



# **PREDICTING FINANCIAL FAILURE OF YEMENI BANKS**

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# **Predicting Financial Failure of Yemeni Banks**

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A thesis submitted to the  
fulfillment of the requirement for the degree  
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## **ABSTRACT**

From year to year, strong attention has been paid to the study of the problems of predicting and preventing bank bankruptcy. Bank failures are usually followed by unfavorable consequences on stakeholders outside the failed banks themselves. Sometimes the consequences are felt by non-banking system as a whole. A failure can result in much harm to employment, earnings, financial development and other associated public interests.

Based on the logistic regression (LR) model, Earlier Warning System (EWS) is employed for Yemeni banks during 2002-2006 using micro-level data to identify a set of indicators that best explain the probability of an individual bank in Yemen to fail (become bankrupt) or remain sound across time. In the finding, capital adequacy, management quality and profitability found to be able to identify problem banks in Yemen. Bank's size has the opposite effect of failure probability. It is hoped that the financial ratios and result of the model will be useful to bankers and regulators in identifying problem banks in Yemen.

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2.2.4 Logit and Discriminate Analysis Models	27
2.2.5 Probit Regression Analysis	28
2.2.6 Split Population Survival Models	30
2.2.7 Other Models	31
2.3 Summary	34

### **CHAPTER THREE: METHODOLOGY**

3.0 Introduction	35
3.1 Theoretical Framework	39
3.2 Variable Selection Criteria	38
3.2.1 Capital Adequacy	38
3.2.2 Assets Quality	39
3.2.3 Management	40
3.2.4 Liquidity	41
3.2.5 Profitability	42
3.2.6 Size	44
3.3 Data Sampling	46
3.4 Model	48

### **CHAPTER FOUR: ANALYSIS**

4.0 Introduction	50
4.1 Descriptive Analysis	50
4.2 Correlation Analysis	55
4.3 Hypothesis test	57
4.4 Auxiliary regression	64
4.5 Application of the prediction model	66

**CHAPTER FIVE: CONCLUSION**

5.0	Introduction	68
5.1	Interpretations	68
	References	70



## LIST OF TABLES

<b>Table No.</b>	<b>Title of Table</b>	<b>Page</b>
1.1	Yemeni Economic Indicators	3
1.2	List of Commercial Banks of Yemen	7
1.3	Ranking of Yemeni Banks	8
1.4	Samples of Failed Banks Worldwide	12
2.1	Models of Bank Failure Prediction	34
3.1	Summary of the Ratio for Independent Variables	43
3.2	List of Commercial Banks of Yemen (B)	47
3.3	The Independent Variables	48
4.1	Descriptive Analysis for the Dependent and Independent Variables	52
4.2	Regression Results of All Observations (full models)	53
4.3	Correlation Matrix among the variables	56
4.3.1	Correlation Between Probability of Failure and Ratio of NWT A	58
4.3.2	Correlation Between Probability of Failure and Ratio of SET A	59
4.3.3	Correlation Between Probability of Failure and Ratio of TLTA	59
4.3.4	Correlation Between Probability of Failure and Ratio of total IETL	60
4.3.5	Correlation Between Probability of Failure and Ratio of LSIZE	60
4.3.6	Correlation Between Probability of Failure and Ratio of LADMF	61
4.3.7	Correlation Between Probability of Failure and Ratio of LATA	61
4.3.8	Correlation Between Probability of Failure and Ratio of TOENIBT	62
4.3.9	Correlation Between Probability of Failure and Ratio of NIBTTI	62
4.3.10	Correlation Between Probability of Failure and Ratio of NIBTTA	63
4.3.11	Correlation Between Probability of Failure and Ratio of NIBTNW	63
4.3.12	Correlation Between Probability of Failure and Ratio of IITI	64
4.3.13	Correlation Between Probability of Failure and Ratio of IIIE	64
4.4	Coefficients of Regression and Auxiliary test	66
4.5	Prediction Model Application	68

## LIST OF FIGURES

Figure 1:	Change in Yemen's GDP	3
Figure 1.2	The Financial Sector Restructuring	6
Figure 3.1	Study Frame Work	38

## LIST OF ABBREVIATIONS

BDF	Bearing Degradation Factor
CBY	Central Bank of Yemen
CL	Credit Lyonnais
DEA	Data Envelopment Analysis
EU	European Union
EWS	Early Warning Wystem
FDIS	Federal Deposit Insurance System
GDP	General Domestic Products
GME	Generalized Maximum Entropy Estimators
IETL	Interest Expenses/Total Loans
IIIE	Interest income/ Interest expenses
IITI	Interest Income/Total Gross Income
LADMF	Liquid Assets/(Deposits Money Market Funds)
LATA	Liquid Assets/Total Assets
LDAM	Logit and Discriminate Analysis Model
LEF	Life Expectancy Factor
LR	Logistic Regression
LSIZE	Logarithm of Gross Bank's Assets
LTCM	Long –Term Capital Management
MDA	Multiple Discriminate Analysis
NIBTNW	Net Income Before Tax/Net Worth
NIBTTI	Net Income Before Tax/Total Gross Income
NIBTTA	Net Income Before Tax/Total Assets
NPL	Non Performance Loans
NWTA	Net Worth/Total Assets
OLS	Ordinary Least Square
PHM	Proportional Hazard Model
PRA	Probit Regression Analysis
ROA	Return on Assets
SETA	Shareholder's Equity/Total Assets
T.B	Treasury Bills
TLTA	Total Gross Loans/Total Assets
TOENIBT	Total Operating Expense/Net Income Before Tax
TRA	Trait Recognition Analysis
US\$	United State Dollar
YR	Yemeni Riyal

$\varepsilon$  Error term

## CHAPTER ONE

### 1.0 Introduction

From year to year, strong attention has been paid to the study of the problems of predicting and preventing bank bankruptcy. Bank failures are usually followed by unfavorable consequences on stakeholders outside the failed banks themselves. Sometimes the consequences are felt by non-banking system as a whole. A failure can result in much harm to employment, earnings, financial development and other associated public interests. The failure of a bank has great adverse effect on the economy and so is considered very important (Benston & Kaufman, 1996).

The reason that contributes to bank failure is inadequate risk management practices. The nature of banking business is risky. Banks are exposed to several risks when they carry out their operations. They have to manage these risks carefully so that the realizations of the risks do not threaten their existence. Lack of regulation and supervision related to risk management also contribute to bank failures.

Based on the logistic regression (LR) model as suggested by earlier studies, Earlier Warning System (EWS) is employed for Yemeni banks during 2002-2006 to show how the interaction of all these factors affects the bank's fragility. This investigation allows us to answer the question on how banks should adjust their activity to minimize risk of failure and how banking regulation should respond to the added risk, if any, of bank failure and what changes in banking structure and regulatory procedure are necessary in order to

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