
Mean Absolute Error - MAE	0.0661

a. Dependent variable: ROE
b. Model: (Intercept), Depreciation Amount
c. Method: Simple Algorithm

Source: Authors, 2023.

The pseudo-R squared value in this context, at 3.6%, indicates a relatively low explanatory power of the model in explaining the correlation. This low value suggests that the model does not effectively capture the relationship under investigation.

Table 11. ROE Parameter Estimates

Parameter Estimates (q=0.5)[a,b]							
Parameter	Coefficient	Std. Error	t	df	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
(Intercept)	.055	.0098	5.601	79	<.001	.035	.074
Depreciation Amount	-1.811E-7	1.5595E-7	-1.161	79	.249	-4.915E-7	1.293E-7
a. Dependent Variable: ROE							
b. Model: (Intercept), Depreciation Amount							

Source: Authors, 2023.

The significance level is 24.9% in Table 11, and it indicates that depreciation cannot be effectively utilized to explain the relationship with ROE. The absence of a significant relationship between these variables is evident.

Table 12. Operating Income Model Quality

Model Quality (q=0.5)[a,b,c]	
Pseudo R-Squared	0.620
Mean Absolute Error - MAE	2833.0339
a. Dependent variable: Operating Income	
b. Model: (Intercept), Depreciation Amount	
c. Method: Simple Algorithm	

Source: Authors, 2023.

Operating income is a suitable variable for explaining depreciation due to its relatively high probability of 62%, as indicated by the pseudo-R squared figure. This suggests that operating income can serve as a valuable factor in understanding and predicting variations in depreciation amount.

Table 13. Operating Income Parameter Estimates

Parameter Estimates (q=0.5)a,b							
Parameter	Coefficient	Std. Error	t	df	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
(Intercept)	334.264	241.2488	1.386	79	.170	-145.930	814.457
Depreciation Amount	.427	.0039	110.782	79	.000	.419	.435
a. Dependent Variable: Operating Income							
b. Model: (Intercept), Depreciation Amount							

Source: Authors, 2023.

According to Table 13, there is a positive and significant relationship between the operating income and depreciation. The substantial coefficient of 0.42 further indicates a positive correlation, implying that as fashion companies increase depreciation expenses, they tend to generate higher profits. This relationship underscores the strategic importance of investing in fixed assets, which contribute positively to a company's profitability through effective business operations and revenue generation.

3. DISCUSSION

The findings of this research suggest that there is no significant relationship between ROA and depreciation among fashion companies in the UK. This result aligns with the idea that the fashion industry's financial dynamics are influenced by various unique factors, such as rapid product turnover and branding strategies (Lu et al., 2011). In such a dynamic sector, the impact of depreciation on ROA may be overshadowed by other critical factors specific to the fashion business model. Similarly, the study found that there is no significant relationship between ROE and depreciation for fashion companies in the UK. This outcome underscores the complexity of financial performance within the fashion industry. The absence of a pronounced association between ROE and depreciation may suggest that fashion firms' profitability is influenced by a broader set of variables, potentially related to branding, market positioning, or consumer trends. Asset intensity, asset management strategies, and the nature of non-current assets in the fashion sector may play a more prominent role in shaping financial outcomes (Brigham & Houston, 2021; Van Horne & Wachowicz, 2008).

The research identified a significant and positive correlation between depreciation and operating profit. When depreciation increases, operating profit also increases. This finding aligns with the perspective revealed by Zhang (2014), which suggests that depreciation positively affects profitability. The plausible explanation for this relationship could be that fashion companies leverage their fixed assets to generate income, possibly by renting out these assets or enhancing product quality through investments (Yuan and Shen, 2019). This observation highlights the strategic importance of managing depreciation and utilizing fixed assets effectively in the fashion industry.

A positive relationship between depreciation and operational profit for fashion companies can be explained by various factors (Lu et al., 2011; Turner, 2016; Templar, 2019; Brigham & Houston, 2021).

Asset Utilization: Fashion companies often invest in non-current assets like machinery, equipment, or stores to support their operations. These assets contribute to the production of goods or services. As these assets are used to generate revenue, their depreciation may be positively correlated with operational profit. When fashion companies effectively utilize their assets, it can lead to increased operational profit.

Long-Term Investments: Fashion companies may make long-term investments in assets that enhance their production capabilities or expand their market presence. These investments can lead to higher depreciation expenses, but they may also result in increased operational profit over time as the assets contribute to higher sales and profitability.

Capital-Intensive Industry: The fashion industry can be capital-intensive, requiring significant investments in infrastructure, technology, and store facilities. These investments can lead to higher depreciation charges on the income statement. However, they may also be instrumental in driving operational efficiency and profitability.

Revenue Growth: Increased sales and revenue often require additional investments in assets. As fashion companies experience growth in their business, they may acquire more assets, resulting in higher depreciation charges. This growth in revenue, if managed efficiently, can lead to higher operational profit.

Asset Quality: The quality and effectiveness of assets can influence their contribution to operational profit. Fashion companies that invest in high-quality assets that maintain their value over time may experience a positive relationship between depreciation and operational profit.

Conclusion

In conclusion, this research sheds light on the complex relationship between depreciation and financial performance within the UK fashion industry. The findings reveal that while there is no significant relationship between depreciation and indicators which are ROA and ROE, there exists a significant and positive correlation between depreciation and operational profit.

The absence of a significant link between depreciation and ROA and ROE suggests that the financial dynamics of fashion companies in the UK are driven by multifaceted factors specific to the industry, including rapid product turnover, branding strategies, and market positioning. These factors seem to exert a more substantial influence on profitability and return metrics.

On the other hand, the positive correlation observed between depreciation and operational profit implies that fashion companies leverage their non-current assets effectively to boost income generation. This strategic utilization of assets may encompass aspects such as renting out assets or enhancing product quality through investments. It underscores the critical role played by asset utilization, long-term investments, and the capital-intensive nature of the fashion industry in shaping operational profitability.

Furthermore, the positive relationship between depreciation and operational profit highlights the significance of asset quality in the industry. Fashion companies that invest in high-quality assets, which maintain their value over time, are likely to experience enhanced operational profitability.

As a result, this research highlights the complexity of financial performance within the dynamic and ever-evolving UK fashion sector. While depreciation alone may not be a decisive factor in certain financial metrics, its impact on operational profit demonstrates the strategic importance of asset management and utilization. Future research should delve deeper into the specific strategies employed by fashion companies to maximize the positive correlation between depreciation and operational profit, providing valuable insights for the industry's practitioners and stakeholders.

Limitations and recommendations: This research has certain limitations. Firstly, its niche focus on the relationship between depreciation and financial performance in the UK fashion industry means that there is a scarcity of similar studies to compare and validate the findings. This narrow scope may limit the generalizability of the results to a broader context. To enhance the robustness of the conclusions, it would be beneficial to conduct more extensive research in this area, potentially involving a wider range of industries or geographical regions.

Secondly, the research adopts a quantitative approach, which, while providing valuable statistical insights, does not delve into the underlying reasons for the observed relationships between variables. To gain a deeper understanding of the mechanisms at play, future research could complement quantitative analysis with qualitative methods. Qualitative investigations could explore, for example, why non-current assets contribute to income generation in the fashion industry, shedding light on the practical implications of the findings.

Furthermore, given the specialized nature of this research, there is an opportunity for further exploration within this niche. Delving deeper into the intricate financial dynamics of fashion companies and how they manage their assets could yield additional insights. Despite these limitations, the study serves as a valuable contribution to the field, highlighting the need for more research in this unique area of inquiry.

Peer Review: Independent double-blind

Author Contributions: Isik Akin: 50%, Emily Draper: 50%

Funding and Acknowledgement: No support was received for the study.

Ethics Approval: This study does not contain any human or animal research that requires ethical approval.

Conflict of Interest: There is no conflict of interest with any institution or person related to the study.

Hakem Değerlendirmesi: Dış Bağımsız

Yazar Katkısı: Isik Akin: %50, Emily Draper: %50

Destek ve Teşekkür Beyanı: Çalışma için destek alınmamıştır.

Etik Onay: Bu çalışma etik onay gerektiren herhangi bir insan veya hayvan araştırması içermemektedir.

Çıkar Çatışması Beyanı: Çalışma ile ilgili herhangi bir kurum veya kişi ile çıkar çatışması bulunmamaktadır.

Önerilen Atıf: Akin, I. & Draper, E. (2024). Evaluating the impact of depreciation on the profitability: UK fashion companies. *Akademik Hassasiyetler, 11*(24), 624-644. https://doi.org/10.58884/akademik-hassasiyetler.1393744

References

Abas, H., Kawatu, F. S. & Kewo, C. L. (2020). Analysis of profit growth of manufacturing companies listed on the Indonesia Stock Exchange (IDX) for 2013-2017 Period. *International Journal of Applied Business and International Management (IJABIM), 5*(2), 72-78. https://doi.org/10.32535/ijabim.v0i0.878

Babaei, M., Asgarian, F., Jamali, M. B., Rasti-Barzoki, M. & Piran, M. J. (2020). A game theoretic approach for pricing petroleum and determining investors' production volume with the consideration of government and intermediate producers. *Sustainable Energy Technologies and Assessments, 42*(1), 1-11. https://doi.org/10.1016/j.seta.2020.100825

Barker, R., Lennard, A., Penman, S. & Teixeira, A. (2022). Accounting for intangible assets: suggested solutions. *Accounting and Business Research*, *52*(6), 601-630. https://doi.org/10.1080/00014788.2021.1938963

Bialkowski, J., Etebari, A. & Wisniewski, T. P. (2012). Fast profits: Investor sentiment and stock returns during Ramadan. *Journal of Banking & Finance*,36(3),835-845. https://doi.org/10.1016/j.jbankfin.2011.09.014

Brigham, E. F., & Houston, J. F. (2021). *Fundamentals of financial management: Concise.* Hampshire: Cengage Learning.

Bruno, V. & Shin, H. S. (2020). Currency depreciation and emerging market corporate distress, *Management Science*, *66*(5), 1935-1961. https://doi.org/10.1287/mnsc.2018.3280

Casciani, D., Chkanikova, O., & Pal, R. (2022). Exploring the nature of digital transformation in the fashion industry: opportunities for supply chains, business models, and sustainability-oriented innovations. *Sustainability: Science, Practice and Policy*, *18*(1), 773-795. https://doi.org/10.1080/15487733.2022.2125640

Chen, F., Hope, O. K., Li, Q., & Wang, X. (2011). Financial reporting quality and investment efficiency of private firms in emerging markets. *The Accounting Review*, *86*(4), 1255-1288. https://doi.org/10.2308/accr-10040

Chinaawa, N. (2023). *The impact of different methods of depreciation on the profitability of a company* [PhD Thesis], University of Nigeria.

Choiriyah, C., Fatimah, F., Agustina, S. & Ulfa, U. (2020). The effect of return on assets, return on equity, net profit margin, earning per share, and operating profit margin on stock prices of banking companies in Indonesia Stock Exchange, *International Journal of Finance Research, 1*(2), 103-123. https://doi.org/10.47747/ijfr.v1i2.280

Crampin, A. C., Mwinuka, V., Malema, S. S., Glynn, J. R., & Fine, P. E. M. (2001). Field-based random sampling without a sampling frame: control selection for a case-control study in rural Africa, *Transactions of the Royal Society of* Tr*opical Medicine and Hygiene, 95*(5)*, 481-483.* https://doi.org/10.1016/S0035-9203(01)90009-4

Dahmash, F. N., Durand, R. B. & Watson, J. (2009). The value relevance and reliability of reported goodwill and identifiable intangible assets, *The British Accounting Review, 41*(2)*,* 120-137. https://doi.org/10.1016/j.bar.2009.03.002

Donaldson, A. (2016, March*). Power fashion*. Retrieved on 2023, April 5 from https://www.britishcouncil.org/research-insight/power-fashion

Davies, T. & Crawford, I. (2011) *Business accounting and finance.* Essex: Pearson Prentice Hall.

Gravelle, J. G. (2011). Reducing depreciation allowances to finance a lower corporate tax rate, *National Tax Journal, 64*(4), 1039-1053. https://doi.org/10.17310/ntj.2011.4.07

Hao, L., & Naiman, D. Q. (2007*). Quantile regression*. California: Sage.

Ibarra, V. C. (2013). The straight-line depreciation method used by selected companies and educational institutions in the Philippines, *Journal of Modern Accounting and Auditing*, *9*(4), 480-488.

Imimole, B. & Enoma, A. (2011). Exchange rate depreciation and inflation in Nigeria (1986–2008), *Business and Economics Journal*, *28*(1), 1-11.

Jackson, S. B., Liu, X. K. & Cecchini, M. (2009). Economic consequences of firms' depreciation method choice: Evidence from capital investments, *Journal of Accounting and Economics*, *48*(1), 54-68. https://doi.org/10.1016/j.jacceco.2009.06.001

Kim, H. S. (2016). A study of financial performance using dupont analysis in food distribution market, *Culinary Science & Hospitality Research, 22*(6), 52-60. https://doi.org/10.20878/cshr.2016.22.6.005

Li, W. Y., Chow, P. S., Choi, T. M. & Chan, H. L. (2016). Supplier integration, green sustainability programs, and financial performance of fashion enterprises under global financial crisis, *Journal of Cleaner Production*, *135,* 57-70. https://doi.org/10.1016/j.jclepro.2016.06.048

Lu, Y., Karpova, E. E., & Fiore, A. M. (2011). Factors influencing international fashion retailers' entry mode choice, *Journal of Fashion*

Marketing and Management: An International Journal, *15*(1), 58-75. https://doi.org/10.1108/13612021111112340

Mattei, M. M., Merlo, M. & Monaco, E. (2023). The Italian depreciation suspension policy during the COVID-19 pandemic: consequences on private firms' borrowing capacity, *Accounting in Europe*, *20*(2), 1-28. https://doi.org/10.1080/17449480.2023.2174444

Medcalfe, S. & Miro, E. M. (2022). Sustainable practices and financial performance in fashion firms, *Journal of Fashion Marketing and Management: An International Journal*, *26*(1), 141-158. https://doi.org/10.1108/JFMM-10-2020-0217

Okobo, M. M., Ugwoke, R. O. & Akpan, E. E. (2022). Investment in tangible non-current assets and financial performance of food manufacturing firms in Nigeria, *Innovations*, *19*(3), 360-372. http://dx.doi.org/10.21511/imfi.19(3).2022.30

Schlegel, S., Korn, N. & Scheuermann, G. (2012). On the interpolation of data with normally distributed uncertainty for visualization, *IEEE Transactions on Visualization and Computer Graphics*, *18*(12), 2305-2314.

Schmidt, A. F. & Finan, C. (2018). Linear regression and the normality assumption, *Journal of clinical epidemiology*, *98*(1), 146-151. https://doi.org/10.1016/j.jclinepi.2017.12.006

Serena, J. M. and Sousa, R. (2017). Does exchange rate depreciation have contractionary effects on firm-level investment?, *BIS Working Paper*, https://ssrn.com/abstract=2948192

Sharma, R. & Singh, N. (2015). Use of depreciation as a tax policy device to control inflation, *Review of Business & Finance Studies*, *6*(1), 13-26.

Sommer, S. (2021, October). *The trends help creating a circular fashion economy in the UK*. Retrieved on 2023, April 7 from https://www.the-spin-off.com/news/stories/The-Trends-Help-creating-a-circular-fashion-economy-in-the-UK-16110

Strouhal, J., Stamfestova, P., Kljucnikov, A. & Vincurova, Z. (2018). Different approaches to the ebit construction and their impact on corporate financial performance based on the return on assets: some evidence from Czech top 100 companies, *Journal of Competitiveness*, *10*(1), 144-154. https://doi.org/10.7441/joc.2018.01.09

Templar, S. (2019). *Supply chain management accounting: managing profitability, working capital and asset utilization*. London: Kogan Page Publishers.

Turner, E. (2016). *African American entrepreneurial sustainability* [PhD thesis]. Walden University.

Wei, Y., Kehm, R. D., Goldberg, M. & Terry, M. B. (2019). Applications for quantile regression in epidemiology, *Current Epidemiology Reports*, *6*, 191-199. https://doi.org/10.1007/s40471-019-00204-6

Widagdo, B. & Sa'diyah, C. (2021). Analysis of the effect of WCTO, FATO and TA on company value with ROE As intervening variables, *International Journal of Economics, Business and Accounting Research (IJEBAR)*, *5*(1), 331-340. http://dx.doi.org/10.29040/ijebar.v8i1

Wood, A. & Skinner, N. (2018). Determinants of non-performing loans: evidence from commercial banks in Barbados, *The Business & Management Review, 9*(3), 44-64.

Van Horne, J. C., & Wachowicz Jr, J. M. (2008). *Fundamentals of financial management*. Essex: Pearson Education Limited.

Yao, D. F. T., Percy, M. & Hu, F. (2015). Fair value accounting for non-current assets and audit fees: Evidence from Australian companies, *Journal of Contemporary Accounting & Economics*, *11*(1), 31-45. https://doi.org/10.1016/j.jcae.2014.12.003

Yu, K., Lu, Z., & Stander, J. (2003). Quantile regression: applications and current research areas. *Journal of the Royal Statistical Society Series D: The Statistician*, *52*(3), 331-350. https://doi.org/10.1111/1467-9884.00363

Yuan, Q., & Shen, B. (2019). Renting fashion with strategic customers in the sharing economy. *International Journal of Production Economics*, *218*, 185-195. https://doi.org/10.1016/j.ijpe.2019.04.034

Zhang, X. B. (2014). The discussion of precise depreciation management in China, In *Advanced Materials Research*, *926*, 4024-4027. https://doi.org/10.4028/www.scientific.net/AMR.926-930.4024