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ANALYZING THE RELATIONSHIP BETWEEN INVENTORY POLICIES AND CSR PRACTICES: CASE OF JORDANIAN COMPANIES

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ABSTRACT

The present research aims to assess the impact of inventory policies on the Corporate Social Responsibility practices of companies listed on the Amman Stock Exchange. The companies included in the research belonged to manufacturing or related sectors in which holding inventory is inevitable. The sample size chosen for the research was 45 companies, mainly because of the availability of financial data from the period 2012 to 2022. The data for the research was extracted from the Amman Stock Exchange, and we utilized a regression-based ANOVA model for our analysis, containing the dummy variable to enhance the model's validation and facilitate the statistical analysis, hence enabling a deeper understanding. We utilized. We also used the GMM model to validate our analysis. The financial variables of the research were based on the reported financial statements of the companies. The study explores the impact of the relationship between inventory policy and Corporate Social Responsibility on the different stakeholders, such as customers, employees, and environmental groups. We found that the CSR disclosure requirements also tend to have an impact on the inventory policies of these companies. Our results revealed that inventory levels are positively associated with satisfied customers. We found that the company's total CSR and sales ratio do not have a straight-line relationship. It led us to conclude that inventory levels are positively associated with satisfied customers.

Keywords: *Inventory, CSR, Inventory to sales ratio, Amman Stock Exchange, GMM, Manufacturing sector*

1. INTRODUCTION

The phrase "inventory" refers to a company's vital supplies. The investments mentioned above make up a large part of the company's investment portfolio and must be managed carefully to maximize results. Many organizations cannot afford the financial consequences of poor inventory management. Inventory management is essential to reduce costs, unreliability, and inefficiency. Products with economic value that an organization holds in various states, such as awaiting packaging, processing, conversion, use, or sale, are called inventory. According to (Laan, Salomon, Dekker, & Wassenhove, 1999), inventory management is the strategic framework firms use to manage their inventory. The task comprises monitoring inventory levels, predicting demand, and choosing the best time and method for making preparations. Firms use inventory management to store, organize, and refill inventory to ensure an appropriate supply

of commodities and reduce costs (Toktay, Wein, & Zenios, 2000).

Active corporate social responsibility (CSR) can increase stakeholder support behaviors, such as buying their products or services, applying for jobs, and investing in the company. Such actions can also improve stakeholders' views of these companies. These efforts strengthen a company's brand, stakeholder-company ties, and stakeholder advocacy over time. Due to stakeholders' inadequate awareness and negative opinions of corporate social responsibility (CSR) activities, corporations can't fully capitalize on their economic benefits. It emphasizes the need for corporations to improve their communication methods to communicate CSR efforts to stakeholders better. This paper proposes a business communication framework for corporate social responsibility (CSR), given the challenges. The framework includes message structure, dissemination strategies, and CSR communication success factors for stakeholders and enterprises. Different hypotheses link corporate social performance (CSP) and inventory management. Large and small businesses depend on inventory movement control along the value chain. The delicate balance between inventory supply and demand is a major difficulty in inventory management. A company should keep enough inventory to meet customer demand and avoid stock-outs that cost money. Due to the financial ramifications of inventory management, the company does not keep too much stock. Inventory decisions greatly affect supply chain management. Inventory management systems are becoming increasingly important (Koumanakos, 2008a; Silver, 2008).

Guping et al. (2021) classified these links with a typology. The social effect (tradeoff) theory suggests that improved corporate social performance (CSP) will negatively impact inventory management. Accessible funding, or management opportunism, claims that financial success affects corporate social performance (CSP). Positive and negative synergy theories link inventory management and corporate social performance (CSP). Much academic research on corporate ethics and finance has studied the financial benefits of Corporate Social Performance. The main concern is that CSR programs may hurt shareholders financially (A.B. Carroll, Lipartito, Post, Werhane, & Goodpaster, 2012). Stockholder welfare may include more than financial gains, although investors prioritize financial return.

However, adopting a socially responsible approach can benefit investors and other stakeholders. External factors like corporate social responsibility (CSR) might affect the relationship between corporate social performance (CSP) and inventory management. The literature contains a variety of facts. (Pinkston & Carroll, 1996), and others have discovered a positive correlation. Variables show a negative association in previous studies (Visser, 2011). Many scholars (Archie B. Carroll, 2016) claim no correlation. Bowman and Haire proposed an inverted "U" connection in 1975 to maximize firm value through corporate social performance (CSP). Inventory is essential for all businesses. Stock management has traditionally focused on quantity and delivery time (Flores, Olson, & Dorai, 1992). Scholarly research in inventory management focuses on minimizing stock-outs and optimizing inventory control techniques to reduce costs. Recent studies and empirical evidence show that inventory management goes beyond real-time adjustments. Inventory is essential to the package. Internal and external stakeholders heavily impact corporate inventory regulation planning. Personal interests, views, and impacts differ (Lolli, Ishizaka, Gamberini, Balugani, & Rimini, 2017). Strategic decisions like inventory management can affect an organization's daily operations (Hadad & Keren, 2013). Multiple studies have revealed that employees may use different system adoption and deployment tactics. Research by (Pérez-Vergara, Cifuentes-Laguna, Vásquez-García, & Marcela-Ocampo, 2013) highlighted that political and social factors may affect inventories and operations. Therefore, inventory management systems often involve several stakeholders. The stakeholder definition used by (Freeman & Phillips, 2002; Haji Ibrahim, Kalash, & Sabsabİ, 2018) is typical.

Stakeholders are any group or individual that can affect a company's goals. This group may include investors, staff, residents, tourists, and nature. Organizational performance depends on stakeholders' impact on corporate decision-making. Recent years have seen a rise in corporate social responsibility (CSR) efforts that place a premium on stakeholder relationships. Jordan's economy grew faster than predicted in the first half of 2022 despite global economic woes. Real GDP rose to 2.7% due to the complete economy reopening, rising exports, and more foreign tourists. The unemployment rate is slowly dropping. Therefore, labor market statistics don't fully reflect economic growth. During 2018, economic growth continued, and tourism revenue rose 41% annually between January and August. Foreign direct investment rose 86% annually in the second quarter. In the first half of 2023, industrial exports rose yearly and made up 96% of national exports. Domestic consumer expenditure is predicted to remain high in the first eight months of 2023 due to lower average inflation than in 2022. The commodities export sector started the third quarter poorly in July as industrial output declined. Japan has provided a USD 100 million loan to help implement IMF-endorsed electricity industry reforms (Bank, 2023). The main objective of this study is to investigate the impact of inventory policies on corporate social responsibility (CSR) practices in Jordanian businesses in Jordanian companies listed on the Amman Stock Exchange (ASE). The companies chosen for the present research belong to the manufacturing sector because this sector requires significant investment in inventory. For this reason, we excluded the financial and purely services-based companies. The financial data required for the present research consisted of 45 companies and was extracted from the ASE website for the period from 2012 to 2022. The financial data of the Jordanian companies was extracted from the audited financial statements of Jordanian companies.

The remainder of the paper is organized as follows. Section 2 consists of a literature review and gap identification, followed by the development of a research hypothesis and statistical model for testing these hypotheses. The third section consists of an explanation of the data and variables used to test the research hypothesis. The fourth section consists of statistical analysis and results, along with a detailed discussion of the results. The fifth section consists of the study's conclusion and its research implications and limitations.

2. LITERATURE REVIEW

Corporate Social Responsibility (CSR) reporting has gained popularity among Jordanian businesses in recent decades. These suggestions define generally accepted principles, rules, and methods to facilitate global CSR adoption. (Törnqvist & Kilstam, 2021) Suggested that enterprises investigate the benefits of Corporate Social Responsibility (CSR) in inventory management. Given its impact on the local society, shareholders must fight for management to embrace Corporate Social Responsibility (CSR). However, CSR declaration in Jordan is voluntary (Vries, Tummers, & Bekkers, 2018). Few studies have examined how corporate social responsibility (CSR) factors like philanthropy, community participation, and environmental activities affect company performance. According to (Ananzeh, Shbail, Amosh, Khatib, & Abualoush, 2023), Jordan has a significant research gap. CSR literature uses various theoretical frameworks. The literature frequently cites the agency theory (Freeman & Phillips, 2002), stakeholders' theory (Harjoto & Jo, 2011), institutional theory, and legitimacy theory. The Stakeholder Theory, which underpins Corporate Social Responsibility (CSR), maintains that corporations should prioritize non-shareholder stakeholders. Businesses can benefit from stakeholder theory by better understanding stakeholder expectations for their projects (Moneva, Rivera-Lirio, & Muñoz-Torres, 2007). The stakeholder theory shows why corporations should participate in corporate social responsibility (CSR) (Ali, Frynas, & Mahmood, 2017; Sial, Chunmei, Khan,

& Nguyen, 2018; Sial, Zheng, Khuong, Khan, & Usman, 2018). (Friedman, 1956, 1962). Corporations and individuals donate to corporate philanthropy. With the rise of enterprises in our daily lives, interest in the economy and its social impacts has grown (A. B. Carroll & Buchholtz, 2015). Thus, stakeholders view corporate philanthropy as moral. Implementing corporate social responsibility (CSR) initiatives helps stakeholders, who are principals, review how well managers are serving their interests. CSR procedures help stakeholders assess an organization's management (Carroll & Buchholtz, 2015). (Clement, 2005) defined LT as a "social contract" between a business and its community that benefits both parties. This social contract assesses a company's business activities against society's standards and expectations. As a company's joint obligation to society, corporate social responsibility (CSR) information must meet numerous stakeholders' expectations. Through employee engagement in corporate social responsibility (CSR) projects and reporting of results, managers are motivated to justify their actions over time. According to (Boaz, Hanney, Borst, O'Shea, & Kok, 2018), firms will do whatever to maintain their reputation as legal entities with valid goals and methods. Several researchers have shown that the legitimacy theory (LT) can explain corporate social responsibility (CSR) activities in different circumstances (Deegan, 2002). No direct association between corporate social responsibility (CSR) practices and improved company performance shows that past research has primarily disregarded the impact of CSR activities on business success. Most academic research on corporate social responsibility (CSR) reporting has used Legitimacy Theory (LT) to justify and satisfy stakeholders. Corporate Social Responsibility (CSR) activities enhance the investigation by portraying business performance as a respectable pursuit. Many scholars have used stakeholder theory to frame corporate social responsibility (CSR) efforts. It means corporate social responsibility (CSR) may improve business performance. Communication with various stakeholders is crucial to a company's success. To ensure stakeholders' interests are protected. Leadership Theory's social contract emphasizes continual communication between organizations and stakeholders. According to LT, corporate social responsibility (CSR) can boost production and revenue by promoting resource efficiency (Belal & Owen, 2007). Corporate generosity and inventory management are linked, according to empirical investigations. In the US, (Vries et al., 2018) analyzed corporate donation and inventory policies. Panel data from 817 Taft Corporate Giving Directory organizations showed a positive correlation between the two variables. Chinese public-exchange businesses' corporate philanthropy and inventory management are positively correlated (Wang, Yi, & Li, 1998). Bhattacharyya and Rahman (2019) found that charity giving benefited Indian enterprises.

2. 1. CSR ADOPTION AND JORDAN

Businesses giving back to their communities isn't new. Businesses have cared for the community for ages (Jonek-Kowalska & Zielinski, 2020). When writers began writing on firms' social performance and CEOs in the 1930s and 1940s, they began discussing their social responsibilities. Corporate Social Responsibility (CSR) and company ethics have changed over the years. Companies listed on the Amman Stock Exchange (ASE) are required to provide particular information regarding corporate social responsibility (CSR) in their annual reports under exchange rules (Archie B. Carroll, 2016; Garcia-Sanchez, Cuadrado-Ballesteros, & Frias-Aceituno, 2016). The collection documents the company's volunteer, environmental, and charity efforts. Given the complexity and diversity of corporate social responsibility (CSR), disclosure constraints are necessary. It is not easy to assess the impact of corporate social responsibility (CSR) on a Jordanian company's management because there are few CSR processes. Clear and understandable language distinguishes the disclosures (Dat, Dai, & Bich, 2022; Spence, 2016). Corporate social responsibility (CSR) data helps firms. Companies can improve their public

image by inflating their corporate social responsibility (CSR) disclosures, even if their CSR performance is poor (Harjoto & Jo, 2011). Companies can still profit from CSR assurance even if they don't perform well in terms of corporate social responsibility (CSR) (Stojanovic, Puška, Ozbalci, & Bolek, 2023; Törnqvist & Kilstam, 2021). Legitimacy theory is the finest sociopolitical framework for understanding how firms choose corporate social responsibility (CSR) information. The present body of scholarly literature suggests that corporate social responsibility (CSR) programs and the performance of developing nation enterprises are understudied (Magbool, 2015). The relationship between corporate performance and CSR in Jordan has been studied by (Abu-Rumman, 2018; Al-Abbadi, Almomani, Rumman, Abu-Rumman, & Khraisat, 2019; Qa'dan & Suwaidan, 2018). The overall analysis of the literature indicates that Jordan's stakeholder involvement in corporate social responsibility (CSR) has grown. Several companies have shown great dedication to social and environmental benefits, according to (Rettab, Brik, & Mellahi, 2009). However, the companies still view corporate social responsibility (CSR) as a philanthropic model rather than a strategic strategy for long-term sustainability. The legislative and economic viewpoint on corporate social responsibility focuses on how firms understand their contracts about rights and duties. Corporate, government, and social entities are included in this approach. Shareholders invest in a company because they believe they are getting something in return. Recognizing that firms should maximize shareholder value resulting in recognizing the company's promise to manage and conduct the business best to serve investors' interests in exchange for their investment.

2. 2. MODERN INVENTORY MANAGEMENT

Modern inventory management may have originated with businesses and merchants. Before the Industrial Revolution, supply chain management was outdated and limited. Retail procurement decisions were based on hurriedly created documentation and subjective judgment. Retailers spent hours or days hand-counting and auditing their inventory for abnormalities. The modest size of activities makes it hard to prioritize efficiency improvements. The Industrial Revolution boosted production and lowered prices. The consumer goods business grew as more individuals had money to buy items. Demand for goods increased as disposable income increased. Businesses carefully evaluate mass production and point-of-sale customer happiness (Civelek, 2017; Nguyen & Ngo, 2022).

Harvard University created the first completely automated checkout system in the 1930s. Punch cards simplify stock inventory and client order billing. This method allowed customers to complete punch cards, which were scanned by a computer and transferred to storage (Lockard, 2012). Early barcodes were invented in the 1940s and 1950s. Unfortunately, technology had advanced slower than expected. The equipment proved unwieldy and inefficient. In the 1960s, firms started employing barcodes for this. Laser technology makes scanners cheaper and faster. The first barcode, or UPSC, was invented in the late 1960s. Marsh stores in Troy, Ohio, had the first barcode scanning incident on June 26, 1974 (Dolinsky, 2022).

Before personal computers and sophisticated software became extensively used in the 1990s, inventory management was challenging. Multiple checks, stock tracking, and purchases are common. Barcodes and barcode scanners have become cheaper as personal computers have grown. Barcode inventory management solutions were tough to implement by small and medium-sized firms since there was no central data storage. Scanning and input data have replaced manual tracking, making handwritten records obsolete. In the early 2000s, barcode scanners and other inventory management software became extensively adopted, saving firms time and labor (Elsayed, 2014). Despite the 1970s patent filing for radio-frequency identification, the

technology was not widely employed until the 2000s. Microchips can retrieve manufacturers, product categories, and serial numbers (Molnar & Wagner, 2004). Consider a barcode with extra features. RFID tags can strategically be placed on shelves in remote warehouse areas to improve reading. A barcode's data storage is limited. Every company needs effective inventory management (Bose, Lui, & Ngai, 2011; Staniewski, Awruk, Leonardi, & Słomski, 2024).

2. 3. STAKEHOLDERS AND INVENTORIES

(Brammer & Millington, 2003) held that stakeholders often decide what to do without thinking about it first, which could cause them to pick the wrong policy. In today's fast-paced and competitive business world, industrial companies need to make their operations more effective and efficient as the behavior patterns of producers, distributors, wholesalers, and retailers tend to change with circumstances (Subagyo, 2017).

Wholesalers, sellers, and distributors are required to make informed estimations on the quantity of each product variant that should be dispatched to the subsequent entity within the supply chain. According to (Kurniawan, Komara, & Setiawan, 2019), the dimensions of objects inside each hierarchical level would undergo modifications over some time, prompting players to adapt their behaviors to the altered surroundings. It is imperative to consider the patterns of behavior exhibited by stakeholders when making decisions on allocation and inventory management. The supply chain is comprised of several entities, including producers, merchants, wholesalers, and distributors, who are involved in the transportation and distribution of a diverse variety of items (Finch, Goehring, & Marshall, 2017). These groups select routes based on criteria such as reduced travel times or lower costs. The selection between train and road transportation exemplifies the typical behavior of stakeholders.

According to (Wuttichindanon, 2017), stakeholders typically establish a threshold for the extent to which specific items can be distributed. At every tier of transportation, there exists a finite quantity of automobiles possessing varying capacities. Various stakeholders employ a range of vehicles of varying sizes, including larger, medium-sized, and smaller ones, to minimize the reliance on cargo trucks and facilitate the transportation of dropping loads. The individuals involved in the examination of consumer car selection encompass several stakeholders, such as manufacturers, distributors, wholesalers, and retailers. There exist multiple mathematical models that are utilized in the field of logistics and supply chain management. In the context of these methodologies, it is commonly posited that the active participation of stakeholders is anticipated. Several studies have identified mathematical models that fail to consider corporate human biases (Al-Okaily, Al-Okaily, Al-Mawali, & Tan, 2021; Dmaithan Abdelkarim Almajali et al., 2022). Certain limits arise due to the tendency of stakeholders to select specific routes and modes of transportation. Singh et al. (2019) have identified certain analytical methods that incorporate the biases of stakeholders. However, the existing literature lacks comprehensive research that provides a formal mathematical model or heuristic approach to address this issue. Researchers such as (Diaz, Bailey, & Kumar, 2016; Elsayed, 2014) have developed optimization models to address supply chain challenges. The individuals engaged in a discussion regarding the financial ramifications associated with failing to satisfy customer demand, highlighting the significance of appropriately forecasting demand. The complexity of supply chain networks arises from the multitude of products and transportation options available (Sun L, Zhao Y, & W, 2020). It necessitates a reevaluation of their examination of a singular product and mode. Recent scholarly research has examined complex supply chain networks that encompass extensive temporal durations, many categories of commodities, and multiple hierarchical levels (Yin F et al., 2021). The topic of transportation decision-making is not extensively discussed in the

literature. It is imperative to consider the desires and requirements of transit users. The study conducted by (Rothenberg, Hull, & Tang, 2017) revealed a correlation between a firm's capacity to attract and retain high-performing employees and its commitment to social responsibility. The social obligations encompass various provisions such as remunerated time off, healthcare coverage, educational assistance, and more societal benefits, alongside the provision of stock options. According to (Crane, Matten, & Spence, 2008), the implementation of more effective human resource management solutions is associated with improved outcomes in inventory management. The decrease in inventory levels can be attributed to increased efficiency (A. B. Carroll & Buchholtz, 2015). The necessity of emergency supplies could potentially be mitigated by enhanced dedication, talent, and motivation among individuals. Meeting client demands and maintaining low inventory levels might pose challenges if an organization fails to prioritize quality and neglects to invest in quality-focused technologies (Benmoussa & Jarašūnienė, 2022). According to (Song & Song, 2009), it is incumbent upon all employees to enhance the production cycle, uphold quality control measures, identify underlying reasons, and generate effective resolutions. Employers have the potential to enhance employee engagement through many strategies, such as facilitating skill development, fostering teamwork, encouraging open communication, and granting a substantial degree of autonomy within the workplace (Qi, Huo, Wang, & Yeung, 2017).

2. 4. INVENTORIES AND CORPORATE SOCIAL RESPONSIBILITY

In the next section, we'll use these theoretical bases to show how an organization's inventory policy is related to how well it does with social responsibility. (Suleman Bawa, George Effah Asamoah, & Ernest Kissi, 2018)Had held that shareholder pressure is what drives corporate social responsibility. (Villiers, Kuruppu, & Dissanayake, 2021) Put environmental tactics into two groups: those that stop pollution and those that make sure rules are followed. Environmental rules are not welcomed by businesses that focus on compliance. Instead, they focus on quick ways to cut down on pollution at the end of the industrial process. The new climate policy goes beyond what is required. Instead, a planned approach using better tools to get rid of pollution where it starts is favored (Cherian et al., 2020; Parker, 2005; Wei, Sial, Haider, & Matac, 2023). M. Sial et al. (2018) makes a distinction between financial resources that focus on protection and those that focus on compliance. Adopting technology that neutralizes waste after production is important for following the rules. These systems only deal with getting rid of trash after it's been made. They don't help with making things or giving services. (Klassen & Whybark, 1999) Held that preventative measures can lessen the damage that manufacturing does to the environment, especially when it comes to trash and pollution. Getting rid of inventory is linked to protecting the earth. Parts and component loss can be cut down with good inventory management (Sepehri, 2021). Chen, Wan, Quan, and Sial (2020) held that both workers and environmental groups want businesses to act honestly. Different companies have different ideas about how important and useful stakeholders are in deciding their corporate social responsibility (CSR) efforts (Karim et al., 2022). Because of this, companies use a range of techniques to handle their different client groups. How these differences are explained depends on how much support a company needs from different types of interest groups. Firms probably won't be able to meet all customer standards because of this (Moneva et al., 2007). Because of this, the company thinks it needs to stay out of the worries of its stakeholders as much as possible. The accommodating approach calls for people in power to take the initiative to deal with and solve problems that stakeholders bring up. Last but not least, being proactive about problems that affect stakeholders means figuring out what they want and leading a company-wide effort to get it (A. B. Carroll & Buchholtz, 2015).

Businesses become more engaged and socially responsible when they keep an eye on what their customers want. When customers think about social problems when they buy something, it changes how the business does, especially as people become more aware of social and environmental issues (Elias, 2019). Much research has shown that customers affect how businesses act in social situations. Consumer demand shapes ethical and environmentally friendly business practices, which in turn shapes a company's social responsibility stance (Gaspar, Massa, & Matos, 2005). Corporations are increasingly caring about things that aren't covered by their inventory rules, which shows a growing sense of social responsibility. A proactive company meets the wants of all stakeholders, not just a few (Boaz et al., 2018). Companies that don't follow through with their corporate social responsibility (CSR) usually put customer satisfaction first. Better CSR compliance shows that you care about all of your stakeholders (Groening, Ngoh, & Luchs, 2022).

2. 5. RESEARCH GAP

The main objective of this study was to investigate the impact of inventory policies on corporate social responsibility (CSR) practices in Jordanian businesses. The focus of our study was directed toward manufacturing organizations due to the significant impact that inventory quantity has on their overall strategic approach (Barcos, Barroso, Surroca, & Tribó, 2013). The scarcity of scholarly investigations pertaining to the topic can be ascribed to its atypical characteristics, notably within the context of Jordan. The situation mentioned above necessitated the initiation of our research, in which we took into consideration both the historical and contemporary aspects of corporate social responsibility (CSR) and inventory management. This study extends its investigation by empirically examining the proposition that the efficiency of programs aimed at enhancing worker, customer, and environmental satisfaction may be quantified by sales metrics.

2. 6. RESEARCH HYPOTHESIS

Hypothesis 1: A company's entire inventory management procedures will improve if it implements CSR practices to raise customer satisfaction.

Hypothesis 2: A company's overall inventory management procedures will improve if it implements CSR techniques to raise employee happiness.

Hypothesis 3: A company's entire inventory management procedures will be significantly impacted if it employs CSR measures that improve customer satisfaction.

Hypothesis 4: An inverted U-shape curve, which represents the underlying relationship between CSR and inventory management techniques, will be present for the organization that implements CSR practices.

The answer to this matter will enhance the decision-making process for strategic and tactical inventory management. Therefore, experts are capable of guiding the results of stakeholder engagement strategies. Gaining insight into the influence of corporate social responsibility (CSR) on stock levels has the potential to enhance inventory management systems. The primary finding suggests that corporate social responsibility (CSR) has an impact on the ratio of inventory to sales. Instead of exhibiting a linear relationship, the correlation demonstrates a U-shaped pattern. It has been observed that companies exhibiting lower levels of social responsibility tend to exhibit larger sales-to-profit ratios. However, individuals who exhibit proactive behavior tend to have a lower percentage. This link consists of two components. Companies experience varying levels of pressure from stakeholders based on their investment in the performance of the

inventory system. Businesses experience pressure from customers to expand their stock levels. However, employees do not exert the same level of influence. Companies are facing increasing pressure to decrease their inventory due to various environmental and external reasons. One additional justification for the hypothesized U-shaped relationship between corporate social responsibility (CSR) and corporate inventory is the notion that stakeholders' behavior and actions may transform responses to the introduction of socially responsible policies. At each level, stakeholders possess varying degrees of influence over company decisions. It implies that corporate social responsibility (CSR) actions of firms are directed towards key stakeholders who play a crucial role in their achievements. We recommend that elevating corporate social responsibility (CSR) levels enhances the significance of customers, whereas reducing CSR levels amplifies the relevance of stakeholders.

3. DATA AND RESEARCH MODEL

3. 1. DESCRIPTION OF DATA

We test these relationships between the relationship between inventory policies and CSR practices on the inventory management of Jordanian companies listed on the Amman Stock Exchange (ASE). The companies chosen for the present research belong to manufacturing and sectors that require significant investment in inventory. For this reason, we excluded the financial and purely services-based companies. The financial data required for the present research consisted of 45 companies and was extracted from the ASE website for the period from 2012 to 2022. The financial data of the Jordanian companies was extracted from the audited financial statements of Jordanian companies. After adjusting for missing values and absence of data, the actual number of observations was 495.

3. 2. RESEARCH MODEL

We developed the following research model based on the review of existing literature and keeping in view the nature of the data.

$$Inventory\ to\ CGS_{it+1} = \beta_0 + \beta_1 C.S.R._{it} + \beta_2 C.S.R._{it}^2 + \beta_3 Sizeoffirm_{it} + \beta_4 MarginGP_{it} + \beta_5 InventoryLeadTime_{it} + \beta_6 SaleGrowth_{it} + \beta_7 GearingRatio_{it} + \beta_8 Sigma_{it} + \sum_{S=1}^{9} \beta_{8+s}\, Dummy_{Sit} + \sum_{T=1}^{10} \beta_{17+T}\, Dummy_{Tit} + \acute{\eta}_i + \acute{\varepsilon}_{it} \quad (1)$$

In the model, the variable t is used to denote the temporal aspect, while the variable i is employed to represent the distinct information pertaining to each organization. Temporal dummy variables, denoted by the Dummy Sit- (1-digit SIC code), are employed to enhance the model's validation and facilitate the statistical analysis, hence enabling a deeper understanding of the various business categories comprising the sample. Given that the specification includes quadratic effects on Corporate Social Responsibility (CSR) for testing purposes, we opt to employ linear regression with a logarithmic transformation as opposed to a multiplicative approach. The fourth proposition. To derive the estimating equations for testing purposes, it is necessary to follow a certain procedure. In the present study, we replaced the concept of complete corporate social responsibility (CSR) with three distinct dimensions: Customer CSR, Employee CSR, and Environmental CSR, as outlined in Hypotheses 1, 2, and 3. The initial problem of endogeneity is acknowledged, wherein the potential association between the term and changes in a company's dedication to social responsibility is recognized. The degree of risk aversion among managers, for instance, has an impact on the formulation of a company's socially responsible plan as well as the investment strategy that determines inventory levels. The presence

of a firm-specific error term (i) leads to a misleading positive association between inventory investment and corporate social responsibility (CSR). In order to tackle this matter, a technique based on distinctions is employed. The error term's non-firm specific component (i) is associated with the second endogeneity issue of reverse causality. Contemporary software solutions have the potential to assist enterprises in effectively managing their inventories. Consider a hypothetical situation wherein enterprises display a strong inclination towards the adoption of this state-of-the-art technology. Given the necessity for enterprises to prioritize stakeholder satisfaction and establish confidence within their workforce about the implementation of new inventory regulations, it is anticipated that corporate social responsibility (CSR) will become intricately linked with stockpiling practices. The GMM model was employed for the estimate, following the methodology outlined by (M. A. Arellano & S. R. Bond, 1991). To mitigate any endogeneity concerns, we incorporated several time lags for the presumed endogenous factors, namely corporate social responsibility (CSR). The presence of fixed effects poses a significant constraint on the extant body of literature due to the great diversity of organizations and factors under investigation. The challenge was successfully addressed as the equation was found to be applicable to the differences through the use of the Generalized Method of Moments (GMM). According to (M. Arellano & S. Bond, 1991), the use of GMM has been found to enhance the overall effectiveness of the model. Given that GMM encompasses a set of equations pertaining to time, it can be employed to forecast appropriate lag values for both endogenous and exogenous variables within a study framework.

3. 3. DESCRIPTION OF VARIABLES

The inventory to cost of goods sold (CGS) ratio is employed as a statistic for comparative (M. A. Arellano & S. R. Bond, 1991) analysis of enterprises. Hence, we suggest that quantifying it would be advantageous. Corporate Social Responsibility (CSR) holds significant importance within our theoretical framework due to its substantial explanatory capacity. The control variables included in this analysis included firm age, capital structure, size (measured by the natural logarithm of firm assets), the ratio of cost of goods sold (CGS) to inventory, and the ratio of inventory lead time sales to CGS (Salmi & Martikainen, 1995). The model utilizes companies' ESG scores as a proxy for other variables related to corporate social responsibility (CSR). Stakeholders encompass a range of entities, such as consumers, employees, the environment, the community, and corporate governance (Elsayed & Wahba, 2013).

The score is derived from a cumulative aggregation of values that reflect the significance attributed to these perspectives. The disparity between a firm's strengths and concerns pertaining to each stakeholder, as indicated by a range of factors, is employed to ascertain the appropriate approach to corporate social responsibility (CSR) for each stakeholder (Groening et al., 2022). Given the established standards, an examination of corporate social responsibility (CSR) can be conducted by analyzing the company's interactions with its customers, employees, and the natural environment. Our analysis incorporated the inclusion of corporate social responsibility (CSR) initiatives that specifically target environmental improvement. As a result of the resemblance between corporate social responsibility (CSR) practices in the community and CSR practices in the environment, a distinct investigation into the impact of CSR in the community on commercial inventory has not been undertaken. The hypothesis for (1), (2), and (3) can be made. The social responsibility measures have undergone rescaling in order to eliminate potentially misleading outliers and achieve measurement standardization. It is important to note that the differentiation between possessing strength and demonstrating concern for multiple stakeholders constitutes the essence of social responsibility. The asset size of an organization serves

as a reliable indicator of its "Size," which is one of the control variables. The assessment of how diversity impacts the cost of keeping items is contingent upon the number of divisions inside larger firms. The concept of "gross margin" refers to the residual profit obtained by subtracting the cost of goods sold from the total revenue generated from sales. The statistic presented by (Koumanakos, 2008b) unveils the financial detriment resulting from inadequate inventory. The increase in the cost for individuals below the legal age is directly proportionate to the gross margin. To conduct a comparative analysis of profitability indicators, one should consider the gross margin as a suitable indicator. The gross margin is advantageous since it eliminates non-cash charges such as amortization and fixed expenses, including rent, utilities, and taxes (Silver, 2008). The debt-to-equity ratio is a valuable metric for assessing a company's financial well-being as it has the potential to provide insights about the availability of stock (Koumanakos, 2008b). Let us regard this as the opportunity cost associated with investing in stocks. An additional alternate statistic for measuring growth is the year-over-year percentage increase in sales, sometimes referred to as "Sales Growth." Their study (Elsayed, 2015)introduces a methodology for evaluating demand uncertainty by using the standard deviation of residuals and the lagged value of sales. The model parameters are utilized to reduce the mean squared error. The statistical analysis aims to assess the impact of diversification on inventory storage costs, as larger firms tend to possess a greater number of divisions. The term "gross margin" pertains to the residual amount of revenue remaining after subtracting the expenses associated with the sale of products. According to (Flores et al., 1992), this metric illustrates the financial detriment resulting from inadequate inventory. The gross margin directly influences the magnitude of the underage fee increment. The preference for gross margin over other definitions, such as net margin and gross margin, stems from its exclusion of non-cash charges like amortization, as well as non-variable expenditures, including rent, utilities, and taxes (Silver, 2008). The debt-to-equity ratio is commonly employed as a predictive measure for inventory levels. Hence, we consider it to serve as an indicator of a company's financial framework (Koumanakos, 2008a). This element pertains to the opportunity cost associated with the acquisition of inventories. The annual percentage rise in sales, sometimes referred to as "Sales Growth," represents an additional potential signal for expansion. According to (Salmi & Martikainen, 1995), a method is proposed for assessing demand uncertainty by utilizing the standard deviation of residuals, followed by the utilization of lagged sales values for sales projection. The utilization of these model settings leads to the attainment of the minimum mean squared error.

4. RESULTS AND DISCUSSION

All the variables included in the research exhibit a statistically significant confidence level of 95%. Based on the statistical results, there exists a positive Spearman correlation of 53.91 percent between customer Corporate Social Responsibility (CSR) and the inventory-to-sales ratio. At the same time, there is no significant correlation observed between either the aggregate Corporate Social Responsibility (CSR) or the individual CSR components such as environment, and employees to-sales ratio. To make sure the study's results are correct, we also found the key parts of the overall corporate social responsibility (CSR) value that can be given to CSR for customers, CSR for the environment, and CSR for employees. We look at two possible outcomes. In the first, observations have CSR ratings that are in the top quarter of the distribution. In the second situation, on the other hand, observations have CSR ratings that are in the lower half of the range. The details of these descriptive statistics is presented in Table 1.

Table 1. Spearman Correlations for the Variables

	Mean	DS	Min	Max	Inv to CGS	CSR	CSR Customer	CSR Employee	CSR Environment	Firm Size	Gross Profit Margin	Inventory Lead Time	Growth in Sales	Gearing Ratio
Inv to CGS	0.34101	1.54224	0	138.646809	0.81	1								
CSR	9.5613	2.61087	0.87	26.1	-0.02523	0.87	1							
Customer CSR	3.6081	0.5391	0.9	6.3	0.0531	0.324	0.9	1						
CSR Employee	3.71553	0.81718	0.91	8.19	0.02548	0.45591	0.18109	0.91	1					
CSR Environment	5.3489	0.61944	0.89	8.9	-0.05251	0.44589	0.13795	0.04361	0.89	1				
Firm Size	6727.611321	31955.14717	0.188679245	752196.2264	0.021132075	0.081509434	0.003773585	0.026037736	-0.076226415	0.377358491	1			
Gross Profit Margin	0.14703	7.05831	0	0.87	0.4263	0.17487	0.07569	0.07047	-0.06003	0.15399	0.87	1		
Lead Time	149.03295	1599.9594	0.49077	2127.8016	0.3198	-0.02337	-0.1968	-0.0246	-0.1722	0.63099	0.492	1.23	1	
Growth in Sales	0.47479	30.26174	-0.64622	2923.869	-0.02291	0.06715	-0.03081	-0.03081	0.0316	-0.0395	0.0948	0.05451	0.79	1
Gearing Ratio	57.0931	71.2861	0	2900.3595	-0.2755	0	-0.5605	-0.04275	0.0855	0.07315	-0.304	0.019	-0.1881	1
σ	3626670.43	23765500	0.078225	70849500	-0.029055	0.12665	0.03725	0.088655	-0.10281	0.70924	0.0745	0.30992	-0.066305	-0.00745

Source: Author's Analysis

According to our data, the significance of customers as stakeholders diminishes with the expansion of corporate social responsibility (CSR). At the outset, customers were deemed the most significant stakeholders, accounting for 30% of the overall importance. Upon the culmination of the Corporate Social Responsibility (CSR) process, it was determined that customers held the lowest level of relevance as stakeholders, accounting for a mere 15% of the overall proportion. The percentage of natural contributions exhibits a substantial rise, increasing from 25.7% to 35.0%, while the growth in human contributions is low. The data supplied supports the proposition that when corporate social responsibility (CSR) values rise, the importance of customers' concerns decreases relative to those of other stakeholders, such as environmental groups. This research investigates the relationship between corporate social responsibility (CSR) expenditures and sales, as well as the underlying notion of corporate social responsibility. The main objective of our study is to analyze the correlation between corporate social responsibility (CSR) and the ratio of CSR expenditures to sales, which exhibits a curvilinear relationship in the form of an inverted U-shaped pattern. The results of our inquiry suggest that the implementation of corporate social responsibility (CSR) influences the perceived importance of stakeholders. The findings of our research demonstrate a discernible change in the perceived significance of stakeholders, particularly with regard to customers. In the past, customers were accorded the utmost significance, as evidenced by a rating of 30%. Nevertheless, our research findings indicate that clients have been assigned a diminished level of significance, as seen by a rating of 15%. While the level of human contributions remains essentially unchanged, there is a significant rise in natural contributions, which climbed from 25.7% to over 35% of the overall amount. The results suggest that giving higher importance to a company's corporate social responsibility (CSR), perspectives should be prioritized over the concerns of its customers, namely those who share values with environmental organizations. The following section will clarify how this discovery creates a correlation between the inverted U-shaped relationship that exists between corporate social responsibility (CSR) and the allocation of resources towards CSR efforts in relation to sales. Please refer to Table 2 for nonlinear relationship.

Table 2. Non-Linear Relationship Between Corporate Social Responsibility (CSR) and the Sales Ratio

	Data Point With a Lower CSR Than The Mean	Data Point With a Greater CSR Than The Mean	Total of Means (P >|T|)
Weight of Customers	0.36206	0.332992	14.1212 (0.000)
Weight of Employees	0.24794	0.2744	-18.5122 (0.000)
Weight of Environment	0.28914	0.28361	4.95 (0.100)

Source: Author's Analysis

The ambiguous values within the brackets are contingent upon whether the CSR exceeds or falls short of the mean value of the distribution.

The table comprises multiple columns that delineate distinct categories, namely CSR consumers in Column 2, CSR workers in Columns 3 and 4, and the CSR environment in Column 5. In our subsequent analysis, completed goods and raw materials are categorized distinctly.

The results of our study suggest that customer preferences have a substantial impact on the quantities of finished goods inventory, resulting in favorable outcomes. Conversely, the impact of environmental awareness primarily leads to a decrease in the inventory of raw resources. The findings of the study model, with the exclusion of the quadratic factor, are displayed in Table 3.

Table 3.Relative Inventory Level Contingent on Different Stakeholders

Variables	Inv to CGS (t+1)	Inv to CGS (t+1)	Inv to CGS (t+1)	Inv to CGS (t+1)
CSR	-0.042 -0.636			
CSR Customer		0.180*** -3.99	0.177*** -5.003	0.196*** -2.986
CSR Employee			0.016 -0.799	0.043 -1.42
CSR Environment				-0.049 (-1.794)
(exp-6) Size of firm	2. 964*** -9.98	4.012*** -10.79	4. 230*** -10.93	4.012*** -6.126
Margin GP	0.001* -1.59	0.001** -1.881	0.001* -1.596	0.001** -1.885
(exp -7) Inventory Lead time	-1.79 (-0.591)	0.21 -0.03	-0.334 (-0.095)	1.49 -0.198
(exp -5) Sales Growth	-0.591 (-0.393)	-0.892 (-0.591)	-1.19 (-0.693)	-0.581 (-0.081)
D/E A	0.001 -1.023	0.002*** -4.881	0.002*** -3.92	0.002*** -3.692
(exp-10) σ	-2.9 (-1.651)	-0.8 (-0.207)	-0.99 (-0.400)	-3.89 (-1.231)
Intercept	-0.031 (-0.1000)	-0.903 (-2.314)	-1.029 (-2.956)	-0.601 (-1.956)
Observations	**495**	**495**	**495**	**495**
F- test	596.43 (0.000)	400.12 (0.000)	501.32 (0.000)	600.40 (0.000)
AR (2) test	1.28 (0.178)	1.29 (0.188)	1.29 (0.187)	1.30 (0.178)
Hansen test	69.97 (0.160)	56.21 (0.701)	70.01 (0.392)	47.88 (0.802)

Source: Author's Analysis

The correlation between a company's Corporate Social Responsibility (CSR) and Cost of Goods Sold (CGS) to sales ratios is not necessarily negative, as evidenced by the data provided in the first column of Table 3.

The conclusions above (column 4) were obtained through an examination of a corporation's social responsibility, with particular emphasis on its engagement with different stakeholders. Firstly, it is evident that organizations that value customer satisfaction tend to maintain elevated levels of inventory in comparison to their competitors. The presence of a positive coefficient (0.196 with a t-value of 2.986) linked to Customer CSR indicates a clear relationship. The text has been revised up to this point.

If the standard deviation of the client CSR (client Service Representative) is 0.081, then the inventory-to-sales ratio surpasses 30% above its average value. The observed results align with the initial hypothesis. In addition, the coefficient of 0.043, along with a t-value of 1.42, does not exhibit statistical significance. The available data is limited in supporting the proposition that an organization's policies have a direct impact on employee satisfaction. The results of the analysis suggest the existence of a non-linear relationship, which contradicts the hypothesis put out in Hypothesis 2.

Moreover, organizations that place a high emphasis on environmental considerations demonstrate a reduced ratio of costs to sales. Based on the available data, it is evident that a divergence of one standard deviation from the mean value of 0.89 in the context of Corporate Social Responsibility (CSR) in the environment would lead to an estimated 3% rise in the inventory-to-sales ratio. As a result, the determination was taken to reject the third hypothesis.

The outcomes from the testing of Null Hypothesis 4, which postulates that there is no linear relationship between socially responsible behavior and an organization's investment, are presented in Table 4. The conventional specification model (1) has been replaced with a focus on customer satisfaction in column 1, employee satisfaction in column 2, and environmental outcomes in column 4. Please refer to Table 4 for linear relationship.

Table 4 The Linear Relationship Between Socially Responsible Behavior and an Organization's Investment

	1	2	3	4
	Inv to CGS (t+1)	Inv to CGS (t+1)	Inv to CGS (t+1)	Inv to CGS (t+1)
CSR	0.199*** -3.891			
CSR2	-0.005*** (-4.002)			
CSR Customer		0.201** -1.244		
CSR^2 Customer		0.1902** (1.99)		
CSR Employee			0.596*** (3.122)	
CSR2Employee			-0.060*** (2.995)	
CSR Environment				0.99** (-2.001)
CSR^2 Environment				-0.0300** (-1.019)
Firm Size (exp-6)	3.331***	2.445***	3.245***	3.002***
Margin GP	-8.019	-5.001	-6.321	-5.021
Inventory Lead time (exp -7)	0.001**	0.001**	0.001**	0.001*
Growth in Sales (exp -5)	-2.000	-1.211	-1.661	-2.901
Gearing	2.71	3.99	3.99	1.32
Sigma (exp-10)	-0.866	-0.7	-1.06	-0.801
Intercept	0.491	1.52	0.99	-2.32
Observations	1529	1529	1529	1529

F- test	600.55 4	200.63 4	394.59 1	120.07 1
AR (2) test	1.30 -0.200	1.29 -0.294	1.35 -0.210	1.40 -0.184
Hansen test	70.11 -0.491	41.40 -1.001	42.12 -0.894	50.03 -0.921

Source: Author's Analysis

Empirical evidence shown in Table 4 suggests the presence of a non-linear relationship between the ratio of corporate social responsibility (CSR) activities to sales. In the first column, it is noted that the positive linear coefficient exhibits a value of 0.199 (t = 3.891), but the negative quadratic coefficient is measured at -0.005 (t = -4.002). The data presented in this study demonstrates a curvilinear link, namely a U-shaped pattern, between corporate social responsibility (CSR) and the sales ratio. The study observed a maximum CSR value of 10.28. The CSR can be deemed optimal due to its minor deviation over the median value within the distribution, suggesting its close approach to an ideal value. The results produced in this study provide empirical support for Hypothesis 4.

The empirical findings suggest that there exists a positive and convex association between customers and staff, as evidenced by the positive coefficients assigned to both the linear and quadratic terms. Likewise, a positive and concave correlation may be shown between employees and the environment, wherein the highest attainable level of employee Corporate Social Responsibility (CSR) is recorded as 7.24. In contrast, the correlation between the environment and personnel has a negative and inverted U-shaped trajectory. Given the multitude of stakeholders involved, it is beneficial to analyze corporate social responsibility (CSR) by breaking it down into its fundamental components and evaluating its influence on organizational strategies. Furthermore, the analysis of Table 2 has led to the formulation of two hypotheses aiming to elucidate the non-linear relationship between corporate social responsibility (CSR) and the sales ratio. A noteworthy discovery indicates that the adoption of corporate social responsibility (CSR) initiatives is linked to a positive influence on the sales ratio. Furthermore, empirical evidence has demonstrated that there exists a non-linear association between employee happiness and an organization's policy, characterized by a concave-shaped trajectory. The data presented in Table 2 demonstrates a statistically significant decline in customer corporate social responsibility (CSR) and a notable rise in staff CSR when the overall CSR value increases. Given the extensive scope of the inquiry, it is imperative to consider this crucial facet carefully.

5. CONCLUSION

The primary aim of this research is to examine the potential influence of corporate social responsibility (CSR) initiatives on the management of inventories. The main proposition of our research posits that the association between these two variables can be graphically represented as a concave function that bears a resemblance to an inverted letter U. The relationship between a company's corporate social responsibility (CSR) and its effect on commercial inventory may be analyzed by breaking it down into a series of factors that assess the degree to which the needs and concerns of various stakeholders are met. The stakeholders consist of several entities, such as consumers, employees, and the environment, among other relevant parties. Our hypothesis suggests that firms who place a high emphasis on customer satisfaction may choose to maintain a larger number of unsold products in their inventory as a precautionary strategy to mitigate the risk of stock-outs. When employees are subjected to two opposing influences, they experience a non-linear phenomenon. Employees who exhibit a robust dedication to corporate social responsibility (CSR) are more likely to display enduring devotion to a singular firm. Therefore, firms

opt to utilize management tactics as an alternate method to mitigate demand-side interruptions in cases when labor turnover is not a viable solution.

Conversely, the adoption of just-in-time production has been observed to yield cost reductions as a consequence of the ethical behavior demonstrated by employees. The feasibility of implementing these requirements is enhanced when enterprises prioritize the fulfillment of their employees' demands and preferences. Therefore, it is possible to notice a U-shaped curve, specifically an inverted U-shaped curve, in the correlation between an employee's level of corporate social responsibility (CSR) and their level of experience. Invariably, businesses that place a higher emphasis on environmental considerations tend to provide a more limited selection of commercial products for purchase.

The findings of our research indicate the presence of a negative association between levels of customer satisfaction and the cost-to-sales ratio. A negative, inverted U-shaped correlation can be observed between the level of workers' contentment and their environmental awareness. A significant correlation was found between inventory levels and customer happiness. The presence of a non-linear relationship between corporate social responsibility (CSR) and the to-sales ratio is evidenced by the finding that an increase in CSR is associated with a decrease in customer CSR. At the same time, staff CSR exhibits an upward trend. When a company's corporate social responsibility (CSR) rating deviates significantly from the average of the CSR distribution, it frequently leads to a corresponding change in the profit-to-sales ratio. According to our research findings, there exists a negative correlation between customer satisfaction levels and the cost-to-sales ratio. The presence of environmental consciousness is found to have a detrimental effect on the ratio. In contrast, employee satisfaction exhibits a curvilinear association that an inverted U-shaped pattern can define.

5. 1. THE RESEARCH IMPLICATIONS

Numerous implications have been identified with respect to the components that exert control. It is crucial to acknowledge that a substantial correlation exists between the magnitude of a corporation and its inventory turnover. According to (Elsayed & Wahba, 2013), larger firms that offer a wider variety of items require a more extensive inventory in order to meet consumer requests effectively. Numerous scholarly investigations have been conducted to explore the correlation between the size of a corporation and its inventory levels. For example, (Ponte, Puche, Rosillo, & Fuente, 2020) conducted a study that supports the notion that larger organizations generally exhibit reduced inventory levels.

Similarly, Ponte, Puche, Rosillo, and Fuente (2020) conducted a separate study that also provides evidence for the inverse relationship between company size and inventory levels. In order to reduce the likelihood of undesirable consequences, larger firms possess the capability to consolidate demand from several geographical areas. The perceived lack of necessity for companies to possess larger holdings for security purposes is being questioned. As a result, the sample of enterprises in our study that exhibit social responsibility and low-risk characteristics has exhibited a decline in their reliance on inventories as a strategy for risk mitigation.

Incurring elevated inventory levels results in additional expenditures when striving to maintain a larger profit margin. The results indicate a significant positive relationship between higher gross margins and heightened risks, particularly in terms of expenses related to insufficient inventory management. As a result, companies tend to amass greater quantities of inventory over time (Salmi & Martikainen, 1995). Companies with a high debt-to-equity ratio often observe an increase in their inventory levels. These items are frequently employed as collateral for short-

term loans or letters of credit. Furthermore, the possible escalation in debt values, specifically within the banking industry, could potentially operate as a driving force for the pursuit of supplementary assets, as suggested by (Elsayed & Wahba, 2013).

5. 2. LIMITATIONS AND FUTURE DIRECTION OF RESEARCH

The major limitations of the present research mainly include the sample size, time, and context of the research. The sample size of the research was limited to 45 companies owing to the nature of the research in which we considered the companies that hold significant levels of inventory, such as manufacturing companies. Thus, our sample size was limited. Besides that, we were only able to include the companies for which the financial data for the research period was available. We only analyzed the companies listed on the Aman Stock Exchange. In the future, researchers can take cross-sectional data to analyze other economies using similar parameters. The researchers can also conduct similar reach on different sectors of the economy and compare their results.

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