Auditor Opinion, IFRS Adoption and Macro Determinants of Financial Distress

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Abstract

This study aims to investigate the impact of auditor opinion, IFRS adoption, and macro-level factors on financial distress using a sample of 221 non-financial UK manufacturing firms listed between 2014 and 2023. A panel fixed-effects regression model is applied to test the research hypotheses, with Altman's Z-Score serving as a proxy for financial distress. The findings reveal a significant negative association between IFRS adoption and Altman's Z-Score, while auditor opinion exhibits a significant positive relationship with the Z-Score. Additionally, strong evidence suggests that a composite measure of country-level index variables is significantly linked to higher financial distress. This paper makes a valuable contribution to the financial distress literature by addressing the limited research on the predictive role of IFRS adoption and auditor opinion in financial distress. Furthermore, by examining macro-level influences, this study adds to the existing literature, which predominantly focuses on firm-specific factors.

Keywords: financial distress, auditor opinion, IFRS adoption

1. Introduction

Corporate financial distress is typically linked to insolvency, default, failure, and bankruptcy. A firm experiences failure when its costs exceed its revenues, while insolvency arises when it can no longer meet its financial obligations. Default occurs when a company is unable to make scheduled debt payments, and bankruptcy signals severe financial distress, often requiring legal intervention. Financial distress poses a major challenge for businesses, as a continued decline in financial performance can ultimately lead to bankruptcy, resulting in significant financial losses for investors and creditors (Habib et al., 2020). Given these risks, it is crucial to examine the key factors that contribute to financial distress to help stakeholders safeguard their interests. Therefore, this study aims to explore the influence of International Financial Reporting Standards (IFRS) adoption and macro-level factors on financial distress, while also assessing whether auditor opinion serves as a reliable predictor of financial distress.

Existing literature primarily explores the influence of firm-level factors such as profitability, liquidity, and leverage on financial distress. However, limited research has examined the role of IFRS adoption and auditor opinion in predicting financial distress. Additionally, there is a lack of studies investigating the impact of country-level factors, including economic growth and political stability, on financial distress. It is reasonable to expect that such factors would be linked to financial distress, as it is unlikely that firms would remain unaffected by changing economic conditions. Habib et al. (2020) emphasize the importance of incorporating country-level factors into financial distress research to provide deeper insights into firms' financial health. They argue that financial distress risk tends to rise during economic downturns and that a country's economic environment directly influences the business landscape, thereby affecting the likelihood of financial distress.

A relationship between IFRS adoption and financial distress is also expected. Ewert and Wagenhofer (2005) suggest that stricter accounting standards and clearer financial reporting improve earnings quality, making firms with higher-quality earnings less susceptible to financial distress. Additionally, IFRS adoption is likely to reduce accrual-based earnings management practices (Ho et al., 2015), which could otherwise be used to obscure signs of financial distress. As a result, IFRS may serve as a more reliable predictor of financial distress compared to local accounting standards. Supporting this view, Bodle et al. (2016) find that IFRS regulations on intangible assets are more effective in predicting corporate bankruptcies among Australian firms. Furthermore, it is crucial to examine whether

auditor opinions can also serve as indicators of financial distress.

Accordingly, this study aims to analyze the impact of auditor opinion, IFRS adoption, and macro-level factors on financial distress. The structure of the paper is as follows: Section 2 reviews the relevant literature and develops the research hypotheses. Section 3 outlines the data collection process and research methodology. Section 4 discusses the study's findings. Finally, Section 5 presents the conclusions, offers recommendations for future research, and highlights the study's limitations.

2. Literature Review and Hypothesis Development

Several studies have explored the influence of firm-level factors on financial distress. Existing research suggests that profitability, firm size, leverage, and liquidity are significantly linked to financial distress (Habib et al., 2020; Yazdanfar and Ohman, 2019; Kok Thim et al., 2011). However, limited attention has been given to the potential relationship between IFRS adoption, auditor opinion, and financial distress. Habib et al. (2020) argue that firms often manipulate accounting information as an economic response to financial distress. Prior studies indicate that companies employ different earnings manipulation strategies at various stages of financial distress.

DeAngelo et al. (1994) find that firms experiencing dividend reductions and three consecutive years of losses often engage in income-decreasing earnings manipulation to renegotiate contractual agreements with unions, lenders, management, or the government. Additionally, before a firm reaches technical default or breaches debt covenants, it frequently employs income-increasing accruals and cash flow manipulation. Firms inflate earnings to avoid violating debt covenants (Watts and Zimmerman, 1986; DeFond and Jiambalvo, 1994).

Rosner (2003) finds that firms receiving unqualified audit opinions four to five years before filing for bankruptcy often engage in income-increasing earnings manipulation. Similarly, Jacoby et al. (2016) report that financially distressed private firms in China record small positive earnings to meet debt covenants and ensure continued debt financing. Additionally, Demirkan and Platt (2009) find that financially stable firms engage in lower levels of earnings management.

Existing literature provides evidence that financially distressed firms are likely to engage in earnings manipulation. However, studies in developed economies suggest that accounting standards enhance the value of accounting information (Hung and Subramanyam, 2007). Stricter accounting standards and clearer financial reporting reduce earnings management and improve earnings quality (Ewert and Wagenhofer, 2005). The mechanisms through which IFRS adoption may impact financial distress operate primarily through financial reporting quality, transparency, and constraints on earnings management practices. Ho et al. (2015) argue that IFRS adoption helps limit accrual-based earnings management through multiple channels: (1) introducing principle-based standards that restrict opportunistic interpretations of complex rules; (2) ensuring compliance with the intended purpose of accounting standards; and (3) increasing external scrutiny from audit reforms and other regulations that raise the costs associated with accrual-based earnings management. Hung and Subramanyam (2007) examine the impact of IFRS adoption on German firms' financial statements and find that IFRS leads to higher earnings quality compared to German GAAP. This improved quality comes through increased transparency in financial reporting, greater comparability across firms, and enhanced disclosure requirements that make it more difficult for management to obscure deteriorating financial conditions.

Cai et al. (2008) investigate the impact of IFRS adoption on accrual-based earnings management across 32 countries and find that earnings management declines in countries that implement IFRS. Given that financially distressed firms are prone to earnings manipulation and that IFRS adoption helps reduce such practices, IFRS adoption is expected to serve as a strong predictor of financial distress. If firms operating under IFRS are unable to manipulate earnings to conceal financial distress, then IFRS adoption should be linked to financial distress. Essentially, firms adopting IFRS will be less able to obscure signs of financial distress, suggesting a positive relationship between IFRS adoption and financial distress. Furthermore, Bode et al. (2016) provide evidence that transitioning from Australian GAAP to IFRS enhances the quality of financial information for predicting bankruptcy. Based on these insights, the following hypothesis is proposed.

2.1 H1: There is a Relationship between Financial Distress and IFRS Adoption

It is also reasonable to expect that auditor opinion serves as a predictor of financial distress. A qualified audit opinion may indicate an increased risk of future bankruptcy, as audit reports provide warnings about a firm's poor financial performance to users of financial statements (Ting et al., 2008; Habib et al., 2020). Tsai et al. (2009) examine the influence of auditor opinions, macroeconomic conditions, and industry factors on financial distress among Taiwanese firms and find that auditor opinions significantly contribute to financial distress prediction. Additionally, they argue that models incorporating auditor opinions, market conditions, macroeconomic factors, and industry variables

outperform those that rely solely on firm-specific factors in predicting financial distress. Firms that receive unqualified audit opinions are more likely to demonstrate strong financial performance and higher earnings quality, making them less susceptible to financial distress. Based on this reasoning, the following hypothesis is proposed.

2.2 H2: There is a Negative Relationship between Financial Distress and an Unqualified Audit Opinion

Macroeconomic conditions are also expected to influence firms' financial distress (Yazdanfar and Ohman, 2019). Habib et al. (2020) suggest that financial distress risk increases during economic recessions due to declining sales, reduced cash flows, and lower overall profitability. Additionally, economic conditions are shaped by fluctuations in inflation rates, interest rates, credit availability, and monetary policy (Liou and Smith, 2007). Furthermore, research indicates that macroeconomic variables explain nearly half of the variation in firms' earnings and changes in earnings (Chordia and Shivakumar, 2005; Bonsall et al., 2013). Based on this, the following hypothesis is proposed.

2.3 H3: There is a Negative Relationship between Financial Distress and Economic Growth

The financial distress literature largely overlooks the potential impact of a country's governance and infrastructure status on firms' financial distress. Governance and infrastructure indicators commonly include political stability, control of corruption, rule of law, government effectiveness, voice and accountability, and regulatory quality (Globerman and Shapiro, 2002). These index scores evaluate the effectiveness of these factors within a specific country. The theoretical basis for including these variables stems from institutional theory, which suggests that formal and informal institutions significantly influence firm behavior, performance, and risk (North, 1990; Scott, 2014). Strong institutional environments characterized by effective governance mechanisms, transparency, and robust regulatory frameworks can impact financial distress through several channels. First, enhanced rule of law and regulatory quality increase market transparency, allowing for more accurate pricing of risk and earlier detection of financial problems. Second, stronger institutions reduce information asymmetry between firms and stakeholders, making it harder for managers to conceal deteriorating financial conditions. Third, improved government effectiveness and control of corruption lead to better enforcement of regulations, potentially exposing financially troubled firms earlier. Moreover, political stability provides a more predictable business environment, potentially reducing operational risks that could contribute to financial distress.

While these variables may significantly influence financial distress, there is a lack of research examining their effects. However, it is reasonable to expect that during periods of political instability, firms will struggle to achieve strong sales, increasing the likelihood of financial distress. Countries with higher levels of government effectiveness, voice and accountability, rule of law, and regulatory quality are more likely to have robust enforcement mechanisms and institutional frameworks that support businesses. Conversely, as these scores decline, firms are more likely to face a higher risk of financial distress.

Globerman and Shapiro note that these indices are highly correlated, making it difficult to include all of them in a single regression model. To address this issue, they construct an aggregate score using the first principal component of the six measures. Following a similar approach, Lemma et al. (2013) and Kirch et al. (2009) apply Principal Component Analysis to generate an aggregate score for these variables, which may exhibit multicollinearity in their studies. In this paper, this measure is referred to as the governance and infrastructure index variable. Based on this, the following hypothesis is proposed.

2.4 H4: There is a Relationship between Financial Distress and the Governance and Infrastructure Index Variable

3. Research Design

3.1 Data

This study utilizes secondary data from the Thomson Reuters Financial Database, covering 221 non-financial UK manufacturing firms listed between 2014 and 2023. The sample includes firms from various industries, including aerospace and defense, consumer discretionary, consumer staples, chemicals, construction and materials, and electronic and electrical equipment. Country-level variable data are obtained directly from the World Bank's data section. Financial firms are excluded from the analysis. Outliers are identified and adjusted using winsorization, with an observation classified as an outlier if it exceeds three standard deviations from the sample mean. Additionally, firm-year observations that lack the necessary accounting data to compute dependent and independent variables are removed. After eliminating missing data, the final sample consists of 1,661 firm-year observations.

3.2 The Dependent Variable

This study employs Altman's Z-Score (Altman, 1968) as a measure of financial distress. Agrawal and Chatterjee (2015) describe Altman's Z-Score as an indicator of a firm's overall financial health. In a recent review of financial distress

literature, Habib et al. (2020) highlight that most studies on financial distress have relied on accounting-based measures, with Altman's Z-Score being the most widely used. Similarly, Al-Manaseer and Al-Oshaibat (2018) examine the effectiveness of Altman's Z-Score in predicting financial failure and find that it demonstrates strong predictive accuracy. Therefore, this study uses Altman's Z-Score as a proxy for financial distress. A Z-Score above 2.67 indicates financial stability, whereas a score below 1.81 signifies financial distress. The calculation of Altman's Z-Score is presented in Equation 1.

$$Z - Score = 1.2(X_1) + 1.4(X_2) + 3.3(X_3) + 0.6(X_4) + 1.0(X_5) \quad (1)$$

Where:

$$X1 = \frac{Working\ capital}{Total\ assets} \quad (2)$$

$$X2 = \frac{Retained\ earnings}{Total\ assets} \quad (3)$$

$$X3 = \frac{Earnings\ before\ interest\ \&\ taxes}{Total\ assets} \quad (4)$$

$$X4 = \frac{Market\ value\ of\ equity}{Total\ liabilities} \quad (5)$$

$$X5 = \frac{Sales}{Total\ assets} \quad (6)$$

To ensure the robustness of the findings, Ohlson's O-Score Model (Ohlson, 1980) is also employed as an alternative measure of financial distress. The O-Score incorporates nine accounting-based variables and utilizes a logistic regression approach to predict bankruptcy. Unlike the Z-Score, which is based on discriminant analysis, the O-Score considers two years of financial data and includes variables such as changes in net income, which may provide additional insights into a firm's financial trajectory.

3.3 The Independent Variables

Table 1 presents a list of the independent and control variables along with their definitions and measurement methods.

Table 1. List of the Independent Variables and their Measurements

Variable	Description	Measurement
Auditor opinion	Auditor opinion issued to the firm during a given year which could be unqualified, qualified, or not audited.	Dummy variable which takes the value of 1 for firm-year observations which received an unqualified audit opinion and 0 otherwise.
IFRS adoption	This variable indicates whether a firm for a given year reports under IFRS.	Dummy variable which takes the value of 1 for firm-year observations in which the firm reports under IFRS and 0 otherwise.
Economic growth	The economic growth of the country.	$Ln(GDP\ per\ capita)$
Voice and accountability	Reflects perceptions of the extent to which citizens are able to participate in selecting the government, as well as freedom of expression, association, and free media	Extracted directly from the World Bank website.
Political stability	Reflects perceptions of the likelihood of political instability and/or terrorism.	Extracted directly from the World Bank website.

Government effectiveness	Reflects perceptions of the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies.	Extracted directly from the World Bank website.
Regulatory quality	Reflects perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development.	Extracted directly from the World Bank website.
Rule of law	Reflects perceptions of the extent to which agents have confidence in and abide by the rules of society.	Extracted directly from the World Bank website.
Control of corruption	Reflects perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests.	Extracted directly from the World Bank website.
Governance and infrastructure index	A composite measure of voice and accountability, political stability, government effectiveness, regulatory quality, the rule of law, and control of corruption.	A composite measure of the index variables using Principal Component Analysis.
Profitability	The profitability of the firm measured using return on assets.	$\frac{Net\ income}{total\ assets}$
Firm size	The size of the firm.	$Ln(total\ assets)$
Leverage	A measure of the capital structure of the firm using the debt ratio.	$\frac{total\ debt}{total\ assets}$
Liquidity	The liquidity of the firm measured using the current ratio.	$\frac{current\ assets}{current\ liabilities}$

As indicated in Table 1, Principal Component Analysis (PCA) is applied to consolidate the six country-level index variables into a single composite score. PCA is a technique for data reduction and summarization that decreases the dimensionality of a dataset containing numerous interrelated variables while preserving as much of the dataset's variation as possible. This is accomplished by transforming the interrelated variables into a new set of variables, known as principal components, which retain most of the variation present in the original data (Joliffe, 2002). This approach enables the inclusion of all six variables while mitigating potential multicollinearity issues.

The application of PCA in this context is justified for two main reasons. First, the governance indicators are highly correlated, and including all six in a regression model would introduce multicollinearity. Second, these indicators collectively represent different aspects of a country's institutional environment, which theoretically can be captured by a smaller number of underlying factors. By employing PCA, the common variance among these indicators can be captured while mitigating multicollinearity concerns. The selection of factors in PCA is based on eigenvalues, following the methodology of Kirch et al. (2009), where only factors with eigenvalues greater than one are retained. Since initially extracted factors may be difficult to interpret, they must be rotated to enhance clarity. To ensure uncorrelated factors, orthogonal rotation is employed.

This study examines auditor opinion, IFRS adoption, economic growth, and the Governance and Infrastructure Index

as key variables of interest. Additionally, profitability, leverage, firm size, and liquidity are included as firm-level control variables. Tinoco and Wilson (2013) find that inadequate operating profitability is linked to financial distress. The risk of financial distress is also expected to rise with higher financial leverage (Yazdanfar and Ohman, 2019). According to Yazdanfar and Ohman, larger firms typically have greater access to resources and can leverage economies of scale to expand their product offerings and gain a competitive advantage. As a result, they are better positioned to withstand financial distress. Liquidity may also play a crucial role in preventing financial distress, as firms with higher liquidity are better equipped to meet short-term obligations, reducing the risk of default or bankruptcy.

3.4 Model Specification

A panel regression model, as presented in Equation 2, is utilized to examine the influence of auditor opinion and IFRS adoption on financial distress, as well as the effect of macro-level variables on financial distress.

$$Z\text{-}Score_{it}=\alpha+\beta_1 IFRS_{it}+\beta_2 Audit_{it}+\beta_3 GDP_{it}+\beta_4 GOVINDX_{it}+\beta_5 ROA_{it}+\beta_6 SIZE_{it}+\beta_7 LEV_{it}+\beta_8 LIQUID_{it}+\varepsilon_i \quad (7)$$

Where:

Z-Score = the dependent variable computed from Altman's Z-Score; IFRS = IFRS adoption which takes the value of 1 if the firm is reporting under IFRS and 0 otherwise; Audit = auditor opinion which takes the value of 1 if the firm received an unqualified audit opinion and 0 otherwise; GDP = economic growth computed as the natural logarithm of GDP per capita; GOVINDX = the composite measure of the six country-level index variables using Principal Component Analysis; ROA = profitability computed as return on assets; SIZE = firm size computed as the natural logarithm of total assets; LEV = leverage computed using the debt ratio; and LIQUID = liquidity computed using the current ratio.

To ensure the robustness of the results, the panel regression model is also estimated by including each of the six country-level index variables separately, without utilizing Principal Component Analysis. This approach allows for an assessment of the individual impact of each variable on financial distress and helps identify which of the six variables significantly influences financial distress. As previously noted, while the main measure of financial distress is Altman's Z-Score, Ohlson's O-Score model (1990) is also included in the empirical analysis as an alternative to Altman's Z-Score, providing an additional robustness check.

4. Results and Discussion

4.1 Descriptive Statistics

Table 2 reports the descriptive statistics for the model variables, including the mean, standard deviation, minimum, and maximum values for both the dependent and independent variables.

Table 2. Descriptive Statistics

Variables	Mean	Standard Deviation	Minimum	Maximum
ZSCORE	2.8	7.69	-78	6.37
LNGDP	10.68	.07	10.56	10.83
GIFINDX	-.13	.90	-1.56	1.84
SIZE	11.51	2.58	4.84	18.34
LEV	.179	.18	0.00	.99
ROA	.106	.64	-8.80	1.76
LIQUID	2.74	4.13	.01	27.80

This table presents the descriptive statistics for the variables included in the model. The mean, standard deviation, minimum, and maximum values are shown for the dependent and independent variables. ZSCORE refers to financial distress computed using Altman's Z-Score; LNGDP refers to economic growth measured as the natural logarithm of GDP per capita; GIFINDX refers to the composite measure of the six country-level index variables computed using Principal Component Analysis; SIZE refers to firm size computed as the natural logarithm of total assets; LEV refers to leverage computed as total debt scaled by total assets; ROA refers to profitability computed as net income scaled by total assets; and LIQUID refers to liquidity computed as current assets called by current liabilities.

As presented in Table 2, the mean ZSCORE is 2.8, suggesting that, on average, firms are financially sound and do not experience financial distress. The mean LEV value of 0.179 indicates that firms, on average, rely on 17.9% debt financing relative to equity, demonstrating a relatively low dependence on debt. The mean ROA is 0.106, signifying that, on average, firms generate net income equivalent to 10.6% of their total assets. Additionally, firms typically maintain current assets nearly three times their current liabilities, with a maximum ratio of 27.8. ZSCORE has the highest standard deviation, indicating that the dependent variable exhibits the greatest level of volatility.

4.2 Correlation Analysis

Table 3 presents the Pearson Correlation Matrix for the variables included in the empirical model to analyze the correlations between the dependent and independent variables.

Table 3. Pearson Correlation Matrix

	ZSCORE	LNGDP	GIFINDX	SIZE	LEV	ROA	LIQUID
ZSCORE	1						
LNGDP	-.005	1					
GIFINDX	-.005	.053*	1				
SIZE	.380**	-.019	.069**	1			
LEV	-.353**	-.038	.006	.123**	1		
ROA	.747**	-.008	-.014	.341**	-.244**	1	
LIQUID	.007	.031	-.038	-.225**	-.303**	-.011	1

This table presents the Pearson Correlation Matrix for the variables included in the models. ZSCORE refers to financial distress computed using Altman's Z-Score; LNGDP refers to economic growth measured as the natural logarithm of GDP per capita; GIFINDX refers to the composite measure of the six country-level index variables computed using Principal Component Analysis; SIZE refers to firm size computed as the natural logarithm of total assets; LEV refers to leverage computed as total debt scaled by total assets; ROA refers to profitability computed as net income scaled by total assets; and LIQUID refers to liquidity computed as current assets called by current liabilities. ** and * refer to the significance at the 1% and 5% levels, respectively.

As shown in Table 3, SIZE and ZSCORE are significantly positively correlated at the 1% level. This indicates that a larger firm size is correlated with a lower degree of financial distress and possibly indicates that larger firms are characterized by financial soundness. The correlation between leverage and Altman's Z-Score is significant and negative at the 1% level, which potentially indicates that higher leverage leads to higher financial distress. However, in the absence of regression results, this is only indicative. ROA is significantly positively correlated with ZSCORE at the 1% level. A positive correlation between Altman's Z-Score and profitability should be expected since firms experiencing higher profitability are less likely to experience financial distress. Further, the results of the Pearson Correlation Matrix indicate that there is no significant problem of multicollinearity between the independent variables of the model.

4.3 Regression Results

The Hausman Test is conducted to determine whether a panel fixed-effects or random-effects regression is appropriate. The results indicate that a fixed-effects regression is the suitable approach for this study's empirical model. Table 4 reports the results of the Panel Fixed-Effects regression. Additionally, the maximum and mean variance inflation factor (VIF) values are presented, confirming that multicollinearity is not a significant concern among the model variables.

Table 4. Panel Regression Results

Variables	Coefficient	Expected Sign
Constant	-13.98	
	(-1.26)	
IFRS	-.732	
	(-2.27)**	+ or -
AUDIT	.719	
	(2.38)**	+
LNGDP	-.201	
	(-0.19)	+
GIFINDX	-.217	
	(-3.00)***	+ or -
SIZE	1.50	
	(9.76)***	
LEV	-6.44	
	(-11.01)***	
ROA	4.62	
	(34.21)***	
LIQUID	.078	
	(2.95)***	
R Squared (overall)	0.50	
Model Significance	0.000	
Observations	1,661	
Maximum VIF	1.77	
Mean VIF	1.3	

This table presents the panel fixed-effects regression results of the model. The t-statistics are shown between brackets and ***, **, and * refer to the significance levels at the 1%, 5%, and 10% levels, respectively. IFRS refers to IFRS adoption which is a dummy variable that takes the value of 1 if the firm reports under IFRS and 0 otherwise; AUDIT refers to auditor opinion which is a dummy variable that takes the value of 1 if the firm received an unqualified audit opinion and 0 otherwise; LNGDP refers to economic growth measured as the natural logarithm of GDP per capita; GIFINDX refers to the composite measure of the six country-level variables measured using Principal Component Analysis; SIZE refers to firm size measured as the natural logarithm of total assets; LEV refers to leverage measured as total debt scaled by total assets; ROA refers to profitability measured as net income scaled by total assets; and LIQUID refers to liquidity measured as current assets scaled by current liabilities.

Hypothesis H1 proposes a relationship between financial distress and IFRS adoption. As presented in Table 4, IFRS exhibits a significant negative association with ZSCORE at the 5% level. Given that a higher Altman's Z-Score reflects financial stability and a lower score indicates financial distress, a negative relationship between IFRS adoption and ZSCORE suggests that IFRS adoption is linked to lower Z-Scores (i.e., higher observed financial distress). This finding supports Hypothesis H1 and aligns with the argument that IFRS adoption enhances financial reporting quality and limits earnings manipulation, which firms might otherwise use to obscure financial distress. It is important to note that this negative association does not necessarily imply that IFRS adoption causes financial distress; rather, it suggests that IFRS adoption makes financial distress more observable and measurable. By enhancing financial reporting transparency and comparability, IFRS constrains the ability of financially troubled firms to mask their true financial condition through earnings management or other forms of accounting manipulation.

Hypothesis H2 posits a negative relationship between financial distress and an unqualified audit opinion. Since a higher Altman's Z-Score reflects financial stability, the positive coefficient for AUDIT at the 5% level indicates that an unqualified audit opinion is negatively associated with financial distress (i.e., lower financial distress), supporting Hypothesis H2. This finding aligns with the argument that a qualified audit opinion may serve as an early warning of potential bankruptcy risk, as audit reports provide financial statement users with signals of poor firm performance (Ting et al., 2008; Habib et al., 2020). Moreover, firms with unqualified audit opinions are more likely to demonstrate higher financial reporting quality, stronger performance, and greater profitability compared to those receiving qualified opinions. Consequently, such firms are less susceptible to financial distress, and this finding underscores the predictive value of auditor opinion in assessing financial distress. These results are consistent with the research of Tsai et al. (2009).

Hypothesis H3 proposes a negative relationship between financial distress and economic growth. However, the results indicate that economic growth is not a significant determinant of financial distress, making the conclusion regarding Hypothesis H3 inconclusive.

Hypothesis H4 suggests a relationship between financial distress and the governance and infrastructure index variable. The results show that the coefficient for GIFINDX is significant and negative at the 1% level, suggesting that as the GIFINDX score increases, firms experience greater financial distress. This finding supports Hypothesis H4, though the direction of the relationship warrants further interpretation.

This negative relationship does not necessarily indicate that better governance and infrastructure cause financial distress; rather, it suggests that stronger institutional environments make financial distress more observable and less concealable. When governance mechanisms, regulatory quality, and institutional frameworks improve, firms face greater scrutiny, transparency requirements, and enforcement of accounting standards, making it more difficult to engage in activities that temporarily mask financial deterioration.

In environments with robust governance structures, several mechanisms may contribute to this relationship. Stronger governance environments improve information flow and market efficiency, allowing the market to more accurately identify and price financial distress. In addition, better governance typically entails more effective enforcement of accounting standards and regulatory requirements, reducing firms' ability to engage in obfuscation. Further, improved institutional quality often results in more transparent corporate disclosure, making it harder for managers to conceal signs of financial distress from stakeholders (La Porta, *et al.* 1998).

To assess the robustness of the findings, the panel regression model is re-estimated with each index variable included separately, excluding the GIFINDX composite measure. The relationships between IFRS adoption, auditor opinion,

and economic growth remain consistent. While political stability, the rule of law, regulatory quality, and voice and accountability are found to be insignificant determinants, government effectiveness and control of corruption exhibit a significant negative association with Altman's Z-Score at the 1% level. This indicates that these two factors primarily drive the relationship between GIFINDX and Altman's Z-Score. The findings suggest that as government effectiveness and control of corruption improve, firms encounter greater challenges in concealing financial distress.

Further, the model is re-estimated using Ohlson's O-Score as an alternative measure of financial distress. Unlike Altman's Z-Score, which is based on discriminant analysis, the O-Score employs a logistic regression approach and incorporates additional factors such as changes in net income over consecutive periods (Ohlson, 1990).

The results using O-Score largely corroborate the main findings. The coefficient for IFRS adoption remains significant, while the coefficient for AUDIT also remains significant. Similarly, the GIFINDX variable continues to show the same significant association with the O-Score, confirming that stronger governance environments are associated with more observable financial distress.

The findings for the control variables indicate that firm size, profitability, and liquidity have a significant positive association with ZSCORE at the 1% level, while leverage exhibits a significant negative relationship with ZSCORE at the same level. This provides strong evidence that larger firms, more profitable firms, and firms with higher liquidity are less likely to experience financial distress. Conversely, firms with higher leverage are more prone to financial distress. These results align with expectations, as larger and more profitable firms typically demonstrate stronger financial performance and greater access to resources, reducing their likelihood of financial distress. Regarding liquidity, liquid assets are generally seen as a safeguard against financial crises (Shleifer & Vishny, 1992). Additionally, firms can use liquid assets to finance investments, reducing reliance on more expensive financing sources (Mikkelson & Partch, 2003). Moreover, liquid firms are better positioned to meet short-term obligations. However, as financial leverage increases, firms become more dependent on debt rather than equity financing, heightening their risk of financial distress.

5. Conclusion

This study investigates the impact of auditor opinion, IFRS adoption, and macroeconomic factors on financial distress in a sample of 221 non-financial UK-listed firms from 2014 to 2023, using a panel fixed-effects regression model. To mitigate potential multicollinearity issues, Principal Component Analysis is applied to consolidate six country-level index variables (voice and accountability, regulatory quality, government effectiveness, the rule of law, political stability, and control of corruption) into a single composite measure. The findings reveal that auditor opinion is significantly positively associated with Altman's Z-Score, indicating that an unqualified audit opinion serves as a predictor of financial stability. Conversely, IFRS adoption exhibits a significant negative association with Altman's Z-Score.

This relationship between IFRS adoption and financial distress should be interpreted carefully. Rather than implying that IFRS adoption causes financial distress, these findings suggest that IFRS enhances financial reporting quality and transparency, making it more challenging for firms to obscure signs of financial deterioration through earnings management or other accounting manipulations. In essence, IFRS adoption appears to improve the visibility and measurability of financial distress, which has important implications for investors, creditors, and regulators seeking to identify at-risk firms.

The composite measure of the six country-level index variables shows a significant negative association with Altman's Z-Score, indicating strong evidence that as these scores increase, firms are characterized by higher financial distress. This result is primarily driven by government effectiveness and control of corruption, suggesting that stronger institutional environments with better enforcement mechanisms and lower corruption levels increase transparency and reduce firms' ability to hide their financial problems. These results have important implications for various stakeholders. For investors and creditors, they suggest that auditors' opinions and IFRS adoption can help to predict financial distress, potentially improving investment and lending decisions. For regulators and standard-setters, the findings highlight the value of robust accounting standards and institutional frameworks in promoting financial transparency and market discipline. For analysts and researchers, the study demonstrates the importance of considering both firm-level factors and institutional variables when assessing financial distress risk.

Future research on financial distress should consider incorporating additional country-level variables, such as financial development and market efficiency, which may influence financial distress. Researchers might also explore the specific mechanisms through which IFRS adoption and governance factors affect financial distress, possibly through more direct measures of earnings quality and financial reporting transparency. Additionally, future studies could

investigate how the relationship between IFRS adoption and financial distress varies across different regulatory environments and enforcement regimes. In addition, it is recommended that future research investigate the relationship between financial distress and IFRS adoption by examining the impact before and after the adoption of IFRS.

This study encountered several limitations. Firstly, despite existing literature suggesting a potential link between corporate governance and ownership structure with financial distress, these variables were excluded from the empirical model due to data constraints. Additionally, distressed firms may engage in higher levels of tax avoidance compared to financially stable firms (Richardson et al., 2015); however, due to the unavailability of tax avoidance data, this variable was not included. Moreover, while the focus on UK manufacturing firms provides a consistent regulatory environment for analysis, it may limit the generalizability of the findings to other countries or industries. Lastly, limitations in data collection led to the exclusion of firms in the healthcare industry from the study sample.

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