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Detecting financial failure using Sherrod Model: Evidence from Iraqi Stock Exchange Listed Banks (2009 - 2015)

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Abstract*: Except for its significance and relevance in the performance evaluation of organizations, the research emphasizes the need of studying and analyzing the many concepts of financial distress and failure. The distress and bankruptcy of a firm is regarded as the most significant issue researched by academics and researchers in terms of the possible effects on the wealth of creditors, stockholders, and society. As a result, many academics began to hunt for a strategy to identify and forecast distress and failure in order to retain the aim of company survival and continuity before the tragedy occurs. The purpose of this study was to evaluate the applicability of the B-Sherrod model, which was deemed an advanced model for detecting this phenomenon, on a sample of banks from an Iraqi stock market from 2009 to 2015. The study indicated that the B-Sherrod Model for recognizing and forecasting economic difficulties should be used as a realistic tool for evaluating a company's performance. Empirical test findings demonstrated the Sherrod model's usefulness in detecting financial distress, which will assist investors and other concerned users in visualizing a company's capacity to continue operations.*

Keywords: Business failure, Financial forecast, financial analysis, Sherrod.

1. INTRODUCTION

When companies do their economic activities, they face challenges and difficulties, which can raise the risks of financial failure, and companies may not be able to continue their business. Uchenna and Okelue state that for the economic growth of every country to be sustainable, it is very important to have control over the number of failed firms, (2012:86). Financial distress is regarded as the most dangerous situation that a company can face because it serves as a precursor to future financial difficulties and can affect many businesses in both developed and developing economies (Arkan, 2015: 235). This means that an evaluation and prediction of business failure might help firms take the necessary precautions and actions to avert a possible financial failure. As a result, over the last few decades, business failure has been regarded as one of the most hotly debated topics among researchers and practitioners in the field of corporate finance (Arkan, 2015: 233). Over the last four decades, many models, including Beaver (1966), Altman (1968), Deakin (1972), Kida (1980), Ohlson (1980), Taffler (1983), and Shirata (1998), have been proposed and empirically tested. However, the models' suitability and performance are in doubt. (Gharaibeh et al., 2013, 313). Business failure prediction models are used by practitioners to analyze organizations that are likely to face financial difficulties. Such models are used in financial institutions to analyze the risk of loan default; they are used by investors to evaluate current or prospective investment decisions, and creditors to determine whether to do business with a given company. According to (Arkan, 2015: 234), a corporation's failure has a detrimental influence on these stakeholders. Business failure prediction models are employed for this purpose. With it, the business subject will be able to avoid a problem that might otherwise result in remediation or even bankruptcy ((Baran, Pastyr & Baranova, 2016: 73).

The purpose of the research is to analyze the performance of a sample of companies listed in the Iraq Stock Exchange and to find a reliable approach to predicting the possibility of companies being exposed to financial failure using one of the most important models of forecasting financial failure (Sherood). In addition to helping companies predict their future and helping lenders and investors to protect their money and investment by distinguishing between successful companies and unsuccessful companies and taking appropriate decisions.

This research focuses on the Iraqi economy as a developing country in order to provide actual facts. Moreover, earlier published research in Iraq is constrained in terms of the model utilized and the sample size. Furthermore, the majority of previous studies focused on developing countries in order to use business failure prediction models.

On the other hand, this study focuses on recent set of data. Furthermore, it attempts to predict financial failure of (10) banks on a sample of banks listed on the ISE from 2009 to 2015 using Sherrod Model.

The next sections of the paper are structured as follows: the following sections explore the papers methodological. The empirical examination of related literature and the methodologies employed to forecast bank collapse are discussed in section two. The third section is devoted to

results analysis, while the fourth section summarizes conclusions and recommendations**.**

SECTION ONE: METHODOLOGY

1. Statement of the problem: Many evidence has emerged indicating the difficulty of private commercial banks to engage in credit activities in investing and lending. Returns have been achieved in a way that has not helped them to survive and continue to expand, and as a result of their inability to keep up with the pace of economic development and development of the country, those banks have been forced to declare bankruptcy. As a result, the following question can be used to formulate the study's problem:

Does the (Sherrod Model) help to avoid companies' financial failure and separate between successful and failed enterprises?

2. Significance of the study: is to identify the risks associated with the financial failure of certain companies listed on the Iraqi Stock Exchange and the role of these companies in the national economy. When analytical methods and instruments can be used to display corporate financial condition as an indicator of financial failure, businesses and organizations with interests can be helped by predicting financial failures and distinguishing between effective continuity-capable companies and failing companies, making it easier for companies to predict their future as well as helping investors, lenders and others make the right decisions.

3. Objective of the study: The objective of this study is to examine the performance of a sample of firms listed on the Iraq Stock Exchange in order to develop a reliable method for predicting the probability of a company's financial failure using one of the most widely used financial failure models (b-Sherood).

4. Hypotheses of the study: As a result of the problem and objective of the research, the following hypothesis has been formulated:

Financial analysis can be used through financial ratios using the (Sherood) model to predict the financial failure of the sample companies.

5. Data Analysis Method: In order to meet the aims of this study, Sherrod Z-score has employed as follows:

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

Where:

*X*1 – net operation capital/total assets,
*X*2 – current liquid assets/total assets,
*X*3 – total equity/total assets,
*X*4 – net income before income tax/total assets,
*X*5 – total assets/total liabilities,
*X*6 – total equity/total fixed assets.

6. Data source: Due to the nature of research, the study exclusively on secondary data that is publicly available in bank financial statements. The information was gathered from the ISE website, which may be found at http://www.isx-iq.net/.

7. Population and Sample selection: Sherrod Z-score used 10 (ISE) banks out of a total of 46 to estimate their financial position between 2009 and 2015. Banks without financial statements from 2009 to 2015 were eliminated.

Table (1): Study sample

N	Banks	Establishment Date
1	Kurdistan International Bank	2005
2	Babylon Bank	1999
3	Investment Bank of Iraq	1993
4	Elaf Islamic Bank	2007
5	Ashur International Bank	2005
6	Al-Mansour Bank for Investment	2005
7	Bank of Baghdad	1992
8	Commercial Bank of Iraq	1992
9	Gulf Commercial Bank	1999
10	Sumer Commercial Bank	1999

Source: Authors

SECTION TWO: THE THEORETICAL FRAMEWORK OF THE STUDY:

1. The concept of financial analysis and its objective and financial ratio.

1.1. Financial analysis

An analysis of the financial situation is the basis of the economic performance review of the business and usually focuses on primary fields and results such as capacity utilization, production and supplement management and the like. Financial analysis recognizes company limitations and strengths, is an instrument of "health" tests and offers the corporate management and owners' critical knowledge (Vlachynský, 2009, 369).

Financial analyzes such as management are the art of asking important questions and are aimed at presenting concrete answers to these important questions whether or not the findings are completely observable. (Helfert, 2001)

Analysis of financial statements is an important and integral part of the wider business analysis field. Business analysis is a method by which the economic opportunities and risks of a business are evaluated. It involves studying the environment of company, policies, financial status and results of an organization (Wild, and Subramanyam, 2009, 3).

1.2. Objectives of financial analysis

The main purposes of the financial analysis are to provide decision makers with knowledge about an organization for decision-making use. Management for the operational and financial performance of the company as a whole or subsets; investment decision-taking and portfolio decisions by investors, lenders or creditors for credit value determination and credit position; workers and trade unions for the decision on the economic status of the company and the taking of a sound re theory of financial statements

1. However, the goals of financial analysis are usually considered to be: (Ravinder and Anitha, 2013: 10-11).
2. To detect the financial stability and the solidity of the company.
3. To assess and measure the company's earning.
4. To assess and measure the stock, fixed assets, and other concern.
5. To assess and assess the potential for future business growth.
6. To assess and assess the willingness of the company to repay short and long-term loans.
7. To determine the business enterprise's administrative performance.

1.3. Financial Ratio:

There is a set of different financial ratios which can be used depending on the financial statements when conducting the financial analysis process, which can include evidence and indicators in the statement of the operation of the company (FABOZZL, 2009: 58). Financial ratios are used as prediction to prevent financial failure (Gibson, 2009: 454). Financial ratios can be divided into groups including:

First: Liquidity Ratios

Liquidity is a mix of all possible excess funds accessible to the company to meet its payment obligations. Thus, according scientific literature, solvency is defined as the readiness of the undertaking subject to the payment of their obligations at the time of their reimbursement and is therefore one of the basic conditions for the successful existence of the undertaking. (Sedláček, 2009).

Second: profitability Ratios

The profitability ratio, also referred to as benefit, return, profitability ratio indicators, is constructed as a ratio of the final impact produced by business operation (output) to other comparative base (input) that may be on the asset side as well as on the liabilities side, or on another basis. Such indicators show the positive or even negative effect on asset management, the funding of the company topic and the profitability liquidity (Kislingerová, 2007).

Third: Activity Ratios

The activity indicators are used for the management of business assets, because they assess how successfully a business subject manages its assets. For certain types of assets, a company subject rates the contribution of individual capital objects. If the target of the company will have more assets than is sufficient, then additional expenses will be incurred and the profit modified. Conversely, if the subject of the business has few assets, the possible income may be lost (Baran, 2014).

2. Financial Failure:

Financial failure is a serious problem faced by the company's business operations and there are many reasons for it, many of which lead to bankruptcy and liquidation. The condition of the company as it is unable to meet its contractual commitments to its creditors in full. This is known to have become legally bankrupt and is typically driven into insolvency liquidation (Berryman, 1983, p.49).

According to Lipi (2014, pp.2) have described that failure of firms can be shown as bankruptcy or insolvency, where the latter involves the case where firms fail because their short-term liabilities cannot be fulfilled and liquidated. This condition arises when the current liabilities of the firm are greater than the current assets or, in other words, when the firm has a negative working capital and the loss signal is starting to appear after the downward trend in working capital. Whereas bankruptcy, which in most cases means a company's legal status, is involved when the total obligations of the company exceed the fair value of its assets, it normally should compile and use the financial reports in order for the management to consider the financial situation and performance of the company.

Other sees that a venture fails if it is unable to reverse the decline unwillingly by attracting new equity and debt financing; therefore, the existing property and management cannot continue to operate. Failure is an endpoint for disruption and, when it is reached, operations cease and court proceedings are brought into force (Fatoki 2014, pp. 296).

There are various views on the causes of business failure. Business analysts vary from company owners, traders and official receivers in their beliefs.

According to (Brough, 1970 cited in Ashour and Farra-El, 2002, 5-6), official receivers' opinions on the key factors of company failure can be divided into 12 explanations. They are classified as follows in the respective order:

1. Mismanagement
2. Deficient capital
3. Inadequate working resources
4. Drawing business for directors is very excessive
5. An insufficient finance and accounting program
6. Inexperience;
7. Gross mismanagement
8. Bad debts;
9. Miscalculating the strength and vulnerabilities of the company
10. Pillaging or theft
11. Over-trading and over-extending too rapidly
12. Increasing the overhead.

For four general reasons, companies may fail as follows (Pratten, 1991 cited in Ashour and Farra-El, 2002, 6):

a) Market failures that can be triggered by the recent emerging large-scale company's extreme rivalry with low production costs.
b) Volatility in the economy.
c) Fiscal default.
d) Lack of management

3. Prediction Models for Business Failure

Many different techniques to predict business failure have been applied since its beginning in the 1960s. The prediction of a company failure was probably begun earlier. However, the first modern statistical model for predicting company failures was previously published (Gepp & Kumar, 2012: 4).

One criticism of financial failure models' prediction is that they predict failure with insufficient understanding of underlying cause of failure (Arens, 2014: 23). (Holt, 2013: 50) state that the majority of these studies focused on corporate health assessment, with less focus on causes of failures to predict longevity. Many literatures on such models are criticised because the data they use are of developing economies in terms of suitability and performance. In the late 1960s, these models were also produced. Since then, several aspects in the company world have changed. (Boritz et al., 2007: 142). Several research have shown however that, in many circumstances, these models have been able in many cases to forecast financial failure. As mentioned by (Arens, 2014: 23) that counter point to previous criticisms is, however, that most of these models forecast accidents two to five years in advance, giving marshal recovery attempts fair time. The Multivariate Discriminant Approach (MDA) approach has become the most common methodology for bankruptcy, financial Distress and financial failure studies using predictor vectors (Ohlson, 1980: 112). Therefore, this research studied the (MDA) by using the Sherrod Z-score model to quantify financial failure in business. This model is probably one of the most modern models in financial failure forecasting.

Sherrod Model:

B-Sherrod's Failure Prediction: one of the most recent models for forecasting financial failure, in addition to proportional weights of the differential feature coefficients for these factors, this model relies on the six independent financial indicators given by the following formula (Arkan, 2015: 240):

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

Where:

$X1$ – net operation capital/total assets,
$X2$ – current liquid assets/total assets,
$X3$ – total equity/total assets,
$X4$ – net income before income tax/total assets,
$X5$ – total assets/total liabilities,
$X6$ – total equity/total fixed assets.

Five categories were given to companies by degree of risk and to assess the capacity to proceed and these categories are included in the table (2).

Table 2: Risk level and ability assessment categories (Abu Orabi, 2014:33):

	Degree of Risk	Z
1	Company is not exposed to the risk of bankruptcy	Z > 25
2	Little likelihood of exposure to the risk of bankruptcy	25 ≥ Z > 20
3	Difficult to predict the risk of bankruptcy	20 ≥ Z > 5
4	The Company is exposed significantly to the risk of bankruptcy	5 ≥ Z > –5
5	The Company is exposed to the risk of bankruptcy	Z ≤ 5 –

Source: Abu Orabi, M.M. (2014). Empirical Tests on Financial Failure Prediction Models. Interdisciplinary journal of contemporary research in business, 5(9), 29-43.

The value of distress and Failure depends on the (Z) value, as seen in the table above, as a predictor on distress, Bankruptcy and Failure:

1. When valuation (Z) rises, this means that the company's financial situation is strong, and that the risk is very low.
2. If the (Z) value declines, this then means that the company faces challenges in continuing to manage high risks.

SECTION THREE: DATA PRESENTATION, ANALYSIS, AND INTERPRETATION

To meet the study's objectives, Sherrod Z-score used the multi discriminant research model to forecast the financial status of ten (ISE) banks between 2009 and 2015. Z-score data was extracted from excel files for each bank, with only two numbers extracted after the decimal point. The following are the data processing results:

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

Kurdistan International Bank:

Table (3): The outcomes of Sherrod models

Model / Years	Sherrod Model						
	X1	X2	X3	X4	X5	X6	Z – Score
2009	2.81	6.17	0.77	0.88	1.59	0.41	13
2010	3.81	6.52	0.94	0.44	1.71	0.59	14
2011	4.65	6.85	1.09	0.86	2.16	0.81	16
2012	5.91	7.80	1.32	0.78	2.06	1.24	19
2013	6.14	7.11	1.39	0.79	2.15	1.13	19
2014	6.67	7.21	1.53	0.84	2.39	0.97	20
2015	8.31	7.47	1.73	0.98	2.81	0.90	22

Source: Authors

The Sherrod Z-score model's findings for Kurdistan International Bank in 2015 were 22, suggesting that the findings fall into the second category, indicating a low probability of bankruptcy, as seen in the table above. However, the finding in 2014 is just 20, making it extremely difficult to predict the likelihood of bankruptcy. While the Sherrod Z-score was 13, 14, 16, 19, 19 from 2009 to 2013, implying that the findings are in the third group, making it difficult to estimate the probability of bankruptcy.

Babylon Bank

Table (4): The outcomes of Sherrod models

Model / Years	Sherrod Model						
	X1	X2	X3	X4	X5	X6	Z – Score
2009	4.14	6.32	1.15	0.51	1.83	0.39	14
2010	3.42	6.28	1.04	0.50	1.73	0.31	13
2011	5.03	4.90	1.38	0.43	2.01	0.40	14
2012	4.62	6.37	1.29	0.45	1.92	0.38	15
2013	6.18	2.47	1.72	0.30	2.37	0.39	13
2014	6.54	1.72	2.13	0.37	3.12	0.27	14
2015	9.92	3.42	2.08	1.04	3.52	1.87	22

Source: Authors

The Sherrod Z-score model findings for Babylon Bank from 2009 to 2014 were between 13 and 15, showing that the

results fell into the third category, indicating a difficult to predict the probability of bankruptcy, as seen in the table above. In 2015, the results were 22, indicating that the risk of failure is extremely low.

Investment Bank of Iraq

Table (5): The outcomes of Sherrod models

Model / Years	Sherrod Model						
	X1	X2	X3	X4	X5	X6	Z – Score
2009	4.85	7.25	1.14	0.57	1.78	0.79	16
2010	5.55	5.47	1.26	0.85	1.87	1.08	16
2011	5.37	4.28	1.25	0.71	1.87	0.86	14
2012	4.63	3.78	1.10	0.18	1.77	0.76	12
2013	5.59	4.00	1.25	1.21	1.90	1.23	15
2014	7.69	5.43	1.69	1.18	2.63	1.64	20
2015	8.16	5.90	1.78	0.76	2.48	1.70	21

Source: Authors

The data in table (5) show that from 2009 to 2014, the Z-score of the Sherrod model ranged between 12 and 16, implying that predicting the bankruptcy of the Investment Bank of Iraq is difficult. As long as the Z-score is in the third category of the risk degree, it is not an obvious indicator to judge the bank's financial position. However, the Z-score for Investment Bank of Iraq grew considerably in 2015, achieving the highest rating among the research years, yet it is still in the third category.

Elaf Islamic Bank

Table (6): The outcomes of Sherrod models

Model / Years	Sherrod Model						
	X1	X2	X3	X4	X5	X6	Z – Score
2009	5.08	3.26	1.27	3.56	2.05	0.38	16
2010	3.81	6.31	1.13	1.48	1.80	0.09	15
2011	4.59	5.64	1.22	1.40	1.89	0.44	15
2012	4.46	5.66	1.23	0.67	1.86	0.40	14
2013	7.53	3.97	1.93	0.60	2.76	0.50	17
2014	7.52	3.82	1.93	0.42	2.71	0.51	17
2015	7.28	5.19	1.73	0.02	2.38	0.74	17

Source: Authors

The results of Sherrod's Z-score model in table (6) show that predicting the Elaf Islamic bank's bankruptcy is difficult during the study period. Despite some fluctuations in the Z-score results, it remained in the third group ($20 \geq Z > 5$). As shown in the table, the lowest outcome was 14, whereas the highest outcome was 17, in 2013, 2014, and 2015.

Ashur International Bank

Table (7): The outcomes of Sherrod models

Model / Years	Sherrod Model						
	X1	X2	X3	X4	X5	X6	Z – Score
2009	6.67	2.60	1.51	1.45	2.23	0.98	15
2010	8.47	3.70	1.92	1.28	2.92	1.07	19
2011	7.11	5.52	1.75	1.18	2.79	0.61	19
2012	9.71	2.82	2.23	1.48	4.05	0.97	21
2013	9.87	5.52	2.27	1.08	4.06	0.95	24
2014	9.51	6.20	2.18	0.62	3.92	1.00	23
2015	9.07	6.77	2.09	0.64	3.88	0.93	23

Source: Authors

Table (7) shows that the outcomes for Ashur International Bank from the Sherrod Z-score model for 2009, 2010, and 2011 were 15, 19, and 19, respectively, indicating the difficulty of predicting the risk of bankruptcy because it is in the third category. While Ashur International Bank's financial position in 2012, 2013, 2014, and 2015 was only in the second category at 21, 24, 23, and 23, respectively, this indicates that the bank's financial position has little risk of bankruptcy.

Al-Mansour Bank for Investment

Table (8): The outcomes of Sherrod models

Model / Years	Sherrod Model						
	X1	X2	X3	X4	X5	X6	Z – Score
2009	9.64	3.17	2.01	0.77	3.02	8.65	27
2010	7.99	2.33	1.72	0.53	2.41	2.28	17
2011	6.40	3.17	1.41	0.70	2.02	1.55	15
2012	10.07	2.04	2.15	0.68	3.14	2.81	21
2013	6.40	2.42	1.24	0.76	1.87	2.76	15
2014	5.20	2.83	1.12	0.47	1.77	2.43	14
2015	4.32	1.99	0.94	0.45	1.65	1.85	11

Source: Authors

The above table shows the results for Al-Mansour Bank for Investment from the Sherrod Z-score model for the years 2010, 2011, 2013, 2014, and 2015, which were 17, 15, 15, 14, 11 respectively, indicating that the score is in the third category, though predicting the risk of bankruptcy is difficult. While there were 21 in 2012, this means that Al-Mansour Bank for Investment's financial position has little risk of bankruptcy. Since the score was greater than 25 in 2009, Al-Mansour Bank for Investment is not at risk of going bankrupt. As a result, it has a very good chance of continuing as long as Z value rises.

Bank of Baghdad

Table (9): The outcomes of Sherrod models

Model / Years	Sherrod Model						
	X1	X2	X3	X4	X5	X6	Z - Score
2009	0.20	5.36	0.48	0.46	1.43	0.75	9
2010	1.57	5.35	0.43	0.34	1.40	0.39	9
2011	2.05	4.70	0.56	0.57	1.47	0.41	10
2012	2.14	5.62	0.56	0.46	1.46	0.48	11

2013	2.26	5.17	0.58	0.44	1.46	0.51	10
2014	2.19	4.89	0.56	0.36	1.45	0.51	10
2015	2.33	5.06	0.61	0.17	1.52	0.48	10

Source: Authors

Table (9) shows the findings of Sherrod's Z-score model, with all figures falling into the third category ((20 ≥ Z > 5). It demonstrates that predicting whether Bank of Baghdad's financial status would fail or remain in the safe zone is extremely difficult.

Commercial Bank of Iraq

Table (10): The outcomes of Sherrod models

Model / Years	Sherrod Model						
	X1	X2	X3	X4	X5	X6	Z - Score
2009	6.64	1.00	1.41	0.41	2.01	2.98	14
2010	7.74	1.89	1.62	1.37	2.23	6.15	21
2011	9.18	3.96	1.91	0.64	2.65	8.72	27
2012	8.19	4.21	1.71	0.98	2.34	7.94	25
2013	9.90	5.16	2.05	0.64	2.91	12.30	33
2014	10.71	2.70	2.22	0.47	3.90	19.95	40
2015	11.21	3.15	2.31	0.39	3.54	28.86	49

Source: Authors

It can be seen from the data in table (10) that in 2009 the Z-score of Sherrod model was 14 which means that the prediction of bankruptcy of Commercial Bank of Iraq is difficult. It is not an obvious indicator to judge on the financial position of the bank as long as the Z-score located within the third category of the risk degree. However, the Z-score has increased dramatically in rest of years to achieve the highest rating which interpret the bank is far from the risk of bankruptcy.

Gulf Commercial Bank

Table (11): The outcomes of Sherrod models

Model / Years	Sherrod Model						
	X1	X2	X3	X4	X5	X6	Z - Score
2009	2.89	2.02	0.82	0.62	1.64	0.37	8
2010	2.82	2.51	0.83	0.45	1.67	0.33	9
2011	4.77	2.46	1.18	0.70	1.91	0.59	12
2012	5.09	3.39	1.24	1.71	1.89	0.65	14
2013	5.73	4.25	1.37	1.43	2.01	0.73	16
2014	6.16	4.02	1.49	1.05	2.12	0.66	16
2015	5.72	2.72	1.39	0.34	2.01	0.65	13

Source: Authors

Based on Sherrod's Z-score model, Table (11) shows that the financial position of Gulf Commercial Bank for all years is extremely difficult to predict in terms of business failure. Because the Z-score is less than 20 and greater than 5, the results fall into the third category in terms of risk.

Sumer Commercial Bank

Table (12): The outcomes of Sherrod models

Model / Years	Sherrod Model						
	X1	X2	X3	X4	X5	X6	Z - Score
2009	9.31	2.09	2.18	1.09	3.68	0.82	19
2010	9.67	4.16	2.21	0.10	3.62	1.00	21
2011	9.80	3.40	2.21	0.04	3.45	1.16	20
2012	8.93	4.94	2.06	0.10	2.99	0.94	20
2013	9.83	5.37	2.21	0.10	3.38	1.17	22
2014	9.69	5.29	2.14	0.11	3.26	1.24	22
2015	10.88	5.01	2.50	0.23	4.39	0.97	24

Source: Authors

The data in table (12) show that in 2010, 2013, 2014, and 2015, the Z-score of the Sherrod model was in the second group (25 ≥ Z > 20), indicating that Sumer Commercial Bank's prediction of bankruptcy has a low likelihood of being exposed to the risk of bankruptcy. However, in 2009, 2011, and 2012, the figures were 19, 20, and 20, respectively, implying that predicting the bankruptcy of Sumer Commercial Bank is difficult.

SECTION FOUR: CONCLUSION AND RECOMMENDATIONS:

1. Conclusion:

The following are the findings of the Sherrod Model based on ISE data for the fiscal years (2009, 2010, 2011, 2012, 2013, 2014, and 2015):

Financial distress and failure may be caused by a number of factors, the most important of which is the efficacy of a company's financial management, which is in charge of sending numerous signals to top management and decision makers about the company's reality financial position. Through the analysis using Sherrod Model we found the following:

1- Financial failure is a negative phenomenon that firms face, and it leads to the exit of some organizations from the market. On the other hand, Business failure prediction models can provide early notice to organizations before they go bankrupt.

2- The results of Sherrod's Z-score indicated that the banks listed on (ISE) are successful, able to meet their

commitments, and are not in financial difficulties, despite the fact that some banks are at risk of financial disaster. For instant, during the research period, estimating the risk of bankruptcy for Elaf Islamic Bank, Bank of Baghdad, and Gulf Commercial Bank is challenging since their conditions are in the third category of risk ($20 \geq Z > 5$).

2. Recommendations:

In basis of the research's findings, it is possible to give a series of recommendations that could assist to enhancing the ability of Iraqi private banks to recognize the possibility of financial disaster and take the required precautions to avoid it, which are as follows:

Bank management should make transparent disclosures about significant events that can explain critical information that aid in the early detection of the issue of financial failure.

It is advised that banks examine their financial status on a regular basis in order to spot any financial distress issues and correct them before they worsen.

Further research might be conducted using another sector as a sample to assess the accuracy of these models as tools for predicting company failure.

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