

## **The Impact of Credit Risk on the Profitability of Commercial Banks in Sri Lanka**

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### **Introduction**

Financial institutions facilitate economic growth and development through financial intermediation. Among financial institutions, commercial banks are the biggest, performing a major share of financial intermediation and serving as the core of the financial system. Moreover, commercial banks are the foundation of payment systems in many economies particularly in developing countries by playing an intermediary role between depositors and borrowers ((Felix Ayadi et al., 2008). The intermediary role of commercial banks explain the core function of commercial banks which fall within the concept of traditional banking. However, lending by itself generates risk when the borrower fails to meet his obligations. The risks associated with lending is called credit risk that is recognised as the most important among risks relating to liquidity, operations, and markets (Perera et al., 2014, Yusuf, 2003). Credit creation is an important determinant of bank performance since it is generated through financial intermediation which is the main income generating activity of commercial banks. According to the Kargi (2011) creation of credit is the main income generating activity for banks but this involves huge risks to both lender and the borrower. If the banks fail to manage credit risk, they may pay high costs in the shape of bankruptcy since the banks that are highly exposed to credit risk face a reduction in profitability (Arif, A., et al 2012). Uncertainty and the global financial crisis has created pressure on credit risk and ultimately caused profitability of commercial banks (Bayyoud & Sayyad, 2015). Most studies generally confirm that risk management is vital for any organisation to achieve its objectives in fair manner in the current business environment, (Smith et al., 1990., Fatemi and Fooladi, 2006).

Risks are inherent to all aspects of commercial bank operations. Therefore, banking in the modern economy is all about risk management (Thiagarajan and Ramachandran, 2011) Managing risk is important to any type of bank regardless of nature, size or location. Moreover, recent studies in this area reveal that poor asset quality, excessive credit expansion, and inappropriate risk management are the main reasons for the financial crisis. The importance of managing credit risk is highlighted by the Basel committee on banking supervision and in its recent accord, Basel III identified the responsibility of managing credit risks in financial crisis (Jayadev, 2013).

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Literature on credit risk suggests that there are two main determinants of credit risks in banks. The first determinant are bank-specific variables (BSV). BSV has a significant relationship with credit risk in commercial banks (Chen & Pan 2012, Kargi 2011). The second determinant of credit risk is the various macroeconomic variables including GDP growth, money supply, interest rate and inflation (Thiagarajan and Ramachandran, 2011), According to Arif, Afrar and Afzal (2012), the economic environment acts as an important factor in credit risk mitigation. Moreover, the downturn in economic activities negatively affects cashflows of borrowers which may cause default of bank loans.

There are extensive studies on credit risk and the profitability of commercial banks: most confirm the existence of an inverse relationship between credit risk and the profitability of commercial banks.(Poudel 2012, Honsa et.al 2009,Chen and Pan 2012,Kargi 2011,Naceur 2003, Thiagarajan et al 2011). Though, a relatively large number of studies confirm this negative association between credit risk and profitability, generalising it is difficult since a number of other studies offer different opinions. Some other studies also confirm the positive association between credit risk and profitability (Kithinji 2010).

Further, empirical literature on credit risk and profitability becomes more complicated with the findings of Hanseef et.al (2012) on the banking sector in Pakistan. This study regressed non-performing loans (NPL) against the profitability of banking sector during the period 2005 to 2009 in a sample of five commercial banks in Pakistan. The results of this study reveal that the profitability of commercial banks has no significant relationship with NPL. Therefore, literature on this issue provides inconclusive results and hence that can be investigated on empirical ground as a case study. Hence, the purpose of study is to investigate the relationship between credit risk and the profitability of commercial banks in the context of the Sri Lankan commercial banking sector. The findings of the study will enrich the existing literature gap on credit risk and profitability in Sri Lanka.

### **Material and Methods**

The study reveals the apparent relationship between credit risk and profitability of commercial banking sector using secondary data in five selected domestic commercial banks in Sri Lanka. Literature provides a number of factors which determine the credit risk of commercial banks. Most previous studies identified non-performing loans, bank loans and deposits, and macroeconomic conditions as the major determinants of credit risk in commercial banks (Gul et. al . 2011,Kargi 2011,Kithinji 2010, Naceur 2003, Kosmidou, 2008). The present study extensively uses the model adopted by Gul, Irshad and Zaman (2011) on credit risk

management. Accordingly, the current study identifies the bank-specific factors such as non-performing loans to total loans ratio, provision for loan losses from total loans, loans to total assets, total loans to total deposits, natural log of total assets, and macro economic variables such as growth rate of GDP, average inflation rate, and total assets in the banking sector to GDP, to develop a regression model which utilised panel data. The profitability of commercial banks measured using return on average assets of commercial banks. Relevant data were obtained from the audited financial statements of commercial banks and the Central Bank annual reports for 2005–2015. The analysis was done using SPSS software, and descriptive statistics and regression analysis was performed. The extensive model can be written as follows.

$$Y = \alpha + \beta_1 \text{NPLR} + \beta_2 \text{PLL} + \beta_3 \text{LOAN} + \beta_4 \text{DEPO} + \beta_5 \text{LNTA} + \beta_6 \text{INF} + \beta_7 \text{GDP} + \beta_8 \text{ASSETS} + \varepsilon$$

Y : ROAA – Net Profit after tax/ Average total Assets –Profitability indicator

NPLR : Non performing loans / Total loans

PLL : Provision for loan losses / Total loans

LOAN : Total Loans / Total assets

DEPO : Total Loans / Total deposits

LNTA : Natural log of total assets

INF : Annual inflation rate

GDP : GDP growth rate

ASSETS: Total assets of banking sector / GDP

$\varepsilon$  : Error term

## **Results and Discussion**

Table 3.1 shows the descriptive statistics for all the variables. All the variables except bank assets to GDP have low standard deviations which implied the consistency of the data set. Total loans to total assets (LOAN) in the commercial bank is about 60 per cent. This indicates that credit given by commercial banks is relatively high in Sri Lanka and more than 50% of the assets in Sri Lankan commercial banks contributed to financing activities.

Table 1: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Return on average assets	60	0.10	2.01	1.1133	0.41578
Non-performing loan ratio	60	2.24	29.38	8.9450	5.62735
Provision for loan losses	60	0.07	3.00	1.1263	0.74223
Total loans/ Total assets	60	48.80	70.20	60.1833	5.55863
Total loans/ Total Deposits	60	62.50	95.10	79.8417	8.03037
Natural log of total assets	60	8.10	13.60	10.7683	4.11448
GDP growth rate	60	3.54	830	6.1860	1.52912
Inflation rate	60	3.42	22.56	9.95560	5.38241
Total assets of the banking sector/GDP	60	441.61	530.8/0	448.427	26.27375

Correlation refers to the degree of relationship between two variables. Results indicate that GDP, LOAN, LNTA have positively correlated with ROAA and all other variables are negatively correlated with ROAA.

Table 2: Correlation

Variable	ROAA	GDP	INF	ASSETS	NPLR	PLL	LOAN	DEPO	LNTA
ROAA	1	0.332	-	-0.078	-	-	-0.035	0.083	0.131
GDP	0.332	1	1.171	0.254	-	-	0.308	0.388	0.181
INF	-0.171	0.092	1	-0.102	-	-	0.262	0.412	0.084
ASSETS	-0.078	0.254	-	1	-	-	0.126	0.119	-0.033
NPLR	-0.689	-	-	-0.072	1	0.698	-0.009	-0.216	-0.355
PLL	-0.587	-	-	0.009	0.698	1	-0.008	-0.046	-0.186
LOAN	-0.035	0.308	0.263	0.126	-	-	1	0.822	0.212
DEPO	0.083	0.388	0.412	0.119	-	-	0.822	1	0.373
LNTA	0.132	0.181	0.084	-0.033	-	-	0.212	0.373	1
					0.355	0.186			

In order to get a realistic decision, strongly related independent variables should be detected and omitted before regression analysis, by using multicollinearity test. The reduced form equation was used for the extensive regression analysis.

According to the table 3.3, the regression results show that PLL, LOAN, GDP variables are insignificant at 5% level of significant. Among the explanatory variables, INF, ASSETS, NPL, DEPO and LNTA will have significant relationship

with bank profitability. INF and NPL variables are highly significant level for bank profitability.

Table 3.3 Regression Results

Variable	Unstandardised		Standardised Coefficient		
	B	Std Error	Beta	t Stat	sig
(constant)	3.209	0.733	-0.123	4.376	0.0000
GDP growth rate	0.034	0.027	-0.123	1.267	0.2150
Inflation Rate	-0.028	0.007	-0.363	-3.844	0.0000
Total assets /GDP	-0.003	0.001	-0.205	-2.343	0.0230
Nonperforming Loan ratio	-0.046	0.009	-0.627	-4.948	0.0000
Provision for loan losses	-0.082	0.067	-0.146	-1.232	0.2240
Total Loans/ Total Assets	-0.02	0.011	-0.273	-1.808	0.0780
Total Loans / Total Deposits	0.019	0.009	0.362	2.079	0.0430
Natural log of Assets	-0.02	0.01	-0.194	-2.014	0.0490
R <sup>2</sup>	0.651				
Adjusted R <sup>2</sup>	0.597				
F stat	11.906			0.000	

The results indicate that a significant share of the variation in credit risk on commercial banks can be explained by five variables: namely, average inflation, non-performing loan ratio, total assets to GDP, total loans to deposit ratio, and natural log of total assets. These variables will have a significant impact on banks profitability. An overall, these variables account for about 65 per cent of the variability in credit risk of commercial banks. (R<sup>2</sup> = 0.651). This result confirms the findings of previous studies. It is important to point out that the value of F statistics is 11.906 and the respective p value is 0.000 which indicates the overall model is significant and validity and stability of the model is relevant for the study. Further, it is important to point out that the variable inflation rate and non performing loan ratio are highly significant by presenting a negative impact on bank performance. It is observed that remaining variables, namely provision for loan losses, total loans to total assets, and growth of GDP are not significant in the model.

## **Conclusion**

This study investigates the impact of credit risk on the profitability of commercial banks in Sri Lanka during the recent ten year period. The results of this study confirmed that credit risk has a significant impact on profitability of commercial banks in Sri Lanka. According to the results Sri Lankan banks should consider how to reduce non-performing loans, and increase deposits and assets of the banking sector to increase profits. The finding has resulted in a number of implications for policymakers and practitioners in the banking system in promoting resource allocation through financial intermediation by ensuring the profitability of the banking sector and growth potential of the country.

***Keywords; commercial banks, profitability, credit risk, panel regression, Sri Lanka***

## **References**

- Fatimi, A., and Fooladi, I., (2006), Credit risk management; A survey of practices, Emerald Management Finance, 32(3), p,227-233
- Kargi, H., (2011). Credit risks and profitability of Nigerian banks, Nigerian Economic Journal, 5(2)..p 1-22
- Arif, Arar and afzal ( 2012). Credit Risks and Shareholders value in Developing economies? Evidence from Pakistan Banking System, Journal of Economics and Behavioral Studies, Vol4(2)? 87-95
- Thiagarajan, S., and Ramachandran, A., ( 2011), An empirical analysis and comparative study of credit risk ratios between public and private sector commercial banks in India, International Research Journal of Finance and Economics, 65, p83-92.
- Chen, K., and Pan., S., ( 2012), An empirical study of credit risk efficiency of banking industry in Taiwan, Web Journal of Chinese Management Review, 15(1), p 1-16
- Kethinji, A., (2010), Credit risk management and profitability of commercial banks in Kenya, Journal of Banking and Finance, 12, p. 1-40
- Gul, Irshad and Zaman, S.,. (2011) Factors affecting bank profitability in Pakistan., The Roman Economic Journal, 10(2).
- Kosmidou, K., (2008), The determinants of banks profits in Greece during the period of EU financial integration. Emerald Managerial Finance34(3).