

**Nepalese Commercial Banks: Performance, Non-performing
Loans and Corporate Governance**

Ravi Prakash Sharma Poudel

**Diploma in Commerce (Tribhuvan University, Nepal),
Master in Business Administration (Tribhuvan University, Nepal),
Master in Commerce (University of New England, Australia)**

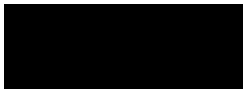
**Thesis submitted in fulfilment of the
requirements of the degree of
Doctor of Philosophy**

**UNE Business School
University of New England
Australia**

February 2014

Declaration

I, Ravi Prakash Sharma Poudel, declare that to the best of my knowledge and belief this thesis entitled “Nepalese Commercial Banks: Performance, Non-performing Loans and Corporate Governance” does not incorporate without acknowledgement any material previously submitted for a degree or diploma in any institution for higher education. This thesis also does not contain any material previously published or written by another person except where due reference is made in the text, or contain any defamatory material.

A solid black rectangular box used to redact the signature of the author.

Signature

Date: 13 February 2014

Acknowledgments

I extend my sincere appreciation to my supervisors Associate Professor Martin Hovey and Dr. Subba Reddy Yaram for their patience, support and careful supervision throughout the year of my candidature. They constantly encouraged me to remain focused on achieving my mission. It has been both a privilege and pleasure to have them as my supervisors and teachers. Special acknowledgement goes to Mr. David Wysel for his editorial assistance, obviously knowing the vulnerability of doctorate candidates with thesis writing.

Above all, I would like to express gratitude to all the commercial bank officials who made my research possible by providing information that was required during my field work in Nepal. Many of whom not only offered needed information, but also touched my heart with their enthusiastic cooperation. In this regard, I would like to thank the officials of Nepal Rastra Bank.

I owe particular thanks to a number of friends who patiently and willingly offered all sorts of assistance during my course of research. In particular, I wish to thank Mr. Adhir Sharma, all of whom took an interest in my work and encouragement.

Finally, I thank my father Mr. Prem Nath Sharma, mother Mrs. Raj Kumari Sharma and my beloved wife Mrs. Bhagabati Nepal. I should not miss my lovely daughter Miss Rashi Poudel who always asked me when I am going to finish my research so that she can spend a good amount of time with me. I am also fortunate to have a birth of a baby, who is of six months. In fact, all these my family members sustained my spirit during the long and arduous years of work. I deeply appreciate their sacrifice, understanding and unconditional love.

Abbreviations

BAFIA = Bank and Financial Institution Act

CEO = Chief Executive Officer

DRT = Debt Recovery Tribunal

FE= Fixed Effects

FEDAN= Foreign Exchange Dealers Association of Nepal

GDP= Gross Domestic Product

GMM= General Method of Moment

NEPSE= Nepal Stock Exchange Limited

NGOs = Non-government Organizations

NPL= Non-performing Loan

NPR = Nepalese Rupee

NRB= Nepal Rastra Bank

OLS= Ordinary Least Square

RE= Random Effect

ROA= Return on Assets

SE = Securities Exchange

SEBON= Securities Board of Nepal

SEC = Securities Exchange Centre

VIF= Variation Inflation Factor

Abstract

The purpose of this study is to examine the macro-economic, bank specific and corporate governance determinants of non-performing loans in Nepalese banking. In addition to this, the next objective of the study is to analyze the influence of corporate governance on bank performance in Nepal. The study is to investigate the above objectives in order to improve the means by which commercial banks in Nepal manage their non-performing loans and performance. This will provide guidance for the regulatory bodies in safeguarding the stability and integrity of the Nepalese financial system.

The theoretical basis for this study is based on financial intermediation theory, diversification theory and agency theory. Literature in relation to macro-economic, bank specific and governance determinants of non-performing loans and the influence of corporate governance on bank performance reported mixed results. The conceptual framework underpinning this study describes how the macro-economic, bank specific and corporate governance factors influence non-performing loans in Nepalese banks and also how the corporate governance influences bank performance in Nepal. In this framework, macro-economic variables were gross domestic product, inflation, money supply, foreign exchange, share price indices and market interest rate. Bank specific variables were lagged non-performing, loan growth, loan loss provision, earnings, capital, bank size, branch growth, bank size and interest rate spread. In the case of the conceptual framework of corporate governance, the study includes board size, board independence, board diligence, audit committee size, audit committee independence, audit committee diligence, foreign ownership, and institutional ownership and CEO remuneration as corporate governance variables. The study explored the relationship of these variables with non-performing loans and bank performance. Non-performing loans were calculated by the ratio of non-performing loans to total loans, whereas bank performance was assessed by the return on assets and Tobin's Q.

This is the first study conducted in Nepal on the influence of macro-economic, bank specific and corporate governance on bank non-performing loans and the influence of corporate governance on bank performance during a period of high volatility in the environment due to the adverse economic and political conditions. As a result, this study makes a significant contribution to the body of knowledge on determinants of non-performing loans and the

influence of corporate governance on bank performance in developing economies like Nepal, and how these factors impact on bank non-performing loans and performance.

A sample of 29 banks was selected from the 31 banks operating in Nepal in 2011. Data were obtained from annual reports of individual banks, World Bank database and various related publications of the central bank of Nepal. The study covers data from 2001-2011 to examine the macro-economic and bank specific determinants of non-performing loan, whereas data from 2005-2011 is used to examine the influence of corporate governance on bank non-performing loans and performance. The selection of data and period was determined by the availability of data. The STATA software is used for analysis.

This study used the Ordinary Least Square (OLS), Fixed Effect (FE), Random Effect (RE) and Generalized Method of Moment (GMM) regression to examine the relationship between dependent and independent variables. On the base of a preliminary tests, this study used OLS, RE and GMM to check the relationship of macro-economic, bank specific and corporate governance on bank non-performing loan, whereas OLS and FE regression are used to check the influence of corporate governance on bank performance. OLS and GMM are used to compare the result with RE and FE.

The results of the study show that among the macro-economic variables used, the gross domestic product growth, inflation, exchange rates and the market interest rate have a significant influence on bank non-performing loan, whereas non-performing loans with lag, loan growth, loan loss provision, bank size, and earnings are found as bank specific determinants of non-performing loan. The results show that of the corporate governance variables, board independence, audit committee size, audit committee independence and institutional ownership have a significant influence on non-performing loan. The study found that only board characteristics, namely board size, independence and diligence, have a significant influence on bank performance.

In conclusion, this study implies that the management of Nepalese banks should pay attention to the significant macro-economic, bank specific and corporate governance factors which are shown to influence non-performing loans and bank performance.

Table of Contents

Declaration.....	ii
Acknowledgments.....	iii
Abbreviations.....	iv
Abstract.....	v
List of Figures.....	xvi
List of Tables.....	xvii
CHAPTER ONE.....	1
Introduction.....	1
1.1 Introduction.....	1
1.2 Background of the Studies and Statement of the Problem.....	2
1.3 Objectives of the Study.....	9
1.4 Significance of the Study.....	9
1.5 Scope and Limitation of the Study.....	11
1.6 Summary of Research Methodology.....	12
1.7 Structure of the Study.....	12
1.8 Summary.....	13
CHAPTER TWO.....	14
Overview of the Nepalese Economy and Financial System.....	14
2.1 Introduction.....	14
2.2 The Nepalese Economy.....	14
2.2.1 A Brief History of the Nepalese Economy.....	14
2.2.2 Macro-economic Activities.....	16
2.2.2.1 Gross Domestic Product.....	17
2.2.2.2 Structure of GDP.....	18
2.2.2.3 Inflation.....	19
2.2.2.4 Money Supply.....	20
2.2.2.5 Trade.....	21
2.2.2.6 Exchange Rates and System.....	22
2.3 Nepalese Financial System.....	23
2.3.1 Financial Sector Development.....	23
2.3.1.1 The First Phase.....	24
2.3.1.2 The Second Phase.....	24
2.3.1.3 The Third Phase.....	25

2.3.1.4 Current Status.....	26
2.3.2 Supervision Framework.....	27
2.3.2.1 Present Status of NRB Supervision	27
2.3.2.1.1 Promulgation of NRB Act, 2001	27
2.3.2.1.2 Promulgation of an Umbrella Act.....	28
2.3.2.1.3 Issuance of Prudential Regulations.....	28
2.3.3 Capital Markets.....	29
2.3.4 Legal Framework for Investors' Protection in Nepal	31
2.3.4.1 Company Act 2006	32
2.3.4.2 Securities Exchange Board of Nepal	33
2.3.5 Legal Framework in Dealing with Problem Bank in Nepal	34
2.3.5.1 Role and Responsibilities of Different Regulatory Bodies in the Resolution of Problem Banks.....	34
2.3.5.1.1 Nepal Rastra Bank	34
2.3.5.1.2 Debt Recovery Tribunal.....	35
2.3.6 Performance of Commercial Banks	36
2.3.5.1 Total Assets.....	36
2.3.5.2 Total Liabilities.....	37
2.3.5.3 Total Deposits	39
2.3.5.4 Investment.....	40
2.3.5.5 Total Income	41
2.3.5.6 Interest Rate Spread	42
2.3.5.7 Non-performing Loan	43
2.3.5.8 Net Profit.....	44
2.3.5.9 Liquidity.....	44
2.4 Summary	45
CHAPTER THREE	47
Corporate Governance in Nepalese Banking Sector.....	47
3.1 Introduction.....	47
3.2 Defining Corporate Governance	47
3.3 Corporate Governance for Banks.....	50
3.3.1 Why does Corporate Governance Differ for Banks?	50
3.3.2 Special Characteristics of Corporate Governance for Banks.....	53
3.4 Corporate Governance Mechanism.....	54
3.4.1 Internal Governance.....	55
3.4.1.1 Board of Directors.....	55
3.4.1.2 Executive Compensation Schemes	55

3.4.1.3 Internal Audit	56
3.4.2 External Governance.....	57
3.4.2.1 Takeovers.....	57
3.4.2.2 Ownership Structure	57
3.4.2.2.1 Concentration.....	58
3.4.2.3 Identity	58
3.4.2.3.1 Block Shareholders	59
3.4.2.3.2 Debt Holders	59
3.4.2.3.3 Family Holding	60
3.4.2.3.4 Institutional Holdings.....	61
3.4.2.3.5 Foreign Holding	61
3.4.2.4 External Audit.....	62
3.5 Corporate Governance in Nepal.....	63
3.5.1 Recent Developments in Corporate Governance in Nepal	65
3.5.1.1 The Board of Directors	65
3.5.1.2 Management.....	67
3.5.1.3 Audit Committee.....	68
3.5.1.4 External Auditors	68
3.6 Summary	69
CHAPTER FOUR.....	71
Literature Review.....	71
4.1 Introduction.....	71
4.2 General Theories of Banking	71
4.2.1 The Theory of Financial Intermediation	71
4.2.2 Agency Theory.....	74
4.2.3. Diversification Theory	77
4.3 Different Types of Risk Faced by Banks	79
4.3.1 Credit Risk	79
4.3.2 Liquidity Risk	80
4.3.3 Market Risk.....	80
4.3.4 Operational Risk	81
4.4 Definition of Efficiency	82
4.4.1 Efficiency.....	82
4.4.2 Non-performing Loan	82
4.5 Determinants of Non-performing Loan	83
4.5.1 Macro-economic Variables	83
4.5.1.1 Economic Activity	84

4.5.1.2 Inflation.....	86
4.5.1.3 Money Supply.....	88
4.5.1.4 Exchange Rates.....	89
4.5.1.5 Share Price Indices.....	91
4.5.1.6 Market Interest Rate.....	92
4.5.2. Bank Specific Variables.....	93
4.5.2.1 Non-performing Loan Lag.....	94
4.5.2.2 Loan Loss Provision.....	95
4.5.2.3 Loan Growth.....	96
4.5.2.4 Capital.....	98
4.5.2.5 Profitability.....	99
4.5.2.6 Branch Growth.....	101
4.5.2.7 Size.....	102
4.5.2.8 Interest Rate Spread.....	103
4.5.3 Corporate Governance Variables.....	104
4.5.3.1 Board of Directors Characteristics.....	105
4.5.3.1.1 Board Size.....	105
4.5.3.1.2 Board Independence.....	108
4.5.3.1.3 Board Diligence.....	110
4.5.3.2 Audit Committee Characteristics.....	112
4.5.3.2.1 Audit Committee Size.....	113
4.5.3.2.2 Audit Committee Independence.....	114
4.5.3.2.3 Audit Committee Diligence.....	116
4.5.3.3 Ownership Structure.....	117
4.5.3.3.1 Institutional Ownership.....	117
4.5.3.3.2 Foreign Ownership.....	119
4.5.3.4 CEO Remuneration.....	120
4.6 Summary.....	122
Hypothesis Development.....	124
5.1 Introduction.....	124
5.2 Conceptual Framework.....	124
5.3 Hypothesis Development.....	126
5.3.1 Macro-economic Characteristics.....	127
5.3.1.1 Economic Activity.....	127
5.3.1.2 Inflation.....	127
5.3.1.3 Money Supply.....	128
5.3.1.4 Foreign Exchange.....	128

5.3.1.5 Share Price Indices.....	129
5.3.1.6 Market Interest Rate.....	129
5.3.2 Bank Specific Characteristics	129
5.3.2.1 Lag Non-performing Loans	129
5.3.2.2 Loan Loss Provision	130
5.3.2.3 Loan Growth	130
5.3.2.4 Capital	130
5.3.2.5 Earnings	131
5.3.2.6 Branch Growth.....	131
5.3.2.7 Size.....	131
5.3.2.8 Interest Rate Spread	132
5.3.3 Governance Characteristics	132
5.3.3.1 Board Size	132
5.3.3.2 Board Independence.....	132
5.3.3.3 Board Diligence	133
5.3.3.4 Audit Committee Size.....	133
5.3.3.5 Audit Committee Independence	134
5.3.3.6 Audit Committee Diligence	134
5.3.3.7 Institutional Ownership.....	135
5.3.3.8 Foreign Ownership.....	135
5.3.3.9 CEO Remuneration.....	136
5.4 Summary	136
CHAPTER SIX.....	137
Research Methodology	137
6.1 Introduction.....	137
6.2 Sampling	137
6.3 Data Collection Procedure	138
6.4 Measurement of Dependent Variables.....	139
6.4.1 Non-performing Loan	139
6.4.2 Performance	140
6.5 Measurement of Independent Variables	141
6.5.1 Measurement of Macro-economic Variables.....	142
6.5.1.1 Economic Activity	143
6.5.1.2 Inflation.....	143
6.5.1.3 Money Supply	143
6.5.1.4 Foreign Exchange	144
6.5.1.5 Share Prices Index.....	144

6.5.1.6 Market Interest Rate.....	145
6.5.2 Measurement of Bank Specific Variables.....	145
6.5.2.1 Lag Non-performing Loans	145
6.5.2.2 Loan Loss Provision	145
6.5.2.3 Loan Growth	146
6.5.2.4 Capital.....	146
6.5.2.5 Earnings	146
6.5.2.6 Branch Growth.....	146
6.5.2.7 Bank Size	147
6.5.2.8 Interest Rate Spread	147
6.5.3 Corporate Governance Variables.....	147
6.5.3.1 Board Size.....	147
6.5.3.2 Board Independence.....	147
6.5.3.3 Board Diligence	148
6.5.3.4 Audit Committee Size.....	148
6.5.3.5 Audit Committee Independence	148
6.5.3.6 Audit Committee Diligence	148
6.5.3.7 Ownership Structure	149
6.5.3.7.1 Institutional Ownership.....	149
6.5.3.7.2 Foreign Ownership.....	149
6.5.3.8 CEO Remuneration.....	149
6.6 Data Analysis	150
6.6.1 Statistical Techniques	150
6.6.2 Test Models.....	150
6.7 Research Design.....	152
6.7.1 Panel Data Analysis	152
6.7.1.2 Ordinary Least Square	153
6.7.1.3 Fixed Effects Model.....	154
6.7.1.3 Random Effects Model	155
6.7.1.4 Generalized Method of Moments	156
6.7.2 Diagnostic Test	157
6.7.2.1 Normality.....	157
6.7.2.2 Outliers.....	157
6.7.2.3 Multicollinearity	158
6.7.2.4 Heteroskedasticity.....	158
6.7.2.5 Autocorrelation	159
6.8 Summary.....	159

CHAPTER SEVEN	160
Results and Discussion	160
7.1 Introduction.....	160
7.2 Descriptive and Correlation Results of Bank Specific and Macro-economic Variables	160
7.3 Regression Results and Discussion.....	169
7.3.1 Results and Discussion of Determinants of NPL.....	169
7.3.1.1 Results of Macro-economic Determinants of NPL.....	170
7.3.1.2 Discussion of Result of Macro-economic Determinants of NPL	176
7.3.1.2.1 Economic Activity	177
7.3.1.2.2 Inflation.....	178
7.3.1.2.3 Broad Money Supply Growth.....	178
7.3.1.2.4 Exchange Rate	178
7.3.1.2.5 Share Prices Index.....	179
7.3.1.2.6 Market Interest Rate.....	179
7.3.1.3 Result of Bank Specific Determinants of NPL	180
7.3.1.4 Discussion of Result of Bank Specific Determinants of NPL	186
7.3.1.4.1 NPL One Year Lag	187
7.3.1.4.2 Loan Loss Provision	187
7.3.1.4.3 Loan Growth	187
7.3.1.4.4 Capital.....	188
7.3.1.4.5 Earnings	188
7.3.1.4.6 Branch Growth.....	189
7.3.1.4.7 Bank Size	189
7.3.1.4.8 Interest Rate Spread	190
7.3.1.4.9 Other Control Variables.....	190
7.3.1.5 Regression Results of Combined Macro-economic and Bank Specific Determinants of NPL	191
7.3.1.6 Discussion of Result of Combined Macro-economic and Bank Specific Determinants of NPL	196
7.3.1.7 Regression Result of Corporate Governance Determinants of NPL	197
7.3.1.8 Discussion of Corporate Governance Determinants of NPL.....	205
7.3.1.8.1 Board Size.....	206
7.3.1.8.2 Board Independence.....	207
7.3.1.8.3 Board Diligence	207
7.3.1.8.4 Audit Committee Size.....	208
7.3.1.8.5 Audit Committee Independence	208
7.3.1.8.6 Audit Committee Diligence	209

7.3.1.8.7 Foreign Ownership.....	209
7.3.1.8.8 Institutional Ownership.....	210
7.4.1.4.9 CEO Remuneration.....	210
7.3.1.8.10 Control Variables.....	211
7.5 Summary.....	211
CHAPTER EIGHT.....	213
Results and Discussion.....	213
8.1 Introduction.....	213
8.2 Descriptive and Correlation Results.....	213
8.3 Regression Results and Discussion of Influence of Corporate Governance on Bank Performance.....	215
8.3.1 Result of Influence of Corporate Governance on Bank Performance.....	215
8.3.1.1 Result Based on Accounting Measurement.....	216
8.3.1.2 Result Based on Market Measurement.....	222
8.4.1 Discussion of Influence of Governance on Bank Performance.....	227
8.4.1.1 Board Size.....	229
8.4.1.2 Board Independence.....	230
8.4.1.3 Board Diligence.....	231
8.4.1.4 Audit Committee Size.....	232
8.4.1.5 Audit Committee Independence.....	232
8.4.1.6 Audit Committee Diligence.....	233
8.4.1.7 Institutional Ownership.....	234
8.4.1.8 Foreign Ownership.....	234
8.4.1.9 CEO Remuneration.....	235
8.4.1.10 Control Variables.....	236
8.5 Summary.....	238
CHAPTER NINE.....	239
Conclusions and Recommendations.....	239
9.1 Introduction.....	239
9.2 Overview of the Research Questions.....	239
9.3 Focus of Study.....	240
9.4 Summary of the Findings.....	242
9.4.1 Macro-economic Determinants of Non-performing Loan.....	242
9.4.2 Bank Specific Determinants of Non-performing Loan.....	243
9.4.3 Influence of Governance on Non-performing Loan.....	243
9.4.4 Influence of Governance on Bank Performance.....	244
9.5 Implication of the Study.....	245

9.5.1 Implication for Theory	245
9.5.2 Implication for Practitioners, Policy Makers and Regulatory agencies.....	246
9.6 Limitation of the Study	248
9.7 Conclusion	249
References.....	251

List of Figures

Figure 2.1: Trend of GDP Growth	17
Figure 2.2: Trend of Inflation Rate	20
Figure 2.3: Trend of Broad Money Supply Growth	20
Figure 2.4: Trend of Exports to Imports	22
Figure 2.5: Trends of Total Assets of Commercial Banks.....	37
Figure 2.6: Compositions of Total Assets of Commercial Banks	37
Figure 2.7: Trend of Total Liabilities of Commercial Banks	38
Figure 2.8: Compositions of Total Liabilities of Commercial Banks.....	38
Figure 2.9: Trend of Total Deposit of Commercial Banks	39
Figure 2.10: Compositions of Total Deposits of Commercial Banks.....	40
Figure 2.11: Trend of Total Investment of Commercial Banks.....	40
Figure 2.12: Composition of Investment of Commercial Banks	41
Figure 2.13: Trends of Total Income of Commercial Banks	41
Figure 2.14: Composition of Total Income of Commercial Banks	42
Figure 2.15: Trends of Interest Rate Spread of Commercial Banks	42
Figure 2.16: Trends of Non-performing Loan of Commercial Banks	43
Figure 2.17: Trends of NPL to Total Loan of Commercial Banks	44
Figure 2.18: Trend of Net Profit of Commercial Banks	44
Figure 2.19: Trend of Liquid Funds to Total Deposits of Commercial Banks	45
Figure 5.1: Conceptual Framework: Determinants of Non-performing Loan.....	125
Figure 5.2: Conceptual Framework: Influence of Corporate Governance of Bank Performance	126

List of Tables

Table 2.1: Sectorial Contribution to GDP	18
Table 2.2: Trade and Their Contribution on GDP	22
Table 2.3: Depreciation and Appreciation of Nepalese Currency	23
Table 2.4: Growth of Financial Intermediaries.....	26
Table 2.5: Stock Market Development in Nepal	30
Table 6.1: Summary of the Measurement of the Variables	142
Table 7.1: Descriptive Statistics of Macro-economic and Bank Specific Variables	163
Table 7.2: Descriptive Statistics of Governance Variables	165
Table 7.3: Correlation Matrix of Macro-economic Variables	166
Table 7.4: Correlation Matrix of Bank Specific Variables	167
Table 7.5: Correlation Matrix of Corporate Governance Variables	168
Table 7.6: OLS Results of Macro-economic Variables on NPL	171
Table 7.7: RE Result of Macro-economic Variables on NPL	173
Table 7.8: GMM Result of Macro-economic Variables on NPL.....	175
Table 7.9: Summary of Results of Macro-economic Determinants of NPL and Hypothesis Test.....	177
Table 7.10: OLS Result of Bank Specific Variables on NPL.....	181
Table 7.11: RE Result of Bank Specific Variables on NPL	184
Table 7.12: GMM Result of Bank Specific Variables on NPL	185
Table 7.13: Summary of Results and Hypothesis Test	186
Table 7.14: OLS Result of Combined Macro-economic and Bank Specific Variables on NPL	193
Table 7.15: RE Result of Combined Macro-economic and Bank Specific Variables on NPL	194
Table 7.16: GMM Result of Combined Macro-economic and Bank Specific Variables on NPL.....	195
Table 7.17: Summary of Results (Macro-economic and Bank Specific Determinants of NPL)	196

Table 7.18: OLS Result of Corporate Governance Variables on NPL	199
Table 7.19: RE Result of Corporate Governance on NPL.....	202
Table 7.20: GMM Result of Corporate Governance Variables on NPL.....	203
Table 7.21: Summary of Results and Hypothesis Test	206
Table 8.1: Descriptive Statistics of Corporate Governance Variables	214
Table 8.2: Correlation Matrix of corporate governance variables.....	215
Table 8.3: OLS Result of Corporate Governance Variables on ROA	217
Table 8.4: FE Result of Corporate Governance on ROA	221
Table 8.5: OLS Result of Corporate Governance on Tobin's Q	222
Table 8.6: FE Result of Corporate Governance on Tobin's Q	225
Table 8.7: Summary of Results and Hypothesis test	228
Table 8.8: Summary of Results and Hypothesis test	229