# BANKING SECTOR DEVELOPMENT ON ECONOMIC GROWTH: STRUCTURAL EQUATION APPROACH

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Dissertation submitted in partial fulfilment of the requirements for the degree Master of Science in Business Statistics

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#### ACKNOWLEDGEMENT

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#### ABSTRACT

#### Banking sector development on economic growth: structural equation approach

Banking sector is an important segment of an economy. Financial and regulatory authorities have been stressing the requirements to cope with the unforeseen consequences on financial systems, banks and economic growth globally. This study explores the determinants of the banking sector development (BSD) and direct and indirect effect of the BSD on economic growth of 18 countries for the period of 2006 to 2014. As per the objectives, Two-Step System-Generalized Method of Moment (GMM) estimation used to explore the determinants of the BSD. To explore the direct and indirect effect of the BSD on economic growth, Three Stage Least Square (3SLS) estimation is used. Four indicators of the BSD, (i) bank intermediation (IM) proxied by private credit by deposit money bank to GDP, (ii) bank broad access (BA) proxied by commercial bank branches per 100,000 adults, (iii) bank profitability (PF) proxied by banks return on assets and (iv) bank liquidity (LQ) proxied by banks liquid assets to deposit were identified. Study found that BSD was determined by economic growth (EG), interest rate (IR), trade liberalization (TL), financial liberalization (FL) and governance infrastructure (GVI) explored by the first principal component of the six governance indicators. Results of the direct effect on economic growth indicates that per capita commercial bank branches have significantly influenced to the economic growth. The indirect results showed that human capital development of the selected countries has significantly cared the economic growth effects of the IM and BA out of the four models. Since, improved bank intermediation and bank access have allowed flowing credits and reliable banking facilities to the entrepreneurs and individuals for the investment on skilled labour by way of trainings and higher education opportunities which have ultimately improved the economic growth endogenously. The study suggested that governments and monetary authorities must review the policies towards the hassle-free financial access and prioritize the productive investment ventures when providing bank facilities towards the economic growth.

**Key Words:** Banking Sector Development, Endogenous Growth, Financial Crisis, Generalized Method of Moment and Three Stage Least Square.

## **TABLE OF CONTENTS**

Declaration of Candidate & Supervisor	i
Acknowledgements	ii
Abstract	iv
Table of Content	v
List of Figures	ix
List of Tables	X
List of Abbreviations	xii
List of Appendices	xvi

#### 1. Introduction

1.1	Background of the Study	01
1.2	Banking Sector Development Indicators	02
1.3	Determinants of the Banking Sector Development and	
Cross-	Country Analysis	05
1.4	Financial Intermediation and Endogenous Growth	07
1.5	Banking Sector Development and Economic Growth	09
1.6	Importance of Econometric Models	11
1.7	Research Problem	12
1.8	Research Objectives	14
1.9	Significance of the Study	14
1.10	Chapter Organization	15

### 2. Literature Review

2.1	Introduction		17
2.2	Theore	etical Review	17
	2.2.1	Banks and Banking Sector	18
2.3	Indica	tors for the Banking Sector Development	19
	2.3.1	Depth Dimension	20
	2.3.2	Access Dimension	22
	2.3.3	Efficiency Dimension	23

	2.3.4	Stability Dimension	25
2.4	Evolut	tion of Finance and Growth	27
	2.4.1	Initial Development of Finance and Growth Nexus	27
	2.4.2	Financial Liberalization on Economic Growth	29
	2.4.3	Trade Liberalization on Finance and Economic Growth	32
	2.4.4	Governance on Finance and Economic Growth	33
	2.4.5	Financial Development and Endogenous Growth	34
	2.4.6	Evolution of Endogenous Growth Model	35
	2.4.7	Endogenous Growth on Banking Sector Development	38
2.5	Empir	ical Review	40
	2.5.1	Determinants of the Banking Sector Development	40
	2.5.2	Direct and Indirect Effect of Banking Sector Development	
	on Eco	onomic Growth	45
2.6	Chapte	er Summary	56
3. Materials	and Me	thods	
3.1	Introd	uction	58
3.2	Select	ion of Countries	58
3.3	Conce	ptual Framework	60
3.4	Secon	dary Data	63
	3.4.1	Selection of Variable for the Dependant Variable in	
	Deterr	ninants of the Banking Sector Development	63
	3.4.2	Selection of Explanatory Variables in Determinants of the	
	Bankiı	ng Sector Development	64
	3.4.3	Selection of Dependant Variable in Direct Effect of the	
	Bankiı	ng Sector Development on Economic Growth	64
	3.4.4	Selection of Banking Sector Development Variables,	
	Interm	ediate Variables and Control Variables in Direct Effect	
	of the	Banking Sector Development on Economic Growth	65
	3.4.5	Control Variables in Direct and Indirect Effect of Banking	
	Sector	Development on Economic Growth	66
3.5	Metho	dology and Data Analysis	67

		3.5.1	Descriptive Statistics	67
		3.5.2	Correlation Coefficient	67
		3.5.3	Principal Component Analysis	67
	3.6	Model	Specification on Determinants of the BSD	69
		3.6.1	Estimation Technique	71
	3.7	Struct	ural Equation Model	72
		3.7.1	Three Stage Least Square Estimation	73
		3.7.2	Model Specifications for Direct and Indirect Effect of	
		BSD o	on EG	74
	3.8	Estima	ating the Channel Effect	77
4	. Explanato	ory Data	Analysis	
	4.1	Introd	uction	78
	4.2	Behav	iour of the Determinants of the Banking Sector	
	Devel	opment		78
		4.2.1	Real Gross Domestic Product Growth (RGDPG)	78
		4.2.2	Real Interest Rate (RIR)	79
		4.2.3	Trade Openness (TO)	81
		4.2.4	Foreign Direct Investment (FDI)	81
		4.2.5	Governance Infrastructure Indicator (NGVI)	82
	4.3	Princi	pal Component Analysis for Governance Indicators	85
	4.4	Descri	ptive Statistics for the Determinants and indicator	
	of the	Bankin	g Sector Development	89
	4.5	Correl	ation Analysis between Indicators and Determinants	
	of the	Bankin	g Sector Development	94
	4.6	Descri	ptive Statistics for the Intermediate Variables	
	and C	ontrol V	ariables on Economic Growth	96
	4.7	Correl	ation Analysis between Economic Growth, Banking Sector	or
	Devel	opment,	, Intermediate and Control Variables	102
	4.8	Correl	ation Analysis between Intermediate Variables	
	and C	ontrol V	Variables	107
	4.9	Chapte	er Summary	111

5.	5. Determinants and Effect of the Banking Sector Development, Economic Growth			
	5.1 Introduction			
	5.2	Model Developed for IM using Arellano-Bond-GMM	114	
	5.3	Model Developed for BA using Arellano-Bond-GMM	117	
	5.4	Model Developed for PF using Two-Step System-GMM	120	
	5.5	Model Developed for LQ using Arellano-Bond-GMM	123	
	5.6	Direct and Indirect effect of Bank Intermediation (IM)		
	on Ec	onomic Growth	126	
	5.7	Direct and Indirect effect of Bank Broad Access (BA)		
	on Ec	onomic Growth	132	
	5.8	Direct and Indirect effect of Bank Profitability (PF)		
	on Ec	onomic Growth	138	
	5.9	Direct and Indirect effect of Bank Liquidity (LQ)		
	on Ec	onomic Growth	141	
	5.10	Chapter Summary	144	
6.	Conclusio	on, Recommendations and Suggestions		
	6.1	Conclusion	145	
	6.2	Recommendations	146	
	6.3	Suggestions	147	
Re	ference Li	st	148	
Ap	pendix A:	Panel Data for 18 Countries with 24 Variables from year		
20	06 to 2014		160	
Ap	pendix B:	Results of the Correlation Coefficient among Variables	180	

## LIST OF FIGURES

Figure 1.1	PCDMB, BROA and BLAD in Global Context	04
Figure 1.2	CBB in Global Context	05
Figure 3.1	Conceptual Frameworks for Determinants of	
the Banking S	ector Development	60
Figure 3.2	Conceptual Framework for Direct effect of	
Banking Secto	or Development on Economic Growth	61
Figure 3.3	Conceptual Framework for Indirect Effect on Banking	
Sector Develo	opment on Economic Growth	62
Figure 4.1	Real Gross Domestic Product Growth in	
the World ver	sus 18 Countries	78
Figure 4.2	Average Real Interest Rate in the World versus Selected	
18 Countries		80
Figure 4.3	Trade Openness in the World versus 18 Countries	81
Figure 4.4	Net Foreign Direct Investment in the World versus 18 Countries	82
Figure 4.5	Average Estimates of Governance Infrastructure Indicators	
for the 18 Cou	Intries	83
Figure 4.6	New Governance Indicators for the 18 Countries	84
Figure 4.7	Scree Plot of the Initial Solution of Governance Infrastructures	86
Figure 4.8	Correlation between the EG and Indicators of the BSD	103
Figure 4.9	Correlation between the EG and Intermediate Variables	105

Page

## LIST OF TABLES

Page
------

Table 2.1:	Financial Sector Indicators for Banking Sector Development	20
Table 3.1:	Countries Representing Exports and Imports with Sri Lanka,	
Regions and	Income Level	58
Table 3.2:	Four Indicators for the Dependant Variable in the BSD	63
Table 3.3:	Independent Variables in the BSD	64
Table 3.4:	Dependant Variable in the Direct Effect of the BSD on EG	64
Table 3.5:	Intermediate Variables and Control Variables in Direct Effect	
of the BSD o	n EG	65
Table 3.6:	Control Variables in Direct and Indirect Effect in BSD on EG	66
Table 4.1:	Correlation among the Indicators of Governance Infrastructure	85
Table 4.2:	Eigenvalues of the Correlation Matrix	85
Table 4.3:	Eigenscores of the PC1 to PC6	86
Table 4.4:	Correlation Values of the PC1	87
Table 4.5:	Descriptive Statistics of the Determinants of the Banking	
Sector Devel	opment	89
Table 4.6:	Descriptive Statistics of the Indicators of the Banking Sector	
Developmen	t	92
Table 4.7:	Correlation Results of the Indicators and Determinants of the	
Banking Sec	tor Development	95
Table 4.8:	Descriptive Statistics of the Intermediate Variables	98
Table 4.9:	Descriptive Statistics of the Control Variables	99
Table 4.10:	Correlation between the EG, BSD Variables and Intermediate	
Variables		104
Table 4.11:	Correlation between the EG and Control Variables	107
Table 4.12:	Correlation between the PI and Control Variable	108
Table 4.13:	Correlation between the HC and Control Variables	109
Table 4.14:	Correlation between the TC and Control Variables	110
Table 4.15:	Correlation between the NGVI and Control Variables	111

Table 5.1:	Determinants of development of the Bank Intermediation (IM)	114
Table 5.2	Determinants of development of the Bank Broad Access (BA)	117
Table 5.3	Determinants of development of the Bank Profitability (PF)	120
Table 5.4	Determinants of development of the Bank Liquidity (LQ)	123
Table 5.5	Results of 3SLS for IM on EG	126
Table 5.6	Results of 3SLS for BA on EG	132
Table 5.7	Results of 3SLS for PF on EG	138
Table 5.8	Results of 3SLS for LQ on EG	141

### LIST OF ABBREVIATIONS

Abbreviation	Description
2SLS	Two Stage Least Square
3SLS	Three Stage Least Square
ADRL	Autoregressive-distributed lag
AFR	Average Fertility Rate
AGRP	Annual Growth of the Population
ASTEP	Average working population with Secondary and Tertiary Education Level
ATM	Automated Teller Machine
BA	Broad Access
BCBS	Basel Committee on Banking Supervision
BLAD	Bank Liquid Assets to Deposit
BROA	Banks Return on Assets
BSD	Banking Sector Development
CAR	Capital Adequacy Ratio
CBB	Commercial Bank Branches per 100,000 Adults
CC	Control of Corruption
CGI	Composite Governance Index
DMI	Democracy Index
ECC	Error Correction Code
EG	Economic Growth
EIU	Economist Intelligence Unit
EU	European Union
FDI	Foreign Direct Investment

FE	Fixed Effect
FSI	Financial Soundness Indicators
FSI	Financial Stability Institute
GCE	Government Consumption Expenditure
GDP	Gross Domestic Product
GE	Government Effectiveness
GFCF	Gross Fixed Capital Formation
GFDD	Global Financial Development Database
GMM	Generalized Method of Moment
GI	Governance Infrastructure
HC	Human Capital
HHI	Herfindahl-Hirschman Index
IFC	International Financial Corporation
IFR	Inflation Rate
IM	Intermediation
IMF	International Monetary Fund
II	Initial Income
IV-GLS	Instrumental Variable-Generalized Least Squares
LQ	Liquidity
MEME	Manufacturing Export share on Merchandise Exports
MENA	Middle East and North America
MSME	Micro, Small and Medium Enterprises
NGVI	New Governance Indicator
NRR	Natural Resources Rent
OECD	Economic Co-operation and Development

OLS	Ordinary Least Square
PA	Political Stability and Absence of violence
PAG	Population Aging
PCA	Principal Component Analysis
PCDMB	Private Credit by Deposit Money Bank to GDP
PEE	Primary Education Enrolment in Population
PF	Profitability
PELF	Primary Education Level in Labour Force
PGDP	Per capita Gross Domestic Products
PI	Physical Investment
POLS	Pooled Ordinary Least Square
R&D	Research and Development
RE	Random Effect
RGDPG	Real Gross Domestic Product Growth
RI	Reform Index
RIR	Real Interest Rate
RL	Rule of Law
ROL	Rule of Law
RQ	Regulatory Quality
SEM	Structural Equation Method
SUR	Seemingly Unrelated Regression
TC	Technology
TFP	Total Factor Productivity
ТО	Trade Openness
ТОТ	Trade of Terms

USD	United States Dollars
VA	Voice and Accountability
WB	World Bank
WBG	World Bank Group
WDI	World Bank Development Indicators
WGI	Worldwide Governance Indicators
WITS	World Integrated Trade Solution

## LIST OF APPENDICES

Appendix	Description	Page
Appendix – A	Panel Data for 18 countries with 24 variables	
	from year 2006 to 2014	161
Appendix – B	Results of the Correlation Coefficient	181