

Table of Contents

1. INTRODUCTION	18
1.1. Introduction and Role of Banking in Economic Development	18
1.2. History and Evolution of Banking	19
1.3. Reserve Bank of India (RBI).....	21
1.4. Technology in Banking	24
1.5. Credit, Deposit and NPA Growth in India	27
1.6. Concept and Functions of Banking	29
1.7. Support to Banking Sector	30
1.8. Banking Structure in India	31
1.9. Non-Performing Assets of Commercial Banks	32
1.9.1. Concept and Definition.....	33
1.9.2. Causes for Non-Performing Assets (NPA).....	34
1.9.3. NPA in Recent Times.....	36
1.10. Credit Appraisal System	41
1.11. NPA Recovery Measures.....	45
1.11.1. Compromise Settlement Schemes.....	47
1.11.2. Debt Recovery Tribunals and Recovery of Debts.....	48
1.11.3. Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest (SARFAESI) Act, 2002 and Asset Reconstruction Companies (ARC):	48
1.11.4. Lok Adalats.....	48
1.11.5. Credit Information Companies (CIC)	49
1.11.6. Insolvency and Bankruptcy Code	49
1.11.7. Corporate Debt Restructuring (CDR)	52
1.11.8. Special Mention Accounts	53
1.11.9. Infrastructure financing 5:25 Rule.....	53
1.11.10. Mission <i>Indradhanush</i>:	54
1.11.11. Strategic Debt Restructuring (SDR).....	54
1.11.12. Asset Quality Review	55

1.11.13.	Sustainable Structuring of Stressed Assets (S4A)	55
1.11.14.	Bad Banks	55
1.12.	Wilful Defaults	56
2.	LEGAL ASPECTS OF WILFUL DEFAULT	61
2.1.	Introduction	61
2.2.	Process flow of Wilful Default	63
2.3.	Definition of Wilful Default	64
2.4.	Implications to Wilful Default under Security and Exchange Board of India (SEBI)	66
2.5.	Penalty for Wilful Default under various law	67
2.5.1.	Reserve Bank of India	67
2.5.2.	Companies Act, 2013	68
2.5.3.	Insolvency and Bankruptcy Code, 2016	69
2.5.4.	SARFAESI Act, 2002	69
2.6.	Conclusion	70
3.	REVIEW OF LITERATURE	72
3.1.	Introduction	72
3.2.	Non-Performing Assets - An International Overview	72
3.2.1.	Internal Factors	73
3.2.2.	External Factor	74
3.3.	Non-Performing Assets in India	75
3.4.	Credit Appraisal Techniques	77
3.5.	Wilful Default	78
3.6.	International Voluntary Bankruptcy of Public Limited Companies	79
3.7.	IPO Performance and Leverage	80
3.8.	Credit Risk Models	82
3.8.1.	Econometrics Technique	84
3.8.2.	Neural Networks (NN)	89
3.8.3.	Optimization Models	89
3.8.4.	Rule-Based or Expert Systems	90
3.8.5.	Hybrid systems	91

3.9.	Evaluation of Bankruptcy Models.....	92
3.10.	Conclusion	108
4.	RESEARCH METHODOLOGY.....	112
4.1.	Rationale of the Study.....	112
4.2.	Objective of the Study.....	112
4.3.	Type of Research.....	112
4.4.	Scope of Research.....	113
4.5.	Sample Design.....	113
4.5.1.	Universe/Population.....	113
4.5.2.	Sampling unit	113
4.5.3.	Data Source.....	114
4.5.4.	Sampling Method	114
4.5.5.	Sample Size	114
4.5.6.	Parameters of Interest.....	114
4.6.	Data Collection	119
4.7.	Data Size.....	119
4.8.	Data Analysis	120
4.8.1.	Logistic Regression	121
4.8.2.	Multivariate Discriminant Analysis	122
4.8.3.	Artificial Neural Network (ANN).....	122
4.8.4.	Decision Tree	122
5.	DATA ANALYSIS AND MODEL CONSTRUCTION	125
5.1.	Application of Altman Z-Score Model and Ohlson O-Score Model.....	125
5.2.	Bankruptcy Prediction Models	133
5.2.1.	Background of the Model.....	133
5.2.2.	Variable Selection	134
5.3.	Correlation of variables	137
5.4.	Logistic Regression.....	140
5.5.	Multivariate Discriminant Analysis	152
5.6.	Artificial Neural Network (ANN)	156
5.7.	Decision Tree	161

5.8. Comparison of Models-Results and Variables	169
5.9. Conclusion.....	172
6. SUMMARY, FINDINGS, RECOMMENDATIONS, LIMITATIONS AND CONCLUSION	175
6.1. Summary of the Study	175
6.2. Findings of the Study	175
6.3. Recommendations	179
6.4. Limitation and Future Scope of Study	182
6.5. Conclusion.....	182
BIBLIOGRAPHY	185
Appendix.....	205