

# Corporate Risk Disclosure: The Effect of Leverage on Internal Control Reporting

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## ABSTRACT

In the 21<sup>st</sup> century, there has been an inconceivable number of fraudulent practices regarding public firms hiding the real performance of the company to create false opinions from investors. This has led to a strict regulation on risk disclosure in the US. However, in the UK, risk disclosure regulation is still considered more lenient than their Anglo-Saxon counterparts. The objective of this thesis is to investigate if there is a relationship between financial leverage and internal control disclosure quality using a data sample of 70 firms listed on the FTSE 100 exchange for the year-end, 2020. The study uses leverage as the independent variable and a self-developed internal control disclosure index as the dependent variable. The findings unveil a positive relationship between leverage and the internal control disclosure index. This would imply that the risk disclosure regulation of the UK is adequate for the investor. The more leveraged firms disclose a higher quality of information surrounding the management of business risks.

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## Keywords

Leverage, internal control disclosure, shareholder, agency theory, trade off theory, debt-equity.

## 1. INTRODUCTION

Corporate risk disclosure is a real point of discussion within the realm of finance and economics. It highlights both the internal and external, current, and potential threats that the corporation faces. These risks are communicated to investors through annual reports. The concept of risk is the main cause for uncertainty, and it cannot be understated how important it is in the reliability of a firm perceived from the investor. Insufficient risk reporting from a firm can lead to misallocation of capital from the investor or in drastic circumstances the lack of risk reporting can be a sign of fraudulent behaviour. There is a strong desire for increased corporate risk disclosure from firms as it would aid in the investment decisions that capital allocators make (Solomon, Solomon, Norton, & Josph, 2000).

This research will investigate whether the level of firm risk has an impact on the quality of disclosure of internal controls. The level of risk within a firm can be defined by its volatility of stock returns, the amount of leverage taken or its beta. More specifically, this research will analyze the concept of leverage on corporate risk disclosure. "The Bank of England said that outstanding corporate debt in the UK rose by £79 billion between the end of 2019 and the first quarter of 2021" (Smith C. , 2022). Firms opt to use leverage because it acts as a tax shield against the companies operating cashflow while also enlarging the firms' earnings per share (Raza, 2013). With that being said, it is an investment strategy that must be managed carefully because it is the largest risk to firm solvency. Financial leverage becomes a real problem when the firm is underperforming and the cost of servicing the debt creates financial difficulties (Septiari & Nasution, 2017).

Prior to any regulation on the matter, the board of US companies were not obligated to report on information about the procedures in place to make a comprehensive assessment on the business risks. This led to fraudulent firms such as Enron to exploit proceedings as the board failed to support an appropriate system of internal controls (Deakin & Konzelmann, 2004). What followed in 2001 was the largest ever fraudulent scandal that saw investors lose as much as \$74 billion. This could have been prevented if there were a set of internal controls in place which would provide investors with the transparency that they are entitled to.

In 2002, the US Congress passed the Sarbanes-Oxley Act to respond to the numerous failures in corporate governance and financial reporting. This Act instructed mandatory reporting of internal controls for US traded companies. Internal Controls is designed to promote efficiency and avoid fraud and error in company reports. According to the Committee Of Sponsoring Organisations (COSO) written by (Schandl & Foster, 2019), internal controls consists of five interrelated components "1. Control environment; 2. Risk assessment; 3. Control activities; 4. Information and communication; 5. Monitoring". Investors rely on this information particularly the design and implementation of practices of a company's internal controls. This framework is mandatorily used in the US and is highly regarded in the EU as the standout system for evaluating internal controls due to its extensive range of risks and controls (Deumes & Knechel, 2008). A handful of researchers have examined the relationship between financial leverage and internal control disclosure; however, they have been unable to agree on the outcome. This created a gap in the research field where in a competitive setting, internal control reporting is seen

as an important factor in evaluating a firm's attractiveness to invest. A clear, uniform, and coherent internal controls enhance trust and consequently, it will improve reporting quality.

The underlying question which stimulated the research question is to discover if leveraged firms are disclosing sufficient information surrounding their methods of handling their risk. The UK markets make an appropriate setting as internal control disclosure is not mandatory which focuses this research on managements incentives to voluntarily disclose internal controls. The purpose of this study is to shed more light on the effect of financial leverage on the quality of internal control disclosure on the FTSE 100 for the year-end, 2020.

## 2. LITERATURE REVIEW

### 2.1 Agency Theory

(Jensen & Meckling, 1976) were one of the early researchers into the agency theory. The theory states that there is a conflicting interest between the principal (owner) and the agent (manager). The theory claims that managers are rational but are tempted to behave irrationally whereby they do not act on the best interests of the owner but decide to maximize their own personal benefits. This concerns the concept of separation and control, with managers being in control of someone else's money than their own, it cannot be well expected that they should watch over it with the same anxious vigilance. With the shareholders having their investment at stake and bearing the largest risk, they need to monitor the manager and provide motives for them to disclose all relevant information to the shareholder so that an informed decision can be made when evaluating the performance of the company and thus, their investment position.

There are several incentives for managers to disclose a comprehensive set of internal controls. In jurisdictions like the UK, there is an active managerial labour market. It is in the managers best interests to present their quality and ability in handling risk inside the annual report better than their competitors in the same industry. This can attract rival companies to offer a superior employment package to the manager for their services on the basis of their effective communication with the owners (Elshandidy & Hussainey, 2013). Furthermore, the benefits of internal control reporting in the annual report reduces information asymmetry with transparency and accountability being held for the decisions made (Deumes & Knechel, 2008).

However, it is virtually impossible to assume that the manager will always act in the best interests of the owner. In a long-standing relationship, there will be moments when the decisions of the manager will not be optimal from the owner's perspective. All things are not considered equal in these circumstances thus, the agency costs are never zero (Jensen & Meckling, 1976). The owners must employ monitoring costs to measure, observe and control the managers behaviour. This ensures the shareholder that the managers are maximizing shareholder value and is under guidance by an internal and external auditor existing under the umbrella of internal controls (McColgan, 2001). These auditors check the validity, accuracy, and completeness of the assertions made by management in the annual report.

There are contrasting views in relation to how financial leverage affects internal control reporting. Large leverage means heavy debt and financial pressure, which would imply that the firm would not have the capacity to create an internal control system adequate to satisfy investors (Xiaowen, 2012). Conversely, (Jensen & Meckling, 1976) stand by the theory that firms with higher debt levels are expected to disclose more information. The underperforming firm with large debt tends to report insufficiently on internal controls whereas the outperforming firm in a similar situation can handle the risk more appropriately and therefore disclose a transparent set of internal controls. However, the investor society agrees that regardless of the financial situation, it is expected from the firm to disclose how it is managing its risk. This highlights why the agency theory is of such importance in this research.

## 2.2 Internal Control System

There is no one universal definition to describe internal controls but it is essentially a system that is put in place to protect firms from an accounting information system of fraud and error. It has an impact on all areas of the organization, but the creation and implementation of the system derives from the head office (Bédard, 2017). It has long been prevalent within the annual report since the passing of the Sarbanes-Oxley Act in 2002. The policies and procedures within the system designed to provide management with reasonable assurance that the firm achieves its objectives are called controls (COSO) (Schandl & Foster, 2019). The responsibilities of internal controls differ between management and the auditor. Management must establish and maintain the entity's internal controls whilst the auditor is accountable for testing internal control over financial reporting. When assessing the financial statements, the auditor is expected to gain an understanding of internal control to evaluate the control risk. When the firms' internal controls become more effective with regards to identifying risks and developing greater mitigation measures to reduce these risks, the assessed level of control risk will decrease (Khorwatt, 2015).

The utilization of an internal controls' framework can benefit the company in more ways than one. It has been studied that effective internal control monitoring, complemented by technology can aid in preventing misstatements in the firms' annual report in a timely manner (Masli, Peters, Richardson, & Sanchez, 2010). Following this, internal controls will protect the firm from lawsuits and thus reduce legal costs because the framework advises an internal auditor to test the operating effectiveness of the controls (Ge, Koester, & McVay, 2017). Firms will profit from the use of internal controls through its direct focus on the company's goals. The system reports on risk information which may jeopardize the achievement of the firms' future goals. Such assessment is outside the purview of the auditor who is solely focused on the firms' financial statements (Hooghiemstra, Hermes, & Emanuels, 2015).

The importance of internal control disclosure from the stakeholder's perspective cannot be understated. The primary medium for shareholders to assess the management of their capital invested is through the annual reports while creditors use it to evaluate the firms credit worthiness before lending. A comprehensive internal control system is a crucial factor for both parties (Agyei-Mensah, 2016). Investors can only judge the effectiveness of the internal control system based on the information disclosed by the manager. Internal control

disclosure portrays the firm as organized, reliable, and trustworthy. Internal controls dilute the firm's sensitivity to systematic risk which decreases the cost of capital whilst increasing market value (Cheynel, 2012). There is a positive relationship between investor protection and the amount of information on internal controls that firms voluntarily disclose in their annual reports. (Hooghiemstra, Hermes, & Emanuels, 2015)

## 2.3 Underinvestment Theory

The underinvestment problem is a subset of the agency theory which concerns the managers relationship between the shareholders and the debtholders. There has been extensive research on the conflict of interest between both parties (shareholders and debtholders). The two main impacts that debt has on a firm are its level of free cashflow and the increasing probability of bankruptcy. Debt also has an impact on the level of monitoring on the manager (Jerzemowska, 2006). The use of debt is likely to be closely monitored by the lenders to ensure that the pursuance of extravagant, risky investment ventures is avoided. The lenders do not receive no more finance than they have provided plus their interest earned, thus they have no interest in risky investments and are concentrated on the sustainability of the firm to consistently be liquid to repay its interest on the debt as it falls due (Agrawal & Knoeber, 1996). If the firm happens to default on the interest repayments, the debtholder may take the firm to bankruptcy court and recuperate their investment by liquidating assets (Kochhar, 1996). The debt holder reduces the risk of such failure by disciplining managers through demanding more operational practices. The employment of an internal control system provides the debtholder with reassurance that risk management is under constant supervision.

However, if the managers and shareholders' interests are to be aligned, the capital allocation plan of the debtholders loan will be used to make investment decisions that increase shareholder value. This could lead to suboptimal choices that cause harm to debtholders (Cariola, La Rocca, & La Rocca, 2007). The manager understands that he is paid by the owners and in succeeding in carrying out risky yet profitable investments, he is liable to be rewarded for his performance. A firm with outstanding debt to the bondholder, will ignore valuable investment opportunities when acting in the shareholders' interests because it will create a positive net present value to the firm which will only benefit the bondholders (Myers S. C., 1977). Asset substitution is another dilemma in which the manager must confront. This concerns the shareholders prompting the manager to invest in assets that are beyond the bondholders' risk tolerance in pursuit of greater returns (Green, 1984).

## 2.4 Trade off Theory

If debt only increases the likelihood of bankruptcy, it begs the question as to why firms seek this source of financing. It was (Kraus & Litzenberger, 1973) who first proposed the trade-off theory. Financial leverage reduces the firms' taxable earnings and increases firm value by protecting its operating cashflow from the taxes. The usage of leverage successfully has the ability to create spectacular returns on capital employed, such that can transform the financial perception of the firm to the content of investors (Mallaby, 2011). However, the trade off

from the benefits can have drastic consequences if the firm is underperforming. Firms are obligated to create a schedule of payments of interests towards the debt. The greater the debt, the higher the interest payments that can negatively affect the firm's performance and liquidity. This can bring considerable financial distress and increasing agency costs between managers and owners.

The focus for management is put on finding a balance whereby there are tax incentives to borrow but not enough to put the firm's liquidity at risk. However, this is easy as it sounds because there is no fixed answer. Some firms may value tax shields as more important and borrow more, whereas other firms choose to reduce risk and take more care with leverage but concede to the tax payments. (Myers S. , 1984) divides the decision making by firms into two brackets. Firms with high volatility who are to be judged as risky should borrow less than firms in a stable position because the tax shield neutralizes the cost of borrowing. Firms with intangible assets held against the loan should borrow less than firms with tangible assets in place because the latter's holdings are more likely to lose value in market downturns.

**Research Question:** *To what extent does financial leverage affect the quality of internal control disclosure?*

### 3. HYPOTHESIS

#### 3.1 Introduction

The hypotheses has been formed based on the literature review with relevance to the research question. Similarities between the various different literature has been accounted for which has concluded with a consistent opinion to formulate the hypotheses. The hypotheses were constructed under the consideration of alternative conditions, both positive and negative as well as the psychology behind the managers and investors decisions.

#### 3.2 Financial Leverage and Internal Control Reporting

The agency theory and the underinvestment problem portray the importance of monitoring high risk companies. Enlarging the debt against equity should come with increased reporting on internal controls. The increased debt level will come with stronger control and monitoring from the debtholder. They need to verify that the decisions made by management do not threaten the liquidity of the firm and thus failed repayments of the interest due. Secondly, offshore lenders will have expensive monitoring costs inflicted upon them such that a firm in another jurisdiction requires travelling costs for meetings and further education expenses on the rules and regulations of the jurisdiction in question. These monitoring costs offset their reduced level of control. Finally, the auditing component of internal control reporting must be validated for the debtholder. The internal auditor assesses the integrity of financial information reported which can bring assurance to the lender that their funds are not being utilized fraudulently and that the firm is complying with all relevant laws.

From the shareholders perspective, the acquisition of debt can be seen as an opportunity. The underinvestment theory explicitly explains the investors aspirations with the funds. They have contrasting views to the lenders whereby the

shareholder has a higher tolerance for risk. The exponential returns with borrowed money is an ambition that the owners try to communicate to the manager in order to create incentives for the manager to act in the principals' interests and align their goals collectively. However, correspondingly to the concerns of the debtholder, the shareholders expect to be informed about the firms' methods of handling internal controls and risk management. Investors can evaluate the level of control risk and make a decision as to whether the strategy of management suits their investing behaviour.

The trade-off theory rationalizes why firms are willing to take on such risk. The tax advantages can increase firm value, but on the flip side borrowing can result in a bankruptcy threat if the firm begins to underperform. Long term debt is also associated with higher risk in the eyes of the lender which raises the rate on interest. This requires the creditors to do complete background checks on the firm to assess their creditworthiness. When a firms request for long term debt is successful, it is a positive sign for investors because it would imply that the firm has a strong set of internal controls and risk management to handle the repayments.

The hypotheses originate from the focal points of this literature. It is understood that companies that are highly leveraged have the appetite to invest dangerously to appease the owners. Though, these decisions come with great consequences if the investments don't come to fruition, and which therefore highlights the importance of monitoring. Firms that are highly levered are expected to report a higher quality and more detailed framework on internal controls to communicate to both creditors and investors on managements methods of dealing with risk and the effectiveness of auditors' report.

**Hypothesis 1:** *There is a positive relationship between the level of financial leverage with the quality of internal control disclosure (total) in the annual reports.*

**Hypothesis 2:** *There is positive relationship between the level of financial leverage with the quality of the control environment (item 1) disclosed in the annual reports.*

**Hypothesis 3:** *There is a positive relationship between the level of financial leverage with the quality of risk assessment (item 2) disclosed in the annual reports.*

**Hypothesis 4:** *There is a positive relationship between the level of financial leverage with the quality of control activities (item 3) disclosed in the annual reports.*

**Hypothesis 5:** *There is a positive relationship between the level of financial leverage with the quality of information and communication (item 4) disclosed in the annual reports.*

**Hypothesis 6:** *There is a positive relationship between the level of financial leverage with the quality of monitoring (item 5) disclosed in the annual reports.*

### 4. DATA AND METHODOLOGY

#### 4.1 Variables

Data analysis was carried out to investigate the relationship between financial leverage and internal control disclosure. The independent and dependent variables conform with previous analysis from (Agyei-Mensah, 2016), (Deumes & Knechel,

2008) and (Hooghiemstra, Hermes, & Emanuels, 2015). A linear regression analysis will be performed to test the hypotheses. The control variable in this instance will be the timeframe of 1 year, 2020. This year could not have been foreseen with the pandemic and the FTSE 100 dropping 30% in a week before rebounding to end the year positive. With the uncertainty surrounding everything, it is critical that firms provide transparent internal controls about how they are handling the situation.

## 4.2 Data and Sample

The qualitative data of internal control is not mandatory information to disclose in the UK. This does not undermine the importance of the framework as it is generally reported in the corporate governance section of the annual report. (The Financial Reporting Council, 2014) states that “the board should monitor the company’s risk management and internal control systems at least annually, carry out a review of their effectiveness and report on that review in the annual report”. This information will be sourced manually from the respective firm’s investor relations website where all previous annual reports are located. Financial Leverage will be acquired from the firms’ balance sheet for year-end, 2020. The data set will exclude financial firms (21) due to the exceptional regulations imposed upon them (Elshandidy & Hussainey, 2013) and firms (3) that are dually listed on the US and UK exchanges whereby the firm must comply with the mandatory regulations of the US.

## 4.3 Financial Leverage

Financial Leverage is the independent variable calculated through the accounting measure of total debt which includes both long- and short-term debt as a ratio to total equity. It puts in perspective for the investor, how much of the capital is being financed by debt in comparison to equity when financing assets of the firm. Considering that the majority of firms in the FTSE 100 have access to both short term and long-term debt, total debt will be the measure.

### 4.3.1 Internal Control Disclosure Index

How the firm discloses information on internal control will be determined using content analysis. More specifically, we will use meaning-oriented analysis “which focuses on analysis of the underlying themes in the texts under investigation” (Smith & Taffler, 2000), because the dependent variable cannot be formally measured like any regular variable (Leng & Ding, 2011). The information will be retrieved manually in correspondence to the underlying themes noted below in the self-developed internal control disclosure index. The reporting quality will be interpreted as being either substantial or symbolic. Substantial disclosure of information is detailed and specific that relates to factors fixed only to the company. Symbolic reporting is general statements that relate to any business in any industry which can sometimes be included for legal reasons (Abraham & Shrivs, 2014) The 5 items were developed to survey a broad overview of a firm’s internal controls.

#### Item 1: The Control Environment

Management acknowledges and acts upon the information received from the internal and external auditor and communicates on its duty to hold responsibility for

communicating the internal control activities throughout the organisation (Schandl & Foster, 2019).

- Item 1 has a value of 1 if management communicates its duty substantially on internal control.

This item often succumbs to generic statements whereby it is perceived as symbolic. We expect this statement to be useful to financial statement readers. It should state the actions management takes in establishing and maintaining adequate internal control over financial reporting for the group.

#### Item 2: Risk Assessment

This item under the internal control and risk management according to (Schandl & Foster, 2019) identifies specific risk management activities and highlights the impact they may have on the internal and external environment. Additionally, it is beneficial to inform the stakeholder how these risks are being mitigated. The threats that the pandemic present should be reported here.

- Item 2 has a value of 1 if specific risk management activities are disclosed substantially.

The disclosure of item 2 should include the risk strategies with regards to potential supply chain, cyber-security, or the furlough of employees’ issues.

The outstanding reason managers may refuse to disclose this information regards their reservation to reveal effective strategies to the benefit of their competitors. However, for those firms that are highly levered, it is expected that they provide their investors with reassurance.

#### Item 3: Control Activities

According to (COSO) by (Schandl & Foster, 2019), control activities require management to develop a system. This system is established to achieve the objectives of internal control.

- Item 3 has a value of 1 if a specific system is disclosed to achieve the objectives of internal control.

Specific control activities require the responsibilities of key roles to be defined, that are specific to the organization. The annual report should identify who is responsible for reviewing the groups key risks and safeguarding the firm’s assets. Tasks such as complying with laws and regulations should also be mentioned. This portrays to the investor that there are control activities in place to achieve the firms internal control objectives.

#### Item 4: Information and Communication

Management must disclose sufficient information with regards to their internal control framework with reference to (COSO). Frameworks aid in the organization of risk identification, evaluation and management of activities. Furthermore, information on the framework benefits shareholders in assessing the firms internal control performance based on particular factors.

- Item 4 has a value of 1 if the annual report discloses substantial information about the internal control framework.

#### Item 5: Monitoring

Monitoring activities are assessed by the internal auditor to ensure that the verification of the 5 components of internal control is periodically being checked (Schandl & Foster, 2019). Management should report on the role of the internal auditor and disclose the effectiveness of the firms' risk management and internal controls.

- Item 5 has a value of 1 if management disclose substantially on the role of the internal auditor and its effectiveness.

It is generally noted in all annual reports about the role of the internal auditor, but the reporting of the effectiveness of the firm's risk management and control is crucial for the investor. It establishes if the predefined objectives have been achieved and during an unprecedented year, it makes the quality of disclosure of this information even more important.

### 4.4 Model

To investigate the effect that financial leverage has on the internal control disclosure index, this study uses data from 70 firms from the FTSE 100 index. The objective of the linear regression test using SPSS is to discover whether a highly leveraged firm can help explain the quality of internal control reporting within the 5 components. In a regression analysis however, we can only consider categorical variables with two values. A dummy variable is created to indicate whether the 5 categorical variables have particular attributes or not. The dummy variable is "1 = yes" the component is substantially reported in the annual report or "0 = no" it does not exist or is symbolically stated in the annual report. The 5 equally weighted items in the internal control disclosure index will accumulate to a total number labelled "total" as previously done by (Hooghiemstra, Hermes, & Emanuels, 2015). In tandem with the original test, a regression analysis will also be conducted on how financial leverage impacts the quality of each item individually. The information provides a deeper dive into discovering which items have a statistically significant relationship with leverage. This may influence the outcome of the total summation, the primary research objective. The 5 items are independent of one another and developed with reference to previous research by (Deumes & Knechel, 2008), (Leng & Ding, 2011) and with relevance to the 5 components of (COSO) by (Schandl & Foster, 2019). The hypotheses tests will identify if there is a statistically significant relationship between the variables.

#### 4.4.1 Outliers

Extreme values in a dataset are considered outliers. A linear regression model is particularly sensitive to these values as it can skew the model away from its true outcome. It has been noted that when the equity number of a firm is very small, it can lead to an abnormal ratio that will be extremely high. This is interpreted as an outlier that will be excluded from our dataset. This study will use a 95% confidence level to create a margin of error. This sets a significance level of 0.05 known as alpha. A value below the alpha level of 0.05 indicates strong evidence to reject the null hypothesis conversely, the p-value above the alpha level of 0.05 stipulates the lack of a statistically significant relationship between the two variables.

### 4.4.2 Heteroscedasticity

The main assumption associated with linear regression can occasionally get violated by heteroscedasticity. This concerns the observation that the variance of the residuals in the analysis are not consistent across the independent variable, debt: equity. SPSS can examine this assumption through analyzing the zpredictor variable on the x axis and zresidual variable on the y axis. On this scatterplot, it is expected that the dots will be dispersed all over the graph showing no patterns in the data.

### 4.4.3 Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Debt:Equity	70	.00	3.53	.8420	.80737
Control Environment	70	0	1	.97	.168
Risk Assessment	70	0	1	.31	.468
Control Activities	70	0	1	.73	.448
Information & Communication	70	0	1	.13	.337
Monitoring	70	0	1	.93	.259
Total	70	1	5	3.07	.890

**Table (1) – Descriptive Statistics**

(Table 1) presents the descriptive statistics for our analysis. The dataset is made up of 70 firms from the FTSE 100 index with the exception of 21 financial firms, 3 firms with negative equity, 3 firms acting as outliers and 3 more firms registered with the NYSE and therefore report under different regulations. From the descriptive statistics, we can gather an overview of the characteristics of the variables.

The debt-equity ratio has a mean of 0.84±1, which interprets the majority of the firms in the FTSE 100 as stable. A firm is on average £0.84c in debt for every £1 of assets under management. The control environment is often a formality in the annual report whereby management are obliged to hold responsibility in establishing and maintaining internal controls. With a mean of 0.97, this was often done so elaboratively and specific to each individual company. The risk assessment reporting under internal controls was generally symbolic and the little reference to the coronavirus pandemic caused the mean of 0.31. In contrast, the control activities were highlighted in the majority of annual reports with a detailed description of the objectives that needed to be achieved. In addition, the reports usually mentioned those responsible for the performance and this made the reporting specific and substantial to each firm. It was noted that very few firms made any reference to the (COSO) framework in their annual reports. It was generally the larger companies with ties to the US such as GlaxoSmithKline and Unilever who disclosed internal controls with reference to the framework. This resulted in the smallest mean of the 5 items. Monitoring was reported substantially on a consistent basis. There was often a sub section in internal controls surrounding the role of the internal auditor and its effectiveness in the annual report resulting in a mean of 0.93. Finally, the

total item for each firm has a mean of 3.07 and a standard deviation of 0.89. This can be considered low with the majority of firms accumulating a total between 2 and 4 items substantially disclosed.

## 5. RESULTS

The primary hypothesis test was to discover if there is a relationship between financial leverage and the summation of the items in the internal control disclosure index.

Here are the results.

### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.458 <sup>a</sup>	.209	.198	.797
a. Predictors: (Constant), Debt:Equity				

**Table (2) – Model Summary**

### ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.447	1	11.447	18.019	<.001 <sup>b</sup>
	Residual	43.196	68	.635		
	Total	54.643	69			
a. Dependent Variable: Total						
b. Predictors: (Constant), Debt:Equity						

**Table (3) – ANOVA**

### Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.647	.138		19.157	<.001
	Debt:Equity	.504	.119	.458	4.245	<.001
a. Dependent Variable: Total						

**Table (4) - Coefficients**

## 5.1 Regression

In the model summary (table 2), the adjusted r square indicates the variance in the dependent variable that is explained by the independent variable. Here, 0,198 or 19,8% of all the variability in the internal control disclosure index can be explained by a firm's financial leverage.

By analyzing the ANOVA results (table 3), it is understood whether the model is significant. This model answers the question to whether the level of financial leverage can explain the quality of internal control disclosure. The significance value of the model of  $<0,001$  is less than alpha (0,05) so we can therefore conclude that the model is significant.

The regression coefficients (table 4) display the equation of the line that uses the level of financial leverage to explain the total number of items disclosed by a firm in the annual report substantially. The simple linear regression model between financial leverage and the internal control disclosure index is taken from the B column under unstandardized coefficients.

$$y = 0.504x + 2.647.$$

Y is the dependent variable, the internal control disclosure index and x is the independent variable, financial leverage. With the p-value of  $>0.001$ , the regression analysis reveals that internal control disclosure is a function of leverage. By entering a debt-equity ratio in the x intercept (the slope), it predicts the value of the number of items disclosed by a firm in our index. The constant in the model is 2.647. This means that regardless of the amount of leverage, firms disclose 2.647 of the 5 items in the index.

Presented in Appendix 10.2 are the relationships between leverage and the 5 items individually. In item 1, it is noted that there is no apparent relationship between control environment and leverage (H2). The same goes for item 3 (H4), the control activities and item 5 (H6) monitoring, whereby the p-value is greater than the alpha level. Off the back of these results, the hypotheses are rejected. However, items 2 (H3) and 4 (H5) show a statistically significant relationship with financial leverage. This implies that firms with higher leverage tend to disclose substantial information about their risk assessment and information and communication more often, in comparison to less risky companies.

## 6. DISCUSSION

The results show that there is a statistically significant relationship between the level of financial leverage of a firm in the FTSE 100 index with the quality of internal control disclosure. This confirms the prediction of the agency theory with respect to the fact that when firms are more levered, they have more responsibility to comprehensively disclose more information to the debtholders and shareholders. However, this is contrary to the work of (Xiaowen, 2012) who studied the effects of financial leverage on the Shenzhen exchange. Similarly, (Miihkinen, 2010) notes that financial leverage

relates negatively to risk disclosure quantity in the OMX Helsinki markets. In both instances, it is difficult to compare such companies risk disclosure with that of the UK market. In the Chinese markets, highly levered companies are seen to be struggling and reckless with their capital allocation which then leads to a lack of enthusiasm and the avoidance of responsibility to report effectively on internal controls. Whilst in the OMX Helsinki index, the components are quite small with the largest firm having a market cap of £1.89 billion to the FTSE 100's £177 billion. Factoring in the size difference between firms, we question if firms with a small number of investors feel they can escape criticism and questions by hiding the real vulnerability of the firm.

The customs and cultures in the larger markets of the EU can be argued as more self-regulated. (Deumes & Knechel, 2008) found a positive relationship between financial leverage and internal control disclosure on the Amsterdam Exchange and correspondingly to this research (Ahmed & Courtis, 1999) find a significant positive relationship between leverage and corporate risk disclosure in the UK. Finally, (Bedard, Gonthier-Besacier, & Schatt, 2019) find an association between the level of financial leverage and the cost of the auditors' fees. Previous research complements the study undertaken in that, the markets in Europe with more money invested has an impact on the manner in which companies report on risk disclosure. More specifically, financial leverage affects how well firms report on their internal controls in comparison to less relevant indexes.

## 7. CONCLUSION AND LIMITATIONS

The research conducted in this paper is centered around the extent to which financial leverage affects the quality of internal control disclosed in annual reports. The relationship between the two variables was investigated using a sample of 70 firms listed on the FTSE 100 for the year-end 2020. With the help of SPSS, a simple linear regression analysis resulted in a positive influence of financial leverage on the internal control disclosure index. The evidence supports (Jensen & Meckling, 1976) agency theory and (Myers S. C., 1977) underinvestment theory. Managers utilize the COSO framework to ensure the establishment of internal controls. This comes with extra authority from the debtholders when the firm is taking on large amounts of debt.

The reaction of the investing society to this outcome should be positive and hopefully, there will be a higher approval towards leverage by the stakeholder community. It has previously been stated and referred to in the underinvestment theory by (Kochhar, 1996) that firms with a high debt: equity ratio is a negative because there is always the risk of being unable to pay debts as they fall due, especially if the firm is underperforming, but maybe it is not so bad? This research concludes that firms are self-aware of their leverage position and with higher leverage, management understand that this requires a more transparent reporting on the risk management criteria than if they had no debt.



The methodology performed in this paper was effective in answering the research question. SPSS has the ability to provide complete analytical data to demonstrate the relationship between the two variables. However, the results of the research opened the door to further questions. It succumbs to the debate about the impact that other characteristics of a firm have on the quality of disclosure. Does firm size have an effect on the quality of internal control reporting? Although it can be statistically proven that there is a relationship between the two variables, there is a lack of satisfaction to the individual items displaying mixed outcomes. It provides a rather inconclusive climax to the research as it can be questioned as to why all 5 items did not present a statistically significant relationship with leverage.

This transfers nicely to the limitations of this research. Financial leverage is a numerical accounting figure that is based on the financial statement of an individual firm. It was only understood after the conduction of the research that the exclusion of the 3 firms with negative equity for the purpose of this research may not have been necessary. If the debt:assets ratio was used, this would not provide any negative ratio and would have therefore been unproblematic for a regression analysis.

Internal control disclosure on the other hand was self-developed based on (COSO) written by (Schandl & Foster, 2019). The generality of the self-constructed internal control disclosure index can be interpreted as a limitation. If the detailing of this index was more specific, the outcome of the research may have potentially been different. It would also have been very interesting to add in control variables such as firm size, profitability, or the industry to analyze in a multiple regression analysis if these controls had an impact on the quality of internal control reporting. However, the length of time it had taken to read through the 70 annual reports and note whether each firm had adhered to the 5 components did not make this possible within the time.

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## 10. APPENDIX

### 10.1 Appendix 1

#### EXAMPLES OF ITEMS DISCLOSED SUBSTANTIALLY UNDER THE INDEX.

##### 1. Control Environment

Management is responsible for establishing and maintaining adequate internal control over financial reporting for the group. This is designed to provide reasonable assurance regarding the reliability of financial reporting.

Confirmation that the controls and processes are being adhered to throughout the business is the responsibility of managers but is continually being tested by the work of the internal audit team. Compliance with the internal control system is monitored annually by the completion of a self-assessment checklist by senior managers.

##### 2. Risk Assessment

The Committee has continued to receive quarterly updates as it monitors closely the ongoing work to manage continuously evolving risks. This largely concerns the threat of the COVID-19 pandemic, which in less than a week resulted in the entire office-based workforce moving to a “work from home” model.

At the outset of the pandemic, management assessed the potential impacts of COVID-19 and the expected changes in some working practices on the effective operation of the system of internal controls. Additional training was delivered to staff to increase the awareness of the risks associated with home working, such as safeguarding of data and physical records. Further training was deployed to counter increased volume of phishing and social engineering attacks.

##### 3. Control Activities

The management structure of the Group and internal policies and procedures are aimed at maintaining a robust control framework. This framework includes:

- An appropriate tone set from the board aimed at building the appropriate control environment.
- Management supports a comprehensive risk management system.
- Strong segregation of duties including internal controls.
- A periodic review of the effectiveness of internal controls.

The committee is responsible for reviewing the adequacy and effectiveness of the internal control system regularly through various activities including:

- Reviewing the effectiveness of its risk management processes.
- Reviewing and challenging managements self-assessment of the internal control framework.
- The work undertaken by internal and external auditors in relation to internal controls.
- The regular reporting on any control, fraud related or whistleblowing issues.

##### 4. Information & Communication

Management has used the (COSO) framework to evaluate the effectiveness of the internal controls over financial reporting. Management believes that the COSO framework is a suitable framework for its evaluation because it is free from bias and permits reasonably consistent qualitative and quantitative measurements of internal controls.

Management conducted an assessment on the effectiveness of our internal control over financial reporting based on the criteria established in “Internal Control – Integrated Framework” (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

##### 5. Monitoring

During the year, the Committee closely monitored the Groups internal control and risk management systems and received regular updates from management, the Internal Audit and Risk Director covering the major risks and events faced by the business. The board, via the Committee also oversaw the effectiveness of our internal control environment and risk management processes across the Group.

The internal audit plan continued to be adjusted with the evolving COVID-19 situation by increasing the degree and complexity of certain estimates, judgements and exceptional items that have needed to be reflected in the financial statements. The effectiveness of the internal audit is assessed over the year using a number of measures, including reports from internal audit on the development and delivery of the internal audit plan and the completion of agreed actions arising from reviews.

## 10.2 Appendix 2

### THE RELATIONSHIP BETWEEN LEVERAGE & THE ITEMS INDIVIDUALLY

#### Coefficients<sup>a</sup>

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.951	.029		32.677	<.001
	Debt:Equity	.025	.025	.118	.981	.330
a. Dependent Variable: Control Environment						

Table (5) – Debt-Equity and Control Environment (Item 1)

#### Coefficients<sup>a</sup>

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.118	.075		1.583	.118
	Debt:Equity	.233	.064	.402	3.618	<.001
a. Dependent Variable: Risk Assessment						

Table (6) – Debt-Equity and Risk Assessment (Item 2)

#### Coefficients<sup>a</sup>

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.626	.076		8.201	<.001
	Debt:Equity	.122	.066	.220	1.863	.067
a. Dependent Variable: Control Activities						

Table (7) – Debt-Equity and Control Activities (Item 3)

**Coefficients<sup>a</sup>**

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.014	.056		.244	.808
	Debt:Equity	.137	.048	.327	2.854	.006
a. Dependent Variable: Information & Communication						

**Table (8) – Debt-Equity and Information & Communication (Item 4)**

**Coefficients<sup>a</sup>**

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.938	.045		20.729	<.001
	Debt:Equity	-.012	.039	-.036	-.297	.767
a. Dependent Variable: Monitoring						

**Table (9) – Debt-Equity and Monitoring (Item 5)**

