International Journal of Innovation, Creativity and Change. www.ijicc.net
Volume 8, Issue 11, 2019

Financial Failure and Predictability Using the Sherrod Model: An Applied and Analytical Study of the Babil Commercial Bank of the Iraqi Banking Sector

Arshad Abdul Amir Jassem Al-Shamri[a], [a]Middle Euphrates Technical University,

The survival and continuity of the work environment are dependent on the success or failure of organizations, whether productive or service, such as financial institutionslike banks. Given the business environment in today's world, there are many risks posed by globalization and policies that are related to financial liberalization and openness, these banks face a great challenge to find the ways and means to face these challenges, especially in the course of financial analysis to detect those risks early. Predicting the failure of the financial institutions is necessary because of the benefits that make use of the negative effects, and the economic consequences of how to address them, this is done by using the model (Sherrod), which was adopted by applying some financial ratios. The study was carried out by the Bank of Babylon in the Iraqi private banking sector for the purpose of determining the extent of its success and survival in the working environment. It included financial analysis of its data for the period (2011 - 2015). At the end of the analysis, on the need to adopt banks in their financial analysis to use the model mentioned to know its credit activity and then know the results of its work.

Key words: *Financial failure, financial forecast, model (Sherrod).*

Introduction

The financial institutions were not isolated from the various risks and the increased likelihood of financial failure from other institutions, especially in a dynamic environment, and the effects of economic globalization, openness, and integration of many institutions. Financial crises and bankruptcies are among the most important phenomena of risk. Many researchers have adopted the use of scientific methods, including financial ratios, to predict the failure of those institutions and increase their interest in the early studies before they grow and leave their effects on the work of banks and force them to exit the sector if necessary. The use oof these quantitative models in financial analysis and its application to the Bank of Babylon's banking sector, the private Iraqi came to the stability of their success and continuity in the exercise of its credit and what are the prospects for exposure to financial failure, depending on the approved levels with standard ratios, as well as the extent of their applicability in the Iraqi banking environment. The first topic dealt with the scientific methodology of the study and some of the previous studies. The second topic dealt with the theoretical aspects of the study. The third topic included the practical aspects of the study and the use of the Sherrod model in the prediction process of failure and the feasibility of its application in the Iraqi environment. Finally, the conclusions and recommendations were presented to cover the fourth topic.

The first topic: the methodology of the study and previous studies

First: Methodology of the study

The problem of the study: The emergence of many indicators have indicated the inability of private commercial banks to practice their credit activity in investment and lending. Returns have been achieved in a way that did not help them to survive and continue to grow, because of the inability in keeping up with the pace of economic development and development of the country, those banks end up with to financial failure and needing to file for bankruptcy. Therefore, the problem of the study can be formulated with the following questions:

1. Is it possible for specialists to predict the financial failure that may be exposed to the bank as one of the banks listed in the Iraqi market for securities using analytical models based on financial ratios?
2. What is the responsibility of the Bank's management to assess its ability to remain in the business environment and to continue its activities in the future by predicting financial failure?
3. What is the responsibility of the bank's management when it is discovered to fail during the exercise of its daily work, which constitutes an early warning of the possibility of future financial failure?

The importance of the study: The importance of the study can be summarized by the following points:

1. Addressing one of the important topics in the work of financial institutions is financial failure and how to predict it by the relevant parties (shareholders, investors, management, dealers, etc).
2. Due to the multiplicity of reasons leading to the failure of banks financially and their inability to survive and continue in the dynamic work environment, and their failure,collapse and bankruptcy and the difficulty of understanding the beneficiaries of the financial statements, it has become necessary to predict financial failure to be a protective shield to repel those risks.

Objectives of the Study: The study aims to achieve the following:
1. Identify the issue of financial failure that may be exposed to the mechanism of work of commercial banks and knowledge of the concepts involved (definition and terms and forms, stages and reasons).
2. Identify the types of methods used in the process of predicting the financial failure of the Bank of Babylon as one of the banks of the Iraqi private sector trade using the model (Sherrod).
3. Identify the means by which the bank's management can use it for financial analysis through the Sherrod model.
4. The possibility of applying the model (Sherrod) by taking advantage of the final results of financial ratios.

Objectives of the Study: The study aims to achieve the following:
1. Identify the issue of financial failure that may be exposed to the work of commercial banks and knowledge of related concepts (definition, Terms, forms, stages, and reasons).

2. Identify the type of methods used in the process of predicting the financial failure of the Bank of Babylon as one of the banks of the Iraqi private sector trade using the model (Sherrod).
The hypothesis of the study: Based on the problem of the study, which was determined by a number of questions as well as the objectives to be reached, the hypothesis of the study stated that "there is no role in using the Sherrod model in predicting the financial failure of the commercial bank."

Society and sample of the study: The society of the study is the private banking sector of Iraq and those that are registered within the Iraqi market for securities The sample of the study was the (Bank of Babylon) and the reason was the choice to provide financial data for an individual in an integrated manner for the study period and continuously and has activities credit and investment, according to the financial report issued by the mentioned in paragraph (Third) of the study.

Study Limitations

Spatial boundaries: Bank of Babylon in Baghdad - Karrada outside. Against the real estate bank.

Time Limits: The study relied on data and final accounts for five years for the period 2011-2015.

Method of study

Theoretical Perspective: The study was based on the descriptive approach through the use of some of the letters, university letters, periodicals and books that the researcher studied and believed to be relevant in completing his studies.
Practical side: The study was based on the financial analysis of the data of the sample of the study (Bank of Babylon) by extracting the important financial ratios of the Sherrod model based on the financial statements for the years (2011-2015), and a simple reference to the result of each percentage extracted the reasons for the decline of some ratios, such as liquidity, financial gain and profitability, and the management of the bank to take measures to address weaknesses and strengthen the strengths.
Second: Previous Studies: The study adopted the theoretical and practical aspects of what has been discussed in some previous studies, in an attempt to benefit from them, which dealt with the financial failure, where the researcher dealt with them as shown in the table (1) below:

Table 1: Review of some of the previous studies

Details	Researcher name and search history	Name of the study	ت
The study aimed at finding the sample of the study (Jordanian and Iraqi companies) for financial failure using the Altman model to predict financial failure. The study found that there was a fluctuation in indicators of failure and success for the sample companies so that success was recorded for Iraqi companies.	Saleh et al 2000	Facility survival analysis is a function of predicting financial failure.	1
The study attempted to analyse and discuss one of the accounting hypotheses (imposition of continuity), which is derived from other hypotheses such as the imposition of the periodical, from which the historical cost principle is derived. The study tested this hypothesis, especially for companies that rely on the demand for loans and facilities from banks based on the Sherrod model.	Al-Haiti 2001	The use of financial analysis models in the test of the imposition of the accounting	2

		continuity of the establishments requesting to borrow from banks.	
The study addressed the problem of not using the financial ratios on the construction sector in Gaza to reach an effective forecast of financial failure, as well as the lack of a model that can be relied on by these departments and used in the process of detecting the failure before it occurs.	AL-Ghussein 2004	Use financial ratios to predict corporate stumbling.	3
The study used the Altman model in the study sample. The study emphasized the importance of accounting information to suit all decisions, especially financial markets, as well as the accuracy of this model in predicting the failure of the Iraqi industrial companies. This model showed its high predictability of 94% Successful and troubled companies depending on their financial statements.	AL-Wattar 2008	The role of accounting information in predicting the failure of industrial shareholding companies.	4
The study reviewed the recent trends in financial analysis methods in detecting the financial and non-financial deviations of the economic units early through the tools of financial analysis to determine their efficiency, performance and effectiveness, identifying the company's position in the labour market and its competitive position and risk levels, predicting its financial failure and evaluating its performance by addressing financial ratios such as liquidity, Financial Institutions.	Salah Mouloud Al Kubaisi 2011	The role of financial analysis in evaluating performance and predicting failure.	5
The study was based on a set of mathematical models to build an integrated framework for the financial ratios used in assessing the performance of companies to predict financial failure through applying them to a group of listed companies in the Iraqi market for securities. In the companies' sample study, which was a negative factor on their performance and success resulting in bear additional costs and burdens due to this energy as well as weak activity in the field of research and development.	Al-Arabi and Al-Kaabi 2012	Predict corporate failure using financial analysis.	6

The research aims to test the reliability of the financial forecasting models most commonly used in determining the financial position of insurance companies listed on the Damascus Stock Exchange.	Dr.Gzun Ali Ali 2014	Predictability of financial failure in determining the financial position of companies: An applied study of insurance companies listed on the Damascus Securities Exchange.	7

The second topic: The theoretical framework of the study
((The concept of financial failure and its forms and manifestations and stages and causes of occurrence))
First: financial failure

Related Terms: Before addressing the concept of financial failure and its definitions, it is necessary to address a number of terms related to financial failure in order to differentiate between them, as follows:
A. The term "failure": is the word in English (Distress, Bankruptcy, Failure), and each term has its own concept in the world of finance and economics (Mari, 2003: 28). **B. The concept of failure:** The concept of failure takes two dimensions: one is economic measuring success or failure depending on the amount of return on capital, as the company failing when it is unable to achieve an appropriate return on capital invested and commensurate with the expected risks, either the second dimension, is the inability of the company to meet its obligations due to others in due course (Al-Hibiti, 2001: 221).
B.1: The concept of failure: The concept of failure: Faced with business organizations and financial institutions in today's world, one of the serious issues is financial failure, which has multiple causes, leading to bankruptcy and liquidation in some cases, and because of the success and growth in its work, but it takes them into account in their economic activities, which is, therefore, a real problem if dealt with wisely and rational decisions critical, and the financial crises that have occurred over time has referred to many companies and financial institutions that declared bankruptcy.
B.2: Bankruptcy: Bankruptcy means the legal bankruptcy of the company as a result of its failure to pay its debts to its creditors on due dates. The bank is declared as bankrupt by virtue

of a ruling issued by the competent court for the purpose of liquidating and selling it in order to repay its debts to creditors (most likely, 2015: 5).

B.3: Financial Distress: A financial imbalance that the company faces due to the lack of its resources and the ability to meet its obligations in the short term. This stumbling is caused by the imbalance between the resources and the short-term liabilities (Strange, 2001: 77). The researcher can draw a number of chapters between the concepts of financial distress and financial failure, as shown in Table (2):

Table 2: Differences between Financial distress and Financial Failure.

Financial failure	Financial distress	Sequence
A later stage of the financial Failure	An earlier stage of financial failure	1
The activity of the institution stopped and access to bankruptcy.	Stop paying obligations on time.	2
Has ceased to pay off obligations.	A decrease in the realized returns (achieving successive losses means a problem).	3

C. Financial leverage: means the extent to which third-party funds (loans and debts) are used at fixed costs that are payable to the company, ie, the financial leverage is linked to the financing structure of the financial institution or others. : 22) where the leverage is measured by the following equation: Leverage = Debt / Total Assets

Definition of Financial Failure: Many authors and researchers have addressed the definition of financial failure in multiple ways. Some of the following are shown in Table 3:

Table 3: Definition of the financial failure of some writers and researchers

Source Name	Definitions of financial failure	Sequence
Pringle and Harris, 1984:623 – 633	Is that the liabilities and obligations of the company are more than its assets, i.e. the net capital is less than zero.	1
Schall and Haley, 1986: 733	Which is the inability of the company to pay its obligations to creditors and to meet their debts?	2
Obaidat and the Golani, 1993: 104	Means that a company that has gone bankrupt or has faced financial difficulties or has been liquidated for the benefit of creditors.	3
Hamzawi, 1997: 355	Is the project that suffers from an imbalance in the relationship between income and expenses,	4

	where the second exceeds the maximum of the first.	
Saleh et al., 2000: 177	Is the inability of the company to continue to operate in the market and deliver products to the consumers.	5
Yousif H.M. Ashourardmajed M.EI. Farra,2002	The inability of the institution to meet the financial obligations that it has fully committed and is in the process of bankruptcy.	6
AlaaEddin, 2004: 187	A term used to refer to the end of a company's life by announcing its bankruptcy.	7
Fleifel, 2014: 48	The ability of the financial resources available to the Organization to meet the requirements for its continuity.	8

Based on the above, the researcher believes that financial failure means the lack of sufficient cash to meet the cases of expenditures corresponding to revenue, as well as financial insolvency leading to bankruptcy.

Forms of financial failure: - specialists in the financial sciences distinguish between two types of financial failures of companies (**AlaaEddin**, 2004: 188): -

A. Economic failure: is a failure when a company cannot achieve an acceptable return on its capital investment to match the expected risk, and when the carrying amount of the liability is more than the carrying amount of its assets.
B. Financial failure: The inability of the institution to repay its obligations that are due to its creditors on due dates, which means that it cannot meet its debts towards them. This type takes two aspects: -

B.1. Technical Insolvency: The inability of the company to meet its financial obligations that are actually due, or which have been due in the short term, and this type takes two forms: either insufficient liquidity, forcing the institution to not pay the debts and interest payable. Because assets are more valuable than liabilities or take the form of financial insolvency, which means increasing liabilities owed to third parties (liabilities) over the value of project assets, which occurs regardless of the level of liquidity.
B.2. Real Insolvency: The company is exposed to very difficult problems in the difficulty of obtaining liquidity, which reduces the structure of the administrative, and by becoming the market value of the assets that are not enough to cover the obligations. Then the financial position of the company is heavily indebted and receivable. The creditors are demanding the liquidation of the company to recover their rights, and this type is more serious than financial

difficulty technical. While (Matar, 2003: 90) that the financial failure may take one of the following forms: -

1. The inability of the company to pay its debts and interest due on account of insufficient liquidity and this is what happens even if the assets exceed the value of the liabilities.
2. Technical financial insolvency, which is intended to increase the liabilities owed by the Company to third parties (liabilities), on the value of the project assets, and this occurs regardless of the level of liquidity.

Financial Failure: There are a number of indications that the company is heading towards failure, including (Ghaleb, 2015: 5): -

1. Lack of administrative and financial leadership to manage the company, and its inadequacy to perform with the organizational structure.
2. Delay in the preparation of its final statement of accounts.
3. Low sales and continuous increase in competition with imported or domestically produced goods.
4. Delay in payment of dues.
5. The increase in expenditure, which is not commensurate with the status of revenues achieved and the inability to rationalize expenditures.
6. The company's failure to discover new profitable activities in the market.
7. The weakness of the SAIs, especially on the working capital, which leads to the continuous increase in debtors' items compared to the volume of sales.
8. Increasing reliance on external borrowing, particularly short-term borrowing, and increasing financial leverage.

Stages financial failure process: pass fiscal through several stages of failure process before reaching its final stage (bankruptcy, liquidation) efficient administration needs to take the necessary measures and treatments through the diagnosis phase experienced by the company in order to avoid arriving into bankruptcy are as follows: -

1. Stage of evolution: It is worth mentioning that the company will not reach the stage of deterioration suddenly or unexpectedly, but there are some indicators undertaken by the management Kaltgar in demand for products, as well as the continued increase in indirect costs, and the obsolescence of production methods and increased competition and a lack of credit facilities, and the increased burden without working capital, and often occuring economic loss at this stage where the return of assets is less than the usual proportions of the facility, preferably the problem discovered at this stage because the re-planning is here more effective (Gordan, 1978: 347), (Nabil, 2003: 17-16), (AL- **Ghussein**, 2004: 29).

2. Low cash flow phase (tripping): At this stage, the company Alyadm exposed its ability to meet the needs instant cash, where the company's assets are to be the largest of its obligations, which Mayer him (fumbling). This problem is manifested by the difficulty of converting those

assets into cash to cover its debt due, perhaps this stage lasts for several months as cash-strapped, other than the period which is when the company is in good condition, which requires management to take the necessary measures to address the financial weakness of corrective actions where the company resorts to borrowing sufficient funds to face cash needs thousand And Aryeh (Matar, 1997: 161), (Issa, 2000: 73).

3. Financial difficulties can be considered as a severe liquidity problem that cannot be solved without a significant reduction in the company's structuring processes (Foster, 2003: 491). The real financial difficulty is more severe, the seriousness of the technical financial difficulty on the company occurs when the market value of all its assets are not enough to meet their financial obligations, and then will become a financial centre overloaded by debt and receivables city become the result of bad debts, and require creditors to liquidate the company to recover what can be recovered from their rights, With the company (obligations owed to the owners) are not convinced to deal with them (al-Zubaidi, 2011: 310), and branching real hardship for the two phases (Khalid, 2003: 86) are:-

A. The legal failure stage: The company cannot control the failure, which requires legal action to declare bankruptcy in preparation for liquidation (Naggar, 1999: 360), a final stage of financial failure reached by the company (Al-Jahmani, 1999: 73).

B. Bankruptcy and Liquidation Stage: In this case, the company cannot pay its debts and its assets are surrendered and handed over to the management (Schall and Haley, 1986: 723), or legal procedures are undertake to facilitate or reorganize the business and transfer some or all of the company's assets to creditors (Ross & et al., 1999: 340). Bankruptcy is an inevitable consequence of the continuing liquidity deficit and the continuous insolvency facing the company and thus liquidating it for the purpose of providing the necessary cash and repayment of its creditors. The bankruptcy is usually two types (Amiri, 2010: 241): -

* **It is either a voluntary bankruptcy**: The bankrupt company starts filing a request to the court to declare bankruptcy and take the necessary action.

* **It is an involuntary bankruptcy**: Article (147) of the Iraqi Companies Law No. (21) for the year 1997 amending the corporate bankruptcy issue stipulates that if the losses of the company reach the equivalent or exceed 75% of its nominal capital, it shall take the following procedures:

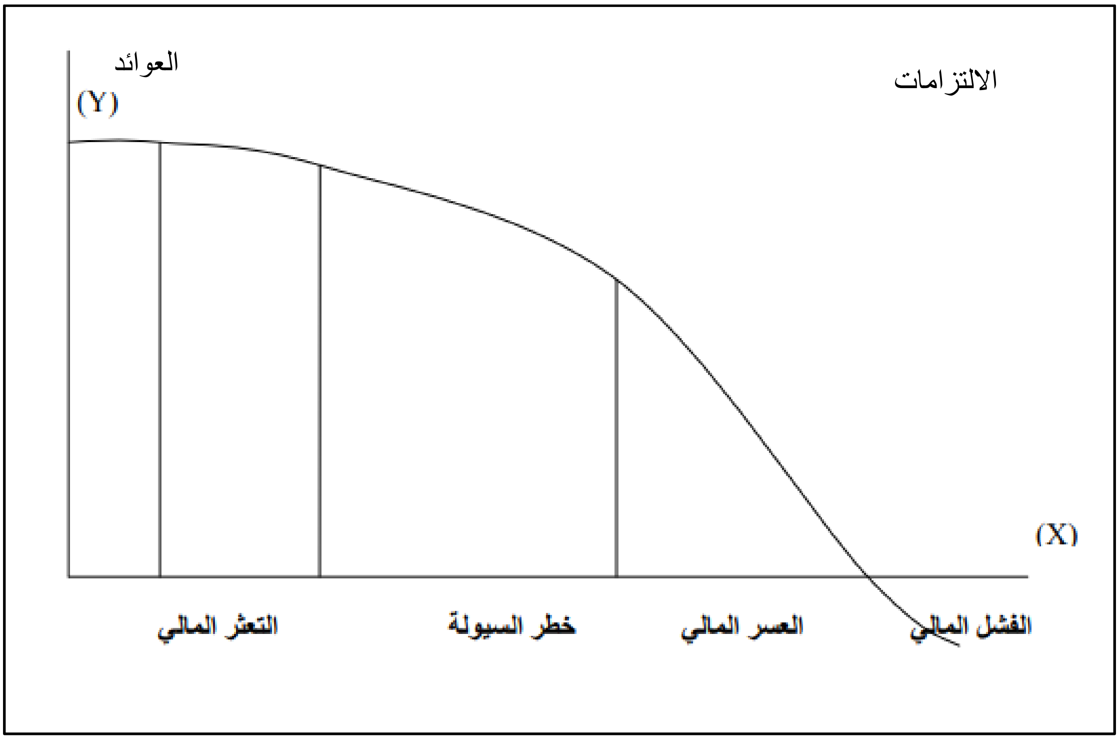
1.Capital reduction or increase.
2. Recommend liquidation of the company.

Therefore, the company may resort at the stage of real financial insolvency to deal with several solutions and commensurate with the situation experienced by (Ross &Other, 2002: 857): -

1. Sale of assets (whether fixed or traded).
2.The merger of the company with another company.
3.Reduction of capital expenditure and R & D.
4. Issuing new bonds.
5. Negotiations with banks and other creditors.

It is worth noting that the failure of several stages or indicators to alert the company from falling into the risk of bankruptcy and then out of economic life, because financial failure is not achieved suddenly, so bankruptcy is the final stage reached by the company, and whether the financial bankruptcy by which the company is unable The company can go beyond this stage by identifying the reasons for the failure first and then develop the solutions necessary for them.

Figure 1. Terms and stages of financial regression.



Source: Ibrahim Ibrahim Al-Hamdani: Financial Regression and Change Strategies for Business Companies, 8th Scientific Conference, Al-Zaytoonah University, Jordan 2008, p. 78.

The causes of financial failure*:* As far as the researcher is aware of some of the literature, the views of the researchers differed in the investigation of the causes of financial failure. They are based on three views:

***(First opinion): Most studies on the causes of financial failure were classified into two sets of factors (A votIvars, 1969: 76):**

1.Internal factors: These factors are the result of the diversified economic policies of the corporation (mismanagement and inefficiency of its operational and investment policies, lack of proportionality between capital and loans, errors in economic feasibility study, lack of control over inventory, high funding costs, lack of comprehensive judo system, Modern catalogue, wasting time and double monitoring).

2. External factors: These factors are outside the will of the financial institution and are related to the political and economic environment in which it operates domestically and internationally, such as (exchange rate fluctuations and interest rates, inflation trends in the global and local economy, economic globalization, problems dealing with government departments, political and security instability).

***(Second Opinion)**: The causes of failure may be due to the following cases (Harrington, 1993: 96): -

1. Lack of capital 2. Deficiency in the cost system 3. Poor oversight 4. Lack of consultation and external participation 5. Government laws that do not provide protection for companies. 6. External fluctuations such as mergers and technological changes. 7. Fraud and deception in business.

***(Third opinion):** Some of the studies have focused on the reasons in another form (Student, 2000: 46-45), (Alaaddin, 2004: 189-188), which are as follows:

A. The intense competition and the inability of the establishment to stand up to competitors.

B. Economic factors represented by the local economic conditions of the environment in which the company operates, as well as international economic conditions.

C. Weak management of the company and lack of knowledge.

D. The high cost of funding sources.

Second: Predicting financial failure and its importance

The concept of prediction: The origin in the Arabic language of the word (prediction) came from the origin of the verb (news), but the meaning of the word news is the news as the word came in the Koran. As a term, it refers to all events that contain the information and data of a phenomenon, which illustrates all of the variables and possible future events affecting the overall activities of the institution (Sheikh, 2008: 67-77). Monks (1977: 273) defined prediction as the future assessment of the levels of the organization's work under conditions of uncertainty environment (Student, 2000: 22).

Financial forecasting and definitions*:* Many authors and researchers in financial management have considered financial forecasting as a definition of each according to their point of view. The following are some of these definitions as shown in Table 4:

Table 4: Some definitions of financial forecast.

The definition	Researcher Name	Sequence
Is part of financial planning, which in turn is the basis of financial management.	Najjar, 1999: 390	1
Is a set of variables and results related to the future, which are prepared on the basis of scientific and mathematical methods and are statistical by using historical data to access future information to help address the phenomena and events and future financial results.	Habash, 2006: 61	2

The researcher agrees with the definition (2) being the most comprehensive and covers the vocabulary of the current study.

The importance of predicting financial failure: There are a number of things that clearly stand out and are important as follows:

A). Through which actions are taken to address failure in its early stages and to avoid bankruptcy and liquidation (Saleh et al., 2000: 178).
(B). Through which the relevant parties benefit from the company's performance in the field of financial management by taking precautionary measures to evaluate the financial performance of the company and its financial position (student, 2000: 22).
(c). Represents great importance to the following: (Foster, 2003: 491-490): - (banks, investors, management of the institutions, official bodies), and auditors (Sharif, 2006: 3) whereas: -
1. Banks: When the financial interest in predicting the failure of death resulted in the effects of both (current loans, as well as loans under study and the prices and terms of their loans and the possibility of cooperation with borrowers to put the problems faced and the development schedules withdrawal solutions).
2. Investors: Their interest leads to the rationalization of their investment decisions and the differentiation between alternatives available and avoids investment in high-risk projects.
3. The management of institutions: To identify the indicators of failure and deal seriously with the causes and develop successful solutions to them.
4. The official bodies: Lies by enabling them to perform its oversight function on the working economy in the interest of safety institutions such as the Office of Financial Supervision.
5. Auditors: They have a significant responsibility in auditing the financial statements of companies.

Model (Sherrod) 2.2.4.

In view of the risks to investment projects and the varying degrees of these risks and their direct impact on the survival and survival of these companies in the business environment and the liquidation and bankruptcy, many specialists have been searching for ways to make the managements of these companies and work to predict the financial failure before the occurrence, Models through which the financial ratios are forecasted, including
Model: Altman 1968 (WWW-Altam 2000). *
Model: Deakin 1972.*
Model: Argent 1979.*
.(Model: Kida 1981 (Rain, 2003: 369*
*Model: Fulmer 1984.
Model: Sherrod 1987.*
Model: Campbell 1999.*

The researcher found that most of them are involved in a number of financial ratios with differences in the relative weights given to the ratio, most of them showed a high predictability ability and relied on financial data from the lists of companies, not to mention the existence of some criticisms of many of the above forms during the application process and the results appear. That is the reason for choosing the Sherrod model in the prediction process among those models is that it achieves two primary objectives (Hayali, 2004: 255): -

1. Credit risk assessment: This evaluation process is the result of granting loans to economic projects. The loans are divided into five categories based on the degree of risk and as shown in Table 5:

Table 5: Division of loans into categories by the degree of risk.

The degree of risk	Value of Financial Indicator (Z)	Class of loan	Sequence
The institution is not subject to failure	5≤Z	The first category (excellent loans without risk).	1
Low probability of failure	20≥Z ≤ 20	The second category (low-risk loans).	2
It is difficult to predict failure.	5Z≤ 20	The third category (Medium risk loans).	3
The institution is liable to fail.	-5≤ Z ≤ 5	The forth category (High-risk loans).	4
The institution is highly vulnerable to failure (very risky loans).	Z<5-	Fifth category (Very risky loans).	5

Source: (1) Mohammed Mattar, "Financial analysis methods and tools of scientific and Alasthaddathat", the first edition, the new company for printing and binding, Oman, 1997, p. 174.

(2) Hayali, WalidNaji, "Modern Trends in Financial Analysis", the Arab Open Academy in Denmark, Amman, Jordan, 2004, p. 255.

(2) Financial failure: It is used to ascertain the principle of the continuation of the project with its economic life or not, and to identify the project's ability to stay in the future and conduct its business.
(3) The Sherrod model is also used to determine the interest rate on loans (Rain, 1997: 174).

Mathematical formulation of the model Sherrod: The model is formulated according to the following formula:

Z= 17 x1 + 9x2 + 3.5x3 +20x4 +1.2x5 +0.1x6

Whereas: -

Z = Bankruptcy Index.

X1 = Net working capital / total assets.

X2 = liquid assets / total assets.

X3 = total equity / total assets.

X4 = net profit before tax / total liabilities.

X5 = total assets / total liabilities.

X6 = total equity / total fixed assets.

The variable (X) represents the financial ratio of the model according to its relative importance relative to each variable value (X) in Table (6):-

Table 6: Weights of the variable (X) according to the importance of each one.

Their relative weight points	**Type the cursor**	variable (**X**)
17	**Liquidity index**	**X1**
9	**Liquidity index**	**X2**
3.5	**Lift index**	**X3**
20	**Profitability index**	**X4**
1.2	**Lift index**	**X5**
0.1	**Lift index**	**X6**

Source: Mohammed Mattar, "Financial analysis methods and tools of scientific and Alasthaddathat", the first edition, the new company for printing and binding, Oman, 1997, p. 174.

From the equation of the model and the values (X) shown in Table (6) above, the following was observed:

1. The largest relative weight is the share of the liquidity index, which is based on testing the customer's ability to pay. This is because of the use of the model for the two main objectives: to know the ability of the institution to continue economic activities first. and then to meet their obligations on time.
2. The value of (Z) is going in the opposite direction of risk, the higher the risk of failure is low and risk-free, and vice versa if the value of (Z) low risk of failure is high.

Third: A Brief History of the Bank of Babylon

The Bank of Babel (Private Shareholding Company) was established with a capital of JD (500) million, under the certificate of incorporation No. 6769 on 4/4/1998 and obtained from the banking practice license from the Central Bank of Iraq No. 11 / 461/3/9 in 1999 / 6/8.The bank was able to open its doors and start its work in 1999/8/1, and its capital was increased several times from the beginning of year (2004) to become (1800) million dinars, and then it began to increase until it became a capital (236.859) million dinars. Capital was increased through the subscription of (51) billion dinars and (7) billion by capitalization of profits in accordance with Article (55) of the Companies Act, and was issued the letter of the registration of companies No. 19429 in the third quarter of 2015, with the completion of procedures. The capital of the bank has become 250 billion dinars. Thus, the capital of the nominal bank has reached 250 billion dinars and the paid up is 236.859 million dinars.

The third topic: the practical framework of the study

Presentation of the financial ratios of the Sherrod model: Table (7) shows the inputs of the financial ratios of the Sherrod model of Bank of Babylon:

Table 7: Inputs of the financial ratios of the model (Sherrod) of Babil Bank (amounts in thousands of dinars).

ǀfixed assets	Total liabilities	Net profit before tax	Total equity	Liquid assets	Total assets	Networkin g capital	the year
26721314	164431548	5779217	106945000	147828588	271377273	80223686	2011
29377869	191683694	5877045	111969000	215023435	310862986	82591131	2012
41709153	167234704	4901085	160932225	90126688	394969708	119223072	2013
70040235	122592353	5744345	190144660	59459872	312027436	120104425	2014
74440714	113974918	5327962	244724013	76572149	358698931	170283299	2015

Preparation of the researcher based on the data and final accounts of the bank

Analysis of the results of the financial analysis and forecasting the financial failure

of the Bank of Babylon: Table (8) shows the results of the financial ratios of the Sherrod model of Babil Bank**:**

Table 8: Results of the financial ratios of the model (Sherrod) of the Bank of Babylon.

Z	X6	X5	X4	X3	X2	X1	the year
14.6	4	1.65	0.02	0.39	0.54	0.30	2011
15.3	3.81	1.62	0.02	0.36	0.69	0.27	2012
12.7	3.86	2.36	0.01	0.41	0.23	0.30	2013
15.8	2.71	2.55	0.02	0.61	0.19	0.38	2014
17.5	3.29	3.15	0.01	0.68	0.21	0.47	2015
15.18	3.534	2.266	0.016	0.49	0.372	0.344	Average

After extracting the values of the financial ratios of the model (Sherrod), the value of (Z), which is the interval to show the extent of the exposure of Bank of Babylon to predict the risk of bankruptcy, was extracted. If the value of Z is greater than (25), the bank is exposed to the risk of bankruptcy, (Z) between (20 to 25), the probability of bank exposure to risk of bankruptcy is small, and if the value of (Z) between (5 to 20) it is difficult for the bank to predict the risk of bankruptcy, but if the value of (Z) between (0 to 5) if the value of (Z) is less than (-5), this means that the bank is exposed to a high risk of bankruptcy, and table (9) follows the application of Model equation (Sherrod) and show value (Z):-

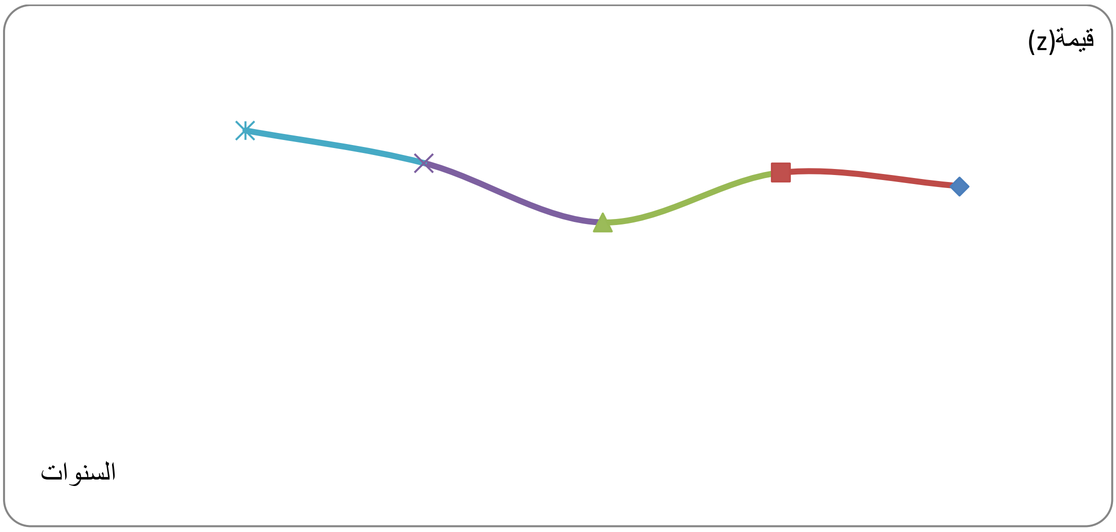
Table 9: Results of applying the model equation (Sherrod) and showing the value of (Z) and the position of Bank of Babylon from the prediction of the risk of bankruptcy.

The position of the bank forecast	Value (Z)	Model equation (Sherrod)	the year
Are difficult to predict failure	14.6	17(0.30)+9(0.54)+3.5(0.39)+20(0.02)+1.5(1-65)+0.1(4) = 5.1+4.86+1.37+0.4+2.48+0.4	2011
=	15.3	17(0.27)+9(0.69)+3.5(0.36)+20(0.02)+1.5(1.62)+ 0.1(3.81)= 4.59+6.21+1.26+0.4+2.43+0.38	2012
=	12.7	17(0.30)+9(0.23)+3.5(0.41)+20(0.01)+1.5(2.36)+ 0.1(3.86)= 5.1+2.07+1.44+0.2+3.54+0.39	2013
=	15.8	17(0.38)+9(0.19)+3.5(0.61)+20(0.02)+1.5(2.55)+ 0.1(2.71)= 6.46+1.71+3.14+0.4+3.83+0.27	2014
=	17.5	17(0.47)+9(0.21)+3.5(0.68)+20(0.01)+1.5(3.15)+ 0.1(3.29)= 7.99+1.89+2.38+0.2+4.73+0.33	2015

Table of the researcher's preparation

From Table (9) above, the results of the data analysis of Bank of Babylon showed convergence in the value of Z in terms of the risk of bankruptcy. The highest value of (Z) in 2015 was (17.5), followed by (2014) (15.3), followed by (2011) by (14.6) and finally (2013) by (15.3). This clear and convergent fluctuation in the value of (Z) falls within the third category which exceeds Value (5) is less than (20) so it is difficult to predict failure. Figure (2) illustrates the regression path of the Sherrod equation based on the results of Table 8:

Figure 2. The regression path of the Sherrod model on the Bank of Babylon.



:

In Figure (2) above, the average value of the index for the years under study was 15.18. In other words, the bank is moving towards financial prosperity based on its financial reports and data. It must review its financing activities continuously and develop plans to strengthen its credit activities, the following diagram shows this:

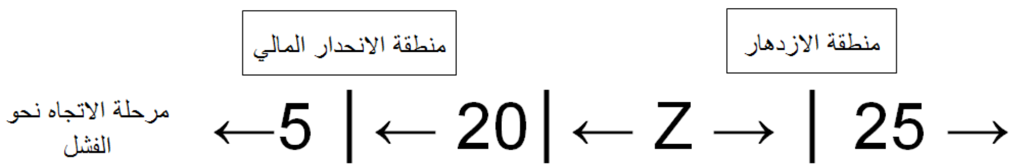


Table (9) also shows that the value of (X1) representing the net working capital / total assets was the highest value achieved in 2015 (7.99), followed by the year (2014) reaching (6.46). With an equal value of (2013) and (2011) reaching (5.1), and came in the last rank (2012), reaching (4.59).

The value of (X2) representing liquid assets / total assets, where the highest value has been achieved for the year 2012 (6.21), followed by (2011), where it reached (4.86) and then the year (2013) Followed by (1.89) in 2015, and finally (2014) in last place with (1.41).

The value of (X3) representing total shareholders' equity / total assets, where the highest value recorded for the year 2014 was 3.14, and then 2015 reached 2.38, followed by (2013) (1.44), followed by (2011) was (1.37), and finally was for the year (2012) value (1.26).

The value of X4, which represents the net profit before tax / total liabilities, where the highest value has been recorded and is equal by (0.4) was for the years (2011), (2012) and (2014), and then followed for the years (2013) (2015) were valued at (0.2).

The value of (X5) representing total assets / total liabilities, where the highest value has been achieved is (4.73) in 2015, followed by (2014) by (3.83) and then by (2013) (3.54), followed by the year (2011) was worth (2.48), and finally came the value (2.43) was ranked last for the year (2012). The value of (X6) representing total shareholders' equity/total fixed assets, where the highest value achieved was (0.4) in 2011 (and then followed for the year 2013) was (0.39), followed by (2012) (0.38), followed by 2015 (0.33), and finally (0.27) to be ranked last year (2014).

The fourth topic: Conclusions and Recommendations

Conclusions

Theoretical Conclusions: There are a number of conclusions drawn from the theoretical side as follows: -

1. Using the Sherrod model, we can predict the financial failure of Babil Bank, where the study reached preliminary results will that help the bank's management to diagnose the strengths and weaknesses in performance for the purpose of developing plans and appropriate solutions.

2. The companies, whether large or small, over time and in the various economies of the developed and developing the world, have faced many failures so that they become a general phenomenon, which has attracted the interest of many researchers. The fact that the subject of failure has become one of the important topics that most researchers attributed to two reasons: Mubasher is under the control of the company's management through poor performance and efficiency, and the second is indirect because it is outside the control of the management because of its attachment to environmental conditions surrounding.

Practical conclusions

The results of the financial analysis of the scientific application were prepared on the data of the Bank of Babylon for the financial years (2011, 2012,2013,2014,2015) as follows:

1. The high value of (Z) reflects the efficiency and ability of the Bank's management to predict the risk of bankruptcy, and this is evident for the year 2015 compared to previous years.
2. Impairment (Z) reflects weakness in the efficiency and ability of the Bank's management to predict the risk of bankruptcy and this is evident for the year 2013 compared to other years.
3. The slight increase or decrease in the value of Z was the result of the rise and fall in the financial ratios of the Sherrod model used for the Bank of Babylon, where the value was limited to the third category, which is difficult to predict.

Second: Recommendations

The researcher should make a number of recommendations in the light of the theoretical and practical conclusions, which will enhance the capacity of the sample of the study to detect the possibility of financial failure, and take the necessary precautions and measures to address them in scientific and studied ways as follows:

1. An objective policy should be set in selecting, appointing and training employees in the field of banking departments and attracting the holders of scientific qualifications and experience in the field of banking work, and follow up their training and develop the skills of the old ones and involve them in training courses inside and outside Iraq.
2. The management of the Bank of Babylon should clarify the fundamental facts that accompany its credit activity with transparency so that it helps to detect the phenomenon of financial failure early on.
3. The need to work by the management of the Bank of Babylon to take advantage of past experiences of banks that were subject to financial failure to put them within their flexible plans to face such future situations.
4. The management of the Bank of Babylon should use the financial ratios in financial analysis accurately as a component of the model (Sherrod), which is dependent on predicting financial failure.
5. It is imperative that the Bank of Babylon follows-up the continuation of the financial bulletin for currency trading issued by the Iraqi market for securities to ensure its continuity with credit activity within the sector.

References

Babil Bank Annual Financial Reports for the years 2015 – 2011.

Obaidat Mohammed, Fayez Al-Julani, "The Causes of the Failure of Industrial Companies", Journal of Humanities Studies, University of Jordan, Amman, Jordan, Volume 20 (1993).

Hamzawy, Mohammed Kamal, "The Economics of Bank Credit", Dar Al Ma'arif, Alexandria, Egypt, (1997).

Saleh, Essam Mohammed, GhazzwanSalim, Mustafa Mounir, "Analysis of the survival of mirrors is a function of predicting financial failure: an applied study on a sample of Jordanian-Iraqi joint stock companies," Al-Rafidain Magazine, University of Science, No. (4), third year (2000).

AlaaEddin Jebel, "Analysis of Financial Statements", Directorate of Books and University Publications, University of Aleppo, Syria, (2004).

Ali Abdul-Amir Fleifel, "Using the Z-Score Model to Predict Business Bankruptcy", Unpublished Master Thesis, Iraqi Media Network, Dar Al-Farahidi Publishing and Distribution, Baghdad, (2014).

"**7.** The Role of Credit Analysis in Reducing Bank Loan Impairment: A Study on Some Jordanian Banks", Journal of Development of Rafidain, Volume 23, No. (64), (2003).

Al-Hibaiti, Qassem Mohsen, "Using Financial Analysis Models to Test Investment Investment Opportunities for Banks", Journal of Development of Rafidain, Volume 23, No. (64), (2001).

Matar, Mohammed, "Modern Trends in Financial and Credit Analysis: Methods, Tools and Scientific Uses", Dar Wael Publishing, First Edition, Amman, Jordan, (2003).

Ghaleb Shaker Bakhit, "Using the Sherrod Model to Predict Financial Failure: A Study on a Sample of Private Commercial Banks Listed in the Iraqi Stock Exchange for the Period (2013 - 2009), Al Kout Journal of Economic and Administrative Sciences, Faculty of Management and Economics, Wasit University, 19), (2015).

Ghareeb Ahmed Mohamed, "Accounting Introduction to Measurement and Prediction of Corporate Recession: A Study in Business Companies, Arab Egypt, Journal of Commercial Research, No. 23, (2001).

Rashad Al-Attar, "Financial Management and Financial Analysis", First Edition, Dar Al-Baraka, Amman, (2001).

Student, Salah Abdul Rahman, "Adapting Financial Analysis Tools to Measure the Success Level of Business Establishments", unpublished doctoral dissertation, Faculty of Management and Economics, University of Mosul, (2000).

Al-Naimi, Ali Sulaiman, "A Proposed Accounting Model for Predicting the Stumbling of Public Shareholding Companies in Syria", Research Paper, Al-Rafidain Development Journal, No. (83), (2006).

Ali, Khairuddin, "Advanced Financial Management", Dar Al-Warraq Publishing and Distribution, Amman, Jordan, (1993).

Shaker Nabil Abdel Salam, "Financial Failure of the Project - Forecasting and Treatment - An Analysis Approach", Ain Shams University, Cairo, (2003).

Al-Ghusain, HalaBassam Abdullah, "Using Financial Ratios to Predict Companies' Failure: An Empirical Study on the Construction Sector in the Gaza Strip, Islamic University, Gaza, (2004).

Matar, Muhammad, "Financial Analysis: Methods, Tools and Scientific Uses", I, New Printing and Binding Company, Amman, Jordan, (1997).

Jahmani, Issa, "The Use of Financial Ratios to Predict Banks' Stumbling: A Study on the Banking Sector in Jordan", Journal of Public Administration, (2000).

AmmarAkram Omar, "Extent of Banking Accreditation on Financial Analysis to Predict Stumbling: An Empirical Study on National Commercial Banks in the Gaza Strip, Master Thesis, Islamic University, Gaza, (2008) .WWW.Kantakji.com.

El Naggar, Farid, "Stock Exchanges and Financial Engineering", Youth Institutions University, Alexandria, Egypt, (1999).

Shaker, Nabil Abdel Salam, "Financial Failure of Projects, Diagnosis - Prediction - Treatment: An Analysis Approach", Faculty of Commerce, Ain Shams University, Cairo, (1989).

Foster, George, "Analysis of Financial Statements", Arabization of Khaled Ali Ahmad Kajiji and Ibrahim Ould Mohamed Vall, Dar al-Marikh for Publishing, Riyadh, Saudi Arabia, (2003).

Al-Jahmani, Issa, "Using Financial Ratios to Predict Banks' Impairment: An Empirical Study on the Banking Sector in Jordan", Journal of Public Administration, Institute of Public Administration, Riyadh, Saudi Arabia (2001).

Amiri, Mohamed Ali Ibrahim, "Advanced Financial Management", First Edition, Al Tharaa Publishing and Distribution, Jordan, (2010).

Fahmi, Mustafa Al-Sheikh, "Financial Analysis," First Edition, Ramallah, Palestine, (2008).

ZahraaSaleh Al-Khayyat, "Using the Sherrod Model to Predict the Failure of Banks, Journal of the Development of Mesopotamia, No. 125, Vol. (36), (2014).

Habash, Mohamed Youssef, "Use of Cash Flow and Accounting Return to Predict Future Cash Flows: An Empirical Study on Palestinian Banks", Master Thesis, Islamic University, Gaza, (2006).

Al-Wattar, Saif Abdul Razzaq, "The Role of Accounting Information in Predicting the Failure of Industrial Shareholding Companies", Unpublished Master Thesis, Faculty of Management and Economics, University of Mosul, (2008).

Al-Hibaiti, Qassem Mohsen, "Using Financial Analysis Models in the Test of the Continuation of the Accounting Continuity of Constructions, which seeks to borrow from banks: Case Study", Rafidain Development Journal, Volume 23/2, (2001).

Al-Rikabi, Ali Khalaf and Al-Kaabi, ButhainaRashed, "Forecasting Financial Failures for Companies Using Financial Analysis in Iraq", Journal of Administration and Economics, Issue (64), (2012).

Kubaisi, Salah MouloudObaid, "The Role of Financial Analysis in Assessing Performance and Forecasting Financial Failure", Research Presented to the Board of Trustees of the Arab Institute of Certified Public Accountants (2011).

Al-Nuaimi, Adnan Tayeh, YassinKasab Al-Kharsha, "Fundamentals of Financial Management", First Edition, Dar Al-Maysara Publishing, Distribution and Printing, Amman, Jordan (2007).

Al-Sherif, Rihanna, "Efficiency and Effectiveness of Quantitative Models for Predicting the Technical Bankruptcy of the Economic Corporation", Al-Jandoul Magazine, Journal of Human Sciences, Fourth Year, Issue (30), (2006).

Hayali, WalidNaji, "Modern Trends in Financial Analysis", The Arab Open Academy of Denmark (2004). WWW.ao. Academy.Org.**36.** Padawan Ali Ali, "Contrasting Forecasting Models of Financial Failure in Determining the Financial Position of Companies: An Empirical Study on Insurance Companies Listed in the Damascus Securities Market", Al-Baath University Journal, Volume 36, No. (1), Damascus (2014).

Pringles, J. and Harris. S.R, "Essential of administrative finance", Scott Foreman, United State of America, (1984).