IOSR Journal of Economics and Finance (IOSR-JEF)
e-ISSN: 2321-5933, p-ISSN: 2321-5925.Volume 16, Issue 3 Ser. 2 (May. – June. 2025), Pp 14-25
www.Iosrjournals.Org

The Importance of Predicting Financial Distress According to The Sherrod Model in Iraqi Joint-Stock Companies

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Abstract
This research aims to measure and analyze the impact of the relationship between predicting financial distress, the continuity of accounting profits, and improving performance by conducting an applied study on a sample of companies listed on the Iraq Stock Exchange.
The research used one model to measure the prediction of financial distress, which is the Sherrod model (1987_Sherrod), which represents one of the most important models used in Iraqi industrial companies due to its compatibility with the financial data published in the Iraq Stock Exchange, where 5 joint-stock companies registered in the Iraq Stock Exchange were selected.
By analyzing the results of the research sample companies based on Sherrod's model, it became clear that the research sample companies are among the first three categories. This indicates that the companies do not explicitly suffer from financial distress. This indicates that Sherrod's model gave realistic results about the reality of the research sample companies.
Keywords*: Predicting, Financial distress, Quality of accounting earnings, Sherrod model, Joint stock companies.*

Date of Submission: 06-05-2025 Date of Acceptance: 16-05-2025

I. Introduction

In the face of the global economic crisis and the resulting uncertainty, it is crucial for investors and management to predict a company's financial distress for decision-making. Therefore, the accuracy of a prediction tool is critical for company management when implementing steps to reduce the risk of failure during an economic crisis(Kristanti1& Dhaniswara,2023).The study results showed the ability of (Altman, 1968) model in predicting distressed companies in the next two years for industrial companies listed on Amman Stock Exchange, the results showed also a statistically significant impact of the contents of Altman model on actual performance measured earning per share in industrial companies listed on Amman stock Exchange. ٤The study recommended the need for investors and financial analysts to use Altman model to figure out the financial situation of industrial companies and to take appropriate investment decisions(Alrefai,2017).Based on the data (8) companies for three years , the results of this study demonstrated the ability of the companies to continue and distancing itself from financial distress ,the study also confirmed that the ratios of profitability (return on investment) and activity (turnover of assets) statistically significantly relationship affect the earnings of these companies , as evidenced by the study of the relationship positive and very strong between the independent variables and dependent variable(AL-Hisnawy,119:2014).The study addressed the impact of accounting earnings quality on corporate sustainability, identifying the role of the reliability of accounting earnings information in corporate sustainability, and the extent of the relationship between the adequacy of accounting earnings information and the process of evaluating corporate sustainability. It also examined the relationship between the appropriateness of accounting earnings information quality and corporate sustainability in accounting performance. The study concluded that the appropriateness of quality helps investors differentiate between investments. (Mahmoud& Sanad,2023;40). Business liquidity difficulties, and the resulting financial distress, are typically a very costly and disruptive event. Therefore, in the (BONELLO, et.al,174;2018) study, a financial forecasting system was built and trained on a set of historical corporate final accounts (over a period of 3 to 5 years). The optimal feature set included ratios from all categories, meaning that the company's profitability, liquidity, leverage, management efficiency, sector type, and company size are all key factors for predicting financial distress. This study aims at defining the impact of quality of earnings on the organization's marketing Performance. has counted points of views of a sample of investors and companies of stakeholders in stock markets, monitoring activities of (100) companies through a questionnaire form in order to expose the

impact of quality of earnings on marketing Performance of the institution which is characterized by quality of earnings compared to the institutions lacking quality of earnings (Fawzi.310;2019).The results showed that Jordanian industrial companies vary in the possibility of exposure to financial distress and bankruptcy, showing a difference in the quality of their earnings measured by (earnings management and earnings persistence). Funding and relying on external sources to finance its assets and operations. Companies differed in the size of their assets. The results concluded that there is an effect of the two measures of earnings quality (earnings management and earnings persistence) in predicting financial distress while increasing earnings persistence reduces the possibility of financial distress and bankruptcy, and the results showed that there is a modified role of accounting conservatism in the relationship between earnings management and financial distress (Salman ,66;2024).

Assessing the risk of financial distress is an important component of effective management because it helps companies make right financial decisions, avoid potential risks and improve business operations. This study provides more empirical evidence on the role of the Z-Score model in predicting financial distress of companies in emerging markets like Vietnam. The research results show that, there is a significant difference in the Z-score and the factors in the Z-Score model between the group of listed companies and the group of delisted companies, and between companies with low level of financial distress and those with high level of financial distress (Manh&Nguyen,38,2024). The ability to predict financial failure forms an essential topic in financial research. The various models developed to predict the occurrence of Financial Distress and serve as an early warning system for the company's stakeholders before bankruptcy occurs. Enhanced accuracy of the predictions improves the ability to mitigate its adverse effect (Nur & Panggabean,402;2019).Research regarding the prediction of financial distress is an important topic in corporate finance because it serves as an early warning signal for creditors, investors, regulators, and other stakeholders. Many studies focus on prediction model with financial and macroeconomic data, but not many combine financial, macroeconomic, corporate governance and intellectual capital data (Amaniyah, et.al,2025).

Financial institutions' insolvency is not a sudden occurrence at a particular point in time, but it has been a complex phenomenon and has been showing signs of financial mismanagement several years ago,in addition, the legal bankruptcy or inability of financial institutions to pay for creditors, shareholders, and stakeholders contributed to a balanced social destruction (Zhao, 2016).The study did quantitative analysis on financial ratio and bankruptcy forecast models of 30 bankrupt banks from 2011 to 2015 according to financial statement from March 2008 to December 2041. The findings of bankruptcy forecast were: First, total asset increase had positive relation with operating income increase, and fixed asset ratio had positive relation with net worth turnover. Net worth ratio had positive relation with liquidity, total asset operating profit and total asset profit (Lee&Lee,26;2019).Based on the foregoing, the current research is directed to understanding and analyzing the financial variables that ensure the evaluation of the (Bank of Baghdad) sample of the research and the extent of its exposure to financial failure by knowing and studying the financial situation for several years to predict the extent of its ability to continue providing its services, using models to predict financial failure represented by models (Sherrod) and (Springate).(Abadi&Abdallah,20;2022).

The main research objective is to examine the relation between the financial distress, firm size, and audit quality from one side and earnings management from other side. This can help in understanding the behavior of earnings management in practice regarding these stressful variables. The researchers used regression analysis to find out the specific causal relationship among the research variables. The research results show that financial distress and audit quality are significantly impacting earnings management practices meanwhile the study failed to find a significant effect for firm size on earnings management within the Egyptian companies listed in the stock exchange market (EL Deeb&Ramadan,2020).

The concept of accounting earnings quality is a concept with many aspects and dimensions, which differs depending on the purpose of using the financial statements, which may be related to evaluating the current performance of the financial institution or predicting its ability to continue and achieve future profits, as accounting profits are considered an important indicator for evaluating performance and then determining the value of the institution, as they include the most important financial information through which it is possible to predict the institution's ability to reach and maintain future profits.

The gap and scientific contribution of this study is that when reviewing previous studies on Iraqi studies, it was found that most researchers investigated the importance of forecasting in Iraqi banks, while some researchers addressed joint-stock companies for a single company. However, in our study, five joint-stock companies registered in the Iraqi Stock Exchange were examined, and the extent of the impact of Sherrod's model on predicting the financial distress and continuity of these companies was determined.

The importance of the current research lies in the fact that predicting the financial distress of industrial companies before it occurs is an initial warning of a financial risk or failure. Through this prediction, it is possible to maintain the continuity of these companies and preserve their competitive position in the market, whether by taking prudent measures. This, in turn, increases the confidence of current and potential investors

and creditors, and improves the financial performance of these companies. The importance of this research also stems from the importance of the quality of accounting earnings, which is one of the measures of financial statement quality, given its significant impact on the assessment of a company's financial position by various users of financial statements. This, in turn, helps improve investment decisions for various parties that rely on the quality of accounting earnings as an indicator for making various decisions.

II. Literature Review

predicting financial distress

The financing activities of the business are the main backbone for the survival of organization. The business is called bankrupt when its total liabili ties are higher than its fair value of its assets in the market (Sautner and Vladimi rov, 2018). Parkinson (2018), defines the financial distress as the probability of bankruptcy that depends on the magnitude of current assets and level of credit worthiness. Due to the complexity of financial distress there is no exact definition that can be used for that term. Moreover, the factors and causes of the financial distress are various and cannot be listed exclusively.

Thus, it can be understood that financial distress can be defined as the state in which a company cannot continue to exist in its normal form of business. Financial distress can occur at any time in the life of a company if it fails to meet its payment obligations. Financial distress goes from business failure to illiquidity, then to default, and worst of all, officially filing for bankruptcy. This study uses the term "financial distress" to replace other terms describing the financial difficulties of companies (Manh&Nguyen,39,2024).

Financial Distress Prediction (FDP) models largely revolve around the utilization of financial information to predict the probability of financial distress of companies. Accurate financial distress predictions are relevant for stakeholders as financial distress can have lasting impacts on both internal stakeholders and external stakeholders (Nielsen & Knudsen,2020)

Financial distress is an emergency and unexpected situation facing economic establishments, which results in losses for three consecutive years, thus creating a deficiency in the economic return, leading to weakening the establishments' ability to meet obligations in the short term (Alhasnawi &Alazari ,2021).

Financial distress is defined as 'unusual and special treatment' (ST). However, bankruptcy is only one of eight factors that lead to the special treatment of the risk warnings under the Shanghai Stock Exchange Rules and the Shenzhen Stock Exchange Listing Rules (Dai,173;2024).

Early prediction of potential bankruptcy will assist companies in pro viding early indications of problems that occur in the company so that corrections can be made, and management can make decisions by considering company risks to reduce risks arising from financial distress (Kristanti & Isynuwardhana, 2018)

There is no specific, unified definition of financial failure; it is a broad concept encompassing many meanings. According to Abdelnour and Ben Moussa (2017), there are a number of situations that can be described as financial failure, but all involve an entity's failure to meet its obligations. Al-Qaisi (2016) divides the causes of financial failure into internal and external causes. Internal causes include inefficient management decisions related to operational policies related to purchasing, production, storage, pricing, and sales; the level of technological development; financing and investment; and debt collection. External causes may include the unavailability and high cost of appropriate financing sources; increased competition; and pessimistic expectations of analysts and investors on the stock market.

Corporate financial distress, typically described as a company's inability to meet its financial obligations as they fall due, can lead to serious problems such as operational disruption, loss of customers and suppliers, and ultimately bankruptcy. As a result, forecasting corporate financial distress has become increasingly important. Managers need this type of approach to anticipate corporate financial distress so they can intervene proactively to prevent a company's financial situation from deteriorating, while taking into account. (Akusta& Gün,2025).

One of the main reasons that financial distress prediction is critical is due in part to its preservation of stakeholder interests. The early detection of financial distress holds the key because it fulfills stakeholders by informing their decisions. Identifying early warning signs of financial distress is crucial for all stakeholders, enabling them to respond appropriately to potential failures (Ashraf et al., 2019).

According to [Brigham& Gapenski,1999] (Amaniyah, et.al,2025). financial distress occurs when debtors are unable to fulfill their debt payment schedule to creditors when they are due or the company's cash flow projections indicate that the company will soon experience difficulties in terms of liquidity. Brigham and Gapenski divide the types of financial distress as follows:

1. Economic failure in the economic sense means that the company's revenues cannot cover its total costs, including the cost of capital.
2. Business failure Business whose operating activities end up causing losses to creditors. Dun and Bradstreet said it was a failure even though it never entered the formal bankruptcy process.

3. Technical insolvency A company is considered technically insolvent, if it cannot fulfill its obligations which must be fulfilled immediately when they fall due.
4. Insolvency in bankruptcy A company is said to be insolvent in bankruptcy, when the book value of its total liabilities exceeds the true market value of its assets.
5. Legal bankruptcy A company is said to be legally bankrupt if it has filed for bankruptcy under federal law.

Therefore, a country's economy and people may experience substantial harm and massive costs from financial distress that ultimately leads to the bankruptcy. There are many reasons that lead a company to failure such as the weakness and inefficiency of the company's directors and various surrounding external environmental conditions (Elewa,2022).

Financial distress goes through several stages, including (Youssef, 2023), (Youssef et al., 2022: 12): The first stage is the inception stage, which is an ambiguous stage characterized by the emergence of some financial problems. The second stage (the stage of financial weakness) is when the project faces an inability to meet its cash needs due to the difficulty of converting assets into cash. The third stage (the stage of financial insolvency) is when the project management is unable to obtain the necessary funds to meet its financial obligations. The fourth stage is the stage of bankruptcy or confirmation of distress, which is the final stage of the stages of financial distress for economic projects.

Although a number of researchers have relied on various statistical models, such as linear-logarithmic models, Bayesian analysis, and neural network analysis, for many reasons, multiple discriminant analysis has been the de facto standard for comparing these models, regardless of the method adopted (Al-Janabi, 2019: 13). The table below shows the most important models used in predicting financial distress.

Summary of Financial Distress Prediction Models

No.	Model name	Year of application
1	Beaver	1966
2	Altman	1968
3	Taffler Tisshow	1977
4	Springate	1978
5	Kida	1980
6	Zmijewski	1984
7	Fulmer	1984
8	Zavgren	1988
9	Sherrord	1987
10	Kah Tans	1999
11	A-Score	1999

But in this research, we will focus on (the Sherrord model; 1987) because this model is applied in the majority in the Iraqi environment in a manner consistent with the characteristics of accounting information in Iraqi companies registered in the Iraq Stock Exchange.

Quality of accounting earnings

The study finds that there is not significant negative relationship between accounting earnings quality and stock return of industrial companies listed on the Paris stock exchange (Ahmed and Abdulaziz, 706:2020).

Earnings quality has key consequences for accounting issues such as cost of capital, financial forecasts, and performance evaluation, dividends, investment efficiency, firm value financial leverage, and firm going concern, the external as well as financial statement internal users (Ezat, 2019).

Although extensive research has been carried out on earnings quality measurement, there is no consensus concerning how to measure earnings quality as extant literature refers to several quantitative models such as earnings persistence, accruals quality, earnings predictability, earnings timelines as well as earnings value relevance (Ibrahim, et.al,41;2023).

According to the models used in the study (Mohamed, 2023), there are varying levels of earnings quality in the financial reports of companies listed on the Egyptian Stock Exchange. Second, earnings quality, as measured using indicators of earnings persistence, earnings predictability, and income smoothing, does not significantly impact the stock prices of companies listed on the Egyptian Stock Exchange. However, earnings quality, as measured using the accrual quality index, has a significant impact on stock prices.

(Qureshi et al. 2023: 275) defined accounting earnings quality as actual profits achieved that are sustainable and capable of predicting future profits. It is also free of earnings management practices, which helps in making sound decisions.

The quality of accounting earnings is viewed in accounting thought from two different perspectives: the first is from the perspective of decision benefit, and the second is from an economic perspective. The first perspective, or the one who advocated this concept, is (Glove O), who wrote in his investment consulting report that earnings quality is characterized by continuity, but he did not specify any specific definition for it. Later,

the American Accounting Standards Board (FASB) explicitly used the concept of accounting earnings quality to describe the implications of current earnings for future earnings in Standard No. (132) (Shaaban and Dashli, 2021: 107).

The second perspective, the economic perspective of the quality of accounting profits, is that the quality of accounting profits is judged by the extent of the relationship between economic profit and accounting profit, as economic profit, according to Hicks' concept, is the amount that can be distributed to owners while the institution retains the capital it owns at the beginning of the period (Baaj &ALhuasaini ,2021)

The quality of accounting earnings is important from different perspectives depending on the objectives of financial report users, such as (Juma, 2016: 101):

1-Accounting earnings quality represents one of the most important sources of information for investors and analysts to assess an organization's performance and risks. 2. An organization's management is interested in achieving highly sustainable and predictive profits, which indicates a relationship between earnings quality and its management. 3. Accounting earnings are of great importance to creditors and lenders in determining an organization's ability to repay its debts, and thus the sustainability of their relationship with the organization in the future. 4. Current and potential investors are greatly concerned with an organization's ability to distribute dividends, the continuity of these distributions, and their amounts. This indicates a relationship between earnings quality and dividend distributions (Sayed Ali, 2014: 100). 5. The quality of accounting profits is a direct indicator of the quality of the accounting standards followed in the organization, as there is a direct relationship between the quality of profits and the quality of the accounting system followed and the extent of its commitment to accounting standards.

The reasons for measuring the quality of accounting earnings can be summarized as follows (Barbakh, 2019: 51): 1. Investors' concerns about the fact that expected earnings estimates do not match current reality. 2. Most professional bodies rely on the principle of decision utility to set accounting standards in the field of financial accounting. 3. The quality of financial reporting is considered an indirect indicator of the quality of accounting standards issued by relevant authorities, as these authorities consider it feedback on whether the issued standards are effective or ineffective. 4. The quality of accounting earnings is more general and of higher quality than the quality of financial reporting for parties using financial statements for the purpose of concluding contracts.

The importance of accounting earnings quality lies in its impact on investors in the stock market through three pathways:1. It helps investors distinguish between good and bad investments, reducing valuation risk and, consequently, lowering the cost of capital and equity.2. It helps investors distinguish between good and bad managers, which reduces agency costs and, consequently, the cost of equity.3. The quality of earnings declines due to the reduced connection between accounting and economic earnings, leading to adverse selection among market liquidity providers, which increases transaction costs and prompts investors to demand returns higher than the cost of equity to compensate (Qureshi et al. 2023: 277).

III. Sherrod Model andDeveloping Hypotheses

The Sherrod-Z model (1987) was used in the study (Al-Hussaini, 2022) to measure the prediction of financial distress, while the quality of accounting profits was measured through the continuity of accounting profits for a group of Iraqi commercial banks. The Sherrod model proved its effectiveness in measuring the financial distress of the commercial banks in the research sample, as the banks were within the first three levels of the Sherrod-Z model. The banks in the research sample have the characteristic of continuity of accounting profits and high profit quality.In the study (Al-Marshadi, 2018), the Sherrod model was used to predict the financial failure of private commercial banks in Iraq for (11) banks listed in the Iraqi Stock Exchange for the period (2013-2014). It was concluded that the financial failure of banks can be predicted using the model used in the research in order to reach preliminary results that help the bank management in diagnosing strengths and weaknesses in performance and taking the necessary corrective measures.

According to the studies of Al-Hamdani and Al-Qattan (2015) and Al-Khayat (2014), the Sherrod model was applied to Iraqi pharmaceutical factories and also to the Iraqi banking sector. The two studies resulted in a recommendation that the Sherrod model should be applied and adopted as a financial analysis tool to detect any risk related to default, to prevent reaching a greater stage, which is financial failure.

In a study (Shatbi and Fenchi, 2020) on the role of quantitative models in predicting the financial failure of Algerian economic institutions, using a set of financial ratios and identifying the predictive ability of the Altman, Kida, and Sherrod model, it was found that financial failure is a negative phenomenon that institutions and companies may be exposed to, which may lead to their exit from the market. Most models for predicting financial failure share a number of financial ratios, and the financial position of the institution is predicted and evaluated through published financial statements.

In a study by (Shabira and Shlegham, 2023) to determine the extent to which financial statements contribute to predicting financial distress at the level of the power and gas generation station during the period

between 2018-2021, in order to build statistical models to predict the financial distress of the institution (the Altman, Sherrod, Beaver, Kida, Tafler model). They concluded that the use of financial balance indicators and financial ratios to predict financial distress in the institution helps in diagnosing the financial situation that the institution is going through and determining the possibility of falling into the risk of financial default for each.

In the study (Al-Hasnawi and Al-Adhari, 2023), the financial distress of investment companies was tested using discriminant analysis (Sherrod model) and using some quantitative methods to predict the financial distress of the corporate and investment sectors.

This study sought to test the ability of both the Altman and Sherrod models to predict financial distress for companies listed on the Palestine Stock Exchange. Furthermore, the study examined the compatibility of the two models' results. The study was applied to industrial companies listed on the Palestine Stock Exchange during the years 2015 to 2019. The purpose was to predict whether or not companies' distress would occur two years in advance (Abu Alia, 2021).

This study aimed to investigate the effectiveness of the Altman and Sherrod models in predicting the financial failure of the Algerian institution Rouiba during the period 2015-2019 in order to give an early warning in the detection of the possibility of bankruptcy. The study found that the two models are effective in predicting a future financial failure of the Algerian company Rouiba during the period 2015-2019 by 100%, but Sherrod's model is more accurate (Abdul Malik et al., 2021).

This study aims to (Ben Nema and Hani, 2024)identify the financial failure of economic institutions by applying the Sherrod model to three Algerian industrial companies during the period 2015-2019. This allows appropriate corrective measures to be taken quickly to avoid this risk. Applying the model is crucial.

In a study (Ma'rif and Yahyaoui, 168:2022), some financial failure prediction models (Altman, Shored, Kida) were used and applied to the Saidal Corporation listed on the Algerian Stock Exchange, based on the corporation's financial data for the period (2017-2020). The study concluded that the Shored model was unable to predict the failure or success of the corporation under study, while the Altman and Kida models showed results in the probability of financial failure in the future during the period studied.

In a study (SABEK, 2024:475), the Springate and Sherrod models were used to analyze the Aurassi and Saidal companies during the period from 2015 to 2019. The results of the study show consistency in the results with both models, but the Sherrod model showed greater accuracy and specificity compared to the Springate model.

In accordance with the above studies that addressed models for predicting financial distress, our research differs from other studies in the selection of the research sample, as it focused on five companies operating in the industrial sector registered in the Iraq Stock Exchange. Accordingly, the main research hypothesis can be formulated, which is (Sherrod's 1987 model can predict financial distress and its impact on the continuity of profits of the research sample companies).

IV. Methodology

The Sherrod model relies on six independent financial indicators, as well as the relative weights assigned to the discriminant function coefficients for these variables. This model is formulated using the following equation (Al-Marshadi, 2018):

$$Z= 17X1 +9X2+ 3.5X3+ 20X4+ 1.2X5+ 0.1X6$$

Where: -

Z = Default Index
X1 = Net Working Capital / Total Assets
X2 = Liquid Assets / Total Assets
X3 = Total Equity / Total Assets
X4 = Net Profit Before Tax / Total Assets
X5 = Total Assets / Total Liabilities
X6 = Total Equity / Fixed Assets

The higher the Z value, the higher the quality of the loan or the strength of the company's financial position, indicating a very good chance of continuing in the future, thus lowering the degree of risk. However, if the Z value decreases, this indicates difficulties facing the company that could affect its continuity, thus increasing the degree of risk (Arkan, 2015: 241). The quality index of the model is compared with the results of the actual data, and then the evaluation is carried out (Al-Hayali, 2004: 261). While the variables (X1, X2) represent the liquidity ratios, which measure the company's ability to meet short-term obligations on their due date using current assets. These financial ratios are particularly important in identifying the company's ability to meet its obligations. The higher the ratio of current assets and net working capital, the stronger the company's financial position is, and vice versa. While the variables (X3, X5, X6) represent an indicator of financial leverage, which is one of the most important control tools, as it helps in evaluating the company's financial

structure. As for the variable (X4), it represents the profitability indicator, as it shows the company's financial position and its ability to remain in the market (Al-Hamdani and Al-Qattan, 2013: 266).

The Sherrod model highlights the following: 1. The Sherrod model focuses on the larger financial ratios (liquidity, leverage), which test a customer's ability to meet obligations. This is because the model is intended for credit analysis, thus proving the sustainability of the borrowing institution and its ability and willingness to meet its obligations on time. 2. A high Z-index indicates the strength of the financial position of the institution or the quality of the loan for the borrowing institutions, and consequently, the lower the degree of risk, especially the risk of financial distress and bankruptcy. This means that the Z-index value moves in the opposite direction in the classification of borrowing institutions to the risk direction (Mohammed, 2017: 121). The following table shows the division of sustainability (the risk of exposure to financial distress) into categories according to the degree of risk exposure of the institution to financial distress.

Table (2) Division of continuity into basic categories according to the degree of risk

Category	Risk level	Z value
First	The company is not exposed to the risk of financial distress.	Z > 25
Second	Low probability of exposure to financial distress.	Z>20>25
Third	Difficulty in predicting financial distress risks.	Z > 5 > 20
Fourth	The company is exposed to the risk of financial distress.	Z > 5- > 5
Fifth	The company is highly exposed to the risk of financial distress.	Z < 5-

V. Analysis And Results

1- The Iraqi Carpets and Furniture Company

Table (3) Results of applying the Sherrod-Z model to the Iraqi Carpets and Furniture Company

Z= 17X1 +9X2 +3.5X3 +20X4 +1.5X5 +0.1X6							
YEAR	X1	X2	X3	X4	X5	X6	Z
2015	0.6807	0.0944	0.7134	0.0702	3.4895	21.7674	22.6865
2016	0.6525	0.7942	0.6851	0.0667	3.1759	20.9719	27.8804
2017	0.6425	0.8389	0.6685	0.0864	3.0163	25.7943	28.7393
2018	0.6595	0.8411	0.6838	0.1121	3.1621	28.1735	30.0286
2019	0.6623	0.2203	0.6823	0.2032	3.1474	34.1687	26.8876
Average	0.54958	0.46482	0.57218	0.08977	2.6652	21.8126	22.7037

Figure (2) Financial distress prediction index The Iraqi Carpets and Furniture Company

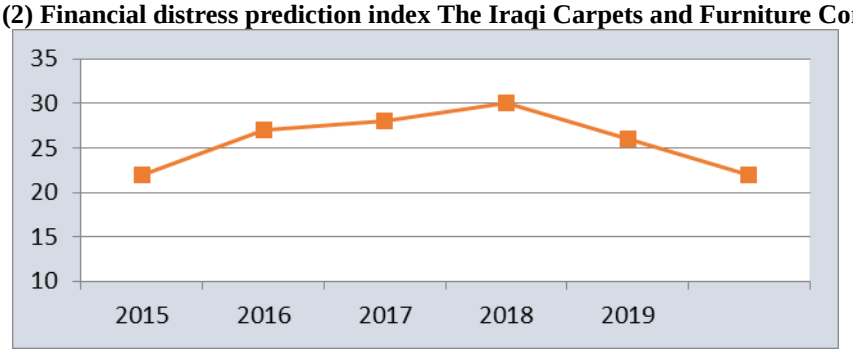


Table (3) shows that the financial distress prediction index for the Iraqi Carpet and Furniture Company during the years (2015-2019) was within the second level, meaning that the Iraqi Carpet Company was within the second category of low exposure to financial distress, as the value of (Z) was between greater than (20) and less than (25), and therefore the company is not exposed to financial distress. The values of (x1, x2) are the liquidity ratios, which are of particular importance as an indicator of the company's ability to meet its obligations when due using liquid and semi-liquid assets (current assets). The higher the value of these assets and the net working capital, the better the company's financial position. As for (x3, x5, x6), they are financial leverage indicators and help in evaluating the company's financial structure. As for (x4), it is the profitability indicator and indicates the company's financial position and its ability to remain in the market.

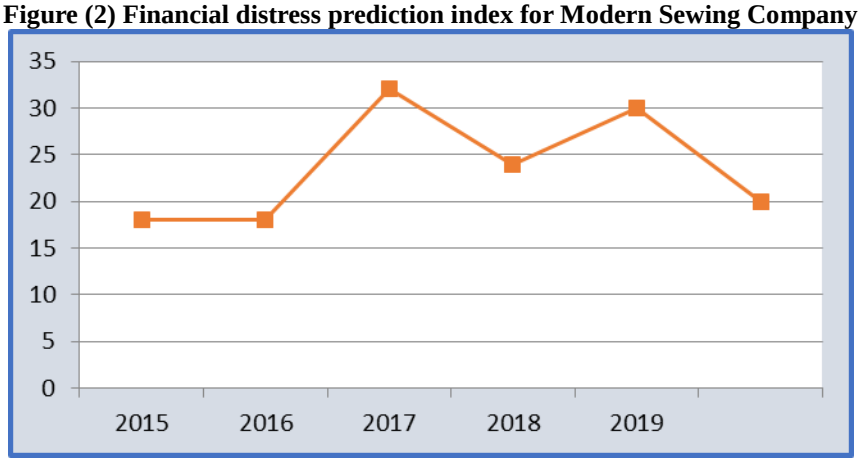
2- The Modern Sewing Company

Table (4) Results of applying the Sherrod-Z model to the Modern Sewing Company

Z= 17X1 +9X2 +3.5X3 +20X4 +1.5X5 +0.1X6							
YEAR	X1	X2	X3	X4	X5	X6	Z
2015	0.5837	0.0908	0.8028	0.1977	0.5072	3.663	18.4788
2016	0.5049	0.1202	0.7257	0.0906	3.6457	3.2873	18.7206
2017	0.8265	0.3779	0.8266	0.2289	5.7657	4.4769	32.2892
2018	0.6212	0.2639	0.7361	0.2121	3.7899	6.4066	24.9424

2019	0.7056	0.6105	0.8163	0.1431	5.4431	7.3725	30.4777
Average	0.54032	0.24388	0.65125	0.1454	3.19193	4.20105	20.8181

Figure (2) Financial distress prediction index for Modern Sewing Company



The financial distress prediction index for the sewing company during the years 2015 and 2016 was within the third level, meaning the company was in the difficult-to-predict category of financial distress, with the value of (Z) greater than (5) and less than (20). However, these ratios changed during the years 2017-2019, as the company became within the first level, i.e., within the excellent category free of the risk of financial distress. The values (x1, x2), which are the liquidity ratios, were stable during the period and were noticeably increasing, indicating the company's ability to meet its obligations when due, indicating a sound financial position. (x3, x5, x6), which are financial leverage indicators, were fluctuating, but generally increased annually, indicating that the company was able to finance its organizational structure well. (x4), which is the profitability indicator, noted that it increased significantly in 2017 and 2018 and decreased in 2019. Overall, the company is capable of continuing and remaining in the market.

3- Clothing production company

Table (5)

Results of applying the Sherrod-Z model to a ready-made clothing production company

Z= 17X1 +9X2 +3.5X3 +20X4 +1.5X5 +0.1X6							
YEAR	X1	X2	X3	X4	X5	X6	Z
2015	0.0827	0.0206	0.6456	0.0474	0.2222	1.1469	5.18023
2016	1.1186	0.0461	0.8231	0.0036	5.6541	1.1573	29.2846
2017	0.1621	0.1434	0.8044	0.0686	5.1137	1.2523	14.4954
2018	0.1513	0.0754	0.5909	0.0467	2.4444	1.3441	9.32054
2019	0.0843	0.1197	0.2636	0.0234	1.358	1.4699	5.67759
Average	0.2665	0.06753	0.52127	0.03162	2.4654	1.06175	10.6597

Figure (3) Financial distress prediction index for a ready-made garment production company

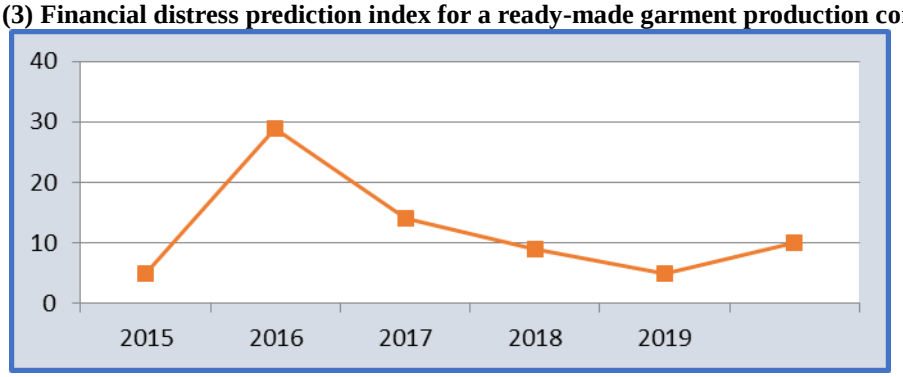


Table (5) shows that the financial distress index of the ready-made clothing company during the years 2015-2019 was within the third level, meaning that the company was within the category of difficulty in predicting risks of financial distress, as the value of (Z) was between greater than or equal to (5) and less than or equal to (20), and therefore the company is not exposed to financial distress.The values of (x1, x2), which are liquidity ratios, were low compared to the rest of the companies in the research sample during the period, and were on a marked increase. This indicates the company's difficulty in meeting its obligations when due. This indicates that the company's financial position requires appropriate decisions to increase its value.As for (x3,

x5, x6), they are financial leverage indicators. Their ratios fluctuated significantly between increases and decreases during the period. Consequently, the company will face difficulty financing its organizational structure. As for (x4), it is the profitability indicator. We note that it increased significantly in two years (2017 and 2018) and decreased in 2019. Overall, this company is capable of continuing and remaining in the market.

4- Al-Kindi Vaccine Production Company

Table (6)

Results of applying the Sherrod-Z model to Al-Kindi Vaccine Production Company

Z= 17X1 +9X2 +3.5X3 +20X4 +1.5X5 +0.1X6							
YEAR	X1	X2	X3	X4	X5	X6	Z
2015	0.6891	0.0483	0.9781	0.0077	45.5119	3.3841	70.6794
2016	0.7073	0.0043	0.9787	0.0069	47.0131	3.6059	72.4026
2017	0.7341	0.0272	0.9751	0.0473	40.1969	4.0459	65.7242
2018	0.6534	0.0097	0.9042	0.0097	10.4475	3.6047	27.4513
2019	0.6685	0.0549	0.9519	0.1129	20.7916	3.3588	42.7341
Average	0.5754	0.02407	0.798	0.03075	27.3268	2.9999	46.4986

Figure (4) Financial distress indicator of the Canadian Vaccine Production Company

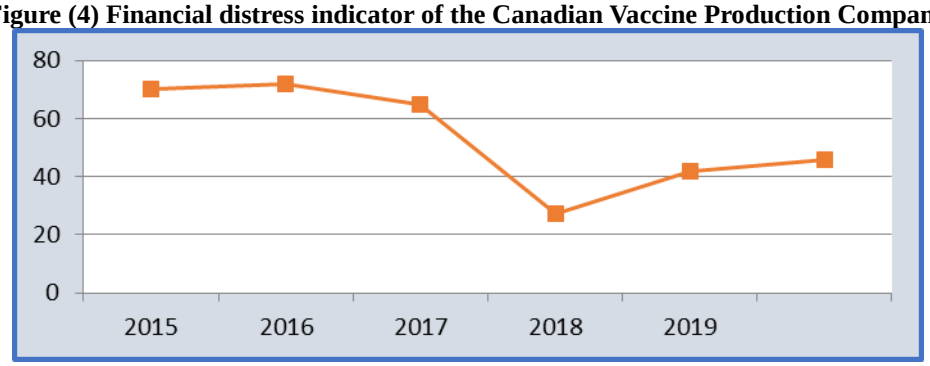


Table (6) shows that the financial distress index of Al-Kindi Vaccine Production Company during the years 2015-2019 was within the first level, meaning that the company was in the excellent category free from the risk of financial distress, as the value of (Z) was greater than (25). Whereas the value of (x1, x2) are the liquidity ratios, as these ratios were neutral compared to the rest of the research sample companies during the period and were noticeably increasing, which indicates the company's ease in paying its obligations when due, which indicates that the company's financial position is good. As for (x3, x5, x6), they are the financial leverage indicators, and they were good ratios during the period, and therefore the company will not suffer from difficulty in financing its organizational structure due to the availability of liquidity and continuous profits. As for (x4)), it is the profitability indicator, and we note that it increased significantly in the year (2019), so this company can continue and remain in the market.

5- Iraqi Dates Manufacturing and Marketing Company

Table (7) Results of applying the Sherrod-Z model to the Iraqi Dates Manufacturing and Marketing Company

Z= 17X1 +9X2 +3.5X3 +20X4 +1.5X5 +0.1X6							
YEAR	X1	X2	X3	X4	X5	X6	Z
2015	0.6141	0.2462	0.8507	-0.0423	6.6958	3.5964	23.1816
2016	0.4753	0.0226	0.8139	-0.0949	5.3734	2.4034	15.9226
2017	0.4291	0.0103	0.7684	-0.0911	4.3171	2.2642	13.6617
2018	0.5291	0.0077	0.7996	-0.1229	4.9889	2.9563	15.6869
2019	0.5334	0.0071	0.7859	0.0003	4.6714	3.1121	17.7932
Average	0.43017	0.04898	0.66975	0.05858	4.3411	2.38873	14.3743

Figure (5) Financial distress index of the Iraqi Dates Manufacturing and Marketing Company

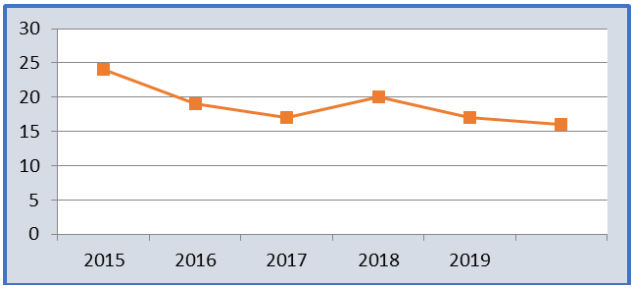


Table (7) shows that the financial distress prediction index for the Dates Company during the years 2015-2019 was within the third level, meaning that the company was within the category of difficulty in predicting financial distress, as the value (Z) was greater than (5) and less than (20). It is noted that the Iraqi Dates Manufacturing and Marketing Company has a profitability ratio (x4) that is less than one, meaning that the ratio is negative, meaning that the company did not achieve any profit during the years 2015-2018, which means that the company may be exposed to the risks of financial distress to a large extent. The value of (x1, x2) is the liquidity ratios, as these ratios were unstable during the period and were on the rise and fall, which indicates that the company may suffer in paying its obligations when they are due, and this indicates that the company's financial position is unstable. As for (x3, x5, x6), they are the financial leverage indicators, and they were close ratios, but in general they were rising annually, and thus the company can finance its organizational structure well.

Results of applying the arithmetic mean to the results of the Sherrod-Z model for the research sample companies

Table (8)

NO.	Company Name	First class	Second class	Third class
1	Iraqi Carpets and Furnishings Company		22,7037	
2	Modern Sewing Company		20,8181	
3	Ready-Made Garments Production and General Trading Company			10,6597
4	Al-Kindi Company for the Production of Veterinary Vaccines and Medicines	46,4986		
5	Iraqi Dates Manufacturing and Marketing Company			14.3743

Table (8) shows that the research sample companies are located in the first three levels according to the arithmetic mean of the Sherrod-Z model for predicting financial distress, where the Canadian company for the production of vaccines and veterinary medicines was in the first level, i.e. the first category free of risks, as its arithmetic mean was greater than (25), while the Iraqi company for carpets and furnishings and the modern sewing company were in the second level, i.e. in the second category, and thus their exposure to financial distress was low, as their arithmetic mean was greater than (20) and less than (25), while the ready-made clothing production company and the Iraqi company for the manufacture of dates were in the third level, i.e. in the third category, as the arithmetic mean of these companies was greater than (5) and less than (20).

VI. Conclusion

By reviewing Arab and foreign studies, many models for predicting financial failure were relied upon. This difference is due to the reason for the difference in the environment between countries, as well as the difference in the nature of economic activity between financial, industrial and commercial activity. However, the model closest to the Iraqi environment is the Sherrod model.

By analyzing the results of the research sample companies using the Sherrod model, it was found that the research sample companies fall within the first three categories. This indicates that the companies are not clearly suffering from financial distress. This can be detailed as follows:

1. The Iraqi Carpet Company was within the second category, which is less exposed to financial distress, as the value of (Z) was between greater than (20) and less than (25), and therefore the company is not exposed to financial distress. As for the profitability index, we note that it has increased significantly over the past two years, indicating the company's continuity and continued competitiveness in the market.

2. The financial distress prediction index for the sewing company during the years 2015 and 2016 was within the third level, meaning that the company was within the category of difficulty in predicting financial distress, as the value of (Z) was greater than (5) and less than (20). However, these ratios changed during the years 2017-2019, as the company became within the first level, meaning within the excellent category free from the risk of financial distress. Therefore, the company must maintain the level of accounting profits in the future. 3- The

financial distress index for the Ready-Made Garments Company during the years 2015-2019 was within the third level, meaning that the company was in the category of difficult to predict financial distress risks, as the (Z) value was between greater than or equal to (5) and less than or equal to (20). Therefore, the company is not exposed to financial distress. Therefore, the company must find appropriate solutions by making wise decisions to help overcome financial distress, which would expose it to the risk of bankruptcy in the future.

4- The financial distress index for the Al-Kindi Vaccine Production Company during the years 2015-2019 was within the first level, meaning that the company was in the excellent category, free of financial distress risks, as the (Z) value was greater than (25).

5- The financial distress prediction index for the Dates Company during the years 2015-2019 was within the third level, meaning that the company was in the category of difficult to predict financial distress, as the (Z) value was greater than (5) and less than (20). It is noted that the Iraqi Dates Manufacturing and Marketing Company has a profitability ratio (x4) that is less than one, meaning that the ratio is negative, meaning that the company did not achieve any profit during the years 2015-2018. This means that the company may be exposed to the risk of financial distress to a large extent, and therefore new methods must be found for pricing and sales policy in order to maintain its competitive position in the market.

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