



**THE ROLE OF FINANCIAL DEVELOPMENT AND
MONETARY POLICY ON SECTOR-WISE OF
ECONOMIC GROWTH IN BANGLADESH**

BY

MOHAMMAD SALIM AL MAMUN

**A dissertation submitted in fulfillment of the requirement for
the degree of Doctor of Philosophy (Economics)**

**Kulliyyah of Economics and Management Sciences
International Islamic University Malaysia**

May 2019

ABSTRACT

This dissertation examines how development of financial sector and monetary policy instruments affect sector-wise growth rates of the economy. The main intuition behind the dissertation is that if the responses in the three major sectors (agriculture, industry and services) of an economy are found to be heterogeneous, it is worthwhile to determine the impact of financial developments on each sector of the Bangladesh economy individually. Therefore, the research objectives of the thesis are (i) to examine the link between financial development and economic growth in Bangladesh; (ii) to analyse the relationship between sector-wise financial development and sector-wise economic growth in Bangladesh; and (iii) to investigate the effects of monetary policy on sector-wise economic growth of Bangladesh. The study uses the macro level quarterly data for the period 1980Q1-2016Q2. The full sample period of about 36 years is divided into two subsamples (1980Q1-1990Q4 and 1991Q1-2016Q2) to investigate the structural changes in the economy after financial liberalisation took place in early 1990s. The study employs autoregressive distributed lag (ARDL) and structural vector auto regression (SVAR) models for econometric specification and analysis. The dissertation, overall, in aggregated levels, finds that real domestic credit has significant impact on real GDP both in the long run and short run during full sample and sub-sample periods. However, the real lending rate is found to be statistically significant only for the first sub-sample period (1980Q1-1990Q4) in the long run. On the disaggregated levels, overall, in the long run, the research finds that while agriculture and services sectors are significantly positively responsive to the shocks of real domestic credit, industry sector is not found to be positively responsive for the first sub-sample period (1980Q1-1990Q4). On the other hand, the short run stability estimates at the disaggregated levels find mixed results of responsiveness that varied between different sample periods. The thesis concludes that the monetary policy and external sector variables have an impact on sector-wise economic growth but varied between sectors at different sample periods both in the long run and short run. Therefore, this dissertation suggests that regulatory authorities and policymakers should think of appropriate policy measures customized to sector-specific issues rather than a single policy for all sectors because the response of each sector against a shock in financial development varies across different sectors.

خلاصة البحث

تبحث هذه الرسالة في كيفية تأثير تطوير القطاع المالي وأدوات السياسة النقدية على معدلات النمو الاقتصادي في القطاعات. يتمثل الحدس الرئيسي وراء الأطروحة في أنه إذا تبين أن الردود في القطاعات الثلاثة الرئيسية (الزراعة والصناعة والخدمات) للاقتصاد غير متجانسة، فمن الجدير تحديد تأثير التنمية المالية على كل قطاع من قطاعات الاقتصاد البنغلاديشي بشكل فردي. ولذلك، فإن أهداف البحث في الأطروحة هي: (1) دراسة العلاقة بين التنمية المالية والنمو الاقتصادي في بنغلاديش؛ (2) تحليل العلاقة بين التنمية المالية القطاعية والنمو الاقتصادي القطاعي في بنغلاديش؛ و(3) التحقيق في آثار السياسة النقدية على النمو الاقتصادي القطاعي لبنغلاديش. تقوم الأطروحة بتحليل البيانات الفصلية على مستوى الاقتصاد الكلي مع الأخذ بعين الاعتبار فترات العينة الكاملة (1980Q1-2016Q2). تقسم الدراسة أيضاً فترات العينة الكاملة إلى فترتين فرعيتين (1990Q1-1990Q4 و1980Q1-2016Q2 و1991Q1-2016Q2) لإجراء المزيد من التحليل للأهداف من أجل معرفة العلاقة مع التغيرات البيوية في بنغلاديش التي بدأت في بداية التسعينات. تستخدم الدراسة التأخر التوزعي التلقائي (ARDL) ونماذج الانحدار التلقائي لنواقل المتجهات (SVAR) للمواصفات والتحليلات الاقتصادية. وتجد هذه الأطروحة، بشكل عام، على مستويات مجمعة، أن الائتمان المحلي الحقيقي له تأثيراً هاماً على الناتج المحلي الإجمالي الحقيقي على المدى الطويل والقصير خلال فترتي العينة الكاملة و العينة الفرعية. ولكن وجد أن معدلات الإقراض الحقيقي لها تأثير إحصائياً هاماً فقط في الفترة الأولى من العينة الفرعية (1980Q1-1990Q4) على المدى الطويل. على المستويات التفصيلية، على المدى الطويل، وجد البحث أنه في حين أن قطاعي الزراعة والخدمات يستجيبان إيجابياً و بشكل كبير لصدمات الائتمان المحلي الحقيقي، فإن قطاع الصناعة لم يكن متجاوباً بشكل إيجابي للفترة الأولى الفرعية (1980Q1-1990Q4). من ناحية أخرى، فإن تقديرات الاستقرار على المدى القصير عند المستويات التفصيلية تجد أن نتائج المزيج للاستجابة تتباين بين فترات العينة المختلفة. في النهاية، وجدت الرسالة أن السياسة النقدية ومتغيرات القطاع الخارجي لها تأثير على النمو الاقتصادي الحكيم للقطاع ولكن تباينت بين القطاعات في فترات العينة المختلفة على المدى الطويل والقصير. وبالتالي، فإن هذه الرسالة تقترح بأن السلطات التنظيمية وصانعي السياسات يجب أن يفكروا في اتخاذ تدابير سياسية مناسبة مخصصة للقضايا الخاصة بالقطاعات بدلاً من سياسة واحدة لجميع القطاعات لأن استجابة كل قطاع ضد صدمة التنمية المالية تختلف باختلاف القطاعات.

APPROVAL PAGE

The dissertation of Student's Name has been approved by the following:

Muhammad Irwan Ariffin
Supervisor

Zarinah Hamid
Co-Supervisor

Maya Puspa Rahman
Internal Examiner

Zulkefly Abdul Karim
External Examiner

Wan Azman Saini Wan Ngah
External Examiner

Noor Mohammad Osmani
Chairman

DECLARATION

I hereby declare that this dissertation is the result of my own investigations, except where otherwise stated. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at IIUM or other institutions.

(Mohammad Salim Al Mamun)

Signature

Date

INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

**DECLARATION OF COPYRIGHT AND AFFIRMATION OF
FAIR USE OF UNPUBLISHED RESEARCH**

**THE ROLE OF FINANCIAL DEVELOPMENT AND
MONETARY POLICY ON SECTOR-WISE OF ECONOMIC
GROWTH IN BANGLADESH**

I declare that the copyright holders of this dissertation are jointly owned by
Mohammad Salim Al Mamun and IIUM.

Copyright © 2019 (Md. Salim Al Mamun) and International Islamic University Malaysia. All rights reserved.

No part of this unpublished research may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without prior written permission of the copyright holder except as provided below

1. Any material contained in or derived from this unpublished research may be used by others in their writing with due acknowledgement.
2. IIUM or its library will have the right to make and transmit copies (print or electronic) for institutional and academic purposes.
3. The IIUM library will have the right to make, store in a retrieved system and supply copies of this unpublished research if requested by other universities and research libraries.

By signing this form, I acknowledged that I have read and understand the IIUM Intellectual Property Right and Commercialization policy.

Affirmed by (Mohammad Salim Al Mamun)

.....
Signature

.....
Date

ACKNOWLEDGEMENTS

Firstly, I express my deep gratitude to the Almighty Allah for giving me the opportunity to do the thesis under the Ph.D. programme.

It is my utmost pleasure to dedicate this work to my dear parents, my mother – Mrs. Mahmuda Hoque – and father – Mr. Abdul Hoque – who always encouraged, supported and granted me the gift of their unwavering belief in my ability to accomplish this goal. I remember my late grandfather, Alhaz Mohammad Abdul Latif Khan, who was always passionate for higher education and study of his family members and others, encouraged us to dream big and be great in our life. My wife, Mrs. Sharmin Sultana, and my two daughters – Atiya Mamun Saria and Jannatul Mamun Sania – sacrificed a lot for me to complete this long and arduous journey: thanks so much for your support and patience.

I am really indebted to the Central Bank of Bangladesh (Bangladesh Bank) for the support. I am also grateful to the Islamic Financial Services Board (IFSB) based in Malaysia, where I am currently working as a secondment staff, for their support to conduct the study.

I wish to express my appreciation and thanks to those who provided their time, effort and support for this study. To the members of my dissertation committee, thank you for sticking with me.

Finally, a special thanks to Dr. Muhammad Irwan Ariffin and Professor Dr. Zarinah Hamid for their continuous support, encouragement, and leadership, and for that, I will be forever grateful.

TABLE OF CONTENTS

Abstract	ii
Abstract in Arabic	iii
Approval Page.....	iv
Declaration	v
Acknowledgements	vii
Table of Contents	viii
List of Tables	x
List of Figures	xiii
List of Abbreviations	xviii
CHAPTER ONE	1
INTRODUCTION.....	1
1.1 Background of the Study	1
1.2 Trend Analysis of Financial Development and Economic Growth.....	11
1.3 Statement of the Problem.....	17
1.4 Research Objectives.....	22
1.5 Research Questions of the Thesis	22
1.6 Scope and Limitations of the Study.....	23
1.7 Contribution of the Study	23
1.8 Organisation of the Study	24
CHAPTER TWO	25
THEORETICAL FRAMEWORK AND LITERATURE REVIEW	25
2.1 Introduction.....	25
2.2 Theoretical Framework.....	25
2.3 Review of Empirical Literature	31
2.4 Conclusion	57
CHAPTER THREE	60
RESEARCH METHODOLOGY	60
3.1 Introduction.....	60
3.2 Data Screening and Specification of Econometric Model.....	61
3.3 Model Specification.....	64
3.4 Autoregressive Distributed Lag (ARDL) Cointegration Framework.....	71
3.5 Structural Vector Auto-Regression (SVAR) Framework.....	74
CHAPTER FOUR.....	83
RESULTS AND DISCUSSION	83
4.1 Introduction.....	83
4.2 Data Screening for Specification of Econometric Models	84
4.3 Econometric Analysis for Objective 1: Financial Development and Economic Growth.....	89
4.4 Econometric Analysis for Objective 2: Financial Development and Sector-wise Economic Growth.....	115

4.5 Econometric Analysis for Objective 3: Monetary Policy and Sector-wise Economic Growth	156
CHAPTER FIVE	211
CONCLUSIONS	211
5.1 Summary of Main Findings	211
5.2 Policy Recommendations and Future Research	227
REFERENCES.....	230
APPENDIX A: LIST OF MAJOR SECTOR/SUBSECTOR AND DATA SOURCES USED FOR CALCULATION OF GDP IN BANGLADESH	238
APPENDIX B: ARDL and SVAR Results for First Objective	240
APPENDIX C: ARDL and SVAR Results for Second Objective	245
APPENDIX D: ARDL and SVAR Results for Third Objective.....	261

LIST OF TABLES

<u>Table No.</u>	<u>Page No.</u>
1.1 Descriptive Statistics of Sector-wise growth of the Key Variables (1974 to 2016)	20
3.1 List of Variables	65
4.1 Descriptive Statistics of Selected Variables (Quarterly Data: 1980Q1-2016Q2)	85
4.2 Pairwise Correlation of the Selected Variables	87
4.3 Unit Root Test Results for the Selected Variables	88
4.4 F-Bounds Test: Sample: 1980Q1-2016Q2	92
4.5 Long Run Coefficient Estimating Results	93
4.6 Short Run Error Correction Elasticity Estimates	94
4.7 F-Bounds Test: Sample: 1980Q1-1990Q4	98
4.8 Long Run Coefficient Estimating Results	98
4.9 Short Run Error Correction Elasticity Estimates	99
4.10 F-Bounds Test: Sample: 1991Q1-2016Q2	103
4.11 Long Run Coefficient Estimating Results	103
4.12 Short Run Error Correction Elasticity Estimates	104
4.13 F-Bounds Test: Sample: 1980Q1 2016Q4	117
4.14 Long Run Coefficient Estimating Results	117
4.15 Short Run Error Correction Elasticity Estimates	118
4.16 F-Bounds Test: Sub-sample: 1980Q1-1990Q4	121
4.17 Long Run Coefficient Estimating Results	122
4.18 Short Run Error Correction Elasticity Estimates	123
4.19 F-Bounds Test: Sub-sample: 1991Q1-2016Q2	126
4.20 Long Run Coefficient Estimating Results	126
4.21 F-Bounds Test: Sample: 1980Q1 2016Q4	127

4.22 Long Run Coefficient Estimating Results	128
4.23 Short Run Error Correction Elasticity Estimates	128
4.24 F-Bounds Test: Sub-sample: 1980Q1-2016Q4	131
4.25 Long Run Coefficient Estimating Results	132
4.26 Short Run Error Correction Elasticity Estimates	132
4.27 F-Bounds Test: Sub-sample: 1991Q1-2016Q2	135
4.28 Long Run Coefficient Estimating Results	135
4.29 F-Bounds Test: Sample: 1980Q1-2016Q2	137
4.30 Long Run Coefficient Estimating Results	137
4.31 F-Bounds Test: Sub-sample: 1980Q1-1990Q4	140
4.32 Long Run Coefficient Estimating Results	140
4.33 Short Run Error Correction Elasticity Estimates	141
4.34 F-Bounds Test: Sub-sample: 1991Q1-2016Q2	144
4.35 Long Run Coefficient Estimating Results	144
4.36 Short Run Error Correction Elasticity Estimates	145
4.37 F-Bounds Test: Sample: 1980Q1-2016Q2	157
4.38 Long Run Coefficient Estimating Results	158
4.39 Short Run Error Correction Elasticity Estimates	159
4.40 F-Bounds Test: Sample: 1980Q1-1990Q4	162
4.41 Long Run Coefficient Estimating Results	162
4.42 Short Run Error Correction Elasticity Estimates	163
4.43 F-Bounds Test: Sample: 1991Q1-2016Q2	166
4.44 Long Run Coefficient Estimating Results	167
4.45 Short Run Error Correction Elasticity Estimates	167
4.46 F-Bounds Test: Sample: 1980Q1-2016Q2	170
4.47 Long Run Coefficient Estimating Results	170
4.48 Short Run Error Correction Elasticity Estimates	172

4.49 F-Bounds Test: Sub-sample: 1980Q1-1990Q4	174
4.50 Long Run Coefficient Estimating Results	175
4.51 Short Run Error Correction Elasticity Estimates	176
4.52 F-Bounds Test: Sub-sample: {1991Q1-2016Q4	178
4.53 Long Run Coefficient Estimating Results	178
4.54 Short Run Error Correction Elasticity Estimates	179
4.55 F-Bounds Test: Sample: 1980Q1-2016Q2	180
4.56 Long Run Coefficient Estimating Results	181
4.57 Short Run Error Correction Elasticity Estimates	182
4.58 F-Bounds Test: Sub-sample: 1980Q1-1990Q4	184
4.59 Long Run Coefficient Estimating Results	185
4.60 Short Run Error Correction Elasticity Estimates	186
4.61 F-Bounds Test: Sub-sample: 1991Q1-2016Q2	187
4.62 Long Run Coefficient Estimating Results	188
4.63 Short Run Error Correction Elasticity Estimates	189

LIST OF FIGURES

<u>Figure No.</u>	<u>Page No.</u>
1.1 Trend in Sector-wise Output levels (constant prices)	3
1.2 Trend in the Share of Sector-wise Output levels (constant prices)	3
1.3 Trend in Domestic Credit as the Ratio of Nominal GDP	5
1.4 Trend in Credit to Private Sector as the Ratio of Nominal GDP	5
1.5 Trend in the Growth Rate of Domestic Credit as the Ratio of Nominal GDP	6
1.6 Trend in the Growth Rate of Credit to Private Sector as the Ratio of Nominal GDP	6
1.7 Trend in the Growth Rates of Real Domestic Credit	7
1.8 Trend in the Growth Rates of Real Credit to the Private Sector	7
1.9 Sectoral Decomposition of Bank Credit by Banks in Major Sectors	8
1.10 Financial Markets in Bangladesh	10
1.11 GDP and Credit Growth in Agriculture Sector	13
1.12 GDP and Credit Growth in Industry Sector	14
1.13 GDP and Credit Growth in Services Sector	15
1.14 GDP and Credit Growth and Lending Rate	16
1.15 Development of Economic and Monetary Indicators	16
1.16 Growth Rates of the Agriculture Sector	18
1.17 Growth Rates of the Industry Sector	18
1.18 Growth Rates of the Services Sector	19
2.1 Financial Development and Economic Growth	43
2.2 Financial Development and GDP Growth in Sectoral Levels	47
2.3 Monetary Policy Actions, External Sector and Sector-wise Output growth	57
4.1 Plot of CUSUM of Recursive Residuals for Coefficient Stability Test - Sample: 1980Q1-2016Q2	95

4.2 Plot of CUSUMQ of Recursive Residuals for Coefficient Stability Test - Sample: 1980Q1-2016Q2	96
4.3 Plot of CUSUM of Recursive Residuals for Coefficient Stability Test – Sub- sample: 1980Q1-1990Q4	101
4.4 Plot of CUSUMQ of Recursive Residuals for Coefficient Stability Test - Sample: 1980Q1-1990Q4	101
4.5 Plot of CUSUM of Recursive Residuals for Coefficient Stability Test - Sample: 1991Q1-2016Q2	105
4.6 Plot of CUSUMQ of Recursive Residuals for Coefficient Stability Test - Sample: 1991Q1-2016Q2	106
4.7 Accumulated Response of DGDP to Shock (DDCR)	109
4.8 Accumulated Response of DGDP to Shock (RLR)	110
4.9 Accumulated Response of DDCR to Shock (RLR)	110
4.10 Accumulated Response of DGDP to Shock (DDCR)	112
4.11 Accumulated Response of DGDP to Shock (RLR)	112
4.12 Accumulated Response of DDCR to Shock (RLR)	113
4.13 Accumulated Response of DGDP to shock (RLR)	114
4.14 Plot of CUSUM of Recursive Residuals for Coefficient Stability Test - Sample: 1980Q1-2016Q2	119
4.15 Plot of CUSUMQ of Recursive Residuals for Coefficient Stability Test - Sample: 1980Q1-2016Q2	120
4.16 Plot of CUSUM of Recursive Residuals for Coefficient Stability Test – Sub- sample: 1980Q1-1990Q4	124
4.17 Plot of CUSUMQ of Recursive Residuals for Coefficient Stability Test – Sub- sample: 1980Q1-1990Q4	125
4.18 Plot of CUSUM of Recursive Residuals for Coefficient Stability Test - Sample: 1980Q1-2016Q2	130
4.19 Plot of CUSUMQ of Recursive Residuals for Coefficient Stability Test - Sample: 1980Q1-2016Q2	130
4.20 Plot of CUSUM of Recursive Residuals for Coefficient Stability Test – Sub- sample: 1991Q1-1990Q4	134
4.21 Plot of CUSUMQ of Recursive Residuals for Coefficient Stability Test – Sub- sample: 1980Q1-1990Q4	134

4.22 Plot of CUSUM of Recursive Residuals for Coefficient Stability Test - Sample: 1980Q1-2016Q2	138
4.23 Plot of CUSUMQ of Recursive Residuals for Coefficient Stability Test - Sample: 1980Q1-2016Q2	139
4.24 Plot of CUSUM of Recursive Residuals for Coefficient Stability Test – Sub- sample: 1980Q1-1990Q4	142
4.25 Plot of CUSUMQ of Recursive Residuals for Coefficient Stability Test – Sub- sample: 1980Q1-1990Q4	143
4.26 Plot of CUSUM of Recursive Residuals for Coefficient Stability Test – Sub- sample: 1991Q1-2016Q2	146
4.27 Plot of CUSUMQ of Recursive Residuals for Coefficient Stability Test – Sub- sample: 1991Q1-2016Q2	146
4.28 Accumulated Response of GDP_AG to shock (DCR_AG)	148
4.29 Accumulated Response of GDP_AG to shock (RLR)	148
4.30 Accumulated Response of GDP_AG to shock (DCR_AG)	149
4.31 Accumulated Response of GDP_AG to shock (RLR)	149
4.32 Accumulated Response of GDP_AG to shock (DCR_AG)	150
4.33 Accumulated Response of GDP_IND to shock (DDCR_IND)	151
4.34 Accumulated Response of GDP_IND to shock (RLR)	152
4.35 Accumulated Response of GDP_SER to shock (DCR_SER)	153
4.36 Accumulated Response of GDP_SER to shock (RLR)	153
4.37 Accumulated Response of GDP_SER to shock (DCR_SER)	154
4.38 Accumulated Response of GDP_SER to shock (RLR)	155
4.39 Accumulated Response of DCR_SER to shock (RLR)	155
4.40 Plot of CUSUM of Recursive Residuals for Coefficient Stability Test - Sample: 1980Q1-2016Q2	161
4.41 Plot of CUSUMQ of Recursive Residuals for Coefficient Stability Test - Sample: 1980Q1-2016Q2	161
4.42 Plot of CUSUM of Recursive Residuals for Coefficient Stability Test – Sub- sample: 1980Q1-1990Q4	165

4.43 Plot of CUSUMQ of Recursive Residuals for Coefficient Stability Test – Sub-sample: 1980Q1-1990Q4	165
4.44 Plot of CUSUM of Recursive Residuals for Coefficient Stability Test – Sub-sample: 1991Q1-2016Q2	169
4.45 Plot of CUSUMQ of Recursive Residuals for Coefficient Stability Test – Sub-sample: 1991Q1-2016Q2	169
4.46 Plot of CUSUM of Recursive Residuals for Coefficient Stability Test - Sample: 1980Q1-2016Q2	173
4.47 Plot of CUSUMQ of Recursive Residuals for Coefficient Stability Test - Sample: 1980Q1-2016Q2	173
4.48 Plot of CUSUM of Recursive Residuals for Coefficient Stability Test – Sub-sample: 1980Q1-1990Q4	177
4.49 Plot of CUSUMQ of Recursive Residuals for Coefficient Stability Test – Sub-sample: 1980Q1-1990Q4	177
4.50 Plot of CUSUM of Recursive Residuals for Coefficient Stability Test – Sub-sample: 1991Q1-2016Q2	180
4.51 Plot of CUSUMQ of Recursive Residuals for Coefficient Stability Test – Sub-sample: 1991Q1-2016Q2	180
4.52 Plot of CUSUM of Recursive Residuals for Coefficient Stability Test - Sample: 1980Q1-2016Q2	183
4.53 Plot of CUSUMQ of Recursive Residuals for Coefficient Stability Test - Sample: 1980Q1-2016Q2	183
4.54 Plot of CUSUM of Recursive Residuals for Coefficient Stability Test – Sub-sample: 1980Q1-1990Q4	187
4.55 Plot of CUSUMQ of Recursive Residuals for Coefficient Stability Test – Sub-sample: 1980Q1-1990Q4	187
4.56 Plot of CUSUM of Recursive Residuals for Coefficient Stability Test – Sub-sample: 1991Q1-2016Q2	190
4.57 Plot of CUSUMQ of Recursive Residuals for Coefficient Stability Test – Sub-sample: 1991Q1-2016Q2	190
4.58 Accumulated Response of GDP_AG to Shock 2 (DCR_AG)	193
4.59 Accumulated Response of GDP_AG to Shock 6 (ER)	193
4.60 Accumulated Response of GDP_AG to Shock 7 (RLR)	193
4.61 Accumulated Response of GDP_AG to Shock 3 (M2)	194

4.62 Accumulated Response of GDP_AG to Shock 2 (DCR_AG)	195
4.63 Accumulated Response of GDP_AG to Shock 7 (RLR)	196
4.64 Accumulated Response of GDP_AG to Shock 3 (M2)	198
4.65 Accumulated Response of GDP_AG to Shock 7 (RLR)	199
4.66 Accumulated Response of GDP_IND to Shock 3 (M2)	200
4.67 Accumulated Response of GDP_IND to Shock 6 (ER)	200
4.68 Accumulated Response of GDP_IND to Shock 7 (RLR)	200
4.69 Accumulated Response of GDP_IND to Shock 3 (M2)	201
4.70 Accumulated Response of GDP_IND to Shock 7 (RLR)	202
4.71 Accumulated Response of GDP_IND to Shock 3 (M2)	203
4.72 Accumulated Response of GDP_IND to Shock 4 (TO)	203
4.73 Accumulated Response of GDP_IND to Shock 7 (RLR)	204
4.74 Accumulated Response of GDP_SER to Shock 2 (DCR_SER)	205
4.75 Accumulated Response of GDP_SER to Shock 3 (M2)	205
4.76 Accumulated Response of GDP_SER to Shock 7 (RLR)	205
4.77 Accumulated Response of GDP_SER to Shock 2 (DCR_SER)	206
4.78 Accumulated Response of GDP_SER to Shock 3 (M2)	206
4.79 Accumulated Response of GDP_SER to Shock 7 (RLR)	207
4.80 Accumulated Response of GDP_SER to Shock 3 (M2)	208
4.81 Accumulated Response of GDP_SER to Shock 7 (RLR)	208

LIST OF ABBREVIATIONS

2SLS	Two stage least square
ADF	Augmented Dickey Fuller
AIC	Akaike Information Criterion
ARDL	Autoregressive distributed lag
BB	Bangladesh Bank
BBS	Bangladesh Bureau of Statistics
BDT	Bangladeshi Taka
BSEC	Bangladesh Securities and Exchange Commission
CUSUM	Cumulative sum
CUSUMQ	Cumulative sum square
ECM	Error correction model
EDM	Error correction model
FPE	Final prediction error
GDP	Gross domestic product
HQ	Hannan-Quinn Criterion
ICB	Investment Corporation of Bangladesh
IFS	International Financial Statistics
IMF	International Monetary Fund
IRF	Impulse response function
KPSS	Kwiatkowski-Phillips-Schmidt-Shin
LM	Lagrange Multiplier
M2	Broad money/ Money supply
MRA	Microcredit Regulatory Authority
NGOs	Non-governmental organisations
PP	Phillips-Perron
SC	Schwarz Criterion
SVAR	Structural vector auto regression
VAR	Vector auto regression
VDC	Variance decomposition
VECM	Vector error correction model
WAEMU	West African Economic and Monetary Union

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Bangladesh experienced low economic growth in the first decade after independence in 1971. In the 1980s, the growth rates started to increase steadily. Bangladesh entered into trade liberalisation regime undertaking a number of financial sector reform measures during the 1990s. The country begins its trade liberalisation through several financial reform measures during the 1990s, which led to a remarkable change in the growth rates of the Bangladesh economy. The Bangladesh economy grew at a rate of 5.0% on average during the 1990s while they were 4.0% during the 1980s. The impressive growth rates were achieved during the 2000s and it continued at 6.0% growth on average. The Bangladesh economy has been consistently maintaining the high growth rates during the last ten years at more than 6.2% on average. However, the growth rates are uneven across economic sectors; the agriculture sector has been growing at a slower rate than the industry and services sectors. At the end of June 2016, the contributions to the gross domestic product (GDP) for agriculture, industry, and services sector are around 19%, 30% and 51%, respectively. The most noticeable point is that while more than 60% of the labour force is involved in agricultural activities, the share of agriculture in GDP is only around 19%. This situation poses a question on how the large segment of the employed labour force can be benefitted from the impact of financial development.

In the discussion of financial development and its impact on different sectors of the economy, it is important to understand the decomposition of various sectors and its

development throughout the period. Each of the three major sectors (agriculture, industry and services) of the Bangladesh economy comprises several sub-sectors. The agriculture sector contains value added of crops and horticulture, animal farming, forestry, and fishery. The industry sector includes value added of mining and quarrying, manufacturing, power, gas and water supply, and construction. The services sector encompasses value added of wholesale and retail trade, hotel and restaurants, transport, storage and communication, financial intermediations, real estate, renting and business activities, public administration and defence, education, health and social work, and community, social and personal services. List of major sectors/subsectors and data sources used for calculation of GDP in Bangladesh are given in Appendix A.

Figures 1.1 and 1.2 show the development of long-run trend and sectoral transformation in three main sectors of the country. Figure 1.1 shows trend in sector-wise output levels and Figure 1.2 shows the output share at constant prices for each of the three major sectors. It is evident from both the figures that agriculture was a dominant sector far above the industry sector and below the services sector both in growth and share aspect at the beginning of the sample period from 1974 to 2016¹.

¹ The financial year of Bangladesh starts in July and ends in June.

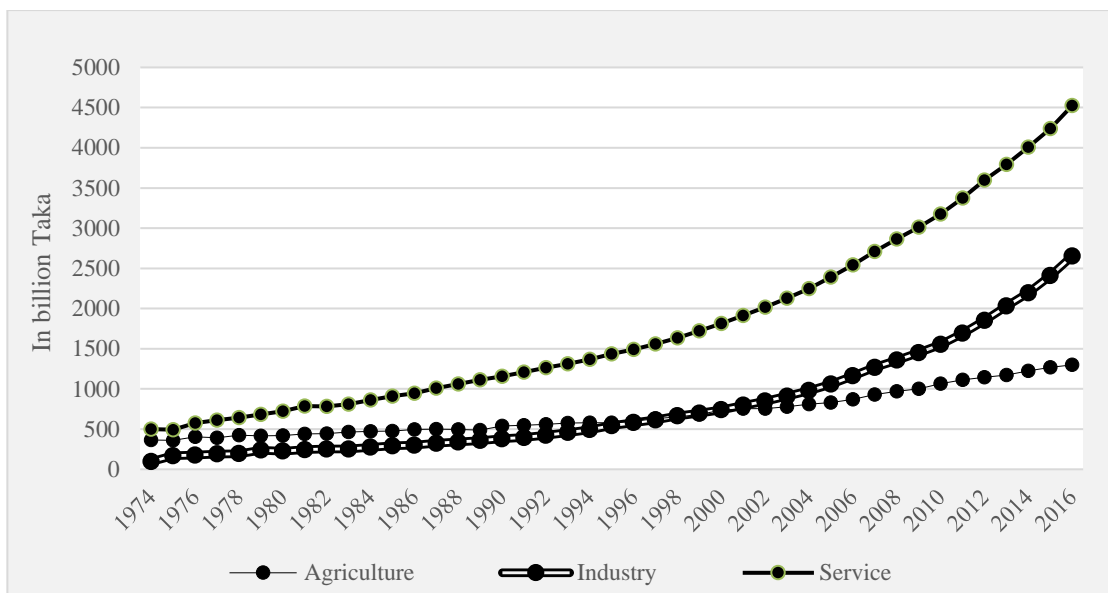


Figure 1.1 Trend in Sector-wise Output levels (constant prices)
Source: Bangladesh Bureau of Statistics

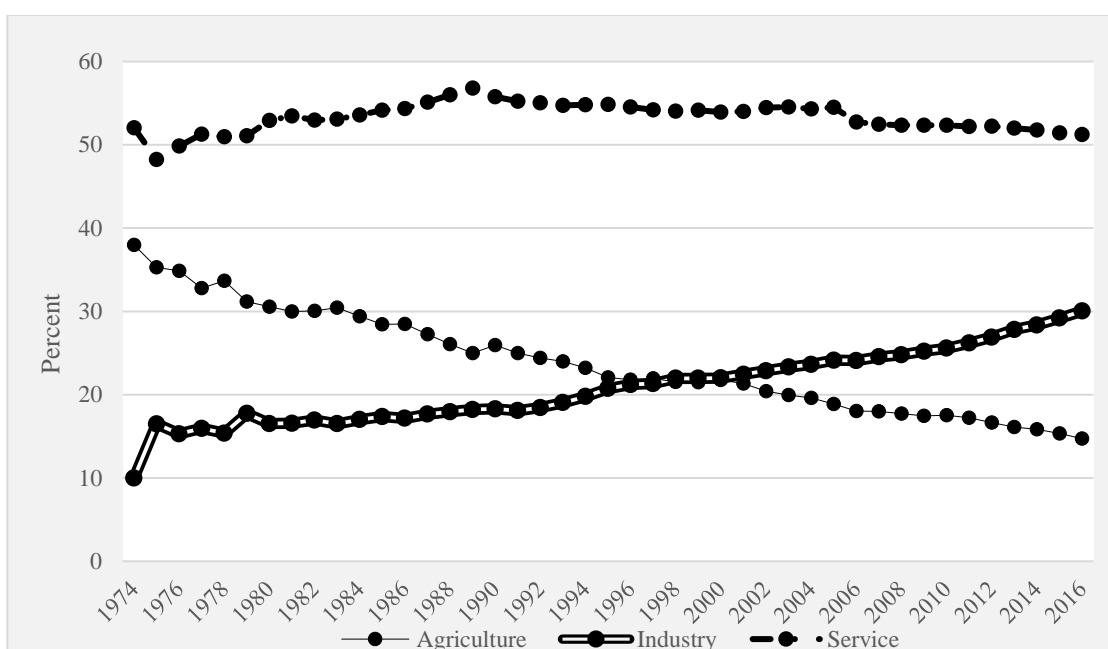


Figure 1.2 Trend in the Share of Sector-wise Output levels (constant prices)
Source: Bangladesh Bureau of Statistics

Figure 1.2 shows that the share of agriculture sector decreased gradually from 37.98% in 1974 to 14.72% in 2016. On the other hand, the share of industry sector increased steadily to more than 30% from 10% during the same time period, while the

services sector maintained the largest share over the time and reached about 51% in 2016.

Domestic credit is one of the leading indicators of financial development which is directly linked to private investment activities. Domestic credit is the aggregate credit provided to both the public and private sectors. Figures 1.3 and 1.4 show the trend of the ratio of domestic credit to nominal GDP and private sector credit to nominal GDP. The ratio of domestic credit to nominal GDP in 2016 is nearly 2.5 times compared to that of the beginning of 1974, while the ratio of credit to private sector to nominal GDP is about 9 times compared to that at the beginning of 1974. This reflects the steady growth of financial development and increased activities both in the public and private sector of the country. Credit to the private sector started to increase substantially after the trade liberalisation in the early 1990s that activated huge investment in industry and manufacturing sector. Figures 1.5 and 1.6 show that the growth rates of domestic credit as well as private sector credit, respectively, were more volatile before the mid-1990s. However, the growth rates in real terms (Figures 1.7 and 1.8) were more stable during and after the 1990s, reflecting discipline in the financial sector after the financial sector reform in the early 1990s. But the trends show contractions of credit growth in real terms, particularly after the mid of the 1990s. The occurrence of these contractions necessitates the need for understanding policy variables (for example, inflation and interest rates) which may affect the credit growth.

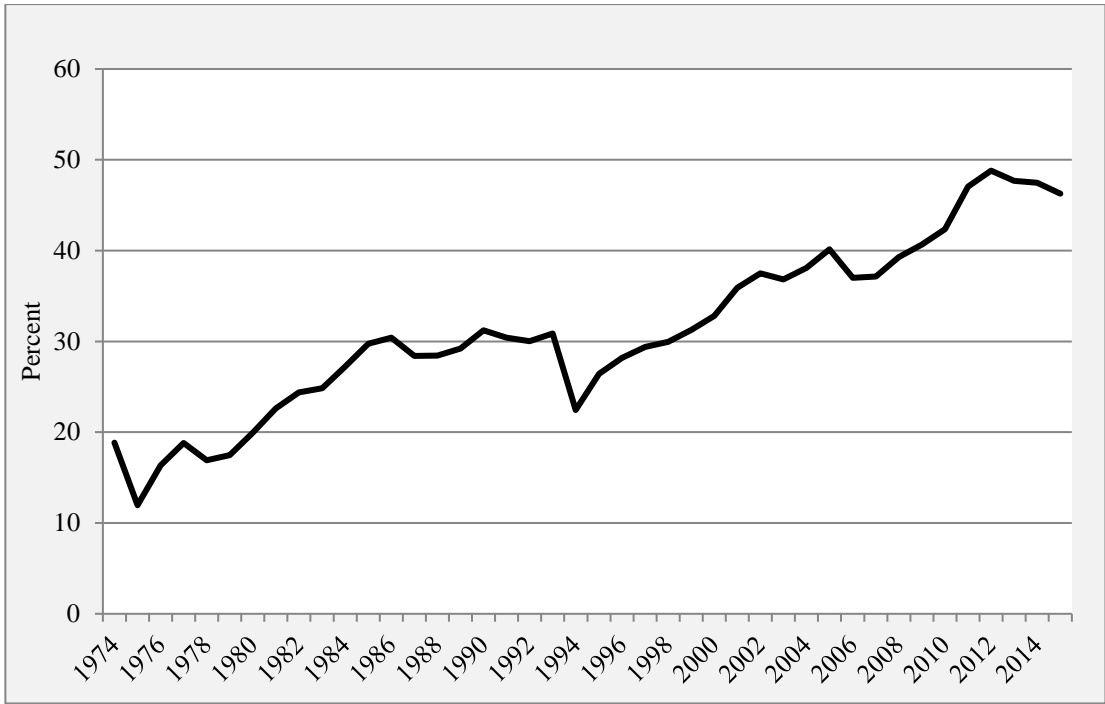


Figure 1.3 Trend in Domestic Credit as the Ratio of Nominal GDP

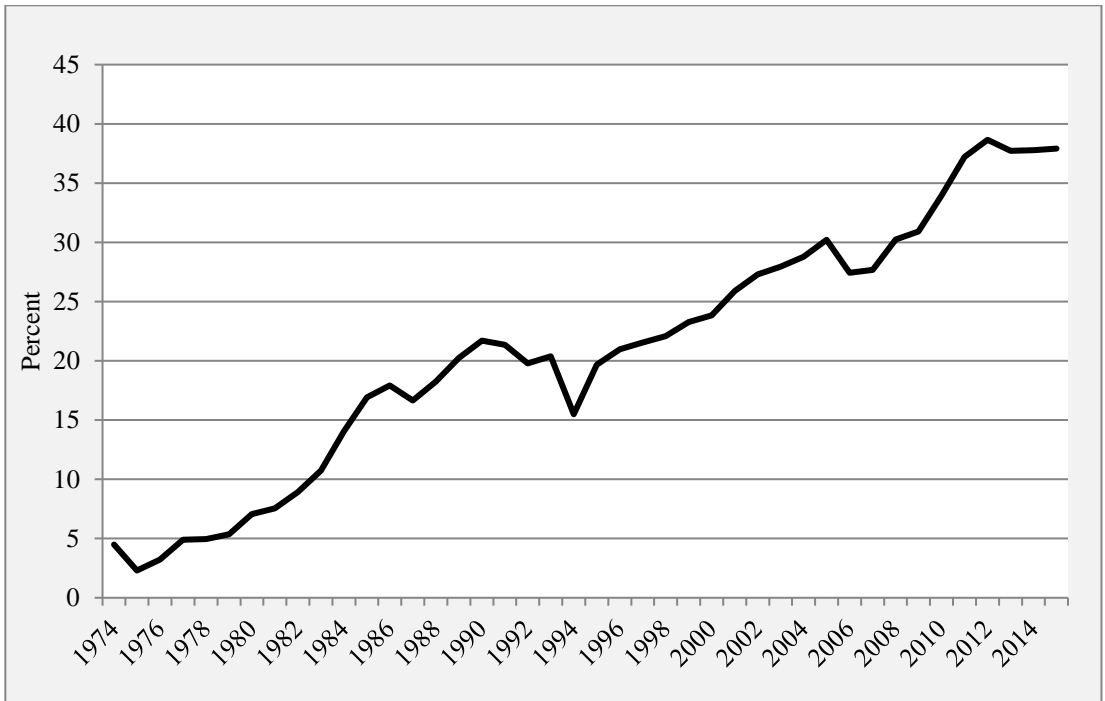


Figure 1.4 Trend in Credit to Private Sector as the Ratio of Nominal GDP

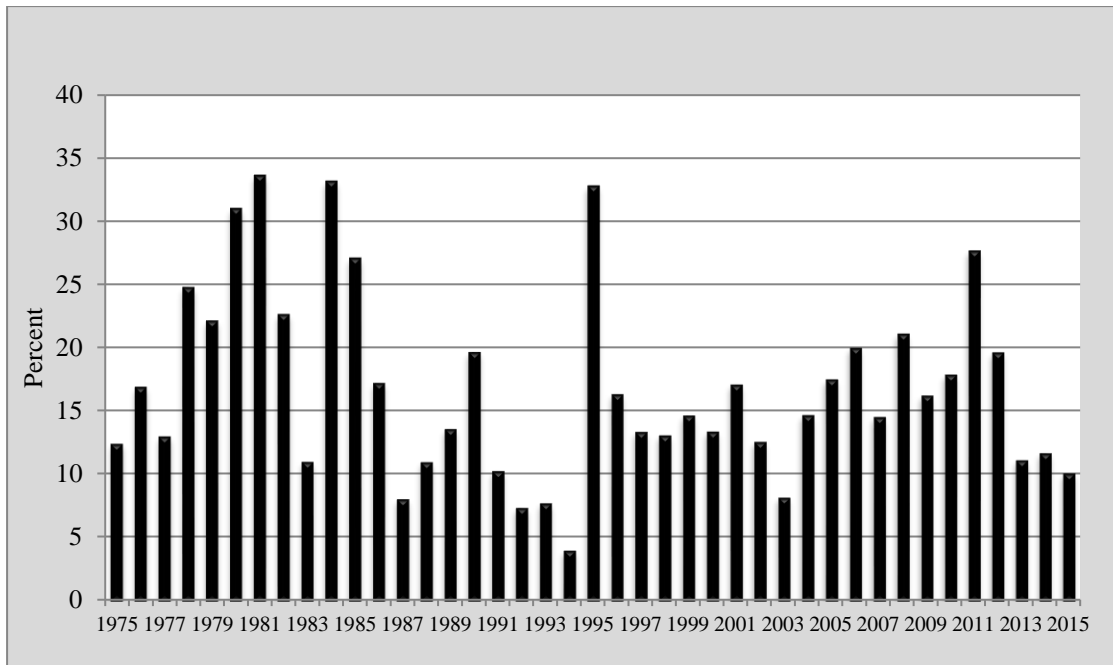


Figure 1.5 Trend in the Growth Rate of Domestic Credit as the Ratio of Nominal GDP

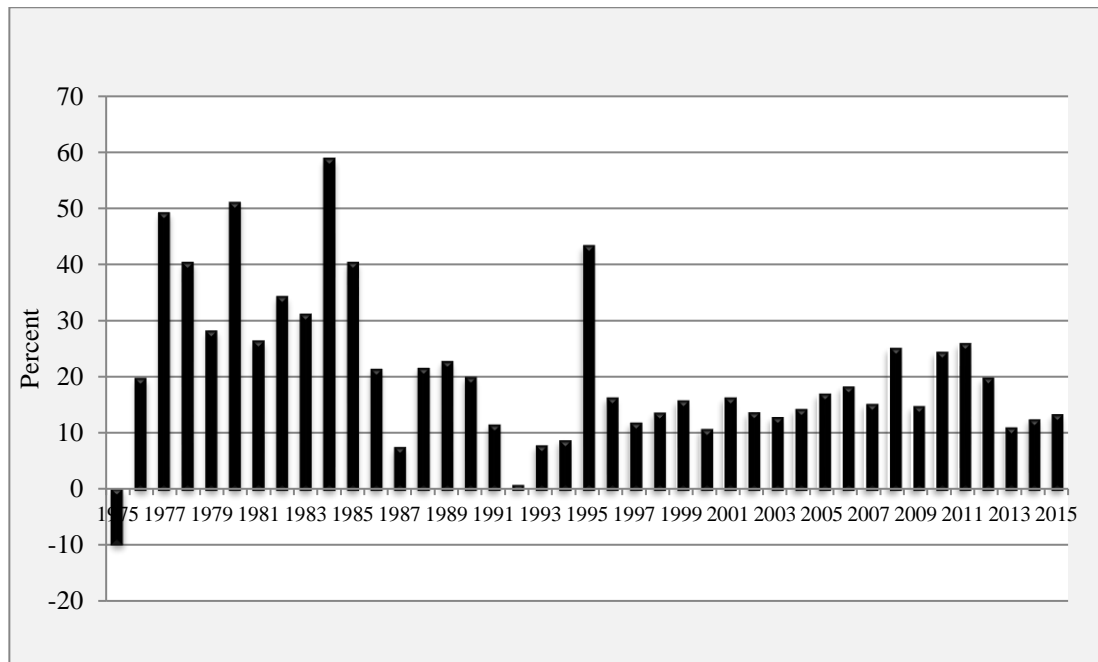


Figure 1.6 Trend in the Growth Rate of Credit to Private Sector as the Ratio of Nominal GDP