DOI: 10.31357/fmscmst.2006.00313

INTEREST RATE SPREAD IN COMMERCIAL BANKING SECTOR OF SRI LANKA

By

Surawimala W.N.P

(GS/MC/1861/2001)

A dissertation

Submitted to the University of Sri Jayawardanapura.

In partial fulfillment of the requirements for the degree of

Master of Science in Management.

M.Sc. (Management) program

Faculty of graduate studies

University of Sri Jayawardanapura

April 2006.

INTEREST RATE SPREAD IN COMMERCIAL BANKING SECTOR OF SRI LANKA

By

Surawimala W.N.P

(GS/MC/1861/2001)

A thesis

Submitted to the University of Sri Jayawardanapura.

In partial fulfillment of the requirements for the degree of

Master of Science in Management.

M.Sc. (Management) program

Faculty of graduate studies

University of Sri Jayawardanapura

April 2006.

CERTIFICATION

I hereby recommend that the thesis was prepared under my supervision by Surawimala W.N.P. (GS/MC/1861/2001)

Entitled Interest Rate Spread in Commercial Banking Sector of Sri Lanka

Accepted in partial fulfillment of the requirements for the degree of Master of Science in Management.

Champa Rajapakse.

Dr.(Ms) R.P.C.R.Rajapakse.

Thesis advisor

18 AUG 2006

Approved by examination committee

....

....

....

M.Sc. (Management) Program

Faculty of Graduate Studies

University of Sri Jayawardanapura

Sri Lanka . April 2006

Acknowledgement

I deeply express my profound gratitude to the academic supervisor Dr. (Ms) R.P.C.R.Rajapakse, for her invaluable guidance, assistance and encouragement. Her valuable and innovative instructions enormously helped me to be independent leading me to construct the research with a more practical approach. Her versatile knowledge in financial sector has obviously helped me to continue the research in a very effective manner.

A very special and warm personal note of appreciation goes to messes W.Karunarathne and P.D.R.Dayananda of Central Bank of Sri Lanka for their encouragement and persistence in helping me to conduct the research.

Love to my wife, for greater tolerance and patience on me and to my daughters since I did not have much time to look after you.

I also extend my gratitude to my branch staff for their kind cooperation in carrying out study.

Abstract

This study was focused on identifying the determinants of interest rate spread, for commercial banks operating in Sri Lanka.

When compared to the other countries in South Asia it was observed that the interest rate spread for Sri Lankan commercial banks were much higher reflecting high intermediation costs incurred by local commercial banks. The banking sector has developed gradually over the years in terms of number of banks, number of branches, assets and in terms of the usage of technology in customer service. However, banks so far have been unable to reduce considerably their intermediation costs, and hence the problem of high interest rate spread exists. Gaining a clear understanding about the factors that influence the Interest rate spread would help effective policy making.

Two major categories of factors, namely internal factors and external factors influencing the interest rate spread were selected based on the literature survey. The internal factors were the, non performing loans and advances, high operational cost, and high obsolete cost of technology. The external factors were categorized into four, as bank characteristics, macro economic indicators, financial structure variables, and regulatory variables.

The statistical analysis indicated that non performing loans and advances, deposit composition, liquid assets, statutory reserve ratio, capital market development, and nominal interest rates were significant factors that influenced the commercial bank interest rate spread.

This knowledge can be effectively used in economic policy making which would also result in developing the commercial banking sector and the economy in general.

Table of contents

	Page
1. Chapter 1; Introduction.	01-07
1.1 Background.	01
1.2 Significance of the Study.	03
1.3 The Problem Statement.	03
1.4 Objective of the Study.	04
1.5 Research Methodology.	04
1.6 Limitations.	06
1.7 Structure of the final report.	06
2. Chapter 2; Literature Survey on Interest Rate Spread in Banking Sector .	08-25
2.1 Introduction.	08
2.2 Interest Rate Spread – Definitions and Calculations.	08
2.3 Factors Determining the Interest Rate Spread and Interest Margin.	09
2.4 Survey of Literature.	15
2.5 Summary.	24
3. Chapter 3 ; Evolution of the Banking System in Sri Lanka.	26-45
3.1 Introduction.	26
3.2 The History of Banking System in Sri Lanka.	26
3.3 Development in the Banking Institutions in Sri Lanka.	31
3.4 Development of the Banking System in Sri Lanka- Present Position.	32
3.5 Economic Importance of Interest rate Spread.	36
3.6 Evolution of Commercial Banks Interest rate Spread in Sri Lanka.	37
3.7 Banking in South Asia.	39
3.8 Summary.	45

4. Chapter 4; Research Methodology. 46-54

4.1 Introduction. 46

4.2 Determinants of Interest Rate Spread. 46

4.3 Definition of Variables. 46

4.3.1 Non Performing Advances. 47

4.3.2 High Operational Cost. 47

4.3.3 Liquidity. 47

4.3.4 High Obsolete Cost of Technology. 48

4.3.5 External Factors 51 - 53

4.4 Summary. 54

5. Chapter 5; Empirical Analysis of Determinants of Commercial Banks Interest rate Spread . 55-72

5.1 Introduction. 55

5.2 Empirical Analysis of Internal Factors. 55

5.2.1 Efficiency in Managing Assets. 55

5.2.2 Non Performing Advances. 56

5.2.3 Loan Loss Provision on NPA. 58

5.2.4 Statutory Reserve Ratio. 59

5.2.5 Impact on Government Taxation on Commercial Banks Interest Rate Spread. 60

5.2.6 Ownership of the Commercial Banks. 61

5.2.7 Impact of Non Financial Cost and Non Interest Income. 62

5.2.8 Deposit Composition of Commercial Banks. 64

5.3 Empirical Analysis of External Factors. 64

5.4 Summary. 71

6.Chapter 6; Summery, Findings and Conclusions 73-74

7.Appendix 75-76

List of Tables

	Page
1. 2-1 Interest Rate Spread in Selected South Asian Countries.	10
2. 2-2 Interest Margin in Selected South Asian Countries.	10
3. 2-3 Net Interest Income In Commercial Banks in Sri Lanka.	14
4. 3-1 The Strength in Banking Sector in Sri Lanka.	28
5. 3-2 Interest Rate – Product Wise.	29
6. 3-3 Assets and Liabilities of Licensed Commercial Banks.	33
7. 3-4 Four Major Private Commercial Banks vs. four Major Blue Chips in Sri Lanka.	35
8. 3-5 Evolution of Commercial Banks Interest rate Spread in Sri Lanka.	37
9. 3-6 Interest Rate Spread in Selected South Asian Countries..	38
10. 3-7 Interest Margin in Selected South Asian Countries.	39
11. 3-8 Selected Indicators of the Size and Structure of the Financial Sector.	40
12. 3-9 Cross – Country Comparison Selected Banking Indicators and Macro Economic Indicators 2003.	41
13. 3-10 . Number of Bank Branches Urban Vs Rural	42
14. 3-11 Cross- Country Comparison of Interest Spread, Profitability and Competitiveness Indicators of private Banks.	43
15. 3-12 Regulatory Regions vs. Liquidity Requirements.	44
16. 4-1 Relationship Between Commercial Bank Interest Rate Spread with Banks Internal and External Factors.	50
17. 4-2 Bank Characteristics.	51
18. 4-3 Macro Economic Indicators.	52
19. 4-4 Financial Structure Variables.	52
20. 4-5 Regulatory Variables.	53
21. 5-1 Effect on NPA on Commercial Bank Interest Rate Spread 1996-2001.	57
22. 5-2 LLP as a % of Loanable Fund of Commercial Bank in Sri Lanka 1996-2001.	58
23. 5-3 Cost of Loanable Funds in Commercial Banks in Sri Lanka 1997-2001.	59
24. 5-4 Corporate Tax as a % of Loanable Funds.	60

List of Figures

		Page
1.	5-1 Ownership Wise Commercial banks Interest Rate Spread.	61
2.	4-2 Non Financial Cost as a % of Commercial Banks Loanable Fund.	63

CHAPTER 1

INTRODUCTION

1.1. Background.

An efficient and vibrant commercial banking & finance sectors are a vital precondition for any market economy to be successful. Especially commercial banks provide an array of services to individuals and business covering almost all financial needs of individuals and businesses. Commercial banks financial services cover not only financing of foreign trade, domestic trade and industries, but also facilitate smooth functioning of the payment system in the economy.

A stable financial system creates a favorable environment for depositors and investors, encourages' efficient financial intermediation and the effective functioning of markets and hence promotes investments and economic growth. The rapid Development in the banking system in terms of products and services and institutions, after 1997, brought in competition amongst various financial institutions.

One of the most important factors is interest rate on lending. In most cases financial viability can be achieved only when interest rates reflected cost of funds, administrative and transactions cost of lending and the risk. Hence low administration costs and operational efficiency are also important for a stable financial system. Commercial banks main source of income is the interest, as they conventionally act as intermediaries in the market. Banks accept / borrow different types of deposits at various interest rates and offer / lend money through a variety of loan facilities at different interest rates.

It is commonly argued that intermediation cost or interest rate spread of Sri Lankan commercial banks are some what higher and hence enjoy super profits at the cost of other businesses.

The intermediation cost or more widely popular as interest rate spread is decided by a combination of factors such as market structural issues and macro socio-economic determinants. The interest rate spread and the Interest margin reflect the efficiency of financial intermediaries in an economy. As financial intermediaries, banks play a crucial role in the operation of most economies.

Recent research Hanson and Rocha (1986) has shown that the efficiency of financial intermediation can affect the net return for savings and the gross return for investment. When the interest rate spread is too large, it is generally regarded as a considerable impediment to the expansion and development of financial intermediation, as it discourages potential borrowers. (High interest rate spread leads to high interest rate on loan and advances), thus reducing feasible investment opportunities and therefore the growth potential of the economy. However we cannot say that a high interest rate spread is entirely bad. Some one can argue, relatively large interest rate spread may bring a degree of stability to a banking system, in that they can add to the profitability and capital of banks. So as to insulate them from macro and other shocks. On the other hand, a narrow interest rate spread may be indicative of relatively competitive banking system with a low level of intermediation costs.

The interest rate spread is defined as the difference between the average yield of interest earning assets and the average cost of interest bearing liabilities[1]. The interest margin is defined as the ratio of net interest income to banks' average assets[2].

[1] Interest Spread (%) $= \dfrac{\text{Interest income}}{\text{Average Of interest bearing assets} + \text{NPLS} + \text{SR} + \text{Cash}} \qquad \dfrac{\text{Interest Expenses}}{\text{Average Deposits and Borrowings}}$

[2] Interest Margin (%) $= \dfrac{\text{Interest income} - \text{Interest Expenses (\%)}}{\text{Average Assets}}$

1.2. Significance of the Study.

Banking system of a country provides the life blood to efficient and effective functioning of an economy. Therefore it is crucial to understand that the high interest rate spread in banking and financial sector, will immensely disrupt and cause adverse consequence in the whole economy. Both the interest rate spread and the interest margin show that the intermediation cost is higher in Sri Lanka than in neighboring South Asian Countries mostly due to high operational costs in the domestic banking system. High interest margins in a banking system are indicative of deep rooted symptoms of inefficiency, absence of competition, non-diversification of income sources, skewed development of money and capital market in favor of banks lending and inflexibility of rate adjustments symmetrically in response to market changes. Understanding the determinants of interest rate spread would enable us eliminate such unnecessary cost in financial intermediation, which would be the result in operational and administration efficiency, resulting in financial viability, stability and economic growth.

1.3 The Problem Statement

High cost of intermediation or high interest rate spread could have a number of adverse consequences on the economy. In economies of developing countries, where capital markets are underdeveloped, banks are the key financial intermediaries that allocate funds for new investment or provide external funding for business expansion. The high cost of financing due to high interest rate spread may make it prohibitive for some potential borrowers to undertake new investment or expand existing business, thus reducing the future growth prospects of the economy. The high spread also reduces financial deepening in the economy as there could be financial disintermediation, if the banking sector is not effective in channeling resources from surplus units to deficit units further, the higher spread could increase the credit risk of banks due to the problem of adverse selection. Hence in this study the problem that is addressed "What are the determinants of Interest rate spread?"

On average the interest rate spread is about 2.6% in India, 2.2% in Pakistan, 1.6% in Bangladesh and 4.7% in Sri Lanka consecutively. The world bank report on financial performance and Industries 2004.

1.4. Objective of the Study

This study,

- Aims at analysing the evolution and determinants of interest rate spread in commercial banks operating in Sri Lanka.
- To understand how the interest rate spread is influenced by bank characteristics (size of banks, quality of assets, types of business, ownership and capital) and Macro economic indicators, regulatory variables and financial structure.

1.5 Research Methodology

Data

This study analyzed the determinants of interest rate spread of Commercial Banks operating in Sri Lanka from 1997 to 2004. Yearly data were extracted from the consolidated income statements and balance sheets of the individual banks and in the case of foreign banks those data were extracted from financial statements of the domestic banking sector. Additional data in relation to macro economic indicators such as foreign exchange rate, inflation rate, deposit rate, economic growth rate, market interest rate etc. were extracted from the annual reports of the Central Bank of Sri Lanka and quarterly publications.

Research Design

The Commercial Banks operating in Sri Lanka were divided into three major categories as State Banks, Domestic Private Banks and Foreign Banks for analytical purposes. In order to understand the nature of influence of the determinants of Commercial Bank interest rate spread, Statistical multiple regression analysis (ordinary least square) was used.

The following multiple regression equations were estimated.

Equation for the Bank Characteristics:

(i) Interest Rate Spread = $\alpha_a + \alpha_{a1}$ DDTD + α_{a2} TLTD + α_{a3} CLC + α_{a4}GNPT + μ_a

DDTD = (Demand Deposits / Total Deposits) 100

TLTD = (Total Loan/Total Deposits) 100

CLC = [(Capital Fund + Liabilities / Capital Fund)] 100

GNPT = (Gross Non performing Advances / Total Advances) 100

Equation for the Macro Economic Indicators:

(ii) Interest Rate Spread = $\alpha_b + \alpha_{b1}$ INL + α_{b2} GR + α_{b3} INR + α_{b4}ER + μ_b

INL = (Nominal Inflation Rate, Moving average for 12 months)

GR = (Quarterly change in annualized GDP)

INR = (Yield on 12 months Treasury Bills)

ER = (Depreciation of Rupees in terms of average Exchange rate of US$)

Equation for the Regulatory Variables:

(iii) Interest Rate Spread = $\alpha c + \alpha c_1$ LAL + αc_2 LAR + αc_3 SSR + μc

LAL = (Liquidity Assets / Total Liability) 100

LAR = (Capital Fund / (Total Assets-Liquidity Assets)100

SRR = (Statutory Reserve Requirement/Total Deposits) 100

Equation for the Financial Structure Variables:

(iv) Interest Rate Spread = $\alpha_d + \alpha_{d1}$ MG + α_{d2} CMS + α_{d3} MCB + α_{d4} BAD+ μ_d

BAD = (Bank Assets /GDP) 100

MCB = (Market Capitalization /Bank Assets) 100

CMS = (Credit to private by Commercial Banks /Total Domestic Private Credit) 100

MG = (Change in M2 measure of money supply)

A comprehensive review of determinants of interest rate spread recently done by Demirguc and Huizinga (1999) discloses the variable factors which influence the interest rate spread; the same was applied for this study.

Since different banks close their financial year in two different months, December and March, Some calculations were necessary to take annual data for the period selected. Therefore consolidated data for foreign banks were converted into domestic currency and considered for a 12 month period. Foreign banks prepare two sets of financial statements for domestic banks units and foreign currency banking units.

1.6 Limitations.

i. The non availability of required data and different accounting formats used by different banks and differences in interpreting some accounting transactions lead to some difficulties in collecting data restricted this study being carried out for a longer period of time. Hence the study was limited to the period 1997-2004

ii. This study was carried out in partial fulfillment of the Msc. (mgt) degree program. The limited time span available also imposed restrictions on the study.

1.7 Structure of the Final Report :

The remaining part of this report is structured as follows.

Chapter 2 : Survey of literature

This chapter illustrates the definition of interest rate spread, various studies that discuss the issue of Commercial Bank Interest Rate Spread.