

**Financial Market Development in Bangladesh:
Current Strategies and Options for the Future**

Ph.D. Thesis

By

Abul Kalam Azad

December, 2006

**Department of Finance, Faculty of Business Studies
University of Dhaka
Bangladesh**

Financial Market Development in Bangladesh: Current Strategies and Options for the Future

GIFT

By

Abul Kalam Azad

**Thesis/Dissertation submitted to
the Department of Finance of the University of Dhaka
in partial fulfillment of requirements for
the degree of Doctor of Philosophy in Finance**

December, 2006

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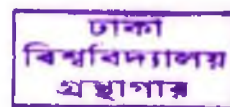
**Ph.D. Dissertation, Department of Finance,
Faculty of Business Studies, University of Dhaka, Bangladesh**

Financial Market Development in Bangladesh: Current Strategies and Options for the Future

Dedication

To my parents, who taught me to work

404136



Abul Kalam Azad

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of requirements for the degree of
Doctor of Philosophy in Finance
December, 2006**

Financial Market Development in Bangladesh: Current Strategies and Options for the Future

Ph.D. Researcher's Declaration

I hereby declare that the dissertation entitled "Financial Market Development in Bangladesh: Current Strategies and Options for the Future" is prepared by me. This dissertation is the outcome of a research work that adopted theoretical, analytical and empirical approaches. This is completely a new research and an effort in making contribution to expansion of knowledge in finance. I humbly submit this thesis to the Department of Finance, University of Dhaka, Bangladesh for the award of the degree of Doctor of Philosophy in Finance. The contents of this thesis, either in part or in full, have not been submitted to any other institution for any academic degree.

404130

December 04, 2006



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Financial Market Development in Bangladesh: Current Strategies and Options for the Future

Supervisor's Certification

I am pleased to certify that the dissertation on "Financial Market Development in Bangladesh: Current Strategies and Options for the Future" has been prepared by Mr. Abul Kalam Azad, Deputy General Manager, Bangladesh Bank, Head Office, Dhaka and a Ph.D. student of the Department of Finance, University of Dhaka, Bangladesh through an extensive research that has used descriptive, analytical and empirical methods. As an original research, this work is expected to provide an addition to the knowledge in the field of finance. To the best of my knowledge, no other person has been associated with the completion of this study. I have gone through the draft and the final version of the dissertation thoroughly and found it satisfactory for submission to the Department of Finance, University of Dhaka for fulfillment of requirements for the Degree of Doctor of Philosophy in Finance.

December 04, 2006



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Financial Market Development in Bangladesh: Current Strategies and Options for the Future

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Financial Market Development in Bangladesh: Current Strategies and Options for the Future

Abstract

Financial markets and institutions comprise important areas of consideration in restructuring the economy of a country. The main objective of the research is to assess the degree of development of the financial market in Bangladesh and to analyze its various formal components, such as the money market, foreign exchange market and the capital market. The background of the research has been explained in chapter one. In the course of the comprehensive research, special attention has been paid to identify the problems in the financial markets and institutions in the country, their causes and consequences, and the measures for solutions of the problems and further development. The research hypotheses were tested to see what policy, structural and operational strategies can promote the degree of financial market development in Bangladesh. The study has been conducted by adopting theoretical, analytical and empirical approaches with particular thrust on future development options based on evaluation of the current state of the market. The research methodology used in the study has been elaborated in chapter two.

The theoretical background has been established by reviewing the available literature in chapter three and analysing the strength and weaknesses of financial systems in general and the state of financial system of Bangladesh in particular in chapter four. An exclusive theoretical discussion on general conditions of financial markets in developed and developing countries has been made in chapter five, which provided an opportunity to find the comparative strengths and weaknesses of financial market in Bangladesh. Empirical investigations on the performance and strengths and weaknesses of all formal components of the country's financial market have been made in chapters six through ten and the research hypotheses were also tested there. The conclusion of the dissertation has been made in chapter eleven. Theoretical analyses included the evolution, institutional structure, instruments and tools and ongoing operational aspects of financial market in the country. The general discussions and literature review made and the research goal-oriented non-technical analyses done in the dissertation revealed weaknesses in all formal components of the market namely, money, foreign exchange and capital markets including the institutional investors' niche.

The first hypothesis is tested empirically to see whether changes in the inter-bank money market interest rates pass-through to banks' retail customer lending and deposit rates in the money market of Bangladesh. A linear regression model has been adopted by taking the retail lending rate as dependent variable and the inter-bank borrowing and inflation rates as independent variables. The model run in SPSS did not show that there had been full pass-through effects in the money market of Bangladesh, rather revealed a partial and insignificant degree of such transmission, clearly indicating the poor state of development of the country's money market. Another finding of the test is that there is no policy or reference rate of interest in Bangladesh, which can be used as benchmark rate by other financial institutions in the market. The empirical investigations, however, showed wide variations and scattered movements in interest rates in the inter-bank and retail money market.

The analysis of the country's foreign exchange market has revealed that this market is not price-efficient and is characterized with larger spread between buying and selling rates. In addition, foreign exchange market in the country suffers from structural weaknesses in the absence of good instruments and operational and institutional frameworks. The foreign exchange market activities in the country are regulated in an environment where foreign currency denominated resources are lacking and there is a short supply of liquidity and efficient human capital to trade in foreign exchange in the global financial markets. The foreign currency holding by the banking system is also constrained by the dominance of outflows over the inflows or receipts. The larger spread differentials in the exchanges rates of foreign currencies in the domestic market quoted by different banks clearly indicate that the market is not working in a perfect or near perfect competitive environment. Other participating institutions in the

country's forex market other than the authorized dealer branches of banks are approved moneychangers, whose activities are suspicious and not supportive of development of foreign exchange market. Offshore banking units of different banks have been found involved in illegal transactions that destabilize the market. It was expected to increase the inflow of foreign assets into the country through the offshore banking units, which are instead heavily engaged in taking out the local assets abroad.

The second hypothesis is that the macroeconomic factors/variables contribute to the development of stock market in Bangladesh. The hypothesis is tested to look into the impact of selected macroeconomic factors such as market turnover, number of listed companies, listed securities, initial public offerings (IPOs), GDP, stock market index (DSE), inflation, index of industrial production (IIP) and banks savings deposit rates (the independent variables) on securities market. Four regression models have been tested to find a robust model free from multi-collinearity and autocorrelation and at least one model has been found as a significant one, which confirms the positive impact of those macro economic variables on the stock market development in Bangladesh. Most importantly, GDP has been found as a factor having significant influence on stock market development in Bangladesh. The dissertation didn't attempt to see the causal relationship between GDP and the promotion of stock market performance. The stock market does not have a very significant role in the development of financial markets in Bangladesh. This is largely because of the fact that the listed companies of good standing are limited in numbers. The role of non-bank financial institutions has been found insignificant and their participation in the inter-bank money market has destabilised the interest rate structure along with huge pressure on the availability of liquidity. Further analytical evaluation has revealed that the banking system has been greatly contributing to the development of the capital market as the long-term lending wing of the country's financial market and the forms of contributions are direct long-term lending to the various sectors of the economy and investment in securities, credit support to the investors, payment facilities and liquidity in both securities and non-securities segments. This situation necessitates a new approach to the country's financial market development in order to enable it to contribute to the economic upliftment of the country.

Bangladesh has started financial liberalization in the early 1980s, but the initiatives were ad hoc and piece meal typed with the exception of the 'Financial Sector Reform Project (FSRP)'. The impact of financial liberalization in the country has been analyzed in chapter ten. This chapter examines the causal relationship between financial reforms and financial development, and economic growth in Bangladesh. The agenda of FSRP were wide-ranging including policy liberalization, institutional restructuring and functional development of the financial sector. The analytical results show that the envisioned financial development was only partially achieved, which in an aggregate is insignificant to establish causality relationship between the post-FSRP financial development and economic growth. The sluggish increases and diversity in the activity of financial markets, their institutions and instruments did not influence the economic growth rates to go up.

Major findings of the analysis are that the financial system in Bangladesh is still passing through a critical condition characterized by higher rate of real interest rates and non-performing loans, deficit in capital adequacy ratios of banks, shortfall in provisioning for classified loans, traditional payments system and above all, very sluggish rate of growth of the economy because of lower productivity in the country's real sectors, except possibly, the construction sector. Legal enforcement for financial disputes and crimes is weak and slow. The overall link between productive and financial sector is not strong enough to push the economy to upward shift and create and sustain with a healthy client base for the financial sector. On the basis of the findings of all theoretical, analytical and empirical studies conducted, the dissertation suggests the necessity of a balanced development approach for the overall development of the financial market in Bangladesh and overall economic development of the country. This requires new initiatives and plans and/or further reforms in the financial system to make it fully viable for long-run financial and economic development in the country.

Table of Contents

Page Nos.

Chapter 1: Introduction	1-5
1.1 Background of the Study	1-2
1.2 Motivation and Rationale of the Study	2-4
1.3 Objectives of the Study	4
1.4 Scope and Coverage of the Study	4-5
1.5 Organization of the Dissertation	5
Chapter 2: Research Methodology	6-12
2.1 Objectives, Indicators and Models	6
2.2 Data Sources	6-10
2.3 Data Processing and Analysis	10
2.4 Data Processing and Analysis	10-12
2.5 Expected Outcome of the Study and its Importance	12
Chapter 3: Literature Review	13-39
3.1 Financial Markets: Theory and Evolution	13-14
3.2 Financial Markets and Economic Growth	14-18
3.3 The Role of Financial Markets in Emerging Economies	18-21
3.4 Capital Market Development	21-31
3.4.1 Linkage between Capital Market Development and Economic	21-22
3.4.2 Development of Equity and Corporate Bond Markets	22-24
3.4.3 Development of Government Bond Market	24-28
3.4.4 Commercial Banks and Capital Market Development	28-29
3.4.5 Development of NBFIs and the Capital Markets	29-31
3.5 Money Market Development	31-34
3.6 Foreign Exchange Market Development	34-35
3.7 Derivatives Market Development	35-36
3.8 Financial Market Prices and the Monetary Policy	36-37
3.9 Role of Regulations in Development of Financial Markets	36-38
Chapter 4: The Financial System	40-72
4.1 Financial System and Economic Development	40-45
4.2 Institutions and Instruments of a Financial System	45-48
4.2.1 Institutions	
4.2.2 Instruments	
4.2.3 Relationship between Financial Markets and Financial Instruments	49-50
4.3 Bank-Based Versus Market-Based Financial System	50-53
4.3.1 Arguments for Market-based Financial System	
4.3.2 Arguments for Bank-based Financial Intermediation	
4.3.3 Bank Based Vs Market Based Financial System: Issue of Coordination	

4.4 Stability and Soundness of Financial Systems and Markets	54-55
4.4.1 Causes of Financial Instability	54-55
4.4.2 Impact of Financial System Instability	55-57
4.4.3 Establishing Financial Stability	57-58
4.4.4 Central Banks and Stability of the Financial System	58-59
4.4.5 Influence of Government Financing	59
4.4.6 Integration of the Financial System	59
4.4.7 Measuring the Strength of Financial Systems	60
4.5 Transformation in Financial Systems and Financial Markets	60-62
4.6 Characteristics of Financial Systems and Markets in Developing Countries	62-63
4.7 Financial System in Bangladesh	63-73
4.7.1 Overview	63-64
4.7.2 Financial System and Financial Intermediation in Bangladesh	64-66
4.7.3 Payments System in Bangladesh	66-71
4.7.4 MFIs and Informal Financial System	71-72
4.7.5 Peculiarities of Financial System in Bangladesh	72-73
Chapter 5: Financial Markets	74-100
5.1 Definition, Structures and Functions	74-75
5.2 Structure of Financial Markets: Variations and Optimal Structure	75-79
5.3 The Money Markets	79-81
5.4 Foreign Exchange Markets	81-82
5.5 Financial Derivatives Markets	82-83
5.6 Capital Markets	83-89
5.6.1 Capital Market: Securities Segment	84-89
5.6.2 Capital Market: Non-securities Segment	89-92
5.7 Central Banks and the Financial Markets	93
5.8 Liquidity and the Financial Market Development	93-94
5.9 Securities Settlement System (SSS)	94-95
5.10 Rural Financial Market	95-97
5.11 Functional Assessment of Financial Markets	97-99
5.12 Regulation of Financial Markets	99-100
Chapter 6: Financial Markets in Bangladesh	101-110
6.1 Introduction	101-102
6.2 Financial Market in Bangladesh: Structure and Depth	102-103
6.3 Evolution of Money Market in Bangladesh	103-104
6.4 Evolution of Capital market in Bangladesh	104-110

Chapter 7: Money Market in Bangladesh	
Performance Analysis and Development Implications	111-155
7.1 Introduction	111
7.1.1 Money Market Instruments in Bangladesh	111-112
7.1.2 Functional Structure of Money Market in Bangladesh	112-113
7.1.3 Inter-bank Money Market in Bangladesh – Basic Characteristics	113-114
7.1.4 Call Money Market	114-116
7.1.5 Performance of Inter-bank Money Market	116-119
7.2 Bills market	
7.2.1 Treasury Bills Market in Bangladesh: Development and Behaviour	119-130
7.2.2 Commercial Bills Market	130-132
7.3 Liquidity in the Money Market	132-134
7.3.1 Determinants of Money Market Liquidity	134-137
7.3.2 Government's Fiscal Operations and the Money Market Liquidity	137-138
7.3.3 Money Supply and the Money Market in Bangladesh	138
7.3.4 Money Supply and the Monetary Aggregates in Bangladesh	139-140
7.3.5 Money Market and Monetary Policy Implementation	140-142
7.3.6 Findings and Implications	142-145
7.4 Interest Rate Pass-through in the Money Market of Bangladesh:	145-155
An Empirical Examination	
7.4.1 Theoretical Background	145-147
7.4.2 The Model and the Variables	147
7.4.3 Regression Results and the Explanations	148-150
7.4.4 Graphical Estimations	151-152
7.4.5 Findings and Implications	152-155
7.4.6 Limitations of the Analysis	155
Chapter 8: Foreign Exchange Market	156-181
8.1 Introduction	156-157
8.2 Development of Foreign Exchange Market in Bangladesh	157-158
8.3 Market Operations	158-160
8.4 Market Analysis	160-171
8.5 Offshore Banking in Bangladesh	172-174
8.6 Off-balance sheet Activities/Contingent Liabilities of Banks in Bangladesh	174-176
8.7 Moneychangers in Bangladesh	176-177
8.8 Findings and Policy Implications	177-181

Chapter 9: Capital Market in Bangladesh	182-248
9.1 Introduction	182
9.2 The Primary Market	
9.2.1 Overview	183-184
9.2.2 Institutional and Legal Structure	184-185
9.2.3 Allotment Procedure	185
9.2.4 Process of Determining Offer Prices	185
9.2.5 Offering at 'Par' or 'Premium' – Norms of Determination	186
9.2.6 Underpricing and Overpricing - Determination Basics	186-187
9.2.7 Underpricing and Spinning of Shares; Harm to the	187-188
9.2.8 Inducements for Underpricing of IPOs	188
9.2.9 Asymmetric Information and the Winner's Curse: Impact on Market	188-189
9.2.10 IPO Market in Bangladesh - Movement Analysis	189-191
9.3 Secondary Markets	191-195
9.3.1 Market Bubbles	195-202
9.3.2 Market Crash	202-203
9.3.3 Lock-in and Circuit Breaker: Impact on the DSE Returns - Findings and Policy Implications	203-205 205-207
9.4 Stock Market Development in Bangladesh: An Empirical Analysis	208-223
9.4.1 Introduction	208
9.4.2 Determinants of Stock Market Development	208
9.4.3 Empirical Models, Data Descriptions and Interpretation of Regression Results	209-222
9.4.4 Findings and Policy Implications	222-223
9.4.5 Limitations of the Analysis	223
9.5 Capital Market in Bangladesh – Structure of Non-Securities Segment	224-225
9.5.1 Performance of Banks in the Capital Market	225-228
9.5.2 Performance of Institutional Investors and NBFIs	228-232
9.5.2.1 Investment Corporation of Bangladesh (ICB)	228
9.5.2.2 Performance of Leasing Companies	229-230
9.5.2.3 Performance of Merchant Bankers	230-233
9.5.2.4 Pension Funds	233-234
9.5.2.4.1 Pension System in Bangladesh	234-235
9.5.3 Capital Market Performance of Insurance Sector	235-237
9.5.4 Equity Entrepreneurship Fund (EEF): Contributions to Capital Flow	238
9.5.5 Housing Finance in Bangladesh: Performance, Problems and Prospects	238-248
9.5.5.1 An Overview	238-240
9.5.5.2 State of Housing Finance Market in Bangladesh	241-242
(a) Industry Development	243-244
(b) Exploring Economic Benefits of Housing Industry	244-245
9.6 Findings and Policy Implications	245-248

Chapter 10: Financial Sector Reforms in Bangladesh: A Post-Event Impact Analysis	249-266
10.1 Introduction	249
10.2 Pre-FSRP Situation and the Background of the FSRP	250-252
10.3 Implementation of the FSRP (1991-96)	
Banking Reforms	253-254
Foreign Exchange Reforms	254-255
10.4 The FSRP: A Post Implementation Impact Analysis	
10.4.1 Financial Development	255-259
10.4.2 Economic Growth in Bangladesh	259-260
10.5 Findings and Policy Implications	260-266
Chapter 11: Conclusion	267-278
Suggestions for Further Research	278
List of References	279-296
Annexure	297-346
List of Tables	
List of Graphs	
List of Figures	
List of Boxes	

List of Tables

- Table 4.1: Relationship between Financial Instruments and Markets
Table-4.2: Advantages and Disadvantages of Financial Instruments
Table 4.3: Summary of IMF's Macprudential Indicators (MPIs)
Table 4.4: Aggregate Indicators of Financial Soundness for Deposit Money Banks in Bangladesh:
Table 4.5: Characteristics of Financial Systems and Markets in Less-Developed Countries
Table 4.6: Growth in Broad Money (M_2) in Bangladesh
Table 4.7: Micro- Credit Operations of the Grameen Bank and Large NGOs
- Table 5.1: The Money Market Instruments and Participants
Table 5.2: Reported Global Daily FX Trading Volume (in Billion USD)
Table 5-3: Functional Assessment of Financial Markets in Low-Income Countries
Table 5.4: Structure of Regulatory Agencies in Selected Countries
- Table 6.1: Nationalized Banks under Banks (Nationalization) Order 1972
Table 6.2: Indicators of Capital Market Developments
Table 6.3: Group-wise Market Capitalization of Dhaka Stock Exchange
- Table 7.1: Yearly, Quarterly and Monthly Weighted Average Call Money Market Rates
Table 7.2: Spread of Annual, Quarterly and Monthly Weighted Average Call Money Lending and Borrowing Rates
Table 7.3: Comparative State of Monthly Call Money Market Rates and other Money and Capital Market Rates (Weighted Average): 2003-04
Table 7.4: Turnover Ratios of Call Money Market: 1999-2004
Table 7.5: Trading Performance of Inter-bank Call Money Market: 1999-2004
Table 7.6: Holding of Government Treasury Bills by Banks and interest rate structure
Table 7.7: Demand Level of Different Maturity Second Generation Treasury Bills
Table 7.8: Average Quarterly Returns on Second-Generation Government Treasury Bills Compared to other Investments (%)
Table 7.9: Annual Weighted Average Rate of Returns, by type of investment(%)
Table-7.10: Demand Level of Different Maturity Third Generation Treasury Bills
Table 7.11: Annual Weighted Average Returns by type of investment
Table 7.12: Annual Weighted Average Rate of Return on Government Treasury Bills and Percentage Change compared to other Investment Returns
Table 7.13: Monthly Average Treasury bill Yields
Table 7.14: Credit – Deposit Ratios of DMBs Practiced
Table 7.15: Premature Encashment of Government Treasury bill
Table 7.16: Quarterly Auctions of Government Treasury Bills: 2003-04
Table 7.17: Repo Auctions
Table 7.18: Reverse Repo Auctions (Billion Taka)
Table 7.19: Interest Rates on Treasury Bills issued, Repo and Reverse Repo Auctions
Table 7.20: Bank Rate and Interest Rate Structure of Post Office Savings Bank and House Building Finance Corporation
Table 7.21: Performance of Commercial Bills Market in Bangladesh
Table 7.22: Month-Wise Performance of Commercial Bills Market
Table 7.23: Current Structure of SLR and CRR Requirements of Banks in Bangladesh
Table 7.23.1: General Structure of SLR and CRR Requirements of Banks
Table 7.24: Weekly Average Liquidity Position of Commercial Banks in Bangladesh

- Table 7.25: Reserve Money Developments in Bangladesh
Table 7.26: Bank Rate (%)
Table 7.27: GOB's Deficit Budget Financing
Table 7.28: Monetary Aggregates and Money Supply in Bangladesh 1999-2004
Table 7.29: Growth of Net Domestic and Net Foreign Assets And Reserve Money in Bangladesh
Table 7.30: Descriptive Statistics (continued)
Table 7.31: Correlations
Table 7.32: Coefficient Correlations(a)
Table 7.33: Model Summary(b)
Table 7.34: ANOVA(b)
Table 7.35: Coefficients(a)
Table 7.36: Residuals Statistics(a)
Table 7.37: Basic Data-Yearly Average Call Money Borrowing and Retail Lending Interest Rates and the Rate of Inflation
- Table 8.1: Distribution of AD branches of Banks in Bangladesh (30 June 2004)
Table 8.2: Yearly Inter-bank Transaction in Foreign Exchange Market in Bangladesh
Table 8.3: Monthly Trends in the Inter-bank Foreign Exchange Transactions in Bangladesh
Table 8.4: Average Yearly Exchange Rate (Taka per USD): 1991-2004
Table 8.5: Average Monthly Exchange Rate (Taka per USD)
Table 8.6: Average Exchange Rate (Taka per USD) VS Kerb Market Selling Rates
Table 8.7: Monthly Movement of Spread on Spot Buying and Selling of Foreign Currencies
Table 8.8: Average Weekly Spread of Spot Buying and Selling Price of Foreign Exchange by Category of Banks in Bangladesh
Table 8.9: Foreign Exchange Holdings of Banks in Bangladesh by Category
Table 8.10: Holding of Foreign Currency by Banks in Bangladesh (in Million USD)
Table 8.11: Individual Bank wise Foreign Currency Holdings
Table 8.12: Migrant Workers' Remittance (Million USD)
Table 8.13: Migrant Remittances, International Reserves, Export and Import
Table 8.14: Foreign Loans and Grants (Million USD)
Table 8.15: Forex Reserve of Some Selected Countries
Table 8.16: Banks Obtained Permission from Bangladesh Bank to Operate Offshore Banks
Table 8.17: Performance of Offshore Banking Units (OBUs) in Bangladesh
Table 8.18: Structure and Sources of Deposits Received by OBUs: 31-12-1999
Table 8.19: Loan and Advances Made to EPZ Units and Investments Made Abroad
Table 8.20: The Typical Off-balance Sheet Activity and Instruments.
Table 8.21: Off-Balance Sheet Performance of Banks in International Markets
Table 8.22: Volume of Forex Transactions by Money Changers
- Table 9.1: Performance of the Primary Market in Bangladesh
Table 9.2: IPO Market in Bangladesh: Evidence of Underpricing in 1993-2004
Table 9.3: Performance of the IPO Market in Bangladesh
Table 9.4: Stylized Facts of IPO Underpricing
Table 9.5: Loan Disbursed to Public by the ICB for Investment in IPO
Table 9.6: Performance of the IPO Market in Bangladesh
Table 9.7: Initial Public Offering during 2000-2004 at DSE
Table 9.8: Growth in No. of Listed Companies at the DSE

- Table 9.9: State of Public Interest in IPOs during 1984-87
Table 9.10: DSE Performance: 1985-2004
Table 9.11: Key Features of DSE during January – December' 2004
Table 9.12: ICB's Securities Market Performance
Table 9.13: Portfolio Investment by the Non resident Bangladeshis (yearly statistics)
Table 9.14: Portfolio Investment by Non-Resident Bangladeshis at DSE
Table 9.15: Performance of the CSE: 1995-2004
Table 9.16: Key Features of CSE during January – December' 2004
Table 9.17: DSE Share Price Index during July-December' 1996
Table 9.18: CSE all Share Price Index: July-December' 1996
Table 9.19: DSE Turnover: July-December' 1996
Table 9.20: CSE Turnover: July-December' 1996
Table 9.21: DSE Market Capitalization during July December 1996
Table 9.22: Most Advanced Issue during July-November'1996
Table 9.23: Most Actively Traded Weak Issues During July-November'1996
Table 9.24: Trends in Share Price of 5 Weak Companies: July-November 1996
Table 9.25: Price-Earning Ratios of Selected Companies: July-November'1996
Table 9.26: Payout (Dividend/Earning) Ratios
Table 9.27: Development of Non-equity Securities: Mutual Funds and Debentures
Table 9.28: Descriptive Statistics
Table 9.29: Correlations
Table 9.30: Levels of Correlation of InDVs with Dependent Variable
Table 9.31: Co-efficient of Correlations
Table 9.32: Coefficients(a)
Table 9.33: Model Summary(b)
Table 9.34: Test Results, Level of Significance/Rule of Thumbs and Inferences
Table 9.35: Descriptive Statistics
Table 9.36: Correlations
Table 9.37: Model Summary(b)
Table 9.38: Coefficients(a)
Table 9.39: Coefficient Correlations(a)
Table 9.40: Descriptive Statistics
Table 9.41: Model Summary(b)
Table 9.42: Correlations
Table 9.43: Coefficients(a)
Table 9.44: Correlations
Table 9.45: Coefficient Correlations(a)
Table 9.44: Coefficients(a)
Table 9.45: Collinearity Diagnostics(a)
Table 9.46: Model Summary(b)
Table 9.47: Test for Non-stationarity of Variables - Order of Co-integration
- Table 9.5.1: Ownership Structure of Non-bank Financial Institutions in Bangladesh
Table 9.5.2: Structural Depth of Banking Industry in Bangladesh (as on 30 June 2004)
Table 9.5.3: Economic Purpose-wise Credit of Scheduled Banks in Bangladesh
Table 9.5.4: Scheduled Banks Industrial Credit
Table 9.5.5: Scheduled Banks' Advances against Shares and Securities
Table 9.5.6: Advances by Scheduled Banks Against Shares and Debentures
Table 9.5.7: Comparison of Capital Raised through Stock Market and Bank Credits
Table 9.5.7(1): Capital Raised through IPO as Percentage of Total Bank Credit to Industry
Table 9.5.8: Scheduled Banks Investments in Private Sector Shares and Other Securities
Table 9.5.9: Contributions of Shares of Bank and Other Financial Institutions in Market Capitalization at DSE

- Table 9.5.10: Growth Pattern of Leasing Industry in Bangladesh
Table 9.5.11: Capital Structure of Leasing Companies
Table 9.5.12: Growth trend in Total Lease Business of Leasing Companies
Table 9.5.13: Trends in Lease Business in Bangladesh
Table 9.5.14: Leasing Business: Some Country Comparison
Table 9.5.15: Portfolio Management Operations by AB Bank Merchant Banking Wing
Table 9.5.16: Portfolio Size
Table 8.5.17: Underwriting Performance of AB Bank's Merchant Banking Wing
Table 9.5.18: AB Bank's Share in DSE Monthly Market Capitalization (%)
Table 9.5.19: Selected General and Life Insurance Companies reviewed
Table 9.5.19(a): Aggregate Investment and Other Performance of SBC and Selected Private General Insurance Companies
Table 9.5.19(b): Performance of Sadharan Bima Corporation (1996-2003)
Table 9.5.19(c): Performance of Selected Private General Insurance Cos. (1996-2000)
Table 9.5.19(d): Combined Performance of JBC and Selected Private Life Insurance Companies
Table 9.5.19(e): Investment by Jiban Bima Corporation
Table 9.5.19(f): Performance of Selected Private Life Insurance Companies
Table-9.5.19(g): Combined investment of selected private sector general and life insurance Companies and share of GDP
Table 9.5.19(h): Total Investment by Both Selected General and Life Insurance Companies (Public and Private) and GDP
Table 9.5.20: Fund Disbursed by EEF
Table 9.5.21: Urban Population Profile
Table 9.5.21(a): Housing Loans and Advances Disbursed by Scheduled Banks
Table 9.5.21(b): Outstanding Housing Finance of BHBFC
Table 9.5.21(c): Housing Finance Disbursed through Grihayan Tahabil
Table 10.1: Profitability of Banks (%)
Table 10.2: New Loan Regulations
Table 10.3: Bank-wise Classified Loans in Bangladesh (In Percent)
Table 10.4: Growth Pattern of Bank Loans and Loan Classification (Percent)
Table 10.5: Provision Shortfall of Banks (in Crore Taka)
Table 10.6: Capital Surplus/Shortfall of Banks (in Crore Taka)
Table 10.7: Growth Rate of Financial System (%)
Table 10.8: Growth Rate in Number of Banks, Bank Branches and Deposits
Table 10.9: Advance Deployment (Taka in lakhs)
Table 10.10: Productivity of Banks
Table 10.11: Percentile Share of Urban – Rural Banking in Bangladesh (%)
Table 10.12: Proportionate Share of Private Commercial Banks (PCBs)
Table 10.13: Growth of Bank Credit to Private Sector (In Crore Tk.)
Table 10.14: Performance of Money Loan Courts
Table 10.15: Some Macroeconomic Indicators in Bangladesh
Table 10.15 (a): Gross National Savings and Investment in Bangladesh
Table 10.16: Interest Rate Structure in the Scheduled Banks (Weighted Average)
Table 10.17: Share of Financial Sector to GDP Compared to Some other Major Sectors at Current Market Price (%)

List of Graphs

Graph 4.1. Micro Finance Activity

Graph 6.1: Share of Rural Credit from Informal Sources

Graph 7.1 Movements of Call Money Borrowing and Lending Rates and Trends in Rate Differentials

Graph 7.2: Monthly Weighted Average Interest Rates of Call Money Market

Graph 7.3: Call Money Market Turnover Ratio in Terms of GDP

Graph 7.3(a): Trading Performance of Call Money Market: 1999-2004

Graph 7.4: Rate of Interest on First Generation Treasury Bills

Graph 7.5: First Generation Treasury Bills: Interest and Inflation Rates (%)

Graph 7.6: Demand Level for Different Maturity Second Generation Treasury Bills

Graph 7.7: Aggregate Demand Level of Second Generation Treasury Bills: 1998-2001

Graph 7.8: Performance of Commercial Bills Market in Bangladesh: 1991-2004

Graph 7.9: Reserve Money Growth in Bangladesh: 1993-2005

Graph 7.10: Growth in Monetary Aggregate and Its Components: 1999-2004

Graph 7.11: Growth of Net Domestic and Net Foreign Assets, and Reserve Money

Graph 7.12: Movement of Inter-bank Money Market Borrowing and Banks Retail Lending Rates

Graph 7.13: Movement of Inter-bank Money Market Borrowing and Banks Retail Lending Rates

Graph 8(a): Monthly Trends in Foreign Exchange Market Transaction: 2003 -04

Graph 8(b): Yearly Trends in Foreign Exchange Transactions: 1994-2004

Graph 8(c): Average Yearly Exchange Rate: Taka per USD

Graph 8(d): Monthly Average Exchange Rate During 2003-04

Graph 8(e): Average Formal Exchange Rates VS Kerb Market Rates (Taka per US Dollar):

Graph 8(f): Monthly Movement of Spread between Spot Buying and Selling Rates of Forex by Category of Banks

Graph 8(g): Foreign Exchange Holdings by Category of Banks

Graph 8(h): Total and Net Foreign Currency Holdings of all Banks during 2001-2004

Graph 8(i): Daily Foreign Currency Holdings of all Banks:

Graph 8(j): Migrant Workers Remittance (In Million USD)

Graph 8(k): Trends of International Reserves, Export Receipts, Import Payments and Inward Migrant Workers' Remittances

Graph 8(l): International Reserves

Graph 8(m): Forex Reserve of Some Selected Countries in 2004

Graph 8(n): Off-Balance Sheet or Contingent Liabilities of Banks in Bangladesh

Graph 9(i): Trend in IPO Market Growth in Bangladesh

Graph 9(ii): Growth Pattern of IPO Market in Bangladesh

Graph 9(a): Trends in Non-resident Portfolio Investment in Bangladesh

Graph 9(b): DSE Share Price Index July-December 1996

Graph 9(c): DSE Quarterly Price Index During 1985-2004

Graph 9(d): CSE Share Price Index During July-December 1996

Graph 9(d): CSE Share Price Index During July-December 1996

Graph 9(e): Price Movement of Five Most Actively Traded Companies:

Graph 9(f): Movement in Shares Prices of 5 Most Advanced Companies

Graph 9(g): Share Price Trends 5 Weak Companies:

Graph 9(h): Price Earning Ratios of Selected Companies: Jul-Nov 1996

- Graph 9.5(a): Growth Trend in Bank Credit in Bangladesh
Graph 9.5(b): Growth in Sceduled Banks Advances Against Shares and Securities
Graph 9.5(c): Growth of Domestic Bank Credit Market in Bangladesh
Graph 9.5(d): Turnover of AB Bank's Merchant Banking Wing As Percentage of Monthly Turnover at DSE-2004
Graph 9.5(e): Combined Investment Volume of Private Sector General and Life Insurance Companies During 1996-2004 and Its Comparative Trend with GDP Growth
Graph 9.5(f): Total Investment by Both Selected General and Life Insurance Companies (Public and Private) and GDP
Graph 9.5(g): Growth in Housing Finance by the Banking System
Graph 9.5(h):GDP and Housing Loans Disbursed by Banks in Bangladesh
- Graph 10(a): Efficiency of Bangladesh's Banking system
Graph 10(b): Urban and Rural Banking
Graph 10(c): Growth in Bank Credit to Private Sector

List of Figures

- Figure 4(i): Fund Flow Process in the Financial System
Figure 4(ii): Inter-dependence of Financial System and Other Systemic Components of an Economy
Figure 4(iii): Financial Intermediation Process
Figure 4(iv): Structure of the Formal Financial System in Bangladesh
- Figure 5(i): Role of Participants in International Financial Markets
Figure 5(ii): Hierarchical Orders of Financial Markets
Figure 5(iii): Diagrammatic Example of a Financial Intermediary: A Commercial Bank
Figure 5(iv): Environment of Bond Markets
- Figure 7(i): Structure of Money Market in Bangladesh
Figure 7(ii): Sources of Money Market Liquidity and Their Shares (%)
Figure 7(iii): Uses of Liquidity in Money Market of Bangladesh: 2003-04
Figure 7(iv): Monetary Policy through Open Market Operations

List of Boxes

- Box 5.1: Functional Structure of Financial Markets
Box 5.2: Internationalization of Financial Markets

Chapter 1

Introduction

1.1 Background of the Study

Financial markets provide the nations with tools and mechanism for channeling financial resources to the users and are thereby regarded as an engine of economic growth. In the traditional view, financial markets are considered useful only for the mobilization of domestic financial resources. Modern finance literature argues that financial markets have other important roles to play. They permit risk pooling and sharing among market participants, attract international capital inflows, improve governance through information processing, aggregation and dissemination, and facilitate monitoring and make efficiency-based takeovers of companies.

Firms usually have to meet at least part of their financing from financial markets. There is a vast array of techniques and instruments in a dynamic and efficient financial market for borrowing and lending that facilitate investment, consumption, savings, and the convenient timing of purchases and sales of goods and services. Active financial markets help potential borrowers and lenders find the most advantageous instruments, terms and interest rates. The market-making processes allocate savings to the users offering the highest return and search out the interest rates that bring supplies and demands into balance. The financial markets perform these functions through their main components of money and capital markets where financial products and services are traded and financial claims are settled.

Effective financial markets are indispensable to the pursuit of broad-based and sustainable economic growth. Financial markets and transactions play important roles in maintaining stability in the national and world economies. A nation cannot have a very developed financial sector if its real sectors remain underdeveloped. The health of a developed financial sector is the combination of soundness and efficiency of financial system in general and the financial markets in particular. Financial soundness is one of the five most important sovereign rights of a nation, which influences the rests, such as territorial sovereignty, military sovereignty, administrative sovereignty and the judicial sovereignty. Financial sovereignty of a nation is reflected through its financial strength and capability to sustain without assistance or intervention, and to interplay both in domestic and international financial markets and more importantly, to withstand both endogenous and exogenous shocks.

The business community, investors and consumers, government policy makers, and private citizens – all depend on the speed, efficiency and quality of services provided by the money and capital markets. The system of financial markets and institutions has always been besetting by sweeping changes and serious problems, which affect every individual and institution in the domestic and global economy. The financial system is not independent of the economy and the society that surround it. Economic booms and recessions, government budget deficits and taxes, technological innovations, political upheavals, wars and other social changes, all impact the dimensions and decisions made in the financial marketplace and often have devastating financial and economic consequences.

The ongoing financial liberalization at a global scale, increased use of advanced technology and the revolution in the information communication system have put competitive pressure

on both domestic and international financial markets. Although the financial development is correlated with economic development, domestic financial backwardness constrains the growth in manufacturing industry below its potential, and affects corporate investment and entrepreneurship development. On the other hand, financial development is associated with improvements in national regulations namely, accounting standards, securities law, bank supervision, corporate governance, etc and with the volume and extent of activity in the real sectors.

Financial market development is one of the most complex areas in the development field, because these markets work with multi-modal techniques and tools and other policy and strategic dimensions. Important determinants of financial market development are: the degree of depositors and creditors' protection, structural depth and institutional integrity, openness to the system of financial intermediation, efficiency of the payments system, the level of transparency of accounting standards, the rules of law and legal enforcement and level of domestic, regional and international integration. The largest benefits of financial market development accrue when all determinants are assumed to improve simultaneously.

Major problems of financial market in Bangladesh include weaknesses in the structure of financial institutions, shortage of liquidity in both local and foreign currency holdings, lack of discipline in loans and advances, as well as in the securities trading, limited listings of companies in the stock exchanges and shallow participation of individual, as well as institutional investors in the capital market. Lack of absorption capacity and low demand for and supply of equity and other financial securities have contributed to worsening the attractiveness of new companies to investors in the stock markets. The infant structure of money and capital markets thus barred the efficient functioning of the financial markets in Bangladesh.

Financial markets in the country remain traditional in large parts with primary functions of deposit mobilization and lending through the banking system and limited role of the stock markets and institutional investors. Many studies have been pursued to evaluate the performance and efficiency of financial markets all over the world. However, their focus was mainly on the markets in developed countries with negligible or no attention to financial markets and the financial systems of developing and the least developed countries. Some aspects of financial markets of Southeast Asia, Latin America and the Caribbean have occasionally drawn some attention of researchers and policy makers. But the financial market of Bangladesh has never been subject to any comprehensive study.

Because of crucial roles the financial markets and institutions play in the process of economic development, it has become a prime requirement for Bangladesh to upgrade and develop these markets in strategic consideration. The private sector-led growth strategy that has been adopted in the country requires intensive and quick re-building and development of its financial markets. The main objective is to attain sustainability in the country's financial and economic growth and ultimately, to gain efficiency and financial sovereignty. On the basis of the above drawn background, this dissertation attempts to conduct a comprehensive study on issues in development of financial market in Bangladesh.

1.2 Motivation and Rationale of the Study

Research is regarded as a way of accelerating the process of understanding, and hence it should lead not only to a better understanding of a subject, but also to a better understanding for concerned professionals about how best to go about their work (Smith-

Thorpe-Lowe, 1996). Professionals in finance and banking of any country should strongly feel the necessity of broadening and improving their understanding and skill in financial markets, and feel the development needs of the same in their countries. The research on "Financial Market Development in Bangladesh: Current Strategies and Options for the Future" could be useful from this point of view. The financial markets in developing and less developed countries including Bangladesh are imperfect and hardly satisfy even the weak form of efficiency, which refers to the degrees of efficiency and in case of securities market, 'market efficiency' means a situation where buyers and sellers of financial products and services are in a position to receive the relevant information simultaneously and free of cost. An efficient market eliminates the chances of money making or abnormal profits through misuse of information or disinformation. All over the world, the regulatory bodies work to achieve the maximum efficiency in the financial markets. Only in the presence of efficiency¹, a stock market can reflect the real picture of the economy.

Imperfect, incomplete and underdeveloped financial markets are inefficient in channeling financial assets for productive uses. If there are information asymmetry and frictions in the financial markets, then it is possible that the information content of finance is assimilated with different speed by the various components of those markets. Goodhart et al (1997) noted that unlike studies on individual market, there has been little theory to guide empirical studies of inter-market relationship. The world financial markets are rapidly developing with policies in market micro structure and operational strategies prompted mainly by changing and increasing demand for more sophisticated and multimodal financial products. This development process in financial markets, particularly in

¹ There are three identified classifications of the Efficient Market Hypothesis (EMH) and these are aimed at reflecting the degree to which the hypothesis can be applied to markets.

(i) Strong efficiency - This is the strongest version, which states that all information in a market, whether public or private, is accounted for in a stock price. Not even insider information could give an investor an advantage.

(ii) Semi-strong efficiency - This form of EMH implies that all public information is calculated into a stock's current share price. Neither fundamental nor technical analysis can be used to achieve superior gains.

(iii) Weak efficiency - This type of EMH claims that all past prices of a stock are reflected in today's stock price. Therefore, technical analysis cannot be used to predict and beat a market.

The Efficient Market Hypothesis evolved in the 1960s from the Ph.D. dissertation of Eugene Fama. Fama persuasively made the argument that in an active market that includes many well-informed and intelligent investors, securities will be appropriately priced and reflect all available information. If a market is efficient, no information or analysis can be expected to result in outperformance of an appropriate benchmark.

Securities markets are flooded with thousands of intelligent, well-paid, and well-educated investors seeking under and over-valued securities to buy and sell. The more participants and the faster the dissemination of information, the more efficient a market should be.

The paradox of efficient markets is that if every investor believed a market was efficient, then the market would not be efficient because no one would analyze securities. In effect, efficient markets depend on market participants who believe the market is inefficient and trade securities in an attempt to outperform the market.

In the real world, markets cannot be absolutely efficient or wholly inefficient. It might be reasonable to see markets as essentially a mixture of both, wherein daily decisions and events cannot always be reflected immediately into a market. If all participants were to believe that the market is efficient, no one would seek extraordinary profits, which is the force that keeps the wheels of the market turning.

In the age of information technology (IT), however, markets all over the world are gaining greater efficiency. IT allows for a more effective, faster means to disseminate information, and electronic trading allows for prices to adjust more quickly to news entering the market. However, IT also restricts the time it takes to verify the information used to make a trade. Thus, IT may inadvertently result in less efficiency if the quality of the information we use no longer allows us to make profit-generating decisions.

developed countries is well facilitated by their technological advancements and policy innovations. Unlike the developed countries, financial markets in developing countries, including Bangladesh are either static or slow moving with their traditional financial services industry. In many cases, these services are unable to withstand the financial and economic instability and shocks, and thus these financial markets are highly vulnerable.

The government of Bangladesh in collaboration with the banking and securities market regulators has planned to develop the country's financial sector pursuant to which, reforms in the financial sector has been implemented. But the reforms could not bring out expected development-led changes in the financial sector and therefore, further steps have been urged by the research community, development partners of the country, officials/professional in the financial markets and the academia. In this situation, it is thought that a comprehensive research leading to identify the problems of the country's financial market and determining the prudential strategies for addressing those problems will be helpful for taking further development initiatives for the market. The main rationale of this study thus lies in the need for an investigation in the structure and operations of the financial system in Bangladesh for revealing its peculiarities, strengths and weaknesses and developing a set of feasible and viable suggestions necessary for reforms and improvements.

1.3 Objectives of the Study

The main objective of the dissertation is to analyze both critically and empirically the current state of the financial markets in Bangladesh with particular thrusts to identify adhering weaknesses and flaws, explore development potentials, and find and suggest effective strategies for strengthening these markets. Other objectives of the dissertation are to:

- (i) Examine how financial markets in Bangladesh function and what roles the different segments of the market play in supporting market exchange;
- (ii) Identify the bottlenecks (physical or institutional) that impede the market performance;
- (iii) Look for strategies to provide sound operational and institutional arrangements to override the identified bottlenecks; Address issues concerning how to foster institutional innovations to enhance market infrastructure;
- (iv) See the efficiency level of the country's payments system;
- (v) Examine the structure and operations of the inter-bank money market in the country;
- (vi) Examine the structure and operations of the domestic foreign exchange market; and
- (vii) Examine the behaviour of non-bank players in the domestic foreign exchange market.

As complementary to the above stated objectives, the research also planned to explore the role of perfect and developed financial markets, their relationship with financial stability and development and economic growth in the light of experiences of developed financial markets.

1.4 Scope and Coverage of the Study

As in many other countries, financial market of Bangladesh has both formal and informal parts. However, the scope of this dissertation is kept limited to the evaluation of only formal components of the market. Major areas covered in the study include, money market in broad sense comprising the banking and the foreign exchange markets and the capital market traditionally decomposed into securities and non-securities segments. Although the study makes some references to micro-credit and informal money market, the issues relating to micro-credit and micro finance institutions and other institutions of informal money market such as various types of moneylenders are not brought into comprehensive

discussion and analysis. Inclusion of informal financial markets in a planned study is thus subject to voluminous works, huge time and costs and resources. Following are some reasons why informal financial markets and mic-credit operations of NGOs/MFIs have not included in much detail in the scope of the present study:

(a) Though the high proportions of rural savings and credits are still managed informally and varying degrees of informal financial services are available in Bangladesh, informal markets are fragmented with a great deal of heterogeneity in types of institutions, as well as in nature of their activities and functions and there are huge cost, duration and risk differentials with weak linkages between formal and informal segments, and there are no definitive statistics on these informal financial markets.

(b) There is no specific and defined structure of lending size and duration of informal loans provided by the informal financial market agents and participants in Bangladesh which includes moneylenders, NGOs and micro finance institutions, credit unions, savings and credit cooperative societies, non-scheduled banks, chit funds and savings mobilizers, such as rotating savings and credit associations (ROSCAs), goldsmiths, pawn shops, local traders and friends and relatives, having hardly any apex institution to represent, register and regulate them.

(c) The benefits of access to financial services of informal financial agents and institutions are not well documented and often there are no reliable, systematic and comparable data on services provided by these agents and institutions to their clients.

1.5 Organization of the Dissertation

The dissertation is organized in eleven chapters. Chapter 1 i.e., the present one gives a brief background of the research problem and contains the scope and objectives of the study. The research methodology, including the hypotheses analyzed and tested and the data sources are stated in chapter 2. Chapters 3-10 form the body of the dissertation. Chapter 3 reviews the available literature in finance and financial markets and institutions. Chapter 4 presents a general framework of the financial systems and compares the financial system of Bangladesh with that of developed and developing countries. Chapter 5 discusses the financial markets with particular emphasis on the policy, structure, operations, functions, regulations and other characteristics of those markets. Chapter 6 incorporates the functional structure, institutional depth and evolutionary process of financial market in Bangladesh. Performance of the country's money market is analyzed and evaluated in chapter 7, which also empirically examines the interest rate pass-through in money market of the country. An analytical review on the domestic foreign exchange market is made in chapter 8. Chapter 9 encompasses the analysis on capital market, which is divided into five sections: the structural framework and evolutionary process of capital market of Bangladesh, primary market, secondary markets, development of stock market and the performance of the non-securities segment of the country's capital market. The last section also puts emphasis on the evaluation of activity and contributions of insurance companies and other institutional investors including the Investment Corporation of Bangladesh, housing finance institutions, pension funds and equity entrepreneurship fund (EEF) of Bangladesh Bank. Chapter 10 evaluates the impact of the Financial Sector Reform Project (FSRP) on the financial and economic development in Bangladesh. Finally, the conclusion of the dissertation is made in chapter 11.

Chapter 2

Research Methodology

2.1 The Approach

The research approach applied in the study combines the descriptive, qualitative, analytical and empirical methods. The theoretical background of the dissertation has been built up by reviewing available literature on areas related to the research issues in question and by analyzing financial systems and financial markets in general and their state in developing countries like Bangladesh in particular.

The analytical framework of the dissertation includes evaluation of the structure of financial system in Bangladesh, institutions and tools and instruments of the formal financial markets in the country, performance and soundness of the various components of these markets, relationship between development of these markets and overall economic growth and the ongoing reforms of the financial sector of the country. The various components of the financial markets covered in the study are:

- (a) money market, including inter-bank money market, call money market, treasury bills market and commercial bills market;
- (b) foreign exchange market with analysis of exchange rate, off-shore banking, off-balance sheet activities and the role of moneychangers; and
- (c) capital market with both securities and non-securities segments.

The analysis ultimately aims at identifying policy issues in various components of the financial markets of the country and recommending measures for improvement of the sector.

2.2 Criteria, Indicators and Models

Review of the financial literature is presented in the dissertation under sub-heads such as the theory and evolution of financial markets, financial markets and economic growth, the role of financial markets in emerging economies, capital market development and impact on macroeconomic growth, development of money, foreign exchange and derivatives markets, role of commercial banks in capital market development, role of micro finance institutions in the capital market, role of regulations in financial market development and interaction of money market prices and monetary policy issues. An attempt has been made to compare financial market of Bangladesh with that of developed and developing countries. The criteria and indicators used in the comparison are soundness of financial intermediation process, presence of financial institutions and instruments, factors of financial instability and of system regulations, soundness of payment systems, financial system and market integration, impact of public sector deficit financing, structure of financial system and its interdependence with systemic components of an economy, distinction between bank-based and market-based financial system, financial transformation and the trend in globalization, role of central banks in the financial system, and size of financial system in terms of monetary growth (M_2). This analysis covers a number of qualitative factors and concentrates on the overall state of development of financial systems.

The strength of the financial structure of Bangladesh has been assessed by

- (i) its size measured in terms of M_2 growth that reflects the scope of financial services provided, prices and quality of those services;
- (ii) mode of payments services that reveal the speed, efficacy and risk-resiliency, and most importantly the medium and means of transactions -cash or non-cash; and
- (iii) institutional and instrumental depth, which reveals the availability of good number of institutions and instruments, efficiency of the market mechanism and users of financial services.

The fundamental shape of the country's financial market has been examined in terms of market's segmentation primarily into formal and informal parts, contribution of each of which were assessed by share of credits in the market as the yardstick. The dissertation has also tried to trace the market's evolutionary process through an investigation into historical evidences. The indicators used to show the developments of the money and capital markets include investments, borrowing for short and long periods and financing agriculture, trade and infrastructural development in different regimes: Mughal, British, Pakistan and Bangladesh. .

Performance of the country's money market has been evaluated through simultaneous application of analytical and descriptive approaches and the criteria adopted include:

- (i) market's institutional and instrumental depth that encompass presence and availability of institutions and instruments; and
- (ii) operational tools, such as payments system and regulatory and supervisory set up.

Indicators used in assessing performance of the inter-bank money market are: the transaction volumes, call money borrowing and lending interest rates, types and number of participants and market turnover to GDP ratios. The institutional and instrumental depth and breadth and behaviour of demand and supply sides and interest rate in treasury and commercial bills market have been analyzed by using yearly numerical data and statistical tools such as tables, graphs, figures, percentages and ratios. Issues like money market liquidity and factors thereof, as well as the use of the liquidity have been examined through analysis of monthly, quarterly and yearly data panels. This part of the dissertation carried out the test of a hypothesis that "the changes in the inter-bank money market interest rate pass-through to banks' retail customer lending rates, marked in the dissertation as hypothesis-1. This hypothesis has been tested by running a multiple regression model by using annual time series data collected directly from publications and records of Bangladesh Bank. The model appears as:

$$Lend_Rate = \alpha + \beta_1 IMMBorr_Rates_t + \beta_2 Inflation_t$$

Where, Lend_Rate refers to nominal annual average banks retail lending interest rates

IMMBorr_Rates refers to nominal annual average inter-bank borrowing interest rates

Infl_Rate refers to annual average inflation rates

It has been assumed that the inter-bank borrowings take place for accumulation of fund for onward lending to retail borrower-customers in the money market. Such borrowings may be done for other purposes: to meet SLR and CRR requirements and settle overnight or short-term inter-bank money market obligations, although borrowing from the inter-bank money market for the purpose of meeting SLR-CRR requirements is strictly prohibited.

The performance of the domestic foreign exchange market has been analyzed by using the criteria such as market structure and size, market liquidity, and supply side participants and some indicators such as the number of authorized dealers (ADs) in the country, their service network and coverage, bank-wise distribution of AD branches, bank-wise and total holdings of foreign exchange, trends in exchange rates, exchange rate spread in the official and informal foreign exchange transactions, transaction volumes in the inter-bank foreign exchange market, sources of foreign exchange earnings/inflows, trends in foreign exchange reserves, performance of offshore banking units, off-balance sheet activities of banks and performance of moneychangers.

Performance of different segments/niches of the capital market in the country and the soundness and efficiency of the primary market have been examined by using indicators like the number of IPOs, issued capital, public offer, pre-IPO placement, public subscription (over subscription and under subscriptions), under pricing and overpricing of shares, share spinning, etc.

Functional efficiency and performance of securities segment and the institutional investors' niche of the country's capital market, including the pension funds, insurance and housing finance sub-sectors were examined by applying analytical methodology. The indicators applied in the analysis were DSE and CSE share price index, All Share Price Index, market capitalization, market turnover, number of days traded in a month and year, category of traded shares, share prices of most advance and most weak companies, price-earning ratios, pay-out ratios, number of total securities traded, number of shares traded, number of mutual funds and debentures, number of outstanding shares and total securities and market capitalization. A special section in this part of the dissertation analyzes the stock market crash of 1996 by using the share price indices. This part of the dissertation also carried out the test of a hypothesis that "the macro-economic factors/variables have a positive impact on the development of stock market in Bangladesh" identified as hypothesis-2. The hypothesis has been tested by regressing twenty years time series data ranging between 1985 and 2004 compiled from relevant publications of Securities and Exchange Commission, Dhaka and Chittagong Stock Exchanges and Bangladesh Bank. The test had run four multiple regression models to attain a robust one that can provide clear indication and policy implications towards the real development of stock market in Bangladesh.

It was assumed that the above macroeconomic factors treated as independent variables (IndVs) had an impact on the growth and development of market capitalization (the dependent, DV) in the stock market of Bangladesh. This model uses primarily chosen irrespective of interrelationship structure of all independent macroeconomic variables and the issue of relevant data non-stationarity.

Model -1, the original or generic one, adopted stock market capitalization as dependent variable (DV) and used 9 independent variables (IndVs) or regressors: market turnover, number of listed securities, number of listed companies, number of initial public offerings (IPOs), DSE Index, GDP at current market price, inflation rates, index of industrial production (IIP) and banks savings deposit rates.

Model – 1:

$$\begin{aligned} MarCap_t = & \alpha + \beta_1 Turnover_t + \beta_2 NoTotalSec_t + \beta_3 NoCom_t + \beta_4 NoIPOs_t + \beta_5 DSEIndex_t \\ & + \beta_6 GDP_t + \beta_7 Infl_t + \beta_8 IIP_t + \beta_9 DepRates_t \end{aligned}$$

Regression outcome for model-1 produces the model's affliction with multicollinearity in VIF and tolerance scale and autocorrelation in Durbin Watson values. To reach a model

free from both multicollinearity and autocorrelation, model-2 has been built by dropping or inclusion of variables and log transformation methods on model -1. A new variable 'time' was added as an independent variable in this model.

Model-2:

$$\ln(Mcap)_t = \alpha + \beta_1 \ln(GDP)_t + \beta_2(NCom)_t + \beta_3(Inflation)_t + \beta_4 \ln(IIP)_t + \beta_5(Drate)_t + \beta_6(time)_t$$

Model-2 has been found afflicted with both multicollinearity and autocorrelation. Consequently, model-3 was developed by applying the same methods as mentioned above.

Model-3:

$$\Delta(Mcap)_t = \alpha + \beta_1 \Delta(GDP)_t + \beta_2 \Delta(Com)_t + \beta_3 \Delta(IIP)_t + \beta_4 \Delta(Drate)_t + \beta_5 \Delta(Infl)_t + \beta_6 \Delta(Dindex)_t$$

Although regression results confirmed the goodness-of-fit of model-3, this model still carried the affliction of above mentioned factors, i.e., multicollinearity and autocorrelation. As a result, a fourth model was developed by making further change in GDP, keeping the other independent variables of model-3 unchanged.

Model - 4:

$$\Delta(Mcap)_t = \alpha + \beta_1 \Delta(\Delta GDP)_t + \beta_2 \Delta(Com)_t + \beta_3 \Delta(IIP)_t + \beta_4 \Delta(Drate)_t + \beta_5 \Delta(Infl)_t + \beta_6 \Delta(Dindex)_t$$

The numbers of observation in the data panel are 80, which provide a larger degree of freedom to vary/move the values in the probability distributions.

Both analytical and descriptive approaches have been applied in the evaluation of the structure and performance of non-securities segment of the country's capital market, which includes the leasing companies, pension fund, insurance and housing finance sub-sectors and the institutional investors market covering the role of commercial banks in delivering long-term loans for industrial and other real sectors and the activities of merchant banks. Criteria used in the analyses were ownership structure of non-bank financial institutions and institutional depth of the market niches, while number of companies and growth rate, growth rate in leasing business, product and service-mix in case of leasing companies and premium income and investments in the capital market by the insurance sub-sector were the performance indicators. Housing finance sub-sector has been analyzed by using a number of criteria such as profile and growth of urban and rural population, demand for housing finance, number of existing housing finance institutions, disbursement of housing loans in both rural and urban areas, and outstanding housing loans.

The impact of the financial sector reform project (FSRP) has been examined through testing the hypothesis that "the FSRP has achieved the envisioned impact and contributed to financial and economic growth in Bangladesh". In order to develop a suitable framework of analyzing this hypothesis, identified in the dissertation as hypothesis-3, the three previously used models/frameworks had been reviewed:

- (a) King and Levine 1993 (Cross-country or Cross-section panel data evidence technique);
- (b) Rajan and Zingales 1998 (Industry or firm-level evidence technique); and
- (c) Kar and Pentecost 2000 (Country-specific time series analysis techniques)

The dissertation evaluated the impact of FSRP adopting the third model (Kar and Pentecost, 2000) and using time series data for the period between 1990 and 2004. The indicators used were deposit mobilized and lendings made by banks, capital adequacy, asset quality, non-performing loans (NPL) and loan loss provisioning, institutional depth,

and profitability and productivity of banks. Major macro-economic variables that have been applied were interest and inflation rates, GDP growth, per capita income, trends of domestic savings and investment in relation to GDP. The study has been conducted by dividing the sample period into three sub-periods: pre-FSRP, FSRP and post-FSRP.

2.3 Data Sources

Data used in the dissertation had been collected in large part from secondary sources, which comprised published materials like books, journals, bulletins, reports and financial statements and unpublished official documents and reports of banks and non-bank financial institutions. Most important amongst the sources used were the Bangladesh Bank publications and records and related publications of the agencies such as Ministry of Finance of the government of Bangladesh and Bangladesh Foreign Exchange Dealers Association (BAFEDA). Some data were collected from internal official records of source agencies/organizations. The data relating to fundamental macro-economic variables such as GDP, inflation, interest rate, exchange rates, index of industrial production, capital flows etc had been collected mainly from the publications of Bangladesh Bank and Bangladesh Bureau of Statistics.

Data related to insurance and housing finance markets were collected from the publications of the insurance companies and housing institutions in the country, particularly from their annual reports. The dissertation had also used primary data, albeit in a much lesser extent than the secondary data.

The primary data had been collected through a limited scale undisguised, structured and closed-end questionnaire survey and expert opinion survey of people involved in various institutions of financial market in Bangladesh. The main purpose of the survey, however was not to get field level data on operations of financial tools and instruments and their impact on the country's money and capital markets. Rather the intention was to confirm validity of data recorded in the dissertation, check whether the tentative findings of the study match with the pulses of administrators and policy makers and discuss possible strategic and immediate measures for the improvement of different segments of the country's money and capital markets.

2.4 Data Processing and Analysis

Data collected and used in analyses and empirical tests were screened for tracing missing values, adequacy, correctness, reliability, comparability and biases. Data sorting had been made to confirm the consistency in the series arrangement according to class, kind, or size. Data had been arranged into groups according to a specified criterion and indicators, such as year, months, classes, etc. Sortings further confirmed the separability of the data. Missing value or completeness of the time series data has been checked through missing value analysis. In this process, mean, standard deviation, covariances and correlations were computed by using list-wise and pair-wise regression methods. The estimations also ensured that the data had been produced according to a proper quality and they are comparable.

Data reliability was confirmed through screening the collection and compilation processes followed by the source institutions - Bangladesh Bank and Securities and Exchange Commission - the respective regulatory agencies of money and capital markers in the country. These data had been primarily documented and provided by the regulated agencies

in statement/return forms, which had undergone rigorous checking and cross-checking at both ends before publication. As the regulatory agencies followed machine based data editing, tabulation and compilation and had made industry and firm-level and peer group comparisons on the basis of those data, they were believed to be unbiased.

Data picked from the official records of source agencies were also originated from the returns and statements of both regulated agencies as part of disclosure requirements and they were re-arranged, screened, sorted and tabulated by the receiving agencies under the same procedures as mentioned above. These data also fulfilled the suitability and reliability characteristics.

By computing the median, the dissertation measures the center of the data distribution, along with the corresponding measure of dispersion by computing standard deviations, which describes the pattern of distribution or spread. The shape of the data distribution is measured seeing skewness or kurtosis. For the same purpose, comparison between mean to median values has been made. The closer the distribution is to normal the closer the values of skewness and kurtosis are to zero. The closeness reflected more symmetrical distribution in the data series.

Before fitting the data into models, transformations had been made for outliers, failures of normality, linearity, and homoscedasticity. After first transformation, data were checked for normal distribution. As the normal distribution could not be confirmed, the transformation process was repeated. Re-checking confirmed that the variables were normally distributed after transformation. Further transformations also showed that skewness and kurtosis values were near zero, reflecting the fewest outliers. The possible presence of outliers had been checked by using scatterplots. Reasons for outliers were:

- i. incorrect data entry;
- ii. failure to specify missing value codes,
- iii. failure to identify cases not member of intended sample population.

The following actions were taken to reduce the influence of outliers:

- i. confirmation of proper entry of data;
- ii. check for the variable responsible most as outlier and subsequently, its deletion,
- iii. deletion of cases which were not part of the population.

After screening and sorting, data have been rearranged in tabular forms to make comparisons, analyze trends and observe the interrelationship and cross-relationships with other variables. In this process, various statistical tools such as tables, graphs, figures, percentages, ratios, etc had been used. Depending on the type of data, questions and research requirements and other statistical methods, such as model and curve fittings, selecting or discarding certain subsets based on specific criteria, or other techniques had been applied.

To identify multicollinearity, the dissertation:

- i. checked pair-wise relationships between variables for r values greater than $|0.80|$, which were strongly inter-related and should not be used.
- ii. looked at tolerance of variable, a value of near one indicates independence, if the tolerance value was close to zero, the variables were multicollinear.
- iii. looked into VIF, variance inflation factor, if highly collinear a high value was calculated.

All these tests showed multicollinearity. To solve for multicollinearity, following actions are completed

- i. turned variables in the models to rates by changing method; and
- ii. reduced data set by dropping method.

All data screening processes were done on SPSS. After inclusion in the multiple regression models, the time series was regressed in both dependent and independent variable forms. The test results were presented and interpreted in qualitative, descriptive, categorical and quantitative terms.

2.5 Expected Outcome of the Study and its Importance

This dissertation is the first single-country comprehensive research study in financial markets, which has placed specific focus on the relationship between financial development and macro economic factors as noted in previous section. It is expected that this research would answer the questions:

- (i) Whether the current financial market policy and operational structure and instruments in Bangladesh are adequate or optimal?
- (ii) Whether the markets are capable of providing required financial intermediation and other financial and allied services to cater to the needs of the customers? and
- (iii) What are the possible operational, functional, structural and policy and strategic options for further development of the markets?

The findings of this research will help in developing guidelines for policy making and improving functional, structural and regulatory and supervisory system in the country's financial system. Some other important benefits expected from the study are:

- (i) Bringing the state of the country's financial market to the notice of the in-house researchers in finance, as well as the financial research centers, which have so far paid little or no attention to financial markets of less developed countries;
- (ii) Creating an empirical base for eventual changes in policy and functional issues that the central bank of the country and the government may use in the promotion of the country's financial markets;
- (iii) Developing guidelines for the financial executives and professionals on how to proceed with realistic strategies for the development of their business and institutional and operational competencies;
- (iv) Understanding how efficiently the financial institutions are doing business, what is the level of their structural, operational and market performance, say in terms of the returns, and how the markets are complying with the regulatory provisions and the like, all of which have a valid degree of importance for different groups of stakeholders in the financial markets of the country.

The materials presented in the dissertation may also be useful for students and teachers on the subject 'Financial Markets and Institutions'. Over and above, the results of the study might be very useful in developing solutions for prompting financial system and financial market development process in the country. This research calls for development of a functional and effective link between economic reforms and financial markets and strengthening the capacity of policy makers and researchers in financial markets to undertake policy research.

Chapter 3

Literature Review

3.1 Financial Markets: Theory and Evolution

The arguments for tracing the evolution of financial markets have come about partially to address criticisms of the underlying assumptions of market efficiency. Frank (1999) argues that the theory of financial market efficiency relies on an evolutionary mechanism, where the natural selection will favor strategies that are more rational and effective in investments, capital budgeting, and other financial decision making processes. This eventually leads to an efficient market, since only the most effective strategies can survive in the marketplace.

Friedman (1953) argues that irrational agents would disappear from the marketplaces since they should systematically receive lower than average returns and incur higher than average losses. Miller (1977) used the concept of evolution to reconcile the difference between financial theory and the actual decision making procedures within a corporation. Evolution ensures that only the heuristics with survival value will continue to exist. According to Miller (1977), it is not necessary that the efficient investors use highly sophisticated statistical and mathematical techniques to arrive at the efficient investment strategy. Zingales (1998) states that, "most economic theories are either implicitly or explicitly based on an evolutionary argument". Like the eco-system, the financial markets are the elements that have been evolving to suit better the environment presented by human investors.

Keynes (1936) argues that with the development of financial markets, owners would be increasingly removed from the enterprises they held a stake in. Therefore, the element of real knowledge in the valuation of investment by those who own them or contemplate purchasing them has seriously declined. Keynes identified financial markets as places "where we devote our intelligences to anticipating what average opinion expects the average opinion to be. Investments based on genuine long-term expectation are so difficult today. He who attempts it must lead much more laborious days and run greater risks than he who tries to guess better than the crowd how the crowd will behave." Further, according to Keynes, time is highly discounted by investors; so there is much more desire to make large gains quickly than to invest for the long-term. Haugen (1995) discussed this last point in more detail. In his opinion, institutional investors dominate modern markets. These institutional investors are evaluated for performance over relatively short horizons. Therefore, investment market inefficiencies can persist even when the market knows about them if the inefficiencies can only be exploited over a long-term horizon.

Nawar (2000) notes that everyday is a battle of information processing. The functioning of the financial markets is a complex mixture of various elements that relate to economic theory, political influence, and investors psychology to name a few. This mixture of elements unites in one outcome decided at the end of the trading day. Many factors and forces have been driving and impeding the development process of financial markets. Bettzüge and Hens (2000) argue that the evolution of financial innovations is a dynamical system where the fitness of assets is driven by their trading volume. Neave (1998) argues that financial markets emerge because market agents' profit from executing trades in financial products and services. A better functioning marketplace makes it less time

consuming and therefore, less costly for potential buyers to find potential sellers, and vice versa. If search costs are important in relation to the size of a transaction, the existence of financial market as a central meeting place gives its organizers a competitive advantage. So long the market members do not charge trading commissions that exceed search costs, parties seeking trade will use the market facilities. The bigger and stronger the market, the easier it will be to trade on, and the more traders the market will attract.

3.2 Financial Markets and Economic Growth

An efficient financial market is a key tool of economic development. Bagehot (1873) argued that it was the England's efficient capital market that made the industrial revolution possible. According to Schumpeter (1934), financial development causes economic development; financial markets promote economic growth by funding entrepreneurs and in particular, by channeling capital to the entrepreneurs with high return projects. Raymond Goldsmith examined the relationship between financial development and growth in 1960s. Looking at data for 35 countries over 100 years, Goldsmith (1969) demonstrated a positive correlation between financial development (measured by the value of financial intermediary assets relative to GNP) and economic growth. Following Goldsmith, McKinnon (1973) and Shaw (1973) showed that financial repression, which was then a common policy—affected the quantity and quality of investment. The rationale for financial repression is the holding of interest rates down that boosts investment and savings and hence growth. There is also a fiscal policy rationale that by lowering interest rates, the government reduces its own borrowing costs. McKinnon (1973) and Shaw (1973) have shown that countries financially repressed were characterized by credit rationing and artificially low real interest rates. In the 1960s financial repression and inflation shrunk the deposit base for domestic bank lending in the developing world. In addition, McKinnon and Shaw got evidences that financial repression lead to lower savings and create a bias in favor of capital-intensive investments. In another study, Mckinnon (1973) and Shaw (1973) argued for causation on the grounds that financial markets not only allow risk diversification on the part of savers, they also facilitate risk diversification that affects technological changes. By making it possible to hold a diversified portfolio of investments in risky technology-based projects, the financial markets enhance investment in growth-enhancing research and development (R&D). Further, financial institutions play a crucial role in evaluating the quality of entrepreneurs and projects. Better financial systems improve the probability of successful innovation and thereby accelerate economic growth.

Richard and Anthony (1991) argued that the direct impact of financial markets and institutions on the real economy was relatively small, but their indirect impacts on economic performance are extraordinarily important. The financial markets mobilize savings and allocate credit across spaces and times. These markets provide not only payment services, but also enables firms and households to cope with economic uncertainties by hedging, pooling, sharing and pricing risks. An efficient financial sector reduces the cost and risk of producing and trading goods and services and thus makes an important contribution in raising the standard of living.

Levine (1997) wrote, “We are not the first to argue that the development of financial markets is an important factor in explaining the sources of productivity and economic growth.” Carlin and Mayer (2003) supported Levine's views. Levine distinguishes five functions of the financial system: to facilitate the exchange of goods and services; to facilitate the trading, hedging, diversifying, and pooling of risk; to mobilize savings; to allocate resources; and to monitor managers and exert corporate control. Grossman and Stiglitz (1980) and Holmstrom and Tirole (1993) show that as financial markets become

larger and more liquid, market participants have more incentives to acquire information about firms. Jensen and Meckling (1976) and Jensen and Murphy (1990) show that linking manager compensation to stock performance helps to align the interests of managers with those of owners, and that takeovers are easier in well-developed stock markets, thus improving corporate governance.

The empirical literature that explores these mechanisms has grown dramatically over the last few years. Levine (1997) and Rajan and Zingales (2001) provide comprehensive surveys; Beck and Levine (2001) review the more recent literature. In a careful time-series study with aggregate data, Neusser and Kugler (1998) demonstrate that financial sector development predicts GDP growth and, in particular, total factor productivity. Levine and Zervos (1998) report that stock market liquidity is positively and robustly correlated with contemporaneous and future rates of economic growth, consistent with the view that a greater ability to trade ownership of an economy's productive technologies facilitates efficient resource allocation, physical capital formation, and faster economic growth.

Levine and Zervos (1998) also find no negative impact of stock market liquidity, international capital market integration, or stock return volatility on private savings. Similar findings have been derived from Rajan and Zingales (1998), who compare industrial sectors across countries, arguing that financial market development reduces the costs of external finance to firms. Wurgler (2000) confirms that financial markets play an important role in the capital allocation process. Wurgler (2000) argues that market-based systems are more successful in limiting over investment in declining industries. Using cross-country panel data, Beck, Levine, and Loayza (2000) show that financial intermediaries exert a large, positive impact on total factor productivity and GDP growth. Finally, Beck and Levine (2002) argue that while legal system efficiency and overall financial development boost economic growth, there appears to be no significant difference between market and bank-based financial systems.

Beck, Levine & Loayza (2000) study shows how the development of financial intermediaries influence savings rates, physical capital accumulation, and total factor productivity growth. Levine and Zervos (1996) investigate the empirical link between stock markets development and long-run growth. Moreover, instrumental variables and procedures indicate a strong connection between the predetermined component of stock market and economic growth in the long run. Levine & Zervos (1998) evidence that stock market liquidity, as measured both by the value of stock trading relative to the size of the market and by the value of trading relative to the size of the economy, is positively and significantly correlated with current and future rates of economic growth, capital accumulation and productivity growth.

Rajan & Zingales (1998) examine whether financial development facilitates economic growth by scrutinizing one rationale for such a relationship, namely that financial market development reduces the costs of external finance to firms. Rajan & Zingales (1998) study suggest that financial development may play a beneficial role in the development of new firms, and that the existence of a well-developed financial market may be a source of comparative advantage for a country or region with industries that are more dependent on external finance.

One frequently made observation on relation between financial market development and the economic growth is that financial development is only a leading indicator of growth, rather than the fact that the development of financial sector leads to economic growth. The

study by Beck and Levine (2001) confirms this view. They used sophisticated econometric panel methods with data from 40 countries for the period of 1976-1998 and concluded that both stock markets and banks had a positive effect on economic growth, and that this result was not due to simultaneity, reverse causality or unobserved country-specific effects. McKinsey (1996) and Börsch-Supan (1998) employ industry and company level data that provide direct evidence on the existence of a causal channel from financial market development, and in particular corporate governance, to productivity growth. There are evidences that active pension funds have effect on the financial market, particularly on capital market activities where they exist.

Bofinger (2001) argues that the existence of broad-based, active financial markets in a country is a very important policy for implementation. The financial markets provide a place where the monetary authorities, usually the central banks, can buy and sell treasury debt instruments in carrying out open market operations. If active markets in financial instruments do not exist, the central banks would not be able to make open market operations as its primary policy instrument, and thus a very different and less efficient set of monetary policy procedures would develop. Moreover, without large-scale financial markets, the economic conditions would barely resemble the complex financial system and the variety and efficiency of means of borrowing and lending will affect the course of economic development.

BIS (1988) states that the financial markets are international in scope. Banks of many nations bid for deposits and make loans throughout the world. For example, foreign borrowers may raise funds in the U.S. credit markets and U.S. borrowers can raise money abroad by issuing securities denominated in U.S. dollars or in other currencies and then swapping them into dollars. Foreign central banks and others hold U.S. dollar securities in large volumes as part of their dollar reserves. U.S. Treasury securities are traded virtually round the clock in major financial centers in Europe and Asia, as well as in the United States. The U.S. dollar is the main international currency, although some financial instruments are denominated in other currencies or occasionally in a basket of currencies. Currency risk can be managed through various hedging techniques, encouraging investments in many currencies. Swaps, futures and options contracts on various financial instruments can be used for hedging interest rate risk or for speculating.

Kyle (1985) holds the view that in most emerging countries, financial markets remain small and less developed. From various studies, a number of constraining factors have been identified and generalized for most countries. One major constraint is financial repression together with weak and unclear legal framework. Key elements of financial repression include restrictions on entry into banking, often combined with dominating public ownership of major financial institutions. These include high reserve requirements on deposits, statutory ceilings on bank lending and deposits, quantitative restrictions on credit allocation, restrictions on capital transactions and foreign exchange transactions (Nyagetera, 1997).

Christiano and Eichenbaum (1995) argue that there is considerable microeconomic evidence of imperfect competition in goods markets and informational imperfections in financial markets. Driffil et al (2000) argues that the imperfections in financial markets are likely to affect growth. Financial institutions and markets, and policies towards them play an active role in channeling savings to investment. Mechanisms at work include the survival chances of alternative economic organizations, entrepreneurship, innovation, and physical investment. King and Levine (1993a) provide empirical support for the view that

financial development fosters economic development. Bencivenga and Smith (1993), Bose and Cothren (1996) and Greenwood and Jovanovic (1990) explore effects of informational problems in financial markets on allocation of physical capital in a general equilibrium context.

Additional mechanisms include effects on human capital accumulation, long-run inequality, and thus growth; access of good projects and innovations to finance (King and Levine, 1993b), and portfolio diversification and saving (Acemoglu and Zilibotti, 1998). Current theories do not explain why similar problems in financial markets lead to different outcomes in different countries. Possibly they have developed different institutional solutions, as Greif (1994) argues, leading to different equilibria. Cultural beliefs and social institutions may be important. Studying the effects of different institutions and contractual arrangements in financial markets on innovation and investment may cast more light on the cross-country differences of income and growth. There is now considerable theoretical work that indicates that credit market imperfections can amplify and propagate shocks to the macro economy (Bernanke, Gertler, and Gilchrist, 1997).

Greenspan (2003) says that, to be sure, financial markets are far from being perfect. The best way to make them more efficient and less prone to overreaction is to improve both the information base available to market participants and the regulatory systems in which they operate. He further states that none of this means that development of the financial market is a magic bullet that will lead to growth. At an early stage of development, a country can function with a relatively unsophisticated financial system—particularly if it has decent banks. Greenspan (2003) further argues that Building a gleaming stock exchange in a poor country with an inadequate legal framework and accounting practices is not going to increase the growth rate. But no financial system in which the investors and the savers are different people will function well without a reasonable legal system and accounting information.

According to World Bank (2002), two parallel developments in the financial sector have defined present-day globalization as much as technological developments and the growth of international trade. The first is the development of the financial markets, institutions, instruments and mechanisms in developed countries. The second is the growth in capital flows across borders in several ways, including foreign direct or short-term portfolio investments or transactions in foreign exchange markets as a result of the deregulation and liberalization of the financial sector in the industrialized and many developing countries.

The most important strategy for financial market development is a strong and lasting commitment of the authorities to maintain macro-financial stability, to foster a small core of solvent and efficient banks and insurance companies, and to create an effective regulatory and supervisory agency. Opening the domestic banking and insurance markets to foreign participation can easily fulfill the second requirement. Financial market development needs the adoption of pro-active regulations, the pursuit of optimizing policies, and the prevalence of pluralistic structures.

There has been an exponential growth in the size, operation and sophistication of financial markets in the advanced industrial countries, illustrated, among other things, by the growth and complexity of financial services, especially the expansion of stock markets. This has been accompanied by their "democratization" to cover more and more ordinary, small investors. The liberalization of financial flows, adoption of floating exchange rate systems, financial innovations and new communication techniques have enormously increased

financial transactions, as well as the opportunity for developing countries to attract foreign investment and capital for purposes of business and development, albeit on commercial terms. They have also compounded volatility in the financial markets as a result of radical shifts of perception or in the interpretation of information, and sharp revisions of expectations not always based on sound consideration. These shifts and excessive volatility have resulted in panic reactions, contagion and periodic crises in the financial arena. Moreover, short-term capital flows, far from being a mere reflection of economic fundamentals, can actually push key macroeconomic variables, such as exchange and interest rates and the prices of such assets as property and shares, away from their long-term equilibrium and consequently, affect output and employment.

3.3 The Role of Financial Markets in Emerging Economies

Inter-American Development Bank (2000) observes that financial markets are critical to the development of a modern economy and considers effective and efficient financial markets second only to macroeconomic stability within the hierarchy of development requisites. Just as equilibrium prices for goods and services are established and revealed in a competitive market economy, the prices associated with inter temporal exchange of uncertain cash flows are established and revealed in financial markets. Financial markets allow these uncertain cash flows to be priced and traded in an orderly and transparent process. Moreover, they allow combinations of uncertain cash flows to be repackaged, transferring risk to those with the greatest ability and/or willingness to assume specific risks and meet the needs of investors with different levels of risk tolerance.

Inter-American Development Bank (2002) further explains that the high cost of capital has been a recurrent problem in many developing economies. Many of the distortions in financial markets have their roots in attempts by governments (e.g., interest rate controls or subsidies, intervention in the allocation of credit, the creation of special purpose state-owned and managed banks, etc.) to compensate for the high cost of capital and/or the unwillingness among investors to place their funds at risk. Therefore, the new paradigm of government involvement in the financial sector being adopted throughout the Latin American region is of particular interest. Calari (2002) argues that there is a growing recognition that the comparative advantage of government is in the establishment of an enabling environment; creating the legal, regulatory and information structures upon which private financial markets can develop and flourish. Under this new paradigm, the role of the state has changed. Young (1994) argues that there are undoubtedly situations of market failure that justify government intervention in financial markets. OECD (2000) on the other hand suggests that government interventions should be limited, closely monitored and evaluated to ascertain that they are having an impact on the underlying market failure and do not create excessive distortions and misallocation of resources. Hodgson (1993) opines that despite significant differences in the financial markets of the countries worldwide, reform efforts pointed in one direction namely, the development of complete financial markets. The private sector is actively involved in developing the financial innovations that can build upon earlier progress.

This is being supported by a public sector that is moving forward to provide an adequate regulatory structure for financial markets. Legal reforms strengthen financial market regulators and their oversight of bank, insurance, pension and securities markets. Supervisory standards and practices in particular are moving, albeit slowly, toward international levels. If this process is to progress towards establishing efficient financial markets, state patronization is essential.

Dooly (1998) notes that from a regional perspective, problems in a domestic financial market often spill over to neighbouring countries, especially if the countries in the region are involved in close economic co-operation. It is therefore important that the national financial markets should ensure that their financial systems comply with international best standards, as this would play a large role in facilitating regional integration.

The financial well being of individuals is linked inextricably to a nation's financial and economic progress. The personal financial well being of most individuals increases with gain in strength of the economy and rise in prices of the financial assets. When an economy and its financial institutions are stronger, more people get jobs, income level and wealth building goes up. Financially strong households tend to have higher levels of confidence about consumption and are more willing to make the major purchases that advance the economy. Sound financial markets enable people inject savings into the banking system; make use of credit to start the small businesses that provide jobs and income to millions of people.

European Central Bank (2001) suggests three main lines of action to reassure development of financial markets. First, there is a need to accelerate the implementation of the financial sector reform. Second, the adoption of the regulation of securities markets is an essential for accelerating pace of financial market development. Third, some issues relating to arrangements for cross-border financial supervision should be resolved. The higher systemic risk associated with financial sectors and consolidation implies a need for close co-operation among national supervisors and central banks regarding matters of financial crisis prevention and management.

While considering the financial crises of the last decade, Fischer (2003) remarks that a weak financial system with weak financial infrastructure not only makes a country open to international capital flows more vulnerable to crisis, but also exacerbates the cost of any financial crisis that does occur. The Asian crisis-hit countries namely, Thailand, Indonesia, and Korea, vividly demonstrated this exacerbation.

Levine (1999) notes that financial markets, instruments, and institutions arise to mitigate the effects of information and transaction cost. Differences in efficiency of financial markets in reducing information and transaction costs positively influence savings rates, investment decisions, technological innovations, and long-run growth rates. Levine, Loayza, and Beck (2000) evaluate the nature of the effect of financial intermediary development on economic growth. Applying different econometric approaches, they confirm the fact that the exogenous component of financial intermediary development is positively associated with economic growth. They also provide evidence that cross-country differences in the legal rights of creditors, the efficiency of contract enforcement, and accounting system standards help explain cross-country differences in the level of financial intermediary development, which in turn positively affects economic growth.

Ark (2003) argues that the interaction of an emerging economy with the developments in financial markets is again an important issue to investigate. The role the financial markets play in fostering a new economy, however, remains as a debatable issue. In most industrialized nations, capital markets have been growing tremendously on the waves of financial liberalization and globalization over the past two decades. The growth takes place in terms of volume and value of transactions, as well as in the development of new types of securities and other instruments. Ark (2003) notes that for a developing economy, the preparations for and the actual introduction of financial market have undoubtedly been an important catalyst, improving the efficiency of the capital markets and, to some extent,

reducing existing information asymmetries, for both the equity and debt markets in the developing countries.

Contrarily, Erasmus (1994) argues that the costs of the development in financial markets may increase over time, which can erode the trust on the financial markets. Moreover, the event of accounting malpractice, corporate greed and imprudent stock market valuations have started to appear in increasing numbers, undermining the basic trust and confidence of investors in financial markets.

Valdez (1997) says: "Properly functioning financial markets facilitate the investment process by allowing portfolio selection at a lower cost, providing a store of value, creating liquidity, and perhaps most importantly, allowing for an efficient incorporation of all relevant information regarding risky cash flows into the determination of a market price. Efficient and effective financial markets allow investors to make well informed judgments regarding the risk-return combinations associated with investment opportunities and form investment portfolios that account for these trade-offs." The development of complete financial markets also facilitates the process of risk management and corporate finance; only deep liquid markets can provide the instruments needed to create the financial structures that most closely match the risky cash flows associated with a specific set of investment alternatives. When financial markets do not operate properly, when information is not readily available, when the store of value is not trusted, or when liquidity is questionable, the willingness of investors (both small and large) to commit funds is constrained. The hurdle rate (the required rate of return needed to induce investment) will increase, reducing the expected profitability of investment alternatives. Due to the increased cost of capital and underlying uncertainty, some otherwise promising investments will not take place.

Peter (1995) notes that efficient financial markets require infrastructure of laws and regulations and conventions. Most of all, an efficient financial system requires confidence that encourages investors to allocate their savings through financial markets and institutions rather than to buy non-productive assets as a store of value. Confidence can be fostered by appropriate regulation of institutions and markets to ensure users of financial services that they will receive fair treatment. Auerbach and Herman (1999) mention that the challenge is to foster a static and dynamically efficient financial system while maintaining sufficient regulatory oversight to promote confidence in the safety and soundness of the financial system.

Goldstein & Turner (1996) state that banking crises are frequent and recurrent events in developing countries and the real costs of dealing with them have been substantial. In this regard, Adams et al (2000) observes "Particularly the severe Asian financial crisis has brought high cost for the affected as well as neighbouring countries." This raises the question whether the link between finance and development is as positive as suggested by Singh (1997).

There have been very few studies on the financial market development in South and Southeast Asia, and hardly any such study in Bangladesh. Ogwumike and Omole (1997) observes that in small and less developed African countries, the stock exchange is constrained by government policies that do not promote mobilization of industrial finance. The interest rate policies favour growth of the money market rather than the capital market. The problem of awareness is also cited as a reason for reluctance of companies to go public. This explains how the weaker supply side impacts the development initiatives of financial markets, especially the securities segment. Osei (1998) examines the institutional

factors that affect the development of the Ghana's stock market and finds that the legal and regulatory framework that ensures protection and security of investors is important. Using survey data, Osei (1998) identifies the factors such as low income, level of education, and information about the capital market as crucial.

3.4 Capital Market Development

In the capital markets, capital in financial form is lent or borrowed for medium and long term and, in cases such as equities, for unspecified periods. The capital markets, in distinction from other parts of the financial market i.e., the money markets, are those for long-term government securities, corporate bonds, stocks, municipal bonds issued by state and local government units, and mortgages. Industry and commerce, as well as government and local authorities raise capital from the capital market, which performs several important functions in the process of economic development. Most important among them are the promotion of savings and investment and efficient allocation of funds among competing uses. Capital market development deals with enhancing primary and secondary market participation in the concerned economies.

Major concerns, issues and policy questions, as well as the fundamental factors necessary for a successful capital market development were always kept in the forefront of development initiatives. Benefits of efficient capital markets, and in particular stock markets, are not just theoretical. However, it is important to mention that the literature often addresses capital markets, as only the equity markets. Many studies found a strongly positive correlation between the size and liquidity of stock exchanges and economic growth. Similarly, investigations have found strong links between the growth of non-bank financial intermediaries and the growth of economies (IFC, 1989).

The development of capital market requires the legal and regulatory framework for effective participation in primary and secondary markets. Capital markets play a significant role in fostering economic growth and development, promoting competition among financing resources, resulting in greater efficiency, furthering privatization initiatives and in the transmission and implementation of macroeconomic policies. Atje and Jovanovic (1993) argue that the stock markets have a positive impact on growth performance. They found significant correlations between economic growth and the value of stock market trading [divided by GDP]. Levine and Zervos (1996 and 1998, and Singh (1997) argue that stock market development is positively associated with long-run economic growth. In addition, using cross-country data for 47 countries from 1976-93, Levine and Zervos (1998) find that stock market liquidity is positively and significantly correlated with current and future rates of economic growth, even after controlling for economic and political factors. They also find that measures of both stock market liquidity and banking development significantly predict future rates of growth. These, therefore, conclude that stock markets provide important but different financial services from banks. Furthermore, Demirguc-Kunt and Levine (1996a) investigate the relationships between stock market development and financial intermediary development. They find that countries with developed stock markets have developed financial intermediaries. They conclude that stock market development goes hand-in-hand with financial intermediary development.

3.4.1 Linkage between Capital Market Development and Economic Growth

Evidences in more advanced countries and rapidly emerging capital markets of Southeast Asia and Latin America confirm the overall positive association between capital market development and economic growth. Several benefits are ascribed to capital (securities)

market development. These include (a) mobilization of long-term savings for long-tenured investments, (b) providing risk capital (equity) to entrepreneurs, (c) broadening ownership of firms, and (d) improving the efficiency of resource allocation through competitive pricing. According to Demirguc-Kunt and Levine (1993) and Karacadag et al (2003), further gains to the economy arise due to lower cost of equity for firms and the discipline imposed on corporate managers since movements of share prices reflect managers' performance, existence of mechanisms for appropriate pricing and hedging against risk and increased inflows of funds to the thriving domestic stock market.

McKinnon (1973, 1991), and Fry (1988), Gelb (1989), Montiel (1996), among others, stress the positive contribution of capital market development to growth, while King and Levine (1993) and Ghani (1992) find strong correlation between measures of banking development and economic growth. Calamanti (1983) posits out that the securities market can positively contribute to growth if supported by appropriate government policies. The growth of stock markets increases the volume of long-term investments. Levine and Zeros (1996) establish a positive relationship between measures of stock market development and long-run growth rates. The stock markets are seen to provide a means for risk diversification, acquisition of information about firms, efficient allocation of funds and tying managerial compensation to stock performance. Internationally integrated capital markets make possible the diversification of risk, apart from the inflow of financial resources.

Levine (1997) reviews a body of literature that has bearing on the debate concerning the linkage between capital market development and real sector growth. In that study, Levine discussed the linkage between four different proxies of capital market development and real sector growth. These capital market proxies include (a) liquid liabilities (comprising currency plus demand deposits of banking and non-banking financial institutions), (b) bank credit as a ratio of total credit extended by the banking sector and the central banking sector, (c) credit allocated to the private sector as a ratio of total credit, and (d) credit extension to the private sector divided by GDP. Levine postulates a positive relationship between the above proxies of capital market development and real sector growth as represented by per capita income.

Atje and Jovanovich (1996) focused their empirical work on the capital (equity) market development and growth, using various proxies namely (a) stock market capitalization (where market capitalization refers to the value of listed shares) and (b) stock market turnover ratio (measured by the total value of shares traded divided by market capitalization). Capital market development initiatives must include bond market and pension development, asset-backed market, mortgage, insurance and banking development.

3.4.2 Development of Equity and Corporate Bond Markets

Corporate bond and equity markets provide additional channels for the intermediation of savings and the transfer and diversification of risks. On the other hand, diversifying the sources of investment financing and spreading risks more evenly, in turn, reduce firms' exposure to financial system stress, thus bolstering an economy's ability to withstand shocks (Stone, 2000). Greenspan (1999) argues that building a financial infrastructure is a laborious process, involving accounting standards that accurately portray firms' finances, legal systems that protects property rights and enforce contracts, and effective insolvency regimes.

Developing bond and equity markets also avoids concentrating financial intermediation in banks (Turner, 2002). Banks typically lend for periods much shorter than the maturity of long-term bonds, which may bias firms' investments towards short-term assets. As a result, firms may not adequately invest in long-term projects in infrastructure, utilities, and other capital-intensive industries. An over reliance on banks to provide investment financing also leaves the economy vulnerable to credit crunches that typically follow financial sector distress and crisis. The absence of bond markets in Asia, for example, deepened the recessions in crisis countries in 1990s. One survey of APEC (1999) on Asian countries revealed that the main impediments to the development of domestic financial markets are lack of reliable benchmark yield curve, a weak local institutional investor base, insufficient market liquidity, lack of credible risk assessment, underdeveloped securities trading, and inefficient clearing and settlement systems.

Thus in order to maximize their contribution to the intermediation and risk sharing, it is critical to develop corporate bond and equity markets in a balanced manner. Strong growth in corporate debt securities without matching equity market financing can otherwise lead to excessive leverage in non-financial firms' and increase firms vulnerability to shocks. Equity markets facilitate the financing of high-risk and high return projects, and help contain overall financial system risks.

Mohanty (2002) holds the view that the development of a corporate bond market, side by side with the presence of a strong government bond market promotes market infrastructure, despite the involvement of private corporate issuers in the market introduces a wide array of new challenges. Market efficiency and integrity, however, hinge critically on transparency in financial information and in market prices. So the authorities responsible for regulating the markets need to ensure accurate and timely disclosure of financial information for investors and thereby enable them to properly assess issuers' creditworthiness, value debt securities, and make informed investment decisions. Similarly, pricing information should be widely available. A transparent market that disseminates pre-trade and post-trade information enable the traders and investors to reduce spreads, improve efficiency and the market to attract more participants by increasing their confidence in the pricing process. Moreover, market rules should provide effective recourses for investors against misrepresentation and frauds.

Karacadag, C. et al (2003) argue that establishing a corporate equity market, particularly in emerging economies, is equally challenging. In many markets, it is difficult to find a sufficient number of companies that are large enough to warrant public status. As a result, only a few large stocks are traded on stock exchanges. The evolution of equity markets generally has followed the pattern of slow graduation from privately held status (that is companies owned by small groups, often family groups) to more widely held private corporation (with a few shareholders), then to widely held public companies with a broad base of shareholders. Equity markets require strong regulatory frameworks and supportive legal infrastructure. Equity instruments are private property instruments, which require robust and efficient mechanisms to enforce legal ownership rights and facilitate ownership transfer.

If shares are not fully transferable and questions of ownership arise, there will be a negative impact on market liquidity and companies' ability to raise financing. Further, if a court system is not sufficiently sophisticated in dealing with complex commercial claims or imposes delays in resolving disputes, property rights can be effectively impeded and this will deter investment.

Clews (2002) argues that the regulatory structure must adequately address corporate governance and disclosure, especially financial disclosure. The attractiveness of market investors depends on the quality of price discovery in the market and the price discovery, in turn, depends on adequate information. As in bond markets, the accounting standards that underpin financial disclosure are crucial to building this credibility.

Faure (1987) states that imposition of corporate governance, disclosure requirement and accounting standards is costly. A balance must be struck between the benefits of standards that establish credibility in the market and the cost of compliance with standards that may cause corporations to avoid the markets. In many countries, this challenge is addressed with lesser standards for small and medium companies than for large public issuers. For instance, over-the-counter market (OTC) has fewer requirements than a listed market.

The protection of minority shareholders is a major issue in securities market development. Many of the minority shareholders' concerns relate to the quality of financial disclosure and corporate governance. The protection of minority shareholders also requires addressing the regulation of take-over bids and related party transaction, level of free float of ownership in the market, distribution of voting rights, and access of judicial arbitration of shareholder disputes. Because the introduction of minority shareholder protection is a challenge to the rights of existing shareholders, and such rules can be difficult to introduce, as has been the case in Chile and Brazil, for example, where the attempt to reform minority shareholder rights became a protracted battle.

Equity markets have traditionally developed through stock exchange mechanisms, stock markets bring together investors temporally and therefore, the aggregate liquidity. The traditional stock exchange provided an auction market for market intermediaries who were usually also owners of the system. The globalization of investment has challenged the traditional model and many exchanges are faced with lowering liquidity and falling revenues, because trade volumes are mobile and consequently may centralize in major exchanges with deeper liquidity.

The design of clearing and settlement systems for securities is a crucial factor in market development: the system must be both safe and efficient. Inefficient clearing and settlement system impedes development by driving up the cost of investment, and tying up capital in the settlement process. Unsafe systems will expose participants to settlement risk. One of the most important risks in the equity markets is the risk of losses, which can be enormous, especially in the case of derivatives where losses may be exponential. The design and risk management of clearing and settlement system recently has been the focus of standard setters. In 2001, the Basel Committee on Payment and Settlement Systems and the International Organization of Securities Commissions published a set of recommendations setting the international standard for clearing and settlement systems. These standards expected to enhance understanding of the role of regulators and markets in managing the risks of securities settlement.

3.4.3 Development of Government Bond Market

A long-term local bond market can have several economic benefits. First, it allows a more efficient allocation of savings as it matches the borrowers and savers directly. Hence it reduces the pressures for bank loans in the investment process, and reduces the amount of political interference in the allocation of credit as the investors make direct investments. Second, local bond markets allow borrowers to use capital that is tailored to their assets and operations. Such tailoring may occur in many ways, the most important of which concerns maturity. Banks typically like to lend fairly short because their funding sources are very

short, but projects are not necessarily short term. That is why maturity mismatches have traditionally been one of the biggest sources of domestic market problems. Local bond markets reduce such maturity constraints. Third, economic benefit of long-term local bond markets is that they provide retail and institutional investors with several high quality and liquid domestic saving vehicles. Bonds have many of the characteristics that allow savers to choose their risk and maturity, and to develop investment funds and pension funds. Government bonds are the backbone of most fixed-income securities markets in both developed and developing countries. They provide a benchmark yield curve and help establish the overall credit curve. Government bonds typically are backed by the faith and credit of the government and not by physical or financial assets.

On the private-sector level, however, mortgage financing often relies fully or partially on bonds backed by mortgages. Similarly, bonds securitized by receivables of various types, including bonds issued to finance infrastructure projects, or more broadly, other forms of structured finance, constitute an important component of the bond market.

Glaessner and Jeppe (2001) argue that developing a government securities market is a complex undertaking that depends on the financial system development of each country. For many governments, this involves immense challenges as the problems that inhibit securities market development run deep in the economy. For example, some governments rely on a few domestic banks for funding, which makes competition scarce and transaction costs high. However, a proliferation of government agencies issuing securities can fragment national government securities markets. Absence of a sound market infrastructure may make specific actions to develop a government securities market premature. A paucity of institutional investors, low domestic savings rates, and lack of interest from international investors can result in a small, highly homogeneous investor group, contrary to the heterogeneity needed for an efficient market. Furthermore, economic instability, often fed by high fiscal deficits, rapid growth of the money supply, and a deteriorating exchange rate, can weaken investor confidence and increase the risks associated with development of a market for government securities.

When countries have a fairly large liquid government debt market, they often lack liquid corporate bonds or a liquid equity market. Yet it is important for the local bond market to develop pension funds, mutual funds, and more efficient ways of rounding up the savings of the country. Furthermore, since government debt tends to be the lowest risk asset within a country, all other assets can be priced off this asset.

In countries with currency boards, however, the government may not be the least risky borrower in the currency, since it will no longer have the option to monetize the debt but will have to raise the money just like any other borrower. Raising dollars may be extremely difficult for heavily indebted governments.

Herring and Chatusripitak (2000) notes that the government bond market is a central pillar of domestic capital markets. It provides a market-determined term structure of interest rates that reflect the opportunity cost of money at maturity each time. The term structure of interest rates, in turn, is an essential prerequisite for the development of derivatives markets that enable market participants to manage financial risks. Markets in financial forwards, futures, swaps, and options all depend on the bond market for pricing and for hedging positions. Interest rates along the yield curve also serve as the key link between spot and futures prices in futures and forward markets.

Turner (2002) holds that fostering government debt markets enhances the conduct of monetary policy operations by the central bank and liquidity management by financial institutions. Central bank increasingly manages liquidity through open market operations, which involve the outright sale and purchase of securities or the use of repos, where high-grade debt securities serve as collateral. Trends in long-term bond yields provide valuable information to the authorities on market expectations and on confidence in macroeconomic policies. Deep debt markets facilitate liquidity management by financial institutions, which can more easily convert their liquid assets into cash, when needed, in the presence of active secondary markets. In the absence of liquid debt markets, banks may not be able to realize the liquidity of their liquid assets, especially in times of systemic distress.

Herring and Chatusripitak (2000) say that more generally, the government bond market creates a wide array of positive externalities. An active market in government securities and a benchmark yield curve enable the introduction and development of new financial products, including repos, money market instruments, asset-backed securities and derivatives, which can improve risk management and financial stability. Government bond yields and yield differentials also provide critical pricing information to the economy at large. Although equity market development is not strictly dependent on the bond market, in the absence of the latter, market participants will lack a benchmark discount rate needed to discount projected earnings to estimate the value of listed company stocks. Moreover, the differential between risky and risk-free bonds reflects the market's view on the risk premium, which can be used to price comparable bank loans.

According to APEC (1999), IMF (2001) and World Bank (2001a), establishment of a liquid government bond market hinges on several factors. The government must be committed to financing its borrowing requirements at market-based prices, permanently moving away from the use of funding at below market rates from captive investor sources and/or banking sector. Without credibility in the government's financial policies, investors will be reluctant to invest and trade in government securities. Moreover, the government's ability to borrow from the domestic bond market should be legally well defined and sufficiently broad to achieve a range of objectives. In the same vein, the contractual relationships between the government and underwriters or winning bidders and between primary and secondary market participants should also be well defined. Ladekarl (2002) observes that for a developed financial marketplace, the essential elements of market infrastructure, including securities settlement and registration, the use of market intermediates, and the organization of trading in the secondary market must be put in place.

Schinasi and Smith (1998) state that designing of features and regulatory incentives are important in developing government bond market. The design of government securities should be standardized and their issuance concentrated in a limited number of popular, benchmark maturities. Issuance on a regular basis at benchmark maturities can help create a benchmark yield curve, spur greater investor demand, enhance market liquidity, and lower issuance costs. Design should also take into account investor preferences in maturity, coupon and tax status. Governments can enhance market activity by removing legal and regulatory impediments to competition, rationalizing tax distortions on bond investments and trading, and encouraging transparency and disclosure to protect investors' interests. Given the sensitivity of debt markets to disincentives, capital income taxation should treat incomes of all types of investments and savings, including bank deposits, equity, bonds and other debt instruments, equitably. To the extent that bonds are disadvantaged in terms of tax treatment, they are less likely to become attractive investment and trading instruments.

According to IMF (2001) and World Bank (2001a), for the development of government bond markets, it should be the first priority to establish an effective primary market in short-term maturities. Initiatives to deepen the money market, particularly through repos, can reinforce demand for and liquidity in the short end of the market.

At the early stage of market development, the infrastructure for trading and settlement should be simple, secure, and capable of handling a sufficient volume of daily transactions. Priority should be accorded to building a safe spot trading system, leaving the infrastructure for more advanced transactions (e.g., swaps, futures, and options) for later. This can be achieved through a simple book-entry system for wholesale market participants.

Consideration should also be given to the use of primary dealers, who can help build stable and dependable source of demand for securities. As a small group of committed players responsible for buying and distributing government securities, primary dealers can greatly facilitate trading, especially in countries where the technological infrastructure is weak and where investors are only accessible through intermediaries. In most of the countries in which they are used, primary dealers are required to actively participate in the primary market by fulfilling a minimum bidding commitment, underwriting issues, and in the secondary market, by providing two-way quotes (Mohanty, 2002). Primary dealers also build distribution channels, acting as intermediaries, and provide market information, including prices, volumes, and spreads (Arnone and Iden, 2002). In return, they are granted certain privileges for their market-making role, including exclusive or restricted access to auctions, access to non-competitive bidding, and liquidity support from the central bank. The use of primary dealers, however, may reduce market competition and pose the risk of collusion, particularly in countries with small markets, which can be squeezed and cornered. Nevertheless, bond market turnover increased significantly in several countries after the introduction of primary dealers, suggesting that their benefits may outweigh their costs, at least until critical mass is reached in terms of the number of financial institutions with market-making capabilities (Turner, 2002).

Dattels (1997) argues that policymakers should carefully consider other aspects of market structure and their impact on development, including the choice of trading system. For example, in more nascent markets, limited participation can be effectively aggregated in a periodic market whereas in deeper markets and markets with widespread use of hedging strategies, a continuous market will be required. In countries where dealers are few in number and thinly capitalized, an auction market may be more successful. In countries where the market is dominated by large institutional investors, however, a dealer market (which provides immediacy and low-cost transactions) would be more appropriate.

Once the market for short-term securities takes hold, efforts should focus on developing the market for long-term government securities. Making the transition from short-term to long-term instruments may not be easy, particularly for countries with a history of lax fiscal policies and high inflation. This may require intermediate steps, such as issuing floating rate debt or issuing debt indexed to inflation, short-term interest rates, a practice widely adopted by Latin American countries, including Chile, Brazil and Mexico. A key goal at this stage is to achieve sufficient depth in benchmark maturities across the yield curve in order to create a term structure for risk-free interest rates as a basis for developing auxiliary markets in derivatives for hedging purposes.

Ladekari (2002) emphasizes on developing a liquid market in long-term government bonds, which however, requires active participation by intermediaries and an efficient market

infrastructure, including well-designed securities settlement arrangements. Market intermediaries, including securities houses, investment banks, brokers, and commercial banks, should operate on a competitive and efficient basis, with adequate capital and risk-management practices. As the principal underwriters and investors in bonds, and suppliers of credit to securities houses, banks are particularly important market intermediaries. Thus, a strong banking system plays a key role in deepening the government securities market (IMF, 2003). Common problems encountered with intermediaries such as the lack of competition, conflicts of interest, insufficient capital, and the scarcity of human capital can be addressed by strict entry policies (i.e. fit-and-proper tests) and by permitting foreign entities to offer brokerage services.

The overriding objective of financial reform and capital market development is to ensure the development of financial services in terms of mobilization and allocation of credit to the productive sectors of the economy. Thus, the anticipated goal is to increase long-term capital to the private sector for expansion of productive opportunities, which ultimately increase the welfare of the people. This requires heavy investments in physical infrastructure (roads, telecommunications, financial institutions, and information media).

Capital markets in the world as a whole are approximately equally divided between fixed income (bonds) and equity (stocks) securities. Accordingly, it is important to develop securities in both of these asset classes. A new capital market requires a vast infrastructure to support the clearing and settlement of transactions. The eventual infrastructure will require a significant investment and thus any measures that could achieve savings should be carefully evaluated. To support more active and efficient trading of securities, custodians and depositories provide safekeeping services. Security lending and derivatives help to make the markets more price efficient. However, these functions typically require a significant financial investment to achieve the necessary electronic connectivity and processing support.

3.4.4 Commercial Banks and Capital Market Development

As its long history, banking anywhere in the world has continued to influence economies for centuries. Commercial banks play an important role in the capital market development process as issuers, underwriters, investors, liquidity providers and guarantors for corporate securities. Bond markets are heavily dependent on the soundness and efficiency of the banking system. Banking system also provides the capital market with liquidity support and payments facilities. Because of their efficiency in analyzing customer profiles and credibility and lending risks, banks enjoy high reputation and the informational advantages. Diamond (1996) argues that the amount of liquidity that banks offer depends on the degree of their direct participation in financial markets - that is, on the liquidity of financial markets. Dimond (1996) further argues that banks create liquidity by offering claims with a higher short-term return than exist without a banking system.

Increased participation of investors participate in financial markets allows the banks to provide more liquidity. Banks generally shrink and make fewer long-term loans. More liquid markets also lead the banks to make physical investment with longer maturity. Banks match the smaller gap between the maturity of financial assets and the maturity of physical investments. Financial assets have a shorter maturity than physical investments, but this gap approaches zero as the market approaches full liquidity. Commercial banks enable the markets to reach the highest level of liquidity.

Tommaso (2004) notes that financial markets evolve over time, accompanying the development of real side of the economy, in a progression beginning with exclusive

reliance on bank finance, moving gradually towards equity finance, then corporate bond markets and ultimately to securitization.

Kuroda (2002) notes that it is essential for Asian financial and capital markets enhance their capability to supply long-term capital, in order to achieve economic development and ensure financial stability in the region. One of the ways to achieve this objective is to enhance the capability of banks to supply long-term capital. As banks are somewhat predominant in the financial systems of Asian countries, direct financing by companies through the capital markets may not so rapidly become a common method of finance. In such situation, banks might remain as providers of long-term financing as well. Kuroda (2002) further argues that the role of banks in supplying long-term capital may be limited, due to the fact that they are the key players in the settlement system and that they operate under prudential regulations. Under such constraints, one possible role for banks would be the credit analysis function of generating market information about borrowers. Banks would analyze projects and extend loans in the form of project finance, and then factorise and securitise the loans, which would be sold to other financial organizations and institutional investors.

The development of government bond markets, in particular, is the core of capital market development in emerging countries and the role of banks, as intermediaries can still be significant in developing bond markets, given their predominance in the financial systems. Because of the conflict of interest, it may not be appropriate for banks to underwrite or guarantee bonds without adequate regulatory and supervisory frameworks. However, the retail network of local banks should be utilized by, for example, letting them sell bonds to investors. On the other hand, banks invest their own funds in securities market of their own and extend loans to the customers to invest in IPOs in the primary securities market and therefore, help in promoting the activities in the capital markets.

3.4.5 Development of NBFIs and the Capital Markets

Non-bank financial institutions (NBFIs) play an important role in a balanced and diversified financial sector that is relatively robust and stable (Calari, 2002). Financial markets with developed NBFIs provide the countries with broader access to financial services and the benefits of more competitive and diversified financial sectors that withstand systemic vulnerability. The financial system creates an infrastructure that allows reallocation of surplus resources to individuals and companies with deficits. In most countries, the financial system extends beyond traditional banking institutions to include insurance companies, mutual funds, market makers and other financial service providers. These NBFIs provide services that are not necessarily suited to banks, compete with the banks, and specialize in sectors or groups. A multi-faceted financial system, which includes NBFIs, can protect economies from financial shocks. However, Gertler (1988) argues that in developing countries that lack a coherent policy framework and effective regulations, NBFIs can exacerbate the fragility of the financial system. As a country becomes richer, the insurance companies, pension funds, mutual funds, and other non-bank financial intermediaries tend to become larger.

Exploration and utilization of the potential of NBFIs for developing financial markets have now crucial areas of research in the financial world. There should be coherent policy and industry structures and sound regulatory and supervisory environments for the development of these institutions. Also an optimal financial market structure requires the improvement of the essential functions and characteristics of NBFIs, including the insurance companies,

mutual funds and pension schemes, securities markets, and leasing and real estate companies.

The link between pension reform and financial market development has become a perennial question rose every time (Vittas, Dimitri, 2002). Pension funds are critical players in finance and their simultaneous and mutually reinforcing presence add important elements to the modern financial systems. They can support the development of factoring, leasing and venture capital companies, all of which specialize in the financing of new and expanding small firms. The creation of funded pension plans has major long-term implications for the functioning and growth of financial markets.

One of the main potential benefits of the growth of institutional investors like pension funds, mutual funds and insurance companies are the intensification of competition in the financial system through creating countervailing forces. The development of new sources of finance forces the dominating commercial banks to become more competitive and to start seeking out their customers rather than waiting for prospective borrowers to visit them. The development of institutional investors also contributes to more competitive investment banking and securities markets (e.g. competitive bidding for corporate issues, lower issuing and trading costs, etc.). These institutions contribute to financial innovations in the financial services industry.

Vittas (1998) notes that institutional investors perform six different functions. Firstly, improvement in clearing facilities, establishment of central depository agencies, pressure for reliable back-office operations and the dis-intermediation of the bank denominated wholesale financial markets through the development of money market funds and other instruments like certificates of deposits (CDs), commercial papers (CP), deposit notes, swaps and repos. Secondly, institutional investors are large and reliable sources of financial resources. The size and scale of economy enable institutional investors to pool and maximize return for a given risk profile of individual investors. Thirdly, they provide more efficient channels to allocate economic resources within an economy and across geographic regions, and industries over time. Institutional investors also enable better portfolio diversification opportunities across industries, marketplaces and countries. Fourthly, the role of institutional investors in managing uncertainty and chances of losses through risk pooling and sharing leads to bringing innovations in financial products and investment strategies like securitization, factoring and wide uses of various types of derivatives such as zero coupon bonds and index futures. Fifthly, institutional investors, bestowed with economies of scale, good information and low transaction costs, are likely to provide better price information and improve the adjustment of asset prices to their fundamental values.

Vittas (1998a) argue that the development of institutional investors requires a robust and effective regulatory and supervisory framework. Although stringent regulations may be imposed at first, especially if a compulsory pension and insurance system is created, regulations need to be relaxed over time and transparency and prudence, as well as the fiduciary duty of managers toward investors be ensured.

The efficient operation of factoring, leasing, venture capital and mortgage finance requires a far-reaching modernization and strengthening of the legal underpinnings of financial contracts. These include laws that facilitate the creation, registration and liquidation of collateral security, the foreclosure of mortgages, the repossession of assets and their disposal in second-hand markets, and viable exit options through well functioning securities markets.

Ranjan and Zingales (2003) argue that free markets are easy to admire but hard to love. Creative destruction, survival of the fittest, the warring impulses of greed and fear – all these dire forces raise living standards in the long run by forcing businesses to improve quality and cut costs. But when a stock market crashes, a big employer goes bankrupt, or a small country suffers a flight of foreign capital, free markets usually get the blame. The losers they produce are obvious, the winners, less so. Thus, the presence of strategically and operationally developed capital market is now essential.

3.5 Money Market Development

Money markets comprise that part of the financial markets where short-term financial assets are bought and sold. By definition, the financial assets, such as stocks and bonds that are traded in these markets mature in one year or less. Financial institutions, corporations, governments and the Treasury are active in the money markets as they adjust their short-term portfolios. Domestic money markets provide an important mechanism in an economy for transferring short-term funds from lenders to borrowers (Cook, 1993). For corporations, governments and financial institutions with temporary excess funds, these markets provide an efficient means to lend to other corporations, governments and individuals who have a temporary need for funds. Key money market characteristics include a high degree of safety of principal. Most markets are informal 'telephone' markets with low transaction costs (Cook, 1993). Most money market instruments are liquid, which means that they can be quickly converted into cash assets without a sizeable loss. Each day billions of dollars are traded in the money markets. Several important money market instruments are government treasury bills, short-term government agency securities, commercial papers, mutual funds, etc.

Forces influencing interest rates in the money markets are varied and may reflect conditions of supply of and demand for different money market instruments. Park (1993) notes that Treasury bills, with no default risk and an active secondary market, usually yield the lowest rate in the money market and other instruments appear to move with Treasury bill rates. Goodfriend (1988) points out that the current and expected interest rates on federal funds are the basic rates to which all other money market rates are anchored. That relationship reflects the use of the federal funds rate by the Federal Reserve in implementing monetary policy (FRB, 2001)

Waltch (1984) notes that the money market helps the participants in the economic process cope with routine financial uncertainties. It assists in bridging the differences in the timing of payments and receipts that arise in a market economy. Borrowers rely on it for seasonal or short-term cash requirements; lenders use it to offset uneven flows of funds. By providing a means for funds to be placed temporarily, the money market also permits borrowers to time their issuance and lenders to time their purchases of bonds and equities in accordance with their forecasts of stock prices and long-term interest rates.

Willis (1963) argues that promoting money market needs joint efforts of market intermediary organizations and financial institutions. A rapidly developing money market can become a significant part of the national economy by playing an important role in the allocation of financial resources. The money market, with increasingly active transactions provides a platform for the liquidity management of financial institutions, thus raise the liquidity in the whole financial system. A flourishing money market promotes financial liberalization and interest rate mercerization, and paves the way for the further integration of the domestic and international financial markets.

The money markets offer commercial banks a concept of regulated fund operation, which guarantees both liquidity and profitability. The market provides a convenient platform for commercial banks' asset-liability management, where they can take the initiative to adjust the term and interest rate structure of their assets and liabilities based on their forecast of interest rate movements, and so as to control interest rate risk and liquidity risk resulting from the mismatch of asset and liability positions. A gradually improved and regulated money market also paves the way for the innovation and internal control of commercial banks.

The actual development of money market, particularly in developing countries, requires carrying out reforms steadily to deregulate interest rates, leaving them to market forces; optimize the allocation of financial resources; and strengthen regulation while preventing and defusing financial risks. So, firstly, trading instruments should not be limited to traditional ones and new products and businesses, such as forward trading, government bond futures, and bond funds should be introduced. Secondly, efforts should be redoubled for market participant diversification and the cultivation of non-financial institutions. In addition, the bond price discovery mechanism should be perfected and the market issuance of bonds should be improved. Reform should also be carried out concerning the issues of currency convertibility and lifting of the limitations on enterprise's forex buying and selling. By taking full advantage of the money market to enhance its comprehensive strength, commercial banks attach great importance to participating in market construction and market transactions since the market's beginning. As they work as important vehicles for managing liquidity and increasing profitability, money markets are treated as integral and important tools of financial systems.

Maddigan and Warren (1986) have stated that monetary policy reflects continuing interactions between financial institutions and central banks and amongst the financial institutions, the financial markets, and the members of the non-bank public who deposit and borrow funds. The depository institutions play a crucial role in transmitting monetary policy to the economy.

Sundaranjan and Jenifer (2003) stated that a money market is the foundation of all components of a financial market. It is the medium through which the central bank injects and withdraws liquidity and steers short-term interest rates. It is also the medium through which financial institutions manage their liquidity by lending to and borrowing from one another. As such, it is critical to price discovery in a free interest rate environment and to the transmission of monetary policy through the credit channeling process. Countries that embark upon interest rate liberalization often start with freeing money market rates, followed by lending and deposit rates.

Mehran and Laurens (1997) notes that the central bank plays a key role in the money market development. Early in the process, the central banks should begin developing new monetary instruments (such as treasury bills, central bank bills, and central bank auctions), reforming the system of reserve requirements, and designing the terms and conditions of access of standing facilities (Bisat et al, 1999). Central bank policies and standing facilities should be designed and conducted in a manner that creates incentives for market participants to trade money among themselves before trading with the central bank. The central bank must also ensure that there is a two-way market in bank reserves and short-term funds by avoiding protracted periods of excess reserves and by alleviating systemic liquidity shortages. Similarly, it should avoid simply reacting to the initiative of financial institutions. Instead, it should anticipate surpluses and deficits in the market and provide liquidity at its own initiative, leaving market participants to trade among themselves during

normal times. To manage systemic liquidity effectively, the central bank must have the technical capacity to forecast liquidity and possess the instruments to inject into and withdraw funds from the market.

Thaler (1993) argues that money market development depends on the soundness of financial institutions. In the absence of creditworthy counter parties, market participants would be reluctant to deal in the inter-bank market, but would transact solely with the central bank. Market participants, therefore, should be able to assess one another's creditworthiness on the basis of timely disclosure of reliable financial information, underpinned by high quality accounting standards and widespread use of external audits. In order to enhance liquidity, participation in the market can be broadened to include sound non-bank financial institutions.

Green (1997) holds that the central banks use repurchase agreements (repos) as essential instrument for money market development and as a key tool for indirect monetary control and daily liquidity management, especially before development of an active secondary market for government securities. Whereas 'outright' purchases and sales of securities by the central bank require a secondary market in (government) securities, repos allow the central bank to adjust its balance sheet and systemic liquidity without a secondary market. Repos also offer flexibility in terms of duration and timing of central liquidity management operations, because they can be effective with little notice, for very short periods of time, and without the need to create treasury bills in shorter maturities than already issued. Reducing the issuance of new treasury bills in different maturities can help deepen secondary markets in existing securities. From the central bank's perspective, repos have the advantage of enabling liquidity management operations without triggering unwanted volatility in bond prices and the yield curve that outright operations are likely to cause (Mohanty, 2002).

IMF (2001) and World Bank (2001a) view that prudential supervision and payment settlement system regulations play important roles in developing the money market by guarding against risky market practices and fraud. An active money market is a prerequisite for the development of markets in foreign exchange and in government securities. A money market not only supports the bond market by increasing the liquidity of securities, but also makes it cheaper. When the money market is illiquid and interest rates are volatile, investors in bonds face greater liquidity risks that limit their ability to invest in long-term assets (Mohanty, 2002). At the same time, money markets are interdependent on securities markets. Deeper money markets can be facilitated by the availability of a wide range of high-grade securities, which can serve as collateral in inter-bank lending and are easy to liquidate in the event of counter-party defaults.

An active money market is a prerequisite for government securities market development. Money market supports the securities market by increasing the liquidity of securities. It also makes it easier for financial institutions to cover short-term liquidity needs, and makes it less risky and cheaper to warehouse government securities for onsale to investors and to fund trading portfolios of securities. Where short-term interest rates are liberalized, development of money and government securities markets can go hand-in-hand in a materialistic and coordinated way. Monetary policy operations are the responsibility of the monetary authorities and have increasingly been left solely to the purview of the central bank. There are, however, some overlapping areas between the government securities market and the money market requiring coordination.

Most countries are moving from the use of direct monetary policy tools, such as interest rate controls and credit ceilings, to the use of indirect monetary policy instruments, such as open market operations. Indirect monetary policy instruments have the advantage of improving the efficiency of monetary policy by having financial resources allocated on a market basis. In addition, growing financial market integration has made direct monetary controls increasingly ineffective, as agents have found it easier to circumvent them. Government securities are particularly important instruments to implement indirect monetary policy operations. In most countries, these securities are the most liquid securities in the market.

Government debt and cash management can coordinate with monetary policy by moderating the effect of government expenditures and receipts on the banks' cash balances and by keeping the central bank informed of government cash flows. So far, the public borrowings from the money market particularly from the banking system impact the liquidity position in the market.

3.6 Foreign Exchange Market Development

The money and foreign exchange markets are key components of the financial system. Foreign exchange markets facilitate the trade of one foreign currency for another and foreign exchange dealers handle most transactions in this market. Businesses, financial institutions, governments, investors, and individuals use the foreign exchange markets to adjust their currency holdings. The foreign exchange markets play a critical role in facilitating cross-border trade, investment, and financial transactions. The importance of foreign exchange markets has grown with increased global economic activity, trade, and investment, and with technology that makes real-time exchange of information.

Rose (1994) notes that a number of factors influence foreign exchange rates and these are: balance-of-payments position, speculation over future currency values, domestic economic and political conditions, and the central bank interventions. A country experiencing a trade deficit usually faces downward pressure on its foreign exchange rate. Speculators buy or sell currencies when they see profitable opportunities. Deteriorating economic conditions and inflation typically have an adverse affect on foreign exchange rates. Central banks may buy or sell currencies to influence the value of their currency.

Ishii et al (2003) holds the view that the efficiency and depth of the foreign exchange market hinges on several factors, namely the degree of competition, the removal of impediments to price discovery, and the dissemination of information in the market. The introduction and development of a foreign exchange market requires the availability of foreign exchange for various external transactions, which depends on the situation of currency convertibility. At a minimum, exchange controls and regulations affecting foreign exchange dealings should be modified to ensure market-based allocation and pricing of foreign exchange. Structural features of foreign exchange markets, including market microstructure and prudential supervision, also affect the depth and volatility of these markets.

As with money markets, the central bank plays an important role in the development of the foreign exchange market. This includes implementing transparent criteria for licensing dealers, delegating exchange control authority to authorized dealers, improving information technology to facilitate inter-bank dealings, abolishing taxes and surcharges on transactions and strengthening payments and clearing systems. In the early stages of development, the central bank could encourage banks to become market makers by limiting its trades to

banks that provide firm two-way quotations for a set minimum amount. The requirement to provide two-way quotations may be imposed as part of the licensing process. Moreover, the central bank should not undercut the market-making function of authorized dealers by actively quoting buying and selling exchange rates when it enters the market. Instead, the central bank should be a price taker. It should also buy and sell foreign exchange directly from the market, rather than acquiring it through surrender requirements or selling it directly to non-bank retail customers. More generally, the central bank should shift its focus from directly controlling foreign exchange flows toward general oversight and supervision of the market.

Like all other financial markets, the soundness of market participants and the integrity of the payments and settlement systems are a key to the development of the foreign exchange market. However, significant obstacles remain, including instability in foreign communication technology and computer systems. These obstacles can prevent the emergence of continuous two-way quotations in the market. Market participants thus should be able to evaluate their counter parties' creditworthiness on the basis of reliable and timely information. Similarly, settlement risks should be minimized by improving domestic payments and clearing systems, where local currency and sometimes, foreign currency transactions are settled.

The dissemination of information is essential for the efficient pricing of foreign exchange. Information systems and trading platforms should enable the provision of real-time bid and offer quotations in the inter-bank market. The retail market should also be well organized to ensure that the buying and selling rates are set freely. Building the confidence of retail market customers is particularly important, because the retail market is the medium through which foreign currency inflows and outflows are channeled to the inter-bank market.

The thinness of foreign-exchange markets causes destabilizing speculations, especially when exchange-rate flexibility is increased is experienced in the Asian crisis countries. Analysis of the impact of the foreign-exchange market thinness on the dynamic capital mobility and capital-market risk bears huge importance. McDonald and Siegel.(1986) has shown that in response to one-standard-deviation shock to interest and exchange rates, the dynamic capital mobility of all four crisis countries in East Asia has decreased in the short run. These shocks also increase the capital-market risk in these countries.

3.7 Derivatives Market Development

Derivative instruments, increasingly used in developed markets, are now spreading to emerging markets. Their potential contribution to efficiency and economic performance is enormous. Derivatives help expand risk management capabilities, improve credit allocation and risk sharing among economic agents, reduce the transaction costs of achieving desired risk profiles, increase the pricing efficiency of financial markets, and provide new instruments for dealing with contractual and informational problems. Acquiring knowledge of the preconditions for developing a successful derivatives market by looking at the structure of derivatives exchanges and products traded in both emerging and developed markets, is an important part of financial market development.

World Bank (1997) notes that actually, agricultural contracts were introduced first in the derivatives exchanges. More recently, derivatives exchanges have introduced index and interest rate products. Although largely regulated directly or indirectly by the government, there is no predominant form of ownership for the derivatives exchanges. The most common market-making system is based on an open-outcry, daily mark-to-market with

gross margining. A greater number of exchanges maintain ownership of the clearing facilities.

These markets contribute to sustain the foreign exchange activities. Derivatives markets range from inter-bank financial derivatives traded over the counter to commodity and financial derivatives traded on exchanges. Derivatives and their underlying markets are interdependent. Derivatives require the existence of a liquid market in underlying products and they also enhance the liquidity and price discovery in those underlying markets (Schinasi and Smith, 1998). Certain derivatives markets, including interest rate swaps, foreign exchange swaps, and forward contracts, are critical to facilitate risk management for financial institutions. At the same time, derivatives themselves raise other forms of risk. Managing the risks associated with derivatives requires additional infrastructure (for example, in the case of clearing systems for exchange-traded derivatives) and additional ability to understand more complex risks (for example, in the case of accounting for derivatives on bank balance sheets). The analysis on derivatives as a dimension of market development bears importance because of their role in the development of fixed income and equity markets.

Li, Squire and Zou (1997) shows that financial market development is associated with improvement in income distributions. Dollar and Kraay (2000) show that measures of financial development must include the development of micro finance, which makes small loans to poor people, also holds out promise of making a difference to the lives of the poor. By some estimates, micro finance now reaches over 50 million people worldwide, and in some countries micro finance is beginning to move into the more formal financial markets. Stiglitz (1994) notes that market failures arising from informational imperfection is pervasive in financial markets and is especially severe in rural areas. Market failures may prevent liberalization from improving the efficiency of credit allocation. In particular, potentially profitable borrowers may be denied credit because of high informational asymmetry and transactions costs. As Collier (1994) found it for some countries in Africa, the severe informational problems afflicting financial markets suggest that even the long term benefits of liberalized financial systems may be small, while in the short term, financial liberalization might actually worsen the efficiency of intermediation because, lacking information about firms' expected profitability, banks lend on the basis of collateral values. The segmentation of financial markets between formal and informal sectors impedes the efficacy of liberalization to enhance competition and efficiency (Aryeetey et al, 1997). The liberalization of financial markets may lead to financial crisis unless preceded by macroeconomic stabilization and prudential reforms (Alawode and Ikhide, 1997; McKinnon, 1988). Caskey (1992) questions the costs of financial sector reform programs, in particular rehabilitating government banks at government expense and the scarce human resources, which the reforms absorb.

3.8 Financial Market Prices and the Monetary Policy

There are close links between financial markets and monetary policy. More specifically, the information the financial markets provide about the economic outlook can be used by monetary policy-makers to assess the outlook for price stability in an economy. The primary objective and responsibility of monetary policy in a country is the preservation of price stability. This objective is to be quantitatively defined and the central banks aim at maintaining inflation lower over the medium term. To this end, the central banks continuously assess the outlook for and the risks to price stability so as to set the policy interest rate at a level appropriate for attaining this goal. The assessment is based on a

comprehensive conceptual framework that includes and combines both economic analysis and monetary analysis. Lucas (1990) notes that financial markets – that is, money markets, bond markets and credit markets – provide a lot of information that can help us assess the medium and long-term inflation trends as well as market expectations of future inflation. The extraction from financial market data of useful and pertinent information for monetary policy requires careful analysis and sound judgement. For example, while it is true that financial markets, and asset prices in particular, can provide some of the most “forward-looking” indicators available to central banks, we have to carefully analyse their information content.

3.9 Role of Regulations in Development of Financial Markets

Financial markets are among the most highly-regulated markets in the world. Nevertheless, financial crises still occur. The U.S. savings-and-loan fiasco of the late 1980s and early 1990s, and the Mexican and East Asian Financial implosions of 1994 and 1997 are witnesses, which hit hard not only those economies but their bad consequences spread over many other economies in the world. In this situation, a crucial question thus arises what role does regulation play in stabilizing, or destabilizing financial markets?

Barth et al (2001) note that regulations enhance or impede the efficiency of a particular financial sector and therefore, understanding in the working of financial market regulations is important. World financial markets are undergoing dramatic changes, driven by the rapid development and deployment of new technology that enables information and money to travel farther, faster. However, a Byzantine array of regulatory structures in the international arena hinders the development of efficient global financial markets. Policy makers around the world are attempting to address the issues by emulating the financial markets.

Market disciplines are essential for appropriate functioning of financial systems. The effectiveness of financial market disciplines is much dependent on the structure of the regulatory arrangements in place and the nature of the infrastructure within which the banking system and other components of financial markets operate. Financial markets, particularly the banks are thoroughly regulated because; no government can allow the banking system to fail.

Under the current age of universal banking, more commonly known financial services companies are engaged in several activities. Almost all large financial institutions are diversified and engaged in multiple activities. In Europe and Asia, big banks are much diversified groups that, among other services, distribute also insurance, whence the bancassurance term. These involvements of financial institutions in various money and capital markets be run under well disciplined manner, which refers to their prudential regulation.

Yener (2000) argues that the first and foremost responsibility of regulation in the financial markets is to set the standards by which the market operators will follow, and to protect the interests and the rights of depositors and investors. A serious regulatory effort is generally a precondition to the efficiency, transparency and credibility of a securities market's operations. Markets move based on information. The amount of relevant information and its accuracy, timeliness and completeness would in part be a function of the standards set by the government and self-regulatory organizations and the seriousness with which those standards are enforced.

According to Yener (2000), the first function of a regulatory framework is to define the key features of the financial system and the role of securities market institutions within that system. At the broadest level, the regulatory process defines the basic structure of the system, such as the debates between advocates of "universal" banking and partisans of a separately organized and regulated securities industry. As markets become more developed, regulators find it necessary to define the basic standards for new types of market activities, such as mutual funds or clearing and settlement organizations, and the institutions that will be eligible to engage in those businesses.

If the economy is the engine, which generates the wealth of a nation, then finance is the fuel which energizes the engine, and the engine must be well fitted. In market economy, financial market institutions (banks, insurance companies, stock markets, pension funds, investment funds, venture capital funds, etc.) provide the venue by which savings can be transferred into investments

IOSCO (2001) documents that well functioning, efficient markets are key for: (a) a system for efficient savings mobilization and allocation, risk management, payment information services, and a framework for corporate governance, (b) efficient government finance and debt management, monetary policy, implementation of privatization agenda, and (c) social security, pension reform, fiscal decentralization and municipal finance, housing finance and access to foreign capital flows. The supply and the demand sides of these services have their interest lied in disciplined work of the financial markets. The regulation protects the interests of all concerned and entrusted upon these responsibilities to the stakeholders.

Fagan (2006) writes that capital markets have the potential to be powerful engines of economic growth in developing nations. An efficient stock market provides the public with investment opportunities and mobilizes their savings, as well as international capital, for productive corporate financing. Market forces serve to discipline management and public ownership improves the accountability of the business sector. But developing a robust and efficient capital market is a difficult task for many emerging economies. One of the many challenges they encounter is creating an effective securities regulatory regime.

Lee (2002) notes that to take full advantage of foreign investors, a host country must provide an appealing environment: a stable economic and political environment; a fair, rational, and, comprehensive legal system; a fair, reasonable, and, balanced tax program; a fair, productive, and, balanced regulatory system; and transparency in economic, financial, legislative, and regulatory systems. Absence of prudent regulatory system creates some typical major problems including shaky, inconsistent macroeconomic management; severe asymmetric information problems (such as inadequate accounting, auditing, and disclosure practices) in the financial and corporate sectors. Prudential supervision and regulation of domestic financial markets and institutions essentially require sound infrastructure. So the developing countries should have well-synchronized regulatory and depository arrangements.

Hoening (1999) writes that financial regulatory policy involves choosing an appropriate tradeoff between the objectives of efficiency and financial stability. The primary tools for achieving these objectives are regulation, prudential supervision, and market discipline. In a mature financial market, banking and securities regulations form the framework within which the market operates. They are designed to protect the depositors and investors, prevent systemic crises and promote the market they govern.

The regulation of financial markets, especially for new or emerging markets serves both a "disciplinary" role and a "development" role. These two roles ought to be viewed as complementary, and the emphasis to one or the others by a country's regulators varies over time. On the other side, imprudent and inconsistent regulations can be self-destroying. Increased incidence of financial crises, both in industrialized countries and in emerging market economies over the past two decades, teaches us how regulatory and supervisory loopholes can bring disruptions in the financial sector in particular and the economy in general. The crises have not only disrupted the financial systems in affected countries but also have had severe affects on economic activity in other economies. Considering the severe adverse impact of financial shocks and crises, we need to strike a new balance in the use of regulation, supervision, and market discipline to achieve our financial development goals.

Chapter 4

The Financial System

4.1 Financial System and Economic Development

A 'financial system' is a broad arrangement of financial markets, institutions and instruments, and the ways (tools and mechanisms) the financial resources are transferred to productions in an economy. Financial systems mobilize resources, create funds and transfer the excess funds of individuals and organizations to the use of those who have liquidity gap for productive investments. Well-functioning financial systems encourage savings and allocate resources to high-yielding investments. A national financial system increases liquidity by providing asset holders with attractive financial claims in the form/terms of yield, risk, and liquidity. The financial system of money and capital markets effect payments by responding to the instructions of individuals, businesses and governments to transfer funds to other parties. More robust financial systems are those that are less vulnerable to financial fragility and crisis. Financial fragility can impose heavy costs on taxpayers and disrupt the real economy through reducing the availability of credit and other services such as payments. A financial system of money and capital markets determines the cost of and demand for credit. It generates credit to sustain the public's spending and standard of living and store future purchasing power of wealth in the form of stocks, bonds, and other securities that carry financial values. The financial system makes possible the liquidation of those securities whenever the public need cash for immediate spending.

Gillis et al (1991) notes that the financial systems and markets provide the basic services of: (i) a medium of exchange and a store of value called money, which also serves as a unit of account to measure the value of the transactions; b) furnish a vessel for mobilizing and allocating funds, and gathering savings from numerous savers and channeling them to investors, a process called financial intermediation; c) a means of transferring and distributing risk across the economy; and d) a set of policy instruments for stabilization of economic activity.

The role usually played by an efficient financial system and financial market may again be categorized as savings function, liquidity function, payments function, wealth function, credit function and risk mitigation functions. Through its savings function, a financial system provides a potentially profitable, low-risk outlet for the public savings. Providing a means of raising funds by converting securities and other financial assets into cash balances is the liquidity function carried by a financial system. By its policy functions, the financial system provides a channel for government policy to achieve society's goals of high employment, low inflation, and sustainable economic growth. While the payment function provides a mechanism for making payments to purchase goods and services. The financial systems perform the wealth function by providing a means to store purchasing power until needed for future spending on goods and services.

As a network of banks and other financial intermediaries and instruments such as equity, debt and bond markets, and laws and regulations, a financial system also monitors the utilization of funds side by side with agglomeration of capital from many smaller savers and allocation of them to most productive uses. The way the financial systems work is a technique through which various securities are traded, interest rates are determined and financial services are produced and delivered around the economy and the world. More

importantly, a financial system transfers, pools, and reduces risks, increases liquidity, and conveys information. A financial system also encompasses payment systems – the essential mechanism for physical transfer of funds and settlement of financial claims. Thus the financial system, financial markets and the micro and macro-economy are intricately linked.

Financial systems operate through the financial markets, financial institutions and instruments and other tools and techniques and provide the economies with life-blood by means of financing for the productivity of real and service sectors. An efficient financial system lowers the transaction costs of economic activity by providing efficient payments mechanisms, helps pool risk. Through maturity transformation, a financial system makes available long-term capital. Financial institutions and financial markets also play an important corporate governance role over other economic entities. They monitor the use of capital and where necessary, exert external pressure to improve its productivity, or reallocate it for more productive investments. A dynamic financial sector strengthens the level of confidence and facilitates the attraction of private sector capital from abroad. By making funds available for entrepreneurial activity and through its impact on economic efficiency and growth, a well-functioning financial system also helps in alleviating poverty both directly and indirectly.

Financial intermediation affects domestic investment notably by alleviating financing constraints, allowing the firms to increase investment in response to increased demand for output. The financial developments such as financial deepening, increases in domestic savings, and rapid settlements of financial claims makes investment more responsive to output growth. Consequently, rather than promoting a particular type of financial structure, the financial systems reduce transactions costs in financial intermediation and enforce creditor and investor rights. This, in turn, facilitates the development of banks and stock markets, and as a final output stimulates domestic investments.

Stiglitz (1998) notes that individual entrepreneurs rarely have enough of their own capital to undertake investments. Individual savers, without pooling their money, would not be able to take advantage of increasing returns to scale of their investments, and would face a large degree of risk with little liquidity. The financial system provides an economy's financial arteries. It reallocates risks to those willing to bear them (Laker, 1999). A sound financial system sorts good borrowers from bad and exercises discipline on those who use society's savings. A stable and smoothly functioning financial system is thus crucial for macroeconomic growth and development.

The conditions and strength of a financial system have multi-facet impacts on the health of the particular domestic economy as well as on global economic environment. If credit becomes more costly and less available, total spending on goods and services falls. As a result, unemployment rises and the economic growth rate slow down as businesses cutback their production and lay-off workers and vice versa. This reveals that financial system indeed is an integral part of the economic system. Causal dependence of both economic and financial systems thus needs to be analyzed and understood simultaneously while making policy targets for economic development.

An efficient financial system is critical to an economy's well being. When large-scale failure do occur among financial institutions, then the supply of credit dries up, which quickly leads to reductions in other industries. Additionally, as a most susceptible part of an economy, the financial sector is very sensitive to public confidence and highly

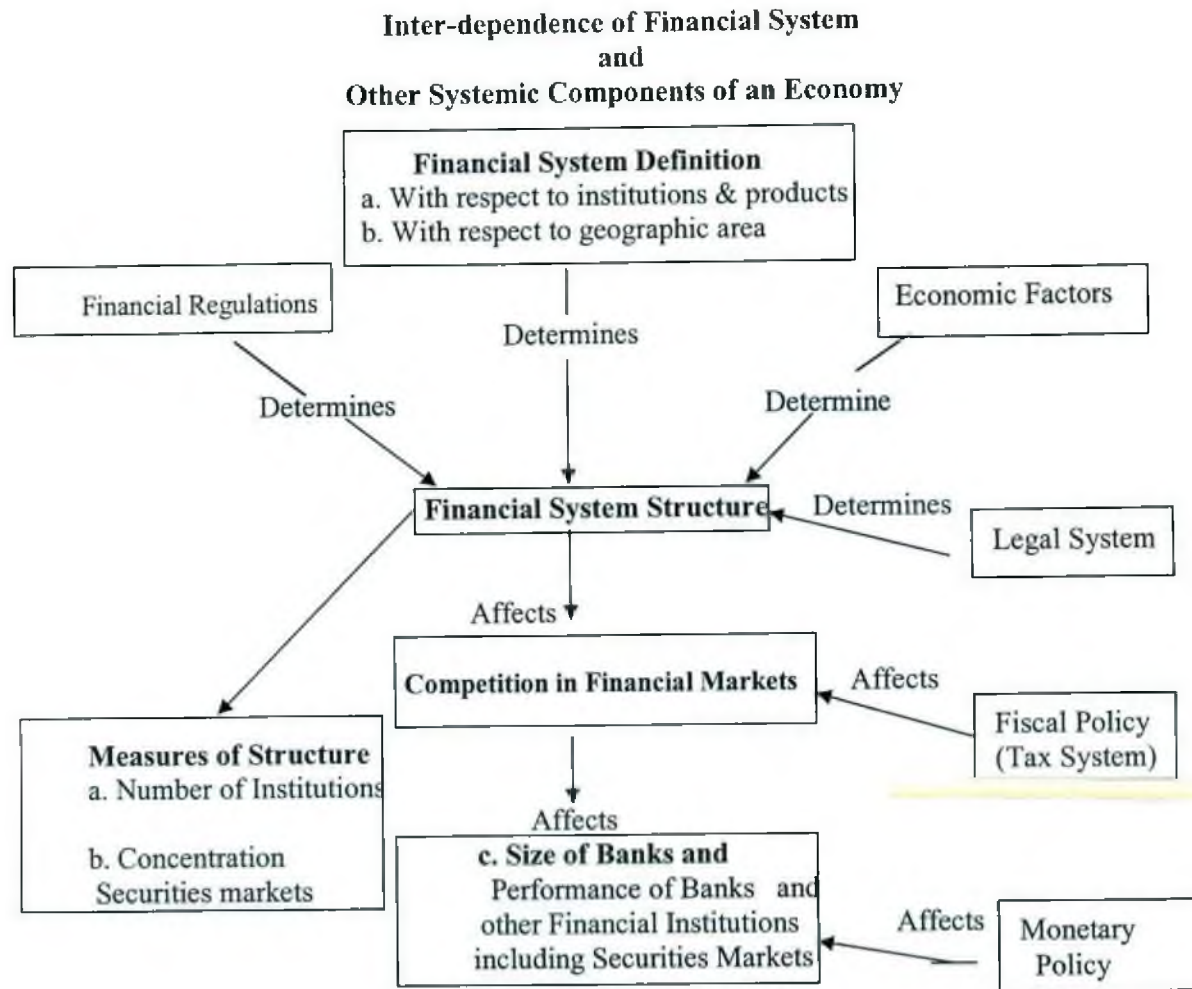
vulnerable to crises. Problem that hits one part of the financial sector can quickly spread to the whole sector and compelled the entire economic activities to be turmoil. Once the situation deteriorates and becomes widespread, it takes the shape of financial crisis.

One of the fundamental jobs of an economy is efficient allocation of its scarce capital resources. Capital is supposed to be invested in sectors that give high returns, and withdrawn from sectors with poor projects (Wurgler, 1999). Efficient secondary market prices help investors in identifying good investments from bad ones through various mechanisms. Bagehot, (1873) further notes that lenders and intermediaries screen out bad projects. Agency theories argue that pressure from external investors, or managerial ownership encourages managers to pursue value maximizing investment policies (Jensen, 1986). Wurgler (1999) argues that financial markets - as measured by the size of the domestic stock and credit markets relative to GDP-do appear to be associated with a better allocation of capital. This author further notes that financial markets and institutions might do more than just provide a sideshow to the real economy; they may perform a fundamental allocation function. Morck, Yeung and Yu (1999) writes that larger markets have more informative prices perhaps due to more effective arbitrage facilitated by liquidity and low transaction costs and thus help investors and managers distinguish between good investments.

There are also counter arguments from economists that the relationship between financial system and markets and economic growth is important but not costless. Lucas (1988) states that economists badly over-stress the role of financial factors in economic growth. Joan Robertson (1952) stated that "where enterprise leads, finance follows". According to this view, economic development creates demands for particular types of financial arrangements, and the financial system responds automatically to the increased demands. If the real economic activities are cut backed, then growth of financial system is hampered. Overall, the notion is that the optimal financial system, in combination with a well-developed legal system, should incorporate elements of both direct (market-based) and indirect (bank-based) finance. A well-developed financial system should improve the efficiency of financing decisions, favouring a better allocation of funds and thereby economic growth. Figure 4(i) in annex 1 shows how the financial system is involved in the fund flow process in an economy.

Nonetheless, financial systems are also particularly important to provide the basis for continuous restructuring of economies that is needed for attaining expected growth. In countries with highly developed financial systems, a greater share of investment is allocated to relatively fast growing sectors. Even one century ago, England's financial system did a better job in identifying and funding profitable ventures than other countries in the mid-1800s, which made possible the "Industrial Revolution" in Britain" to continue and reach the peak. This helped England enjoy comparatively greater economic success. Bagehot (1873) expressed it as "In England, however, ...capital runs as surely and instantly where it is most wanted, and where there is most to be made of it, as water runs to find its level". Financial systems thus essentially facilitate productive activity and overall economic growth process. The Asian financial crisis of mid-1990s, on the other hand, clearly evident that weak financial systems render countries vulnerable to fragility. This means that to enhance economic growth, developing countries must strive to increase depth, diversity and efficiency of their financial systems.

Figure-4(ii)



Source: Developed by the Author on the basis of Broaddus, 1971

Impacts of structural and institutional aspects of financial systems and markets on the macro-economic and financial system stability have received growing attention and importance both nationally and internationally (IMF, 2002). The magnitude and mobility, and importance of international capital flows have made it increasingly important to strengthen the foundation of domestic financial systems as a way of building up resilience to capital flow volatility. The soundness of financial institutions is also a key part of the infrastructure for strong macroeconomic performance and effective monetary policy. Hence, the central banks and governments are paying increasing attention to monitoring the health and efficiency of financial institutions and markets, and to macroeconomic and structural development that pose potential risks to financial stability. This reveals that structure of financial systems and markets and the macroeconomic development prospects are inter-dependent. The inter-dependence of financial systems and macroeconomic components in an economy is shown in figure 4(ii) above.

A financial system consists of legal structure and institutions, financial markets and instruments, and individuals that deal with the flow of funds. Essential structural elements of a financial system are (i) the lenders and borrowers, i.e. the non-financial economic units;

(ii) the financial institutions, which intermediate, to a large extent, the lending and borrowing process; (iii) financial instruments, which are created to satisfy various types of needs of the participants; (iv) legal structure for regulation and supervision, and finally, (v) the financial markets, i.e. the institutional arrangements and conventions that exist for the issuance and trading or dealing with the financial instruments. The general and regulatory factors the financial systems and financial markets comprise are:

General Factors Include:

- number of banks and non-bank financial institutions, and the number of their offices in the market;
- ratio of banks or bank offices to the population of the market area;
- ratio of non-bank financial institutions and their offices to the population of the market area;
- concentration ratio that indicates the percentage of total deposits held by the largest banks in the markets;
- the absolute size of individual banks in the market as measured by total deposits or total assets;
- the level of demand for banking and other financial services,
- volume of funds provided by the non-bank financial institutions to the capital market;
- depth and breadth of capital market in terms of turnover and capitalization;
- demand for and supply of funds in both securities and non-securities segments of financial markets; and
- existence of scale economies in the production and marketing of banking services.

Regulatory Factors

The regulatory factors that influence the structure of a financial system are (i) restrictions on the formation of new banks and other financial institutions, including their branch expansion and development of instruments; (ii) entry restrictions such as capital adequacy, liquidity limits, lending policies, asset qualities and business expansion to foreign markets along with exit barriers; and exit options and barriers, including mergers and acquisitions, and winding up..

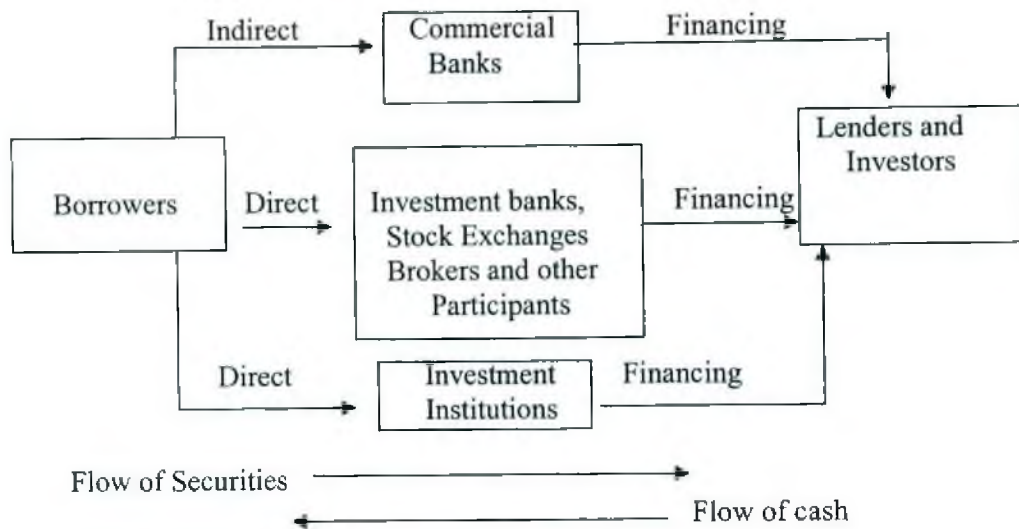
Baker (1972) argues for the regulation of the banking structure to ensure stable and progressive functioning of financial systems and markets in order to:

- protect banks and communities from the serious consequences of bank failures;
- protect banks from possible 'drastic competition';
- protect small banks from the competition of large banks;
- assure bank shareholders of an adequate rate of return on their capital;
- protect bank management from their own follies; and
- deal with the actual or imagined evils of 'concentration';

Baker (1972) further argues that securities markets require regulations to allow these markets work efficiently without government interventions and the undue influence of market makers and market participants. The ultimate objective is to strengthen pro-development regulations on the market activities.

Jennifer (1995) argues that the financial system of a country comprises all those entities that are permanently engaged in financial transactions including incurring of liabilities and acquiring of financial assets in that country, and draws the financial intermediation process is shown in figure 4(iii).

Figure-4(iii): Financial Intermediation Process



Source: Jennifer Piesse et al (1995), p.42

4.2 Institutions and Instruments of a Financial System

In practice, major financial institutions in a financial system are banks and the capital markets. In the banking sector, accumulation of funds and their uses take place through commercial banks, development and investment banks and various types of non-bank financial institutions. Central banks play the role of watchdog in the financial sector especially, the banking system. On the other hand, capital markets are the market where the supply of and demand for long-term funds meet. In this market, stocks and other papers are bought and sold among financial investors. Securities or stock markets are an important part of the capital market. The capital markets facilitate the process of channeling small savings generated in the banking market to finance the small, medium and large investments and thereby contribute to the economic growth of a country. Thus, the banking and the capital markets are at the core of the financial systems and financial markets where none of them is mutually exclusivable. The supply of and demand for short-term funds primarily meet each other in the banking sector within the money market. This makes it possible for financial institutions and stock markets to play mutually complementary roles and to grow simultaneously as the economy prospers.

The structure of formal financial system of the developed country generally comprises the following financial, quasi-financial and even non-financial institutions and instruments. Financial institutions may be classified into two broad categories, i.e. deposit and non-deposit intermediaries. While the former is straightforward, the second category may be split into contractual intermediaries, portfolio institutions and 'others', which includes the various development agencies. Following is a list of the institutions that generally belong to a financial system:

4.2.1 Institutions

4.2.1.1 Central Bank and/or Monetary Authority

4.2.1.2 Depository Institutions:

- Commercial banks and other deposit money banks
- Savings and loan Associations
- Mutual savings banks
- Credit unions
- Postal saving banks
- Savings and loan firms (thrust institutions)
- Co-operative societies and banks

4.2.1.3 Non-Depository Institutions and Instruments:

- Finance houses
- Finance companies (consumer and commercial)
- Merchant banks
- Discount houses
- Venture capital companies
- Leasing companies
- Investment companies
- Investment banks
- Investment clubs
- Housing finance companies
- Insurance companies
- Pension funds (private and government)
- Public sector lending and investment corporations/institutions, and
- Other institutional investors.

4.2.1.4 Capital Market and other Financial Intermediaries:

- Securities and exchange markets
- Bond markets
- Treasury and other bills markets
- Securities brokers and dealers
- Derivative markets (futures and options markets, commodity exchange markets, etc.)
- Various provident funds
- Life insurance funds
- General insurance funds
- Development finance institutions (DFIs)
- Offshore financial centers
- Unit trusts
- Building societies
- Credit guarantee corporations
- Deposit insurance corporations/schemes
- Clearinghouses
- Financial/investment ombudsman
- Credit rating agencies
- Portfolio institutions
- Participatory mortgage and bond schemes
- Small businesses and industry development corporations (e.g. BSCIC in Bangladesh)
- Industrial development corporations
- Agricultural financing institutions
- National housing finance corporations
- Industrial development corporations
- Asset management companies (for example, factoring houses)

4.2.1.5 Payments System²

Efficient and sophisticated payments system is another important and inevitable characteristic of a smooth-running financial system. The payment system is an apparatus through which obligations incurred as a result of economic activity is discharged through transfer of monetary value. A modern and electronically sophisticated payments system with electronic clearinghouse and fund transfer method (EFT) supports smooth and accurate settlements of payments by lesser use of cash in shorter time. Payments system is essentially a mechanical process and direct channel through which liquidity and credit problems are transferred from one participant in the financial system to another (Downes and Zadeh, 1990). An efficient, especially electronically equipped, payments system creates a reliable, safe and effective system capable of meeting the needs of industry, the trade sector and the individual clients for settling financial claims. A sound payments system, thus, helps the financial system in performing the economic activity efficiently, effectively and smoothly.

4.2.2 Instruments

Financial instruments are the tools of executing the intermediation and other financial market activities in the financial systems. Unless there are a vast number of financial instruments, the financial system and the financial markets certainly remain under performed and inefficient. The financial services industry worldwide has been changing very rapidly with the advancements in the information and communication technology (ICT). Adoption of ICT and development of products and instruments is the strong key to prosperity of financial systems.

Financial market instruments available in the contemporary world can broadly be categorized as (a) non-reversible instruments, which usually involve the retail sector, i.e. the household sector, and (b) reversible instruments, which usually form the wholesale market, because the household sector is rarely involved. The category-wise distribution of financial instruments or claims is presented below:

4.2.2.1 Non-reversible Financial Instruments

(i) Primary securities (issued by ultimate borrowers)

Representing the obligations of the private sector

- Hire-purchase contracts
- Leasing contracts
- Mortgage advances
- Overdrafts
- Personal IOUs

² "Payments system" refers to the instruments, organizations, operating procedures, and information and communications systems used to initiate and transmit payment information from payer to payee and to settle payments--that is, transfers of money.

A payments system transfers and settles financial claims through the financial system, which comprises clearinghouse, real time gross payment (RTGS), mail transfer, telegraphic transfer, cheques and demand drafts, pay order, cash delivery, and many other modes of advanced technology as well as electronic and satellite transfers like SWIFT (Society for World Wide International Financial Telecommunications). On the contrary to fiduciary money, which is directly exchanged, the use of these payment instruments involves that the funds are transferred from the bank account of the payer to the bank account of the payee. As accounts are often held in different credit institutions, transfers from one institution to the other are executed through an inter-bank payment system.

(ii) Indirect securities (issued by financial intermediaries)

Representing the obligations of deposit intermediaries

- Bank notes (issued by the central bank/monetary authority)
- Savings accounts
- Fixed deposits
- Current and other bank accounts

(iii) Representing the obligations of contractual intermediaries

- Insurance policies
- Members' interest in pension funds
- Retirement annuities

(iv) Representing the obligations of portfolio institutions

- Participation mortgage bonds
- Mutual funds/unit funds

4.2.2.2 Reversible Financial Instruments

(i) Primary securities (issued by ultimate borrowers)

Representing the obligations of the private sector

- Bankers' acceptances
- Trade bills (import and export bills)
- Promissory notes
- Commercial paper and other negotiable instruments

(ii) Representing the obligations of the public sector

- Treasury bills
- Government/treasury bonds

(iii) Representing the obligations of the semi-public sector

- Capital project bills
- Bridging bonds
- Municipal bonds
- Public corporation bonds
- Call bonds

(iv) Indirect securities (issued by financial intermediaries)

Representing the liabilities of private banks

- Negotiable certificates of deposits

Representing the liabilities of public or semi-public banks

- Central bank bills
- Central bank funds (for example, Federal Funds in the USA)
- Land bank bills
- Land bank debentures

Representing the obligations of the category "other" Development Bank bonds

- Bills and bonds of the housing trusts
- Bills and bonds of non-bank financial institutions
- Independent development trusts
- Finance companies

In addition, there are many other products such as repurchase agreements, options, futures, options on futures, forward rate agreements and interest rate swaps, etc.

4.2.3 Relationship between Financial Markets and Financial Instruments

A developed financial market is characterized by the presence of advanced financial instruments and tools. However, mere presence of these cannot make a financial market well functioning. The interactive relationship amongst the institutions, instruments, participants, and market makers is inevitable for the soundness and efficiency of financial systems and markets.

Table 4.1: Relationship between Financial Instruments and Markets

Instruments	Markets				
	FX	Money	Fixed Income	Equities	Commodities
Bill		√			
Bond			√		
CD		√	√		
Convertibles			√	√	
CP		√	√		
Deposits		√			
Equity				√	
Euro Currency	√	√			
Forward	√	√			
FRA		√			
FRN		√	√		
Futures	√	√	√	√	√
MTNs			√		
Options	√	√	√	√	√
Preference Shares			√	√	
Repos		√			
Rights				√	
Spot	√	√			
SWAPS					
Treasury Bills			√		
Warrants		√		√	

Source: Reuters, 2003

The financial markets of developed countries possess such effective and structural co-integration. Nonetheless, institutions and instruments in financial markets and systems of developing and less-developed countries suffer from no or lower factual and functional interrelationship mechanisms. Table 4.1 at previous page illustrates these inter-connections between financial markets and financial instruments.

The financial instruments have certain advantages and disadvantages, which seriously influence the investors' willingness to transact in those instruments. Table 4.2 shows some common advantages and disadvantages of various financial instruments.

Table 4.2: Advantages and Disadvantages of Financial Instruments

Instruments	Advantages	Disadvantages
Equity	<ul style="list-style-type: none"> •Enhanced current income •More limited downside risks •More senior in the list of creditors 	<ul style="list-style-type: none"> •In a bullish equity market, due to premium, the investor does not benefit as much as he/she would from a bearish equity market. •Less liquid secondary market •Little influence over corporate decisions before conversion. •Regulatory inefficiencies in a case of takeover, the embedded equity option might disappear
Straight bond	<ul style="list-style-type: none"> •Embedded equity option •Limited downside risk at a time of rising interest rates 	<ul style="list-style-type: none"> •Lower coupon yield •Convertibles are subordinate to straight debt •Complexity contrasts the relative simplicity of straight bonds
Warrants and equity options	<ul style="list-style-type: none"> •Guaranteed coupon payments •Protection in the event of falling equity prices 	<ul style="list-style-type: none"> •Due to gearing, the same degree of exposure might be purchased for a fraction of the capital outlay.
Money market instruments	<ul style="list-style-type: none"> •Exposure to both bond and equity markets 	<ul style="list-style-type: none"> •Convertible bond suffers from both falling shares prices and rising interest rates, while money market instruments do not.

Source: Compiled by the author from various financial market literature

Effective and progressive market mechanism, cautious handling and uses of the instruments in a progressive regulatory environment can enable the financial systems and markets to enhance their efficiency level.

4.3 Bank-Based Versus Market-Based Financial System

The two main dominant patterns of a financial system structure in developed countries are: bank dominated financial structure and capital market oriented financial sector. Under the bank-based financial system, firms seek financing on organized banking industry. Individuals predominantly keep their savings in banks, which are the main source of external financing for the corporate sector. Banks are also the dominant investors in equity and corporate debt markets since stocks, bonds and commercial papers function as bank products, supplementary to loans. Thus the advantages of bank-dominated model of financial systems have long been praised although the flaws of this model were widely acknowledged in the 1990s. Contrarily, in the capital market oriented financial systems, bank deposits are not the dominant savings/investment instruments for individuals. Individuals invest directly in the capital market through buying stocks and corporate debt

instruments, and to a growing extent, invest through non-bank financial intermediaries like pension funds or investment funds. Mellyn and Saal (1998) argue that banks play a smaller role in financing the corporate sector than capital and corporate debt markets dominated by non-bank investors.

There are, nevertheless, wide differences in opinions on the issue of contributory-supremacy of bank-based and market-based financial intermediation. Hale (2000) argues that underdevelopment of the stock market may hamper an economy's ability to restructure in response to technological changes. The question of relative advantages and disadvantages of bank-based financial systems and market-based financial systems is yet to be resolved. In bank-based systems (as in Germany and Japan), banks play a leading role in mobilizing savings, allocating capital, overseeing the investment decisions of corporate managers, and providing risk management vehicles. In market-based systems (as in England and the United States), investors directly put their savings to firms through getting allocation and buying/selling of equity shares and other financial securities, exerting corporate control, and easing risk management.

4.3.1 Arguments for Market-based Financial System

Arguments of proponents for market-oriented financial systems are based on the assumption of perfect capital markets, which assumed to satisfy the following conditions:

- participants have free and equal access to the market;
- no single participant has control over prices;
- market information are freely and widely available to all participants;
- no impediments to trading in securities in the market;
- no distorting taxes;
- no transaction costs.

The perfect market model, based on Fisher's separation theorem and Walrasian Paradigm, shows the predominance of capital market over bank financial intermediation. The model assumes that the capital markets are perfect and the conflict of interest between the financial investors lending funds to companies and the companies receiving the funds has eliminated (Canals, 1997). According to Fisher's (1931) separation theorem, in a setting of perfect capital market, the financial investment decision about an investment project would be taken solely and only on the basis of the expected return and the interest rate on fund requires for the project in question. Fisher's opinion is similar to Walrasian Paradigm, which assumes the perfect functioning of anonymous capital markets. In such perfect markets, according to Walrasian Paradigm, an economy's state of equilibrium does not need financial intermediation to act as an interface between savings and investments. In perfect capital market conditions, according to proponents, investment and financing decisions are separate issues.

It is further argued that by the very nature of their business, banks are not the most efficient institutions for providing all types of financial services. While they are good at mobilizing savings and providing payment services and liquidity, which are their main functions, they are constrained in providing store of value services. Therefore, bank-based financial systems tend to have a smaller range of equity type services. Non-bank financial institutions (NBFIs) are much more efficient in providing these services. By adding liquidity, divisibility, information efficiencies and risk pooling services, NBFIs play a major role in the development of the financial sector. Thus, NBFIs complement banks by providing services that are not well suited to banks. They fill the gaps in financial services

that otherwise occur in bank-based financial systems. NBFIs can also be a source of competition for banks by unbundling the services provided by banks and providing the components on a competitive basis. So, a well-developed NBFIs sector is an important component of developing a broad, efficient financial system and, consequently, of providing a sound base for economic growth and prosperity.

The summary of the classical views is that financial intermediaries are not required. A financial system would confine itself to an absolutely neutral task of mere financial intermediation. That financial intermediation process would be governed by the price formation mechanism for financial assets in perfect markets. Financial system would ensure capital flows from savings to investment directly. Canal (1997) states that the financial agents decide where to invest their resources in the perfect and superior capital markets. The markets could gauge the risks incurred by investors, forcing a sensible risk diversification.

4.3.2 Arguments for Bank-based Financial Intermediation

Sinkey (1992) argues, "If capital markets are perfect and complete, financial intermediaries- such as banks would not exist." This statement seems to be consistent with the reality, as perfect capital market hypothesis does not exist in the real world. Kaufman and Larry (1994) argue that although a higher degree of efficiency is observed in financial markets, it is far from being perfect. Among many reasons for market imperfections, the asymmetric information is the most important one. Asymmetric information problems between savers, financial intermediaries and investors do exist. These problems prevent prices from reflecting the proper value of financial assets. When a borrower approaches a lender for a loan, the lender is at an informational disadvantage. The borrower may have spent years working on a project which now requires financing. The lender knows little or nothing about the project or the borrower. This asymmetric information further creates two more problems:

- Adverse Selection-the problem that occurs before the loan is negotiated;
- Moral Hazards-the problem that occurs after the loan has been extended;

Other information asymmetry problems are: agency problems, managerial behaviour and transaction costs. Proponents of bank-based financial system argue that separation of investment and financing decision is unrealistic. In essence, to a greater or lesser extent and directly or indirectly, a company's shareholders and creditors take part in business decisions. So the arguments for absolutely direct financing by the investors become weaker. As markets are not perfect, the financial intermediaries such as banks would exist. The services the banks provide their customers and the role they play in maintaining monetary stability and pooling savings are crucial. The capital markets cannot substitute banks' role in the financial intermediation process, as the markets are imperfect.

Bank-based finance has a special role to play for many companies in need of funds, and thus helps to ensure a well-balanced growth process. The economic literature on "relationship banking" has demonstrated that banks can contribute to alleviating the impact of sudden economic shocks on their clients. Banks stand ready to provide many customers with funds even in adverse circumstances, e.g. when the liquidity of financial markets dries up.

The banking sector also has an essential role to play with respect to the allocation of funds to the most profitable investment opportunities. Securities markets are not always

sufficiently liquid and some, especially small and medium, enterprises cannot cover their liquidity needs via securities markets owing to significant fixed costs of access. An additional benefit of bank-based finance relates to the intrinsic nature of the banking business: some projects cannot be financed directly by the market on account of significant information asymmetries between the borrowers and potential lenders. Banks can bridge this gap due to their comparative advantages in the assessment and monitoring of investment projects, which contributes to overcoming information asymmetries.

4.3.3 Bank Based Vs Market Based Financial System: The Issue of Coordination

In the 1980s, bank-based systems were widely perceived as superior to market-based systems like the US and UK in their ability to provide long-term 'patient' capital to industry. Since the early 1990s, however, the bank-based financial systems have faced serious challenges, to the extent that their fundamental viability vis-à-vis market-based system is being questioned.

The question of relative advantages and disadvantages of bank-based financial systems and market-based financial systems is yet to resolve. 'Societal foundation' analysis of bank-based systems reveals that bank-based systems rest not just on a set of financial regulatory practices but also on the institutions and behavior of the households, corporate and public sectors as savers and investors. The second point is that, although public policy choices are often presented in terms of a stark dichotomy between 'liberal' and 'non-liberal' modes of regulation (the former associated with market-based system, the latter with bank-based system), in fact most countries are struggling to find a successful combination or 'hybrid' of the two types of financial regulation. The final point is that banks play important (if diminished) roles even in market-based systems. The ultimate form is the coexistence of banks and markets, which will depend on the creativity and efforts of policymakers and the banks themselves in various countries. Those interested in institutional design should try to preserve a viable banking system for SMEs and the household sector while simultaneously promoting stable capital markets for larger companies and high-tech start-ups.

Both market and bank-based financial systems have their own comparative advantages and disadvantages. For some industries at certain times of their development, market-based financing is advantageous. For example, financing through stock markets is optimal for industries where there are continuous technological advances and where there is little consensus on how firms should be managed. The stock market checks whether the manager's view of the firm's production is a sensible one. For other industries, bank-based financing is preferable. This holds in particular for industries which face strong information asymmetries. Financing through financial intermediaries is an effective solution to adverse selection and moral hazard problems that exist between lenders and borrowers. Banks in particular have their expertise to distinguish between good and bad borrowers as they have or opportunity to having vital information about the borrower and the project or industry in question. Economies that have both well-developed banking sectors and capital markets thus have an advantage. Furthermore, in times of crisis in either system, the other system can extra perform the function of the famous spare wheel. Thus establishing coordination and deepen the relationship towards reaching an effective integration between banking and capital markets in a national financial system can serve the economy better than their segregated approaches.

4.4 Stability and Soundness of Financial Systems and Markets

Financial stability is the avoidance of a financial crisis described alternatively by many as 'banking panics', 'bank runs', and 'banking collapses'. Today's national financial systems are not merely banking system, but are more sophisticated with innovative capital market instruments and institutions. Thus sources of financial crisis could be the capital markets or a non-bank financial institution rather than a bank, although almost certainly banks would eventually involve.

When a financial system relies heavily on its banks, systemic vulnerability increases. The Asian financial crisis provided ample evidence of this. Learning from the Asian financial crisis, people now have a more profound understanding of the importance of a sound domestic financial market, which provides market signals on current situation and future expectations and ensures the efficient and sustainable funding of the government, corporations, banks, and large-scale or long-term projects.

4.4.1 Causes of Financial Instability

A principal impediment to the way of efficient functioning of a financial system is asymmetric information, a situation in which one party to a financial contract has much less accurate information than the other party. For example, borrowers who take out loans usually have much better information about the potential returns and risk associated with the investment projects they plan to undertake than lenders do. Asymmetric information further lead to two basic problems in the financial system: adverse selection and moral hazard which has already mentioned earlier. Adverse selection is an asymmetric information problem that appears before the transaction occurs when potential bad credit risks are the ones who most actively seek out a loan. Thus, the parties who are the most likely to produce an undesirable (adverse) outcome are most likely to be selected. Minimizing adverse selection problems requires that lenders must screen out good from bad credit risks. Opposite to adverse selection, moral hazard occurs after the transactions take place because the lender is subject to the hazard that the borrower has incentives to engage in undesirable activities that are immoral from the lender's point of view - that is, activities that make it less likely that the loan will be paid back. Moral hazard occurs because a borrower has incentives to invest in projects with high risk in which the borrower does well if the project succeeds but the lender bears most of the loss if the project fails. Also the borrower has incentives to misallocate funds for his/her own personal use. The Commonwealth Secretariat (2000) identifies a combination of factors that cause financial system instability. These are:

- rapid financial sector liberalization unsupported by measures to encourage prudent risk management;
- unstable macroeconomic policies, such as loose monetary policy and excessive fiscal spending. Such policies can contribute in asset price volatility and a subsequent erosion of asset quality in the financial system;
- exchange rate regime that lacks credibility, including unsustainable exchange rate pegs. This is particularly important where financial institutions and corporations have come to rely on an exchange rate peg, and fail to hedge their currency risk, only to sustain currency losses when the peg collapses;
- protection against imports and other policies that impede the efficient allocation of resources in the economy;
- poor banking supervision;
- inadequate financial disclosure arrangements, including poor quality accounting and auditing standards; and

- weak market discipline in the banking and corporate sectors, that the incentives for high quality risk management by banks.

IMF (2000) identifies the following sources as responsible for financial system problems:

- a) Weak internal governance in banks that fosters excessive risk taking and leaves them vulnerable to macroeconomic shocks;
- b) Financial deregulation, competition, and innovation that can outstrip regulatory and supervisory capabilities as well as the capacity of banks to manage risks prudently;
- c) Existence of weak and insolvent financial institutions allowing their operations can weaken the entire system;
- d) Capital account liberalization which occurs before supporting macroeconomic policies are in place and the soundness of the domestic financial system is assured;
- e) Excessive corporate indebtedness and connected lending lead to sudden deterioration in financial institutions' asset quality; and
- f) Over expansionary monetary and fiscal policies which spur lending booms, excessive debt accumulation and over investment in real assets, which in turn, can drive up equity and real estate prices to unsustainable levels.

These endogenous and exogenous factors either separately or collectively more likely to hit the financial system and throw the economies into crisis.

4.4.2 Impact of Financial System Instability

Financial system and financial market problems can reduce the effectiveness of monetary policy, create large fiscal cost related to rescuing troubled financial institutions, trigger capital flight, and deepen economic recessions. In the last two decades, economies all over the world have confronted severe bouts of financial instability. During this period, banking crisis has become so common that it is the rare country that has not experienced one. Mishkin (1991) argues that the root cause of financial instability is the breakdown of information flows, which hinder the efficient functioning of financial markets.

Group-30³, an international think-tank, has stated the financial system instability as "the risk of sudden, unanticipated event that would damage the financial system to such an extent that economic activity would suffer widely". Historical evidences show that the financial system is very much prone to bouts of instability, often caused by changes in market sentiment. The vulnerability of the financial system to contagion effects is largely due to mismatch between the liquidity and maturity of the assets and liabilities of financial institutions, particularly banks. The interconnections between financial institutions through

³ *The Group of Thirty (G-30), established in 1978, is a private, nonprofit, international body composed of very senior representatives of the private and public sectors and academia. It aims to deepen understanding of international economic and financial issues, to explore the international repercussions of decisions taken in the public and private sectors, and to examine the choices available to market practitioners and policymakers.*

The Group's members meet in plenary sessions twice a year with selected guests to discuss important economic, financial and policy developments. They reach out to a wider audience in seminars and symposia, and also enter the policy debate on important issues by publishing papers. When the Group considers that its objectives would be furthered by more detailed work, it establishes study groups or committees, which may include both members and non-members.

The Group is supported by contributions from private sources: foundations, banks, non-bank corporations, central banks, and individuals. A list of contributors in cash and kind for the fiscal years appear in the Group's annual report.

the payments system also play greater role in contagion effects leading the financial markets to severe volatility.

Stock market crashes directly promoting financial instability through the net worth effects on adverse selection and moral hazard problems. Bernanke and Gertler (1989), and Calomiris and Hubbard (1990) argue that a sharp decline in the stock market, as in a stock market crash, could increase adverse selection and moral hazard problems in financial markets, which eventually leads to large declines in the market value of firms' net worth. The decline in net worth as a result of a stock market decline makes lenders less willing to lend because, the net worth of firms has a similar role to collateral, and when the value of collateral declines, it provides less protection to lenders. So that losses from loans are likely to be more severe. Inflation performance of an economy has greater influence on the stability of its financial system. An unanticipated decline in inflation also leads to a decrease in the net worth of firms. When inflation turns out to be less than anticipated, the value of firms' liabilities in real terms rises. Thus there is an increased burden of the debt without showing any corresponding rise in the real value of firms' assets. The result is that the net worth in real terms declines. A sharp disinflation or deflation, therefore, causes a substantial decline in real net worth and lenders face increases in adverse selection and moral hazard problems. The resulting increase in the adverse selection and moral hazard problems will thus also work to cause a decline in investment and economic activity. Further, contagion effects of bank failure can, in the absence of a government safety net, that is, prudential regulation and supervision, spread from one bank failure to another, causing even healthy banks to fail. The source of the contagion is again asymmetric information. In a panic, depositors get afraid of the safety of their deposits and not knowing the quality of the banks' loan portfolio; withdraw their deposits from the banking system, causing a contraction in loans and a multiple contraction in deposits, which then causes other banks to fail.

Kawalec and Kluza (2000) states that a sound financial system is necessary to support growth through mobilizing capital. Well-functioning financial systems do a very good job of selecting the most productive recipients for the financial resources and ensuring that they are using them in the high return activities. In contrast, poorly functioning financial systems often allocate capital in low-productivity investments (Macfarlane, 1999). A sound and stable financial system can identify the enormous difference in growth and total factor productivity.

The initial impetus for financial instability is the same for both industrialized countries and emerging market countries. Four factors typically help initiate financial instability: (i) increase in interest rates, (ii) deterioration in bank balance sheets, (iii) negative shocks to non-bank balance sheet such as stock market decline, and (iv) monetary and financial uncertainties. When domestic interest rates begin to rise, often with the rise initiated by interest rate increases abroad, countries begin experiencing major bouts of financial instability. As documented in Mishkin (1991), most financial crises in the United States in the nineteenth and early twentieth centuries began with a sharp rise in interest rates that followed interest rate increases in the London markets. The Mexican crisis of 1994-95 also began with upward pressure on domestic interest rates following the monetary tightening in the United States beginning in February 1994.

Bordo et al (2001) argues that unanticipated movements in the price level and inflation rate in the past have contributed to financial instability in the United States. The negative aggregate price shocks have worsened financial distress, while positive price shocks have encouraged financial expansion. Georgetti (2000) has pointed out that the key contributors

to the Asian crisis have been the combination of: (a) forcing the opening up of Asian financial markets; (b) the irrational exuberance of investors in other parts of the world for a piece of the Asian action; and, (c) the general problem of there being too much speculative capital in the world that moves at the speed of light on the basis of herd instincts.

East Asian countries came under speculative attacks in 1997. The crisis became contagious, even threatening the stability of major international financial centers. Following the collapse of the Thai baht on 2 July 1997, the financial markets in the East Asian countries suffered similar and disastrous consequences up until mid-1998. This simultaneous financial meltdown in the East Asian Countries has been termed as the Asian 'flu' in many finance literature. The implication is that this was a real case of contagion, where one country's crisis spread to other vulnerable countries (Park and Wang, 2001). Many researchers [Krugman (1998a and 1998b), Fischer (1999) and Corsetti et al. (1998)] hold the similar view that the domino effects among the East Asian currencies were mainly attributable to deep-seated regional structural weaknesses. Weaknesses of in-country financial structure in the East Asian countries were also made responsible for the contagious spreading of Thai currency collapse.

4.4.3 Establishing Financial Stability

Financial stability can be thought of as being built on four main foundations: (a) a stable macroeconomic environment; (b) well-managed financial institutions within a sound framework of prudential supervision; (c) efficient and smoothly functioning financial markets; and (d) a safe and robust payments system. Developed country situations show that sustainable macroeconomic policies and particularly, the maintenance of low inflation are crucial to financial stability. Prudently managed and well-capitalized financial institutions are vital to the efficiency of financial intermediation. When they function smoothly, financial markets are a power force for the efficient allocation of savings.

Calvo and Mendoza (2000) argue that globalization is at the heart of financial system and market volatility, with highly diversified investors not paying much attention to economic fundamentals and following the herd in the presence of asymmetric information. Policies that can lead to moral hazard, including bailouts by both international institutions and governments, have also been suggested as other culprits of financial volatility and financial excesses (McKinnon and Pill, 1997) and Dooley (1998). Volatility in world interest rates may affect more drastically the countries with economies in distress than countries with healthier economies. Such volatility and vulnerability may trigger a large reaction of domestic financial markets to internal events. Countries with banking fragilities and liquidity problems due to high concentration on short-term debts or near insolvency are much sensitive to financial instability. Kaminsky and Schmukler (2001) support the arguments of Ferri, Liu, and Stiglitz (1999) that rating agencies may contribute to heighten financial instability. These authors further argue that the pro-cyclical behaviour, upgrading countries in good times and downgrading them in bad times, might have contributed to magnifying the boom-bust pattern in stock markets. They further argue that even if rating agencies are not behaved pro-cyclically, their announcements may still trigger market jitters. Thus changes in ratings, downgrading (upgrading) sovereign debt below (above) investment grade, may have drastic impact on prices, because these rating changes affect the pool of investors. However, the list of culprits does not stop here. They are many and some of them are predictable and some are not.

The broad range of factors that can contribute to financial crisis suggests the need for an equally broad set of policy responses. Of course the particular policies will vary from country to country, depending on a country's stage of development, the nature of its

stability. Coordination among the main financial sector regulatory agencies also facilitates the financial stability process through exchanging information and discussing issues such as the supervision of financial conglomerates and inconsistencies in regulatory approaches. Central banks have various instruments at their disposal to try and prevent financial disturbances or to ameliorate the costs of disturbances if they do occur.

4.4.5 Influence of Government Financing

Government financial operations are counterpart of fiscal policy, which have significant impact on the operations of financial system. A government operating at a surplus has funds to lend or invest; but one operating at a deficit must raise funds because the latter usually faces more serious problems. These governments compete with the private sector for capital market funds, and the increased demand for funding can cause short-term increases in nominal interest rates. The interest rate increases can contribute to the phenomenon known as crowding out. Because its risk is relatively easy to evaluate, many financiers regard government debt as an attractive alternative to corporate or individual debt, thus potentially exacerbating the crowding out effect. Government deficits, and the high interest rates created by their financing, usually create capital inflows in an open economy with fixed exchange rates. These capital inflows can offset any intermediate possibilities for crowding out. However, the government deficit may increase inflationary pressures, which may in turn reduce private sector investment. Moreover, if many governments incur deficits at the same time, the high interest rates they jointly pay can attract funds away from corporate investment. Government borrowing may either be for account of the government itself or for its agencies. Some government agencies re-lend funds to private sector borrowers. The effect of the governments in improving financial system are directed largely towards remedying the effects of capital market gaps, absorbing externalities, or such other goals as increasing the level of national savings and investments.

4.4.6 Integration of the Financial System

Regional and global financial integrations have long been considered as an effective strategy for attaining a sustainable degree of economic development. The best-known example of this is the European Union (EU), but regional and sub-regional cooperation and integration efforts are also taking place in the Asia-Pacific region through organizations such as the Association of Southeast Asian Nations (ASEAN) and the Asia-Pacific Economic Cooperation (APEC) forum. The South Asian Association for Regional Cooperation (SAARC) also continues to renovate its mandate for enhancing economic and trade cooperations. Liberalization without integration produces benefits, but much of the potential that liberalization offers in a globalized financial system is not realized without the mechanisms for smooth business and regulatory interaction that are established through integration. However, effects of integration may be frustrating if the countries attempting to work together do not have open, compatible financial systems. Although participation in a globally integrated economy brings the most benefit to intended countries, integration of financial systems on a sub-regional and regional basis, as an early step in the integration process, brings benefits to the region and accelerates the process of global integration. To realize all of the economic benefits that can come with the development of financial systems, countries of the region should liberalize their financial systems and, at the same time, strive for global financial system integration by working within and beyond the region. In the earlier financial reform agenda in Bangladesh, there were no mentions about its financial integration with other countries either globally or regionally. Further reform

programs in economic and financial sectors must include the specific target to integrate its financial system phase by phase with global finance.

4.4.7 Measuring the Strength of Financial Systems

For assessing the health of the financial system, it is necessary to analyze the developments in the macro-economy, financial markets and financial institutions. Laker (1999) suggests that the assessment should be the degree and nature of development to measure the financial imbalances, the nature of risks in the financial system, the relationship between financial fragility and macro-economic performance, and the policy instruments that may best be used to buttress financial stability. IMF (1999) identifies a number of priorities to assess the strengths and vulnerability of financial systems, and to develop its own analytical and procedural tools needed to perform this task. These priorities are termed as 'Macroprudential Indicators', which are presented in table 4.3 in annex 1. By restructuring the 'Macroprudential Indicators' in line with the availability of data, this thesis has evaluated the soundness of the bank-based financial system in Bangladesh (see table 4.4 in annex 1).

4.5 Transformation in Financial Systems and Financial Markets

During the 20th century, there have been massive technological advancements mainly due to huge investments in the worldwide communication information infrastructure. This has made possible the twin movements in deregulation of markets and globalization of capital markets. No other sector has been changing so rapidly as the financial services industry. These changes have rigorous implications on the concerned economies in general and the financial markets in particular.

The major forces contributing to financial system changes are changing computation and communications technology on the supply side. On the demand side, the types of investment products are changing, as are the types of risk management that the clients desire. Retail clients are currently looking for higher return and higher risk investment vehicles such as mutual funds. Corporate clients are looking for faster, cheaper ways of hedging foreign exchange and interest rate risks. Changes in supply and demand provide new profit opportunities of which financiers want to take advantage. These forces represent the fundamental changes that affect the financial systems, and therefore, they have similar impact on financial systems of most market economies. Moreover, the increasing internationalization of finance induced the local financiers to take advantage of changes, which tremendously influenced the demand level for innovative financial technology.

Duisenberg (2002) notes that financial system transformations have eventually become a part of reforms in national financial sectors worldwide. The series of changes that have pushed the transformations in financial markets include (i) decline in the role of banks and other traditional intermediary institutions as lenders and repositories of savings; (ii) a concomitant rise in non-bank credit-granting institutions; and (iii) explosive growth in capital market instruments derived from the packaging, unbundling and hedging of various financial products. The most dramatic aspect of this realignment is the steady institutionalization of savings.

The adverse consequences of Asian financial system and market crisis compelled the regional economies to adopt advanced technologies, reform financial sectors with regulatory innovations in order to bring discipline and stability in their financial markets. In the crisis-hit countries in East Asia, governments have intervened extensively to rescue their distressed banking systems. Now banking and capital markets are consolidating, and

foreign involvement is increasing. Governments of the Republic of Korea, Thailand and Indonesia responded to the crisis by opening financial markets to international competition, potentially enhancing long-term efficiency and transparency. Global trends have also been driving enormous changes in the world financial markets, including universal banking (the removal of regulatory barriers between different financial sectors); greater segmentation of banking into deposit taking, lending and fund management; new products like securitization, factoring and rapidly developing electronic commerce, especially Internet banking and stock broking. Many of these changes increasingly affect East Asian financial markets. At the same time, these markets are absorbing the systemic shocks of the financial crisis. All these have been leading to rigorous transformation of the national and international financial systems to modernization and integration.

Regina (1995) argues that transformation of modern financial markets has been driven by an assortment of market innovations and economic trends, notably by the inflationary experience of the 1970s in addition to technological developments and stagnant income patterns of the past two decades, and these factors have intensified the savers' demand for high-return short-term assets. Public policy decisions also helped reshape the financial system all over the world. Tax law revisions, expensive credit guarantee programs, new financial safety nets and the development of publicly sponsored secondary markets, all helped promote the steady growth of institutional savings, non-bank lending and securitisation. The statutory and regulatory framework for financial activity also underwent major changes. Financial regulations evolved at the national and international level as a response to economic, financial and geographical crises that engulf the world during much of the first half of the century. Developed and underdeveloped countries have shifted their courses of financial activities and actions. Exchange rate controls and interest rate ceilings were almost dismantled. Key regulations in banking and securities markets are continued top alter or abandoned. In addition to stability, the deregulation campaign sought to accommodate entrepreneurial energies in the financial sector.

The financial systems throughout the world have evolved continuously, albeit at changing rates since long before. These changes indicate that the financial systems of the future are likely to be even more highly integrated than it now is, and use still more electronic equipment. Electronic communications media will increasingly handle both consumers and business transactions. Large parts of the financial system will disappear into the communications infrastructure. Consumers and corporations will have greater access to the financial system through remote terminals and other communications. The remaining, visible parts of the financial system will consist of fewer traditional offices in which more automated service equipment will be available.

The last decade has been characterized by dramatic changes in financial markets. The development of electronic trading system in foreign exchange markets and the introduction of the Euro, for example, have had a significant impact on global money, bond and equity markets. These changes have been fostered by technical and financial innovations and three major aspects of the changes are:

- o increase in supply of private debt securities and the growing importance of credit markets;
- o spread in electronic trading and of distribution platforms; and
- o quantitative and qualitative changes in factors that amplify market dynamics.

Emergence of 'new technologies' potentially affects the infrastructures of the markets in their entirety, from the trading desks of wholesale market participants and brokers to the settlement and clearing processes, from the institutional investors to the retail participants.

In Europe, organized markets (for instance stock exchanges and futures markets) have led this move towards electronic devices rapidly followed by the forex market and at a later stage (in the wake of the monetary unification process), by bond and interest rate markets. Basically, one can distinguish three groups of electronic platforms that cover the whole range of financial market activities namely, transaction platform, distribution system and issuance/initial offering platform.

Electronic markets lead to an overall improvement in the functioning of financial markets. A wide dissemination of accurate information, a large base of participants and investors, and liquid secondary markets are among the key requirements for an efficient financial market. Potentially, the technical changes brought about by the dissemination of new technologies are susceptible to improving the functioning of financial markets on these three scores, ultimately leading to lower costs (as the marketplace becomes more competitive and technology more affordable) and allowing for increasing volumes.

4.6 Characteristics of Financial Systems and Markets in Developing Countries

Financial systems and markets in developing and less-developed countries are structurally and instrumentally weak. They are thin and have relatively unorganized money and capital markets, including thin securities markets, and weaknesses of regulatory systems. IMF generalizes and lists the most palpable characteristics of financial systems in less-developed countries as shown in table 4.5.

Table 4.5: Characteristics of Financial Systems and Markets in Less-Developed Countries

Type of Market/Institution	Features of Development
Banks	System primarily based on banks.
	Weak supervision. Non-performing portfolios in many countries leading to systemic crises in many countries.
	Concentrated and oligopolistic structure. Government owned or recently privatized.
	Large spreads to cover banking system difficulties.
	Financial repression: used as a means to finance government.
	Implicit deposit insurance provided by government.
Equities	Limited role.
	Weak supervision and regulation, inadequate information and disclosure.
	Thin markets. Suspicion of insider trading. Market valuation not fully reflected in stock price. No takeover threat.
Government debt instruments	Recently developed in poor countries with varying stages of secondary market development.
Private debt instruments	Very few countries have these.
Foreign exchange	Few of the poor countries have well-functioning foreign exchange markets.
Derivatives	Non-existent.

Source: IMF (2001)

Bangladesh is no exception from the above situation. All the above mentioned characteristics prevail in the financial market of the country since long. Although some reforms have been made in the recent past both in the banking system and capital market, no significant development has been attained.

4.7 Financial System in Bangladesh

4.7.1 Overview

The financial system of Bangladesh is still in transition, and in present shape, it comprises: (a) the central bank, the Bangladesh Bank, (b) 49 commercial banks; [4 Nationalized Commercial Banks (NCBs), 30 domestic private commercial banks and 10 branches of foreign commercial banks]; (c) 5 state-owned specialized banks (DFIs)- provide term loans to agriculture and industries; (d) 28 non-bank financial institutions, commonly known as leasing companies; (e) 25 Merchant Bankers; (f) 1(one) state-owned House Building Finance Corporation and 2 private sector run housing companies [National Housing and Delta Brac Housing]; (g) 260 approved money changers, engaged in buying and selling of foreign currencies throughout the country up to a certain amount determined by the Bangladesh Bank from time to time; (h) 658 authorized dealer branches in foreign exchange of both local and foreign commercial banks, (i) 64 insurance companies (46 general insurer including 1 state-owned and 18 life insurer with the state-owned one); and (j) 2 Stock Exchanges, namely the Dhaka Stock Exchange (DSE) and Chittagong Stock Exchanges (CSE). The structure of the formal financial system in Bangladesh is schematically illustrated in figure 4(iv) in annex 1.

Financial system of Bangladesh has been characterized as bank-based rather than a market-based one. The banking sector, mainly comprised of commercial banks (both traditional and Islamic), dominates the financial system with about 97% of total assets. The specialized/development financial institutions (DFIs) provide long-term debt, equity and lease financing. The largest portion of business financing and the core financial services are provided by the banking system. The capital market, on the other hand, is an infant one at both of its securities and non-securities segments. The securities segment consists of two stock exchanges-Dhaka Stock Exchange Ltd and Chittagong Stock Exchange Ltd. The non-securities segment embraces the institutional investors, which are small in number and their list includes the leasing companies, investment bankers, merchant bankers, insurance companies and mutual funds. Commercial and specialized banks play a rigorous role in the economy through their medium and long-term lending in addition to money market performances and thereby heavily supplement the country's small institutional investors market. The pension and provident funds for public servants and those for private sector employees, though work as sources of capital, are yet to be visible as institutional investors. Unlike the developed countries, the pension and provided funds are prohibited or restricted to invest in the stock market. Deepening of capital market has started to get momentum with the establishment of the Securities and Exchange Commission (SEC) in 1993 as the regulator and facilitator of the country's stock/securities market. Side by side with the increases in the number of non-bank financial institutions, a Central Depository has been established and private sector mutual funds are floated in the securities market. The development of the capital market, however, is slower and the market remain as an under performing one, which in turn, prompted the dominance of the banking system in the country's financial sector. The recently established Central Depository adds a new dynamic to the operations and settlement system in the stock market.

The government-managed Post Office Savings Bank Scheme and Postal Life Insurance are less dominating financial institutions in the country. These are in operation as separate entities. Funds accumulated by the Post Office Savings Bank and Postal Life Insurance system normally constitute public debt. State provident fund and state and private pension funds are under-capitalized and are seldom treated as capital market products such as financial instruments. Government of Bangladesh (GOB) issued bonds of different maturity for general as well as special purposes, such as recapitalization of state-owned banks and other public entities, and as guarantee against the borrowing of various public sector enterprises. There was no secondary market for government bonds before July 2003. As a result, these government or treasury bonds were not at all tradable on the stock exchanges. Very recently in July 2003, secondary market to a limited scale has been introduced for 5 and 10-year government bonds, which are now on trading. Government treasury bills are short and medium term money market instruments, which are used as special purpose vehicles for financing governmental budgetary deficits and by the country's central bank as monetary management tools.

The formal financial system in Bangladesh also embraces the country's Co-operative Bank and co-operative credit societies. There are now 145,000 co-operative societies in Bangladesh, a great majority of which are farmer and agro-farm co-operatives, 35 of them are credit co-operative societies with total resources of Tk.164.00 million (Islam, 1999). Bangladesh Samabaya Bank Ltd is the apex institution of the co-operative sector in the country.

4.7.2 Financial System and Financial Intermediation in Bangladesh

In spite of having a deep financial structure with a remarkable number of commercial banks, non-banks, insurance companies and other linked and allied financial institutions, the financial system of Bangladesh is yet to be able to provide an efficient financial intermediation process. Lack of good governance⁴ in the banking industry, poor legal enforcement, political pressures and directed lending (sometimes forced/pressurized lending), excessive public borrowings from the banking system and diversion of funds from the banking system to unproductive uses by other means, loan remission and remission-borne unwillingness to repay loans, unethical conducts of bankers and lower integrity in the demand side of banking services have fuelled the creation of huge arrears in loan accounts. The larger differentials between interest rates on deposits and lending have weakened the competitiveness in the money market. Discriminatory taxation for banks above the usual corporate tax structure also negatively impact the performance and profitability of the banking companies in Bangladesh. .

The banking sector in the country has also registered further deteriorations in capital inadequacies, non-performing loans and huge provision shortfall over the last decade. Declining trend in profit per employee and upward trend in liquidity holding by the banks indicate their operational inefficiencies. On the other hand, increased public sector borrowing from the banking system expresses government's excessive dependence on the domestic financial market for financing budgetary deficits, which in turn, creates shortage

⁴ Good governance in banking refers to promoting a good governance structure and practice, which ensures that there is fairness, accountability and transparency in the way a bank and the entire banking system operates.

in supply of funds for private sector investments. Unlike in the developed countries, the NBFIs are yet to play crucial role in the capital market development, keep aside their performance to get a permanent foothold. According to the estimate made by Bossone, Honohan and Long (2001), the financial system with total size, measured in terms of broad money (M_2), of less than \$1.0 billion is extremely small and their number is now 60. On the other hand, about two in three of the World Bank's member states, or 120 countries have financial systems, whose M_2 is less than \$10.0 billion, a sum exceeded by many hundreds of individual banks in industrialized countries. The aggregate assets of the banking systems in all of these countries together are only \$600.0 billion.

Financial services in small financial systems are tended to be more limited in scope, more expensive, and poorer in quality than those in large systems. Small size makes it more difficult to diversify risks to maintain substantial liquidity and regulation and supervision less expensive. Since the mid-1990s, Bangladesh has the size of its M_2 over \$10.0 billion with a population of over 110.0 million (table 4.6). So the financial system of Bangladesh can be identified as an average rather than a smaller one.

Table 4.6: Growth in Broad Money (M_2) in Bangladesh

Financial Year	M_2 in Billion USD
1994-95	10.52
1995-96	11.21
1996-97	11.88
1997-98	12.29
1998-99	13.11
1999-00	14.86
2000-01	16.12
2001-02	17.17
2002-03	19.69
2003-04	22.02
2004-05	24.69

Notes: Converted from Taka applying yearly average USD/TK exchange rates

It is thus expected that the financial intermediation process run and the financial services provided by the financial system in the country would be sound and efficient. The real situation, however, is quite unsatisfactory (see table 4.4 in annex 1). It can be observed in this table that banking system in the country has been suffering from capital inadequacy below the required ratio of 8 percent up to 2002. The capital adequacy ratio (CAR) has been enhanced to 9 percent of the banks total risk weighted assets in 2004; however, there were again deficits in the same.

It is imperative to mention here that the flow or growth in M_2 (broad money) is highly influenced by the banking system. M_2 is a monetary aggregate is the sum of M_1 , deposits with an agreed maturity of up to two years and deposits redeemable at notice of up to three months. And M_1 is: currency i.e. banknotes and coins, plus overnight deposits. All are items in the balance sheet of the banking system. They may be taken from either side (since credit series, which are banking assets, are sometimes labelled monetary aggregates) but are normally taken from the liabilities side. In the balance sheet of the deposit money banks (DMBs) or monetary financial institutions (MFIs), the liabilities items are ordered, starting with very narrow definitions of money (such as notes and coin) and gradually widening through various types of bank accounts (e.g. demand/sight deposits, term deposits) to very board items which include sophisticated products like financial derivatives. Changes and developments in the financial/banking system such as financial innovations etc impact the growth pattern of monetary aggregates. Monetary aggregates are compiled by central banks on the basis of surveys in monetary and financial institutions, particularly money creating

ones. Monetary aggregates measure the amount of money circulating in an economy and are always expressed in current price ("nominal" terms) because the amount of money required by an economy reflects current levels of economic activity and price. Consolidated balance sheet of the monetary financial institutions sector provides a complete and homogeneous coverage of those financial intermediaries that are considered to be money creating within the country. The principal aim is to provide the country's central bank or monetary authority with a comprehensive statistical picture of monetary and financial developments in the economy. Methods use in calculating the M_2 or other monetary aggregates are different and country-specific, and coverages are also different. The tools used to implement monetary policy, more concretely the money supply are mainly interest rate and revision of the statutory ratios for banks under the fractional reserve banking system. Moreover, the whole process of monetary policy formulation and implementation is done through the banking system and therefore, growth in or flow of monetary aggregates including M_2 is influenced thereby.

4.7.3 Payments System in Bangladesh

The payment system as a whole is crucial to economic stability. One of the hallmarks of a modern market economy is the ease of, and mechanism for settling business and personal transactions through acceptable medium of exchange or payments system. Efficient payment systems require instruments for smooth, accurate and timely exchange of assets and services between economic units. The importance of the payment system mainly stems from their role in the financial sector. The objective of having a sound payment system is to reduce financial risks and increase reliability and speed and, making the financial system capable of coping with the changes in domestic and global financial markets. A sound payment system is, on the other hand, important that it enables the monetary authorities to work with powerful and effective tools. The payment systems facilitate the monetary transmission and money multiplier effects to take place in the economy. It helps increase the velocity of cash money and make possible for banks to create credit or bank money. A sound payment system adds effectiveness in inter-bank funds transfers with no or minimal payment risks and easy fund management techniques. An innovative payments system offers new services in banking in particular and the financial sector in general. Modern and efficient payment systems have now largely reduced the use of cash money, rather based on non-cash electronic transfer and settlement systems.

Like other components of financial market, the payments system in Bangladesh continued to remain shallow for long. The establishment of the Bangladesh Bank (BB) as the central bank of Bangladesh gave a boost to the development of the payments system in the country in respect of issuance of legal tender money and establishment of a bankers' clearinghouse. Being empowered and entrusted by the Bangladesh Bank Order 1972 (Presidential Order No. 127 of 1972), Bangladesh Bank solely issues the currency and thus responsible for printing notes and minting coins, ensure their supply into the economy and regulation thereon. Other laws relating to payment system management by central bank are (i) The Negotiable Instruments Act 1881, (ii) The Banking Companies Act 1991 and (iii) The Treasury Rules and Subsidiary Rules of 1944 (as amended in 1957 and 1998).

There are two types of payments system in operation in Bangladesh: cash payments and non-cash payments. Cash is still the major means of payment in Bangladesh and cash transactions occupy the larger part of payment system in the country, which is almost 90 percent of the total transactions. Checks form the second most important payment instrument. Non-cash payment instruments include bank cheques, drafts, payment orders, bills etc. Apart from traditional non-cash payment instruments like cheques, drafts etc.,

card or plastic based payment instruments such as credit card, debit card and ATM transactions are gaining preference. Card based transactions facility is limited to some selected urban areas only. To make prompt payments against high value instruments of Taka 0.5 million and above, a same day clearing system has been introduced in Dhaka in 2004, but other parts of the country still remain uncovered. Recent transaction pattern shows that the non-cash payments have been gaining preferences. During the financial year 2004-05, the total amount of transactions⁵ in all the clearing houses in the country stood at Taka 2,923,941.7 million in place of Taka 2,673,546.1 million in 2003-04. The average nominal value of monthly clearinghouse transactions stood at Taka 243,661.6 million, registering an increase of Taka 20,866.3 million or 9.4 percent (Bangladesh Bank, 2004).

The domestic clearinghouses settle inter-bank claims arise through the drawing process of cheques, drafts, pay orders, inward and outward bills collection or in any other form by one bank on another. Various contractual obligations are also settled through the clearing system. To enhance their usage, Bangladesh Bank (BB) promoted the establishment of inter-bank clearing system and other credit instruments for banks carrying out business in Bangladesh. The inter-bank clearing system was established in Dhaka in 1973 and subsequently and gradually in other 38 district headquarters in the country and now totaled 39. Nine branch offices of BB led the operations of the clearinghouses in their respective functional jurisdictions. In other district headquarters where there is no office of Bangladesh Bank, designated branches/offices of Sonali Bank as the agents of the BB conduct the operations of the rest clearinghouses. Besides, the head offices of the banks in Bangladesh maintain their local currency clearing accounts (current accounts) with Bangladesh Bank. Settlement of mutual claims of banks that arise from inter-bank money market, especially call money market transactions are adjusted or met up through their Taka clearing accounts with BB. Transactions and transfers between banks, and banks and Bangladesh Bank are effected through these accounts.

Withdrawals or payments from checking customer accounts are made through direct issuance of clean/bearer or crossed cheques (account payee). In case of private payments by customers, account transfers are frequently used. Payments and receipts against crossed cheques are usually settled through the bank accounts of the concerned parties either through the clearinghouses where the facility is available or by inter-bank bills collection (IBC) process within the boundary of Bangladesh. In case of IBC from distant places within the country, the collecting or beneficiary bank send the instrument to their branch (s) or operating offices in the respective areas. The local branch/office collects the proceeds through locally conducted clearinghouse if available, or through presenting the instrument directly to the paying bank. In case of collection of cross-boarder or foreign currency cheques and drafts, the domestic beneficiary banks present the instrument to the paying banks in foreign market through their foreign correspondents and sometimes through the central bank. On realization, the collecting banks credit the ultimate beneficiaries' account with the amount collected after deduction of commissions/charges. In such cases where the domestic beneficiary banks do not have their correspondents in the respective foreign market, foreign collections are made through Bangladesh Bank. Bangladesh Bank sends the instruments to the respective country's central bank. The foreign central banks collect the proceeds from the paying bank in that country and advise the Bangladesh Bank of crediting its account for the collected amounts with foreign counterparts. Upon receiving

⁵ Amount of transactions mentioned in this section are adopted from Annual Reports of Bangladesh Bank, and percentages are calculated by the author.

the collection-advice, Bangladesh Bank credits the concerned beneficiary bank's foreign currency clearing (FC) account maintained with it and advises the payee banks accordingly. The concerned commercial banks then make necessary credit entries to the ultimate beneficiaries' accounts. Banks of their own or for their clients follow the same procedures while making outward payments and receiving inward payments. Though very limited, postal money order system in the country also plays a supplementary role in the functioning of the national payment system. The payment system tools available in Bangladesh are bank cheques, pay order, traditional mail transfer (MT), telegraphic transfers (TT), demand drafts (DD), and newly introduced bankcards such as credit cards, debit cards, master cards, visa cards and very recently adopted shared-Automated Teller Machines (ATM).

Uses of various payment cards (debit and credit and other paper/plastic-based instruments) as mentioned above are currently limited in coverage. This restriction is imposed to prevent their probable misuses. Bangladesh has now getting communicated to electronic fund transfer system (EFT), particularly in receiving funds from foreign destinations. However, trade payments, either inward or outward, are not permitted outside the banking channel. Trade related payments are to be received or made through the banking system. Worldwide renowned money transfer companies such as Western Union, Money Gram, Travelex, etc., are sending remittances to Bangladesh, especially the remittances of expatriate Bangladeshis living/working abroad. As per Bangladesh Bank's (2006) record, more than one hundred money transferors/remittance companies are sending remittances to Bangladesh through the commercial banks by virtue of which, payments system of the country has been benefiting greatly in terms of both liquidity and enhanced financial intermediation.

Bangladesh Bank operates two other payment systems, one for high value and time critical transactions, and the other for foreign currency instruments drawn by commercial banks on one another. Bangladesh Bank checks are used for large value transfers. The turnover of such checks is less than a hundred per day although they can be time critical requiring immediate credit. As the banker to the government, the Bangladesh Bank settles the government accounts, including payments relating to treasury bills. The stock exchanges operate a payment system for clearing and settlement of private equities and corporate debt. The multi-structural payments systems owned and operated by several institutions are segmented and complex. Through its supervisory role of the commercial banks, Bangladesh Bank directly and in many cases indirectly oversees the various systems, except the payments and settlements of private securities, which is regulated and supervised by the Securities and Exchange Commission (SEC).

Due to introduction of computer technology based payment weapons, especially the ATM in the country, international bank-cardholders can withdraw money in Bangladesh that are sourced from overseas destinations. Currently, the ATM service for cash withdrawals and balance checking is provided by banks on shared-basis for 24-hours a day. Other advance payment services such as movement of funds among accounts, deposits of cash or cheque and settlement of financial obligations are yet to commence. However, the ATM service is now available in Dhaka and Chittagong-the two major cities of the country.

The informal remittance process greatly helps in enhancing the efficiency of the country's payments system. Informal domestic remittances are channeled through friends, relatives, family members and neighbors, in addition to personal carryings. The informal value transfer system (IVTS), or alternative remittance transfers, widely known as 'Hundi',

though prohibited by law are largely used in receiving funds into and transferring funds from the country. Domestic courier service providers are now increasingly engaged in informal money transfers. The inter-district transport companies are also providing domestic remittance services either for fees or as bonus/premium service to the passengers.

The BB has been acting alone or sometimes in concert with the bankers to develop the country's financial system, but paying less importance for improving the payments system. Legitimate restrictions have been imposed on using dud cheques and provisions of punishment also made for such activity. The Bankruptcy and Anti-Money Laundering Acts are in force in the country to discourage the use of dud cheques, which enhance confidence in the usage of cheques in transactions. The Bankruptcy Act, on the other hand, was enacted as part of the overall objective of instilling discipline in the management of personal affairs and ensures an orderly growth and development in the economy. The main objective of adopting Anti-money Laundering law is to prevent illegal and unusual transfer of funds.

Bangladesh Bank took measures to improve the payments system by minimizing settlement delays, provide same day clearing and settlement of high value inter-bank transfers and payments. Generally, the use of cheques and drafts has grown over time because of their obvious advantages over payment by cash, which include suitability for distant/large payments, safety and documentary evidence of payments. In addition, international transactions have been facilitated through the use of instruments such as telegraphic transfer, SWIFT, letters of credit and bills of exchange and other electronic devices.

However, the payment system of Bangladesh is not well architected. The inter-bank collections are time consuming and expensive. Due to technological backwardness, the inter-bank clearing system in the country is far behind to be efficient especially in district level operations. The coverage of the inter-bank clearinghouse is limited to defined areas leaving the rural branches of banks and the local people under-served. For the same reason, functions of EFT system are ineffective in semi-urban and rural areas. Lack of automation makes the country's payment system costly both in terms of time, effectiveness and risk factors. The payment system infrastructure is weak in Bangladesh and does not support efficient and safe payments. Cash transactions are cumbersome and subject to mishandling, fraud and theft. Some non-economic factors are also liable for delay in payment settlements. The lack of well-connected road networks and vehicle facilities continue to delay the presentation of physical checks to respective clearing centers on time. Except for a few foreign and domestic private banks, many of the commercial banks in the country are not connected on-line. The Bangladesh Bank is not on-line with its own branch offices. The prevailing legal framework is inadequate in dealing with explicit responsibilities for operating the different payment systems and overseeing them. Undocumented rules are followed by custom or consensus. There is no legal basis for determining the finality and irrevocability of transactions or for electronic fund transfers.

The payment system can be viewed in two groups: RTGS (Real Time Gross Settlement) system and Deferred Settlement (or Netting) system). RTGS system is usually owned by central banks and used for high-value payment. They do not bear any credit risk as payments are settled in real-time. The well-designed queuing mechanisms and the use of daylight overdraft facilities may resolve the liquidity risk problem that exists in such system. On the other hand, a credit risk exists in the netting system since the settlement is deferred.

In order to encourage development of effective and reliable payment systems in all countries, Committee for Payment and Settlement System, working under the BIS, initiated a study in 1998 to determine what principles should govern the design and operation of payment system. The Committee's recommendations have been accepted by the BIS as the "Core Principles for Systemically Important Payment Systems", and all central banks are urged to follow suit them. The set of core principles includes:

- i. The payment system should have a well-founded legal basis under all relevant jurisdictions;
- ii. The system's rules and procedures should enable participants to have a clear understanding of the system's impact on each of the financial risks they incur through participation in it;
- iii. The system should have clearly defined procedures for the management of credit risks and liquidity risks, which specify the respective responsibilities of the system operator and the participants and which provide appropriate incentives to manage and contain those risks;
- iv. The system should provide prompt final settlement on the day of value, preferably during the day and at a minimum at the end of the day;
- v. A system, in which multilateral netting takes place, should, at minimum, be capable of ensuring the timely completion of daily settlements in the event of an inability to settle by the participant with the largest single settlement obligation.
- vi. Assets used for settlement should preferably be a claim on the central bank; where other assets are used, they should carry little or no credit risk.
- vii. The system should ensure a high degree of security and operational reliability and should have contingency arrangement for timely completion of daily processing;
- viii. The system should provide a means of making payments, which is practical for its users and efficient for the economy;
- ix. The system should have an objective and publicly disclosed criteria for participation, which permit fair and open access; and
- x. The system's governance arrangements should be effective, accountable and transparent.

Screening of current structure of payments system in Bangladesh on the basis of the above principles does not satisfy its maturity and robustness characteristics. The level of capacity of payments system in Bangladesh is not satisfactory in providing maturity and liquidity intermediation services to the economy.

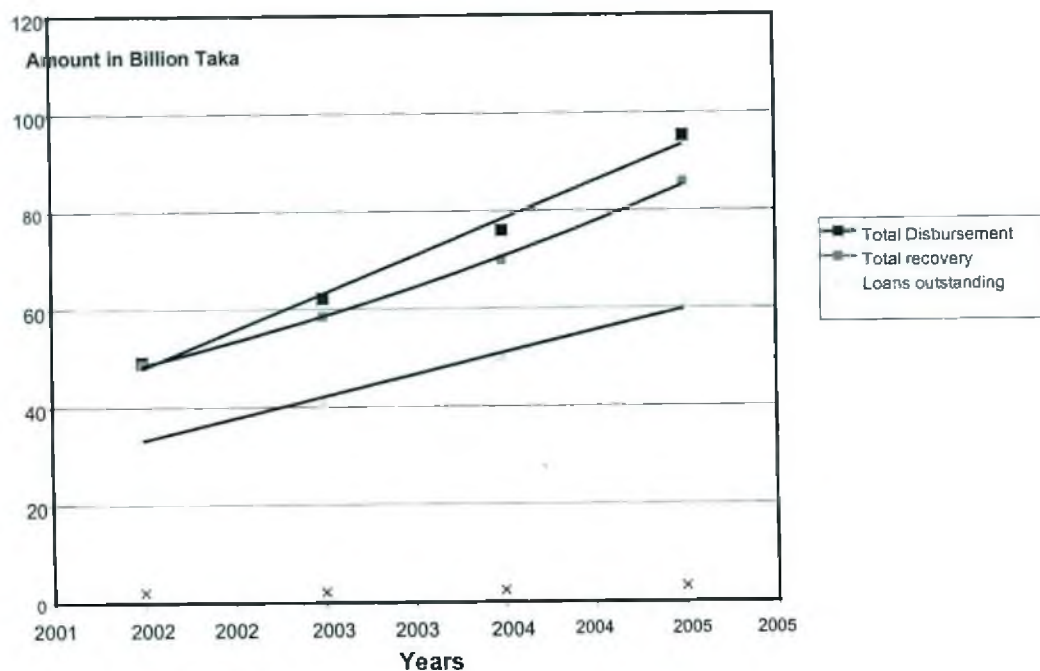
Banks in Bangladesh hardly took research and development (R&D) initiatives to bring new and innovative payment instruments that can help in modernizing the payment system. Whereas, in developed financial systems, banking enjoy a near monopolistic position in the world of payments. Some analysts argue that this business of creation and innovation of money market and payment system instruments contribute 40-50 percent of a bank's income. So it is not surprising that the banking industry is very active in developing this evolving franchise in order to at least maintain its lead and protect the revenue streams. Clearly, over reliance on paper payment method is not sustainable in the ongoing changing financial world. So the challenge is clear: and banks in advanced countries are now rushing to create the new revenue streams from electronic payment services in order to protect their profits but more importantly, secure the banking industry's position as custodian of the world payments. These developments led the financial sector to the idea of transferring funds in a faster, safer and more reliable way. Combining this idea with the use of rapidly growing electronic and computer technology resulted in the concept of "electronic payment", which consequently triggered development of payment system throughout the globe.

Administering payment system is an important function of central banks, which lubricates the functioning of a country's financial system and for a successful application of the monetary policies. Moreover, cross-border connections of the payment system become essential for development of a country and for attracting foreign capital and foreign investors. Bangladesh lacks such a developed payment system. To attain efficiency in cash management, loss prevention, and receivables management with a net reduction in operating costs, Bangladesh should adopt automated, precise, and reliable payment system.

4.7.4 MFIs and Informal Financial System

More than three thousand non-government organizations (NGOs) and micro finance institutions (MFIs) operate in Bangladesh mostly with group-based micro credit programs. The MFIs provide credit to the poor, more especially to the disadvantaged women in rural areas of the country. Palli Karma Shahayak Foundation (PKSF), a fully government-owned institution, is engaged in funding the MFIs. The NGOs and NGO-turned MFIs are prohibited to receive public deposits, however, permitted to take small deposits from their borrower-members against their loan accounts. Despite the anti-poverty micro credit activity of MFIs that serve a sizable part of the poor in the country with financial services, they are yet to be recognized as formal financial institutions. A separate regulatory body is yet to be set up for the recently emerged micro credit niche of the country's financial sector. The micro finance performance of Grameen Bank and some other large MFIs/NGOs is framed in table 4.7 (in annex 1). Table 4.7 and graph 4.1 demonstrate the progresses in micro finance situation in Bangladesh. The increasing outstanding in the market also reflects the greater demand for micro credit.

Graph 4.1. Micro Finance Activity



There is a significant presence of non-institutional or informal financial agents such as moneylenders, pawnbrokers and intra-family money transfers in Bangladesh. Moneylenders, locally called mahajans, are different types of local and alien rural financiers including professional moneylenders, other itinerant lenders, landlords and

agriculturists, merchants and traders, agents and brokers, and even staffs of autonomous and government establishments, pleaders, priests, widows and shopkeepers. Informal rural finance markets enable flows of funds and transfer of rural financial assets through relatively localized transactions in money, and real goods and services. Informal financial markets also exist in urban areas, but are more prominent in rural areas where institutional sources of finance are either absent or insufficient to cater to the needs of local professionals of different categories (Azad, 2003). A mentionable number of profit-motivated cooperative credit societies are now seen elsewhere in the country, which also form the part of informal financial system. Besides, there are about 9 non-scheduled banks working at different places in the country outside the formal financial regulatory and supervisory system. However, their operations are extremely limited and insignificant.

4.7.5 Peculiarities of Financial System in Bangladesh

The state of financial systems in developed countries and that of Bangladesh reviewed above produces some peculiarities of the later one. In Bangladesh, a key vulnerability to the financial system in general and the banking sector in particular, is the problem of non-performing assets, which has been limiting the scope for more active lending and balance sheet expansion by necessitating higher provisioning. The building-up of non-performing assets today reflects a past failure of corporate governance. The boards of directors of the banks did not exercise sufficient vigilance in ensuring adequate credit management practice: from loan underwriting standards, to administration, grading and provisioning, and timely remedial management. On the other hand, the fragility of capital inadequacy has stemmed from a lack of foresight and willingness to mobilize capital commensurate to the businesses. It is reflective of a short-term perspective that the banking industry has paid unduly higher focuses on returns, but insufficient attention to risks.

Up to this point, the financial system of Bangladesh manifests moderate stability, but lagged soundness. The comparative descriptions made before have produced the country's financial system with the following peculiarities, which have been impeding the development of an efficient financial system in the country:

- Financial system in Bangladesh is shallow, notably more so than financial systems in newly industrialized Asian countries;
- Financial system is narrow, with the banking sector being, by far, the predominant part and the intra-sector competition; is very high;
- Capital base of the state-owned banks and non-bank financial institutions such as pension funds and insurance companies is generally low, rendering these institutions highly geared;
- Intra-sector activity in the financial system is very limited;
- The relative importance of semi-formal and informal financial mechanism and institutions is particularly unexplored;
- The pension/provident funds are required to be invested in government bills/bonds, but restricted to invest in capital market securities;
- The nationalized commercial banks are under dual regulation and administration both by Bangladesh Bank and the ministry of finance;
- The corporate entities are reluctant to hold annual general meeting and declare dividend;
- Public sector enterprises are habituated in keeping them refrained from paying bank loans or funds provided by the government through budgetary provisions;
- The money and foreign exchange market lack commercial papers as financial instruments;
- The financial system does not foster the development of human resource/human capital;
- The credit system in the country is seriously afflicted by non-performing loans particularly the banking sector;
- Deficits in capital adequacy ratio and re-capitalization of NCBs by the government;

- The banking system suffers from exit barrier;
- Remission of default loans by the government encourage loan non-repayment habit of borrowers, which in turn, helps increase the non-performing loans in the banking system;
- Weak internal governance in banks and other financial institutions encourage unusual and unethical practices in banking;
- Financial market of the country suffers from the absence of strong institutional investors;
- Government deficit financing directly from the banking system;
- Inefficiency of the institutions and markets due to lack of competition, inadequate access to technology and know-how and diffused incentives that render financial sector activity unduly expensive;
- Weak governance in financial institutions;
- Overlapping role of the SEC and Bangladesh Bank
- Out-crowding effect from bad loan situation and fiscal deficit of the government
- Dominance of NCBs
- Cumbersome information system
- Insignificant non-banking sector
- Absence of arbitration institutions
- Lack of experienced professionals
- Absence of credit rating agencies
- Insignificant research and development (R&D) initiatives, especially in financial markets
- Very limited scope for secondary market trading of government debt instruments/bonds
- Inferior interest rate structure
- Fragile financial system because of weaknesses in governance and lack of appropriate regulation and supervision that enhance their susceptibility to shocks
- No legal and administrative safeguard for bank and other financial supervisors

Moreover, the financial system of the country is often fragmented. Lack of information and financial linkages between institutions and markets and the users impairs the system's efficiency in allocating resources.

Chapter 5

Financial Markets

5.1 Definition, Structures and Functions

A financial market⁶ is as an institutional mechanism created by society to channel savings and other financial services to those individuals and institutions that are willing to pay for it (Rose, 1994). More specifically, a financial market is an environment where various types of financial entities such as equities, currencies, money, bonds, commodities and energy, as well as derivatives of their base entities such as forwards, futures, options and swaps are bought and sold under a set of rules. A market for a particular entity exists when there are enough buyers and sellers to influence its liquidity.

Financial markets are interconnecting structures in which the relationships among other economic sectors are established; they constitute a vital part of the institutional setting within which other economic structures operate. Efficiency of financial markets has a powerful impact upon the health of a nation's economy. If a financial market is inefficient, credit becomes more costly and less available. If a financial market is to work efficiently, the public must have confidence in the financial institutions and instruments of that market, and be willing to commit their savings to them. Developed economies are so dependent on the proper functioning of their financial markets that a breakdown can be disastrous. Instability of the financial market in a country has reverberant effects on its financial system, leading to crisis and economic slumps.

Traditionally, financial markets are decomposed into money and capital markets. The financial markets also include markets for foreign exchange and a variety of futures markets. The market for foreign exchange is an important market as far as macroeconomics is concerned, but futures market, in which two people agrees on a price at which a future delivery will be made, are of lesser importance for macroeconomics. Financial markets that encompass the terms that refer to all international or multinational markets for short, medium, and long-term securities, loans, forward and swap contracts, financial futures, and foreign currencies. Financial assets and financial securities⁷ are traded in financial markets where the financial claims are also settled. Buyers and sellers make and settle financial transactions in financial markets directly or via intermediaries. At the same time, financial markets facilitate mobilization of funds and their investment, and provide tools for handling various risks.

⁶ Historically, markets have been physical places, a trading floor for example. Increasingly they are becoming electronic 'places' where traders use computer terminals to communicate their buy/sell requirements and to conclude the trades.

⁷ A financial security is a contract between the buyer and seller of the security that specifies future cash flows of the security, timing/maturity (how long the contract lasts) and the price the buyer pays to the seller. For certain type of financial securities, for example, swaps, the market determines the buyer's and sell's role by convention - for example, the buyer in a fixed-for-floating interest rate swap is the fixed rate payer.

Financial markets make their primary profits through transacting in financial assets. The financial institutions and other financial and non-financial participating institutions⁸ play crucial roles in financial markets through the creation and/or exchange of financial assets. The participating financial institutions in the financial markets in general are commercial banks, development financial institutions, investment bankers, specialized banks, discount brokers, dealers, venture capital companies, insurance companies, pension funds, complex multi-functioning financial and non-bank financial institutions such as leasing companies, house building finance companies, building societies and other institutional and non-institutional financial intermediaries. The list of most important financial instruments⁹ include shares and debenture, deposits, bonds, futures and swaps, and other techniques through which the markets and various players use these instruments in the financial system.

Mishkin (2004) notes that the evolution of financial markets throughout the world, has resulted from an intricate interplay of three factors: chance, necessity, and design. Nevertheless, financial markets are information based. It is important to understand the special nature of financial markets relative to markets for real goods and services. The peculiar types of "asymmetric information problems" are intrinsically associated with financial assets. Mishkin (2004) argues that these asymmetric information problems have largely shaped the structure of financial markets in the past, and that the recent surge of innovations in information technology (IT), in particular, Internet-related IT is leading to a dramatic restructuring of financial markets today.

Financial markets usually perform the following basic functions:

- (a) **Borrowing and Lending:** Financial markets permit the transfer of funds (purchasing power) from one agent to another for either investment or consumption purposes;
- (b) **Price Determination:** Financial markets provide vehicles by which prices are set for both the newly issued financial assets and the existing stock of financial assets;
- (c) **Information Aggregation and Coordination:** Financial markets act as collectors and aggregators of information about the values of financial assets and the flow of funds from lenders to borrowers;
- (d) **Risk Sharing:** Financial markets allow the transfer of risk from those who undertake investments to those who provide funds for those investments;
- (e) **Liquidity:** Financial markets provide the holders of financial assets with the facility to resell or liquidate these assets; and
- (f) **Efficiency:** Financial markets reduce transaction and information costs, and make information available to the public and thereby help increase market efficiency and public awareness.

5.2 Structure of Financial Markets: Variations and Optimal Structure

The structure of a financial market refers to the systems, procedures and rules that determine how orders are handled and translated into trades and how transaction prices are set. From this point of view, the micro-foundation of financial structure analysis is enormously important.

⁸ Participating institutions in the financial markets are the buyers and sellers, which can be sub-divided into various roles. There are also indirect participants (who facilitate but do not buy or sell) such as, regulators, clearers, formation providers, brokers and intermediaries. Brokers form the main group of intermediaries, whose business is to bring buyers and sellers together for commission.

⁹ Instruments can again be classified as: equity, debt, or commodity, over the counter or exchange traded, cash or derivative, domestic or global, electronic or physical.

The structural characteristics of a financial market affect its efficiency, stability, and capacity to function well in the event of increased stress. Markets are said to exhibit good operating characteristics if they are efficient and liquid, feature good price discovery and are relatively resilient and robust in the face of shocks. Financial stability¹⁰ can be enhanced through policies that promote appropriate (or, at least, not inappropriate) market structures. Another important aspect of market structure is its capacity to provide liquidity, which depends on the extent to which markets are centralized. Network economics tells us that a market with the maximum number of potential counterparties will be the most liquid. On the other hand, in relatively decentralized markets such as most fixed-income markets, liquidity may not be a determining factor of the structure of financial markets. In such cases, sweeping regulatory measures to limit market fragmentation may be inappropriate. The flow of information in markets is another structural characteristic that has implications for liquidity. A high level of transparency is a key component in achieving fair, efficient, and liquid markets. Transparency seems to play a different role in different markets and certain types of transparency in markets that are characterized by infrequent and 'lumpy' order flows may actually introduce perverse, trade-limiting incentives for participants.

The structure of financial markets differs widely throughout the world. The costs of collecting and aggregating information, to a large extent, determine the types of financial market structures in different countries. The ongoing worldwide deregulation and globalization, and the advances in information technology have continued to dramatically impact the structure of domestic and international financial markets and the nature of financial service firms. Similarly, the phenomenal growth of mutual funds, pension funds and central bank funds and the emergence of innovative and new financial instruments are radically altering the financial services marketplace and introducing new service providers. These market trends have the effects on changing structural issues and developing business practices on fund suppliers. Financial service providers are now eager to increase the sales turnover and they offer their services at more competitive prices. Consolidation and product convergence and their effect on the structure of multinational financial service providers also impact the structure of financial markets. The integration and globalization of financial markets featured by cross-border consolidations and international regulatory standards also impact the market structure. These developments in the structure and functions of financial markets and the changes in their shapes increase the risk elements in the financial services industry. The governments and regulators around the world therefore, are to regularly evaluate their rapidly changing financial systems and the ways those systems influence national economies.

The changes in the structure of financial markets are also caused by abolition of fixed stock-broking commissions in many developed countries including the USA and UK, growth of world stock-markets, growth of foreign currency market, growth of securitization, innovation by financial firms, and enhanced role of new institutional investors in the 1990s. In this rapidly changing global financial world, making conclusion on permanence or stability in financial markets is difficult, but the culture of innovation and change through competition is likely to remain. Thus all of these changes have prompted a rethinking of the reforms and modernization of the financial markets in developing countries. Box 5.1 and 5.2 at the next demonstrate the common functional structure of domestic and international financial markets respectively.

¹⁰ Financial stability refers to a situation that protects financial system failure or even if such failure takes place, it would not result in significant macroeconomic costs.

Box 5.1
Functional Structure of Financial Markets

- 1. Money Vs. capital markets:**
Long-term: Maturity > 10 years.
Maturity: The time to a bond's expiration date.
Short-term: Maturity < 1 year.
Intermediate-term: 1 year < maturity < 10 years.
- 2. Primary Vs. secondary markets:**
Primary market: New securities are traded.
Secondary market: Old securities are traded.
- 3. Debt Vs. equity markets.**
- 4. Exchanges vs. Over-the-Counter Markets.**

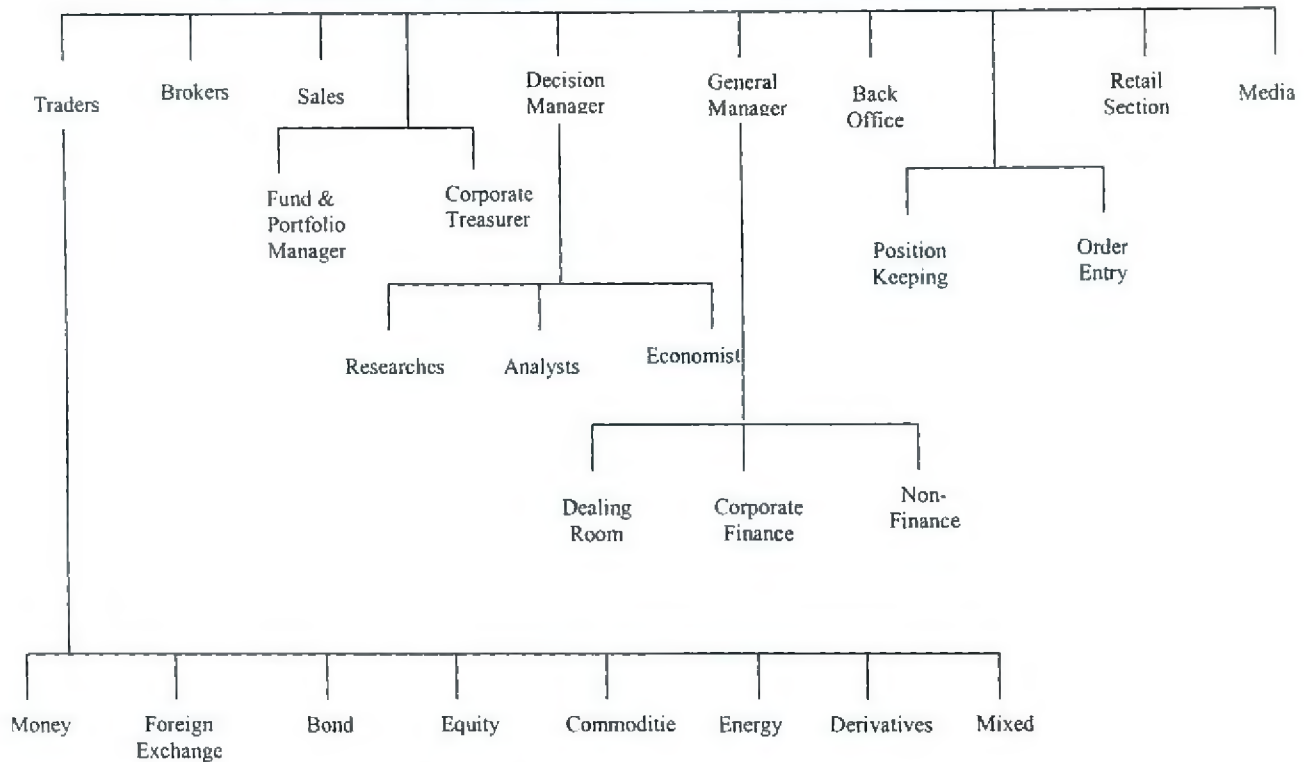
Box 5.2
Internationalization of Financial Markets
International Bond Market

- 1. Foreign bonds**
- 2. Eurobonds:**
 Larger than U.S. corporate bond market
 World Stock Markets

Facilitate international trade and create a global economy.

International financial markets have bearings for the efficient functioning of global money and capital markets and help the national financial markets to grow and flourish. Reuters (2003) notes that the participants in the international financial markets work in a wide variety of roles [see figure 5(i)].

Figure 5(i): Role of Participants in International Financial Markets

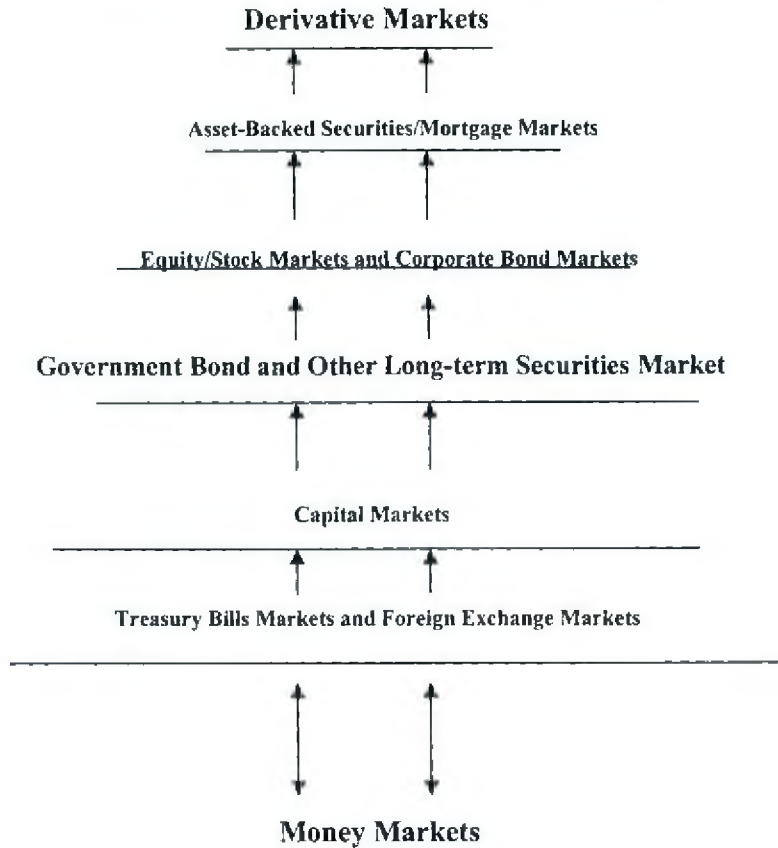


Source: adopted from Reuters (2003)

The structure of financial market is changed and reshaped by the working of stock exchanges and other securities oriented markets, the formal banking and various types of depository, non-depository and non-bank financial institutions and members of the non-

bank public who deposit and borrow funds in the markets. The functioning of depository institutions plays a vital role in transmitting policy of the monetary authority to the economy and thereby helps the financial markets to grow. Karacadag et al (2003) shows that the financial markets are hierarchically ordered, which reflects the complexity of risks in each market and the linkages among them [see figure 5(ii)].

Figure 5(ii): Hierarchical Orders of Financial Markets



Source: Karacadag et al (2003)

The wide variety of market structures confronts policy-makers with a significant challenge in trying to determine which structures may be optimal from a societal perspective. Jensen, Michael C., and W.H. Meckling (1976) compare the market structures and practices in multiple-dealer equity markets with those in government securities markets and demonstrates that there are subtle and important differences between the two (at first glance, quite similar) types of dealership markets. Intrinsic differences in the two types of securities, the nature of the investors, the degree of centralization, and transparency regimes are highlighted. The author suggests that these structural differences are likely to significantly affect the activities of market-makers and therefore the amount of liquidity that they provide.

Nicolas Audet, Toni Gravelle, and Jing Yang (1997) approach the question of **optimal market** structure by developing a model in which customers choose to trade in either a dealership or a limit-order-book market. These authors suggest that investors in an environment will prefer a dealership market where customer trading is relatively thin and 'lumpy', and by investors who are subject to relatively large liquidity shocks. This is consistent with the observation that markets dominated by a relatively small number of

institutional investors tend to be organized as dealership markets. Market structures develop to meet the (often idiosyncratic) needs of market participants. This suggests that there is no one structural form of financial markets that can be optimal for every market or for every participant in a given market.

5.3 The Money Markets

The money market is the organized exchange on which participants can lend and borrow large sums of money for a period of one year or less. The maturities of money market instruments range from one day to one year, but they are most often three months or less. It is an extremely efficient arena for businesses, governments, banks, and other large institutions to transact funds. The money markets also provide an important service to individuals who want to invest smaller amounts. The major attributes that draw an investor to short-term money market instruments are their superior safety and liquidity. Because these investments are associated with massive and actively-traded secondary markets, where one can almost always sell them prior to maturity, albeit at the price of forgoing the interest he would have gained by holding them until maturity.

The secondary money market has no centralized location. The closest thing is that the money market has a physical presence in an arbitrary association in many cities worldwide. But the money market is accessible from anywhere by telephone and a number of electronic media. Most individual investors participate in the money market with the assistance (and experience) of their financial advisor, accountant or banking institution.

A large number of financial instruments are available for the purposes of short-term lending and borrowing. Many of these money instruments are quite specialized, and are typically traded only by those with intimate knowledge of the money market institutions. Some examples of specialized instruments are federal funds in the USA, negotiable certificates of deposits (NCDs), commercial papers, Eurodollar time deposits, repurchase agreements, government-sponsored enterprise securities, shares in money market instruments, futures contracts, futures options, and swaps. Apart from these specialized instruments, there are many other investment vehicles with which individual investors might be more familiar, such as short-term investment pools¹¹ (STIPs) and money market mutual funds¹², Treasury bills¹³, short-term municipal securities, commercial papers, and

¹¹ *Short-term investment pools (STIPs) include money market mutual funds, local government investment pools, and short-term investment funds of bank trust departments. All STIPs are very prominent in developed countries and sold as shares in very large pools of money market instruments, which may include any or all of the money market instruments mentioned above. In other words, STIPs are a convenient means of cumulating various money market products into one product, just as an equity or fixed income mutual fund brings together a variety of stocks, bonds and so forth. STIPs make specialized money market instruments accessible to individual investors without requiring an intimate knowledge of the various instruments contained within the pool.*

¹² *Money market mutual funds are further divided into two categories: taxable funds and tax-exempt funds. Taxable funds place investments in securities such as Treasury bills and commercial papers that pay interest income that is subject to federal taxation once it is paid to the fund purchaser. Tax-exempt funds invest in securities issued by state and local governments that are exempt from federal taxation. These two categories of money market mutual funds provide different patterns of growth, each of which attracts different types of investors.*

¹³ *Treasury bills, commonly known as "T-bills," are short-term securities issued by the Government Treasuries or by the central banks on behalf of the treasuries on a regular basis to refinance earlier T-bill issues reaching maturity, and to help finance federal government deficits. Of all money market instruments, T-bills have the largest total value outstanding.*

banker's acceptances. Other financial assets, such as stocks, bonds and other securities that are traded in these markets mature in one year or less. Money markets, therefore, represent the short-term spectrum of the financial markets.

Financial institutions¹⁴ especially commercial banks, corporate bodies, governments, and the state Treasuries are active in the money markets as they adjust their short-term portfolios. Banking system is the major constituent of the money markets, which again plays crucial roles in constituting short and medium term debt markets and inter-bank money and foreign exchange markets. Banks, thrifts and credit unions offer money market accounts. For participants and players, these markets provide an efficient means of lending opportunity for their excess funds in addition to meeting temporary needs for the same. A typical list of money market instrument is provided in table 5.1 at the next page.

Table 5.1: The Money Market Instruments and Participants

Instruments	Principal Borrowers/users/participants/dealers
Central Bank Funds	Banks
Discount Window	Banks
Negotiable Certificates of Deposit (CDs)	Banks
Eurodollar Time Deposits and CDs	Banks
Repurchase Agreements	Securities dealers, banks, non-financial corporations, governments
Treasury Bills	Government
Municipal Notes	State and local governments
Commercial Paper	Non-financial and financial businesses,
Bankers Acceptances	Non-financial and financial businesses
Government-Sponsored Enterprise Securities	Farm Credit System, Home Loan Bank System, National Mortgage Associations
Shares in Money Market Instruments	Money market funds, local government investment etc. Pools, short-term investment funds
Futures Contracts	Dealers, banks
Futures Options	Dealers, banks
Swaps	Banks

Source: Compiled by the author from various financial market literature

¹⁴ The term 'financial institution' describes an organization involved in some capacity in the financial markets. Care is needed in the use of this term since 'institution' is sometimes reserved for the "buy-side" of the market with the term 'securities house' generally implying the 'sell side'. It is useful to discuss institutions since their business goals and the instruments they trade determine to a large extent the roles of employees of that institution. The financial market consists of international and domestic institutions. International institutions deal with international loans, import/export finance, and foreign exchange dealing. Domestic institutions deal with banking and monetary issues in their respective countries (although some domestic institutions are becoming increasingly global). A financial institution such as a bank, uses investors, depositors or its own funds to invest in financial assets such as equities or bonds to make profit. Examples of institutions are: banks, building societies, broking firms, corporations, local authorities, fund management and insurance companies. Building Societies (known as Savings and Loans in the United States) are organisations which are set up to pool depositors' funds so that they may be lent to other members to purchase real estate. In general they have a far smaller asset base than commercial banks, but they operate in a similar way, that is, they take deposits and make loans. Traditionally they have restricted their lending to mortgages against real-estate. Recently there has been a trend for building societies to merge and/or gain licences to become banks.

Money market transactions are relatively cheap and it is easy to take advantage of any emerging arbitrage opportunities in these transactions. The closed arbitrage links between the money market and other financial markets would probably be those with the short-term government bond market. A sound and modern money market holds the following key characteristics:

- a high degree of safety of principal;
- operation is informal 'telephone' markets with low transaction costs, often behaving said as over the counter (OTC) market;
- issue of assets in large denominations (for instance, \$1 million or more in the U.S money markets);
- most money market instruments are liquid (quickly convertible into cash assets without a sizeable loss), although offer lower return as compared to other securities;
- specialization of the money market in debt securities that mature in less than one year;
- easy access to the money market through mutual fund, bank accounts, etc.;
- transactions in treasury bills (T-bills) that do not give high returns but considered as one of the safest investments;
- issue of Certificate of Deposits (CDs), as an effective tool of investment by the supply-side and also a source of procuring short-term finance by the demand-side; and
- transactions in commercial paper (an unsecured, short-term loan issued by a corporation), bankers' acceptances (negotiable time draft for financing transactions in goods, including in international trade), and repurchase agreements (repos) and reverse repos (forms of overnight borrowing backed by government securities in the money markets).

5.4 Foreign Exchange Markets

Foreign exchange market (FX Market or Forex market) is an essential part of the money market concerned with the trading in foreign currencies and settlement of cross-country financial claims. The FX market is an international market where currencies are exchanged for spot or forward delivery. The 'prices' of the various currencies are in most cases quoted against the US dollar. When this is not the case, the price is called a cross rate. The foreign exchange market is, by most accounts, the oldest, largest, and most extensive financial market in the world. In 2004, average volume of world transaction foreign exchange exceeded US\$1.5 trillion per day while US\$25 billion per day was traded on the New York Stock Exchange. Table 5.2 shows global foreign exchange transactions during the period 1992-2004. The high volume of foreign exchange transactions is a reflection of the advantages that transactions in the foreign exchange market can be executed quickly and with low costs.

Table 5.2: Reported Global Daily FX Trading Volume (in Billion USD)

Year	1992	1995	1998	2001	2003	2004
Total volume	394	494	568	721	799	866
With other dealers	282	325	348	417	467	511
With other financials	47	94	121	198	213	226
With non-financials	65	75	99	106	119	129

Source: Alain C. and Steven Weinberg, 2004

Foreign exchange trading has long been recognized as a superior investment opportunity by banks, multinational corporations and other institutions. A true 24-hour market, Forex trading begins each day in Sydney, and moves around the globe as the business day begins in each financial center, first to Tokyo, then London, and New York. Unlike any other financial market, investors can respond to currency fluctuations caused by economic, social and political events at the time they occur – day or night. The FX market is considered an over the counter (OTC) or ‘inter-bank’ market because transactions are conducted between two counterparts over the telephone or via an electronic network and trading is not centralized on an exchange, as it is with the stock and futures markets. In a floating exchange rate environment, the exchange rate between two currencies responds to many factors including the flow of imports and exports, the flow of capital, relative inflation rates etc. The flow of funds between countries to pay for stocks and bonds purchases also contributes to the currency exchange rate between countries. These capital flows are greatly influenced by yield differentials.

Matured foreign exchange markets offer the following short-term instruments and interest rate products:

- Repurchase and reverse repurchase agreements
- Euro time deposits
- Commercial papers
- Asset-backed commercial papers
- Certificates of deposits
- Bankers acceptances
- Bank notes
- Federal funds/central bank funds
- Short-dated treasury and agency securities
- Interest rate swaps, caps and floors

The Forex market is continuously changing with the rapidly changing demand for advanced financial services and mechanics. Thus invention and innovations is an ever-going phenomenon in the international forex markets.

5.5 Financial Derivatives Markets

Derivatives markets and future markets are often considered as innovative components of the money market. Derivatives markets provide instruments for handling financial risks. Futures markets provide standardized contracts for trading in assets at some forward dates. Derivative instruments¹⁵ are increasingly used in developed, as well as emerging markets, and they have significant contributions to financial and overall development of an economy. Derivatives can expand risk management capabilities, improve credit allocation and risk sharing among economic agents, reduce the transaction costs of achieving desired risk profiles, increase the pricing efficiency of financial markets, and provide new instruments for dealing with contractual and informational problems. The maturity of a

¹⁵ Derivatives trading are a relatively new activity. Traders buy and sell derivative instruments such as swaps, futures and options for customers and for their own account, and operate across money, bond, equity and commodity markets. Derivatives traders require a wide variety of information, including data, which relates to the underlying instruments of the derivatives they trade. They need access to exchange and OTC prices, both real time and historical, plus of course, relevant new or fresh news.

derivatives market depends on structure of derivatives exchanges and utility of products traded in terms of their benefits such as risk transfer, price discovery, and more public information.

Derivatives are agreements (contracts), which confer rights and/or obligations based on some underlying interest. The specific rights and obligations encompassed by a derivative contract may be cash settlement, delivery of, or the transfer of rights to, the underlying interest. The derivative contract is not in itself a transfer of the underlying interest. The transfer occurs as part of a separate transaction unless the contract is extinguished by offset. The underlying interest of a derivative may include physical assets such as commodities (e.g., gold, wheat), equities or equity indexes and the debt instruments. The movements over time of the consumer price index (CPI) or freight rates impact the functioning of the derivative markets. When the underlying interest is in financial instruments, they necessarily impact the financial market exposures in foreign exchange side by side with local operations.

Derivative users such as mutual funds, hedge funds, securities firms, and even banks may also incur derivatives-related losses caused due to inadequate risk-management systems and poor operations control and supervision. By practicing the development of better risk-management and operational controls, participants themselves can respond prudently, quickly and innovatively to market conditions.

Derivative instruments perform a valuable economic function by facilitating the transfer of price risks of commodities, foreign exchange and interest rates to investors willing to accept the risk for a fee or profit. However, development of a derivatives market is not a substitute for reform of financial, capital, and commodity markets. Derivative markets allow businessmen or bankers to concentrate on their core business through hedging exposures to the uncontrollable external factors. Financial institutions using the derivatives markets, especially the banks and large bond markets, need to assume large speculative positions.

5.6 Capital Markets

Capital markets, in distinction from other parts of the financial market i.e., the money markets, are those for long-term government securities, corporate bonds¹⁶, stocks, municipal bonds issued by state and local government units, and mortgages. A sound capital market facilitates efficient transfer of resources from savers to investors and becomes conduits for channeling investment funds from investors to borrowers. As an integral part of a national financial system, capital markets also provide risk and liquidity management, and corporate governance. Moreover, they facilitate government debt management, conduct of monetary policy and provide a channel for privatization. The capital market commonly meets at least two basic requirements: (a) it supports

¹⁶ Bonds are fixed income securities. Thus the bonds of different types are traded in the fixed income (FI) market. A bond is a contract of the indebtedness of one organization to the holder of the bond. The different types of bonds purchased within the fixed income market include: corporate, euro, government and asset-backed bonds, which include mortgage bonds. The most important type of bond in the market is usually a government bond because the government is normally the largest organization that issues bonds, in a given country. Also, government bonds in developed countries are considered risk-free. Maturities in the fixed income market tend to be longer, which is a factor that distinguishes the fixed income market from the money market. In general terms, any debt instrument that matures in over 1 year is regarded as a fixed income instrument, or bond. However, the one-year boundary is not strictly adhered to, for example, Treasury bills of over one year, but considered as money market instruments.

industrialization through savings mobilization, investment fund allocation and maturity transformation and (b) it must be safe and efficient in discharging the aforesaid functions. Industry and commerce, as well as government and local authorities raise capital from the capital markets.

Participants in the capital markets include the commercial banks, saving and loan associations, credit unions, mutual saving banks, finance houses, finance companies, merchant bankers, discount houses, venture capital companies, leasing companies, investment banks, investment companies, investment clubs, pension funds, stock exchanges, security companies, securities brokers, underwriters, portfolio-managers, insurance companies and the general public. With the increasing momentum in the years leading to 21st century, global capital markets have displacing traditional banking system as the leading sources of corporate and even personal finance. In the most developed economies, this transition is more advanced. The advantages the deep and liquid capital markets offer to national economies help them to enhance capacity for economic growth. Capital markets encourage entrepreneurship, innovation and more rapid economic growth by 'splitting the atom'¹⁷ of risk. The forces driving the rise of capital markets remain strong. This ranges from the aging of the global population, the attendant of multi-trillion Dollar rise in retirement savings, the continuing triumph of capitalism itself, progress in the applications of computing power and quantitative strategies to investing the explosively growing derivatives and hedging funds. Today, with the internet, the capital markets make possible the ubiquitous availability of information to guide and execute investment and trading strategies on a global basis. A national capital market usually comprises two segments, namely, securities segments and non-securities segments. Two common financial instruments, traded in the securities segment of capital markets are stocks¹⁸ (or equities) and bonds¹⁹. The non-securities segment is concerned with the loan market, where the individual and corporate borrowers procure funds from the organized banking system.

5.6.1 Capital Market: Securities Segment

The securities segment of capital market consists of the primary market and the secondary market. In primary markets, newly issued securities are offered for sale to buyers and these markets are commonly known as markets for Initial Public Offerings (IPOs)²⁰. In

¹⁷ This refers to breaking and diversifying the risks elements. The objective is to minimize risks available to the capital market participants and the market in general.

¹⁸ A share of stock conveys certain ownership rights to the holder such that this person may share in the profits or earnings of a publicly held corporation and, in some cases, have voice in how that company is managed.

¹⁹ A bond is a medium or long-term debt contract explicitly stating the amount borrowed and to be repaid, date of repayment, and interest to be paid by the borrower to the lender. Bonds may be issued (sold) by large corporations, municipal governments, or the federal government to meet budgetary needs. Capital markets can also be a driving force for and benefit from the development of institutional investors (pension funds, insurance companies, and mutual funds), efforts in fiscal decentralization and the development of mortgage markets.

²⁰ One of the most seemingly attractive areas of investment is that of initial public offerings (IPOs). Buying shares the first time they are offered to the public has considerable natural appeal, especially in a bull market, tempting investors with potentially phenomenal short-term returns as well as exposure to exciting new companies and industries. The privatizations of state-owned corporations around the world have become an additional source of new issues, providing investors with the opportunity to get low-priced stakes in big, stable businesses, often the dominant incumbents in core sectors of the global economy. The objective of any new issue is to achieve the highest value for the issuer, while ensuring a buoyant start to secondary trading. Shares are generally offered at a fixed price, set by the sponsors of the issue, and based on multiples, forecasts of likely future profits, or a combination of multiples and forecasts. Alternatively, in countries

Secondary markets, participants buy and sell existing securities, i.e., the previously issued securities are traded. Activities in secondary markets are also known as 'after markets', which often reflect the changes in the economic environment. In the after market, buying and selling are driven by changes in inflationary expectations, changing attitudes towards credit and interest rate risk, and changes in perceived uncertainty about the future.

Securities markets are concerned with the process of distribution and redistribution of securities. The initial issuers raise funds only through the primary markets, where security is purchased directly from the issuer and/or through the underwriters. When IPOs are made directly to the potential buyers in bulk or in bundles, such offers and the subsequent sells combine an over the counter (OTC) market transaction. This differs from the secondary market, where secondary listings usually takes place as an attempt to access new markets in order to raise capital if the primary market is saturated²¹.

The secondary or aftermarket provides liquidity support to the holders of securities and it is important that the secondary market be highly liquid and transparent. The more the number and volume of outstanding securities, the more liquid are the securities markets. The eligibility of shares and bonds for trading in the secondary market is regulated through financial supervisory authorities, such as Securities and Exchange Commission) and the rules of the market place in question, which could be a stock exchange.

A stock is a share in the ownership of a corporation, and through the stock exchange one can buy and sell ownership in most large businesses. In the stock market, investors are to operate through stock brokers who may not always suggest the way of best using the fund and too often, an investor does not know whether his money is put in a stock with a sound institutional and legal framework so that the concerned company can invest it in profitable projects to ensure good returns. Contrarily, the decision to put money in a savings account is much complicated. In this case, the investors can only check that the bank will keep his/her funds safe, accurately pay the interest due, and return the accumulated funds upon demand.

The stock markets facilitate equity investment and buying and selling of shares, debentures and mutual funds, while bond markets, the other important part of the securities market,

outside the United States like the UK, there might be a tender offer, where no price is set in advance, leaving it to the market forces of demand and supply.

Fixed price IPOs are frequently under-priced, providing opportunities for 'stags', investors who buy in anticipation of an immediate price rise. Big instant profits may often be made if shares can be purchased at the offer price and sold soon after dealing begins - returns in the order of 5-15% in one day, but with high variance across offerings. Understandably, such offers are often oversubscribed, leaving the sponsors to decide on the appropriate equity allocation: by ballot, by scaling down large applications, or by giving preferential treatment to certain investors, typically their favored clients though in some cases the private investor. The method varies by country: in some countries, like the United States, it is discretionary: in others, it is mandated equal for equal submissions.

²¹ *Saturated market: In economics, "market saturation" is a term used to describe a situation in which a product has become diffused (distributed) within a market; the actual level of saturation can depend on consumer purchasing power; as well as competition, prices, and technology.*

For example, in advanced economies an extremely high percentage of households own refrigerators (more than 97% of households) i.e. the diffusion rate is more than 97%, and the market is said to be saturated i.e. further growth of sales of refrigerators will occur basically only as a result of population growth and in cases where one manufacturer is able to gain market share at the expense of others. Source: Wikipedia, the free encyclopedia © 2001-2006.

provides financing through the issue of debt contracts and the buying and selling of bonds. Insurance market, pension/provident funds, leasing and mortgage markets and such other institutional investors are the strong sources of funds in the capital markets as they invest their funds in the long-maturity securities. Such investments made by these institutional investors greatly help the development process of the securities market in specific and the financial markets in general. The economic basis of the securities market is the geographically scattered investors' class, which creates the demand for trading markets and provides liquidity to stockholders. In these markets, prices of securities are determined by the interaction of their supply and demand. Thus the analysis of both supply and demand side of the securities market grasp huge attention and research initiatives in domestic as well as international securities markets.

However, markets for loans are much larger than the stock market in terms of their number and the volume of daily transactions. Contrary to the securities markets, the loan markets have less visibility because many require hundreds of thousands or even millions of dollars to enter directly. These markets for loans play an important role in macroeconomic theory.

Functional set up of Securities Market

From the functional points of view, the structures of securities markets take the following four basic forms:

- Auction markets conducted through brokers;
- Over-the-counter (OTC) markets conducted through dealers;
- Organized Exchanges, such as the Stock Exchanges, which combine auction and OTC market features. Specifically, organized exchanges permit buyers and sellers to trade with each other in a centralized location, like an auction. However, securities are traded on the floor of the exchange with the help of specialist traders who combine broker and dealer functions. The specialist brokers trade but also stand ready to buy and sell stocks from personal inventories if buy and sell orders do not match up; and
- Intermediation financial markets conduct through financial intermediaries;

Financial markets that take the first three forms are indeed referred to as securities markets. Some financial markets combine features from more than one of these categories depending on the financial and economic strength, degree of integration with other countries and above all the willingness and policy decision of the concerned market authorities.

Auction Markets

An auction market is some form of centralized facility (or clearing house), where buyers and sellers execute trades through their commissioned agents (brokers) in an open and competitive bidding process. The 'centralized facility' is not necessarily a place where buyers and sellers physically meet. It is an organized forum that provides buyers and sellers with a centralized access to the bidding process. All of the needed information about offers to buy (bid prices) and offers to sell (asked prices) is centralized in the auction market and the information is readily accessible to all would-be buyers and sellers usually, through a computer network. No private exchanges between individual buyers and sellers are made outside of the centralized facility.

An auction market is typically a public market and it is open to all willing participants. Auction markets can either be call markets (for example, auction of a painting, for which bid and asked prices are all posted at one time), or continuous markets (such as stock exchanges and real estate markets, for which bid and asked prices can be posted at any time the market is open and exchanges/trades take place on a continual basis). Many auction markets trade in relatively homogenous assets such as, treasury bills, notes and bonds to cut

down on information costs. The size of auction markets depends on the number of different types of assets on the bid, as well as on the value of those assets. The costs of collecting information about any one type of asset are sunk costs independent of the volume of trading in that asset and auction markets spread these costs over a wide number of participants.

Over-the-Counter Markets

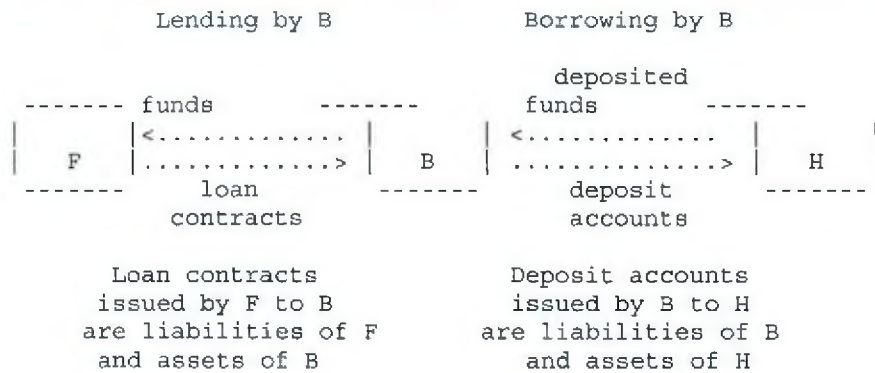
An over-the-counter market is not a centralized mechanism or facility for trading. Instead, it is a public market consisting of a number of dealers spread across a region, a country, or even the world, who post bid and asked prices for the asset on sale and then stand ready to buy or sell them with anyone who chooses to trade at these posted prices. The dealers provide customers more flexibility in trading than brokers, because dealers can offset imbalances in the demand and supply of assets by trading out of their own accounts. Many well-known common stocks are traded over-the-counter in the United States through NASDAQ (National Association of Securities Dealers' Automated Quotation System).

Financial Markets and the Financial Intermediation

In the intermediation financial market, financial intermediaries help transfer funds from savers to borrowers by issuing certain types of financial assets to savers and receiving other types of financial assets from borrowers. To financial intermediaries, the financial assets issued to savers are liabilities because those are claims against financial intermediaries, whereas the financial assets received from borrowers are assets to the intermediaries because these are claims against the borrowers.

Unlike brokers, dealers, and investment banks, financial intermediaries are financial institutions engaged in financial asset transformation. That is, financial intermediaries purchase one kind of financial asset from borrowers -- generally some kind of long-term loan contract whose terms are adapted to the specific circumstances of the borrower (e.g., a mortgage) - and sell a different kind of financial asset to savers, generally some kind of relatively liquid claim against the financial intermediary (e.g., a deposit account). In addition, unlike brokers and dealers, financial intermediaries typically hold financial assets as part of an investment portfolio rather than as an inventory for resale. Financial intermediaries make profits on their investment portfolios by charging relatively high interest rates to borrowers and paying relatively low interest rates to savers. Figure 5(iii) demonstrates a diagrammatic example of a financial intermediary, particularly a bank that performs financial intermediary functions.

Figure 5(iii): Diagrammatic Example of a Financial Intermediary: A Commercial Bank



NOTE: F=Firms, B=Commercial Bank, and H=Households

[Source: Mishkin, 2004]

Types of financial intermediaries include: depository institutions (commercial banks, savings and loan associations, mutual savings banks, credit unions); contractual savings institutions (life insurance companies, fire and casualty insurance companies, pension funds, government retirement funds); and investment intermediaries (finance companies, stock and bond mutual funds, money market mutual funds).

Role of Government Securities and Mortgage Markets in Financial Market Development

Government bonds and other securities markets, mortgage markets, and non-bank financial institutions are vital components of financial markets. These components have now become important vehicles of financial market development throughout the globe because of their increasingly significant role in both money and capital markets. These instruments and institutions make an economy more capable of efficiently raising and allocating funds.

Government Securities Market

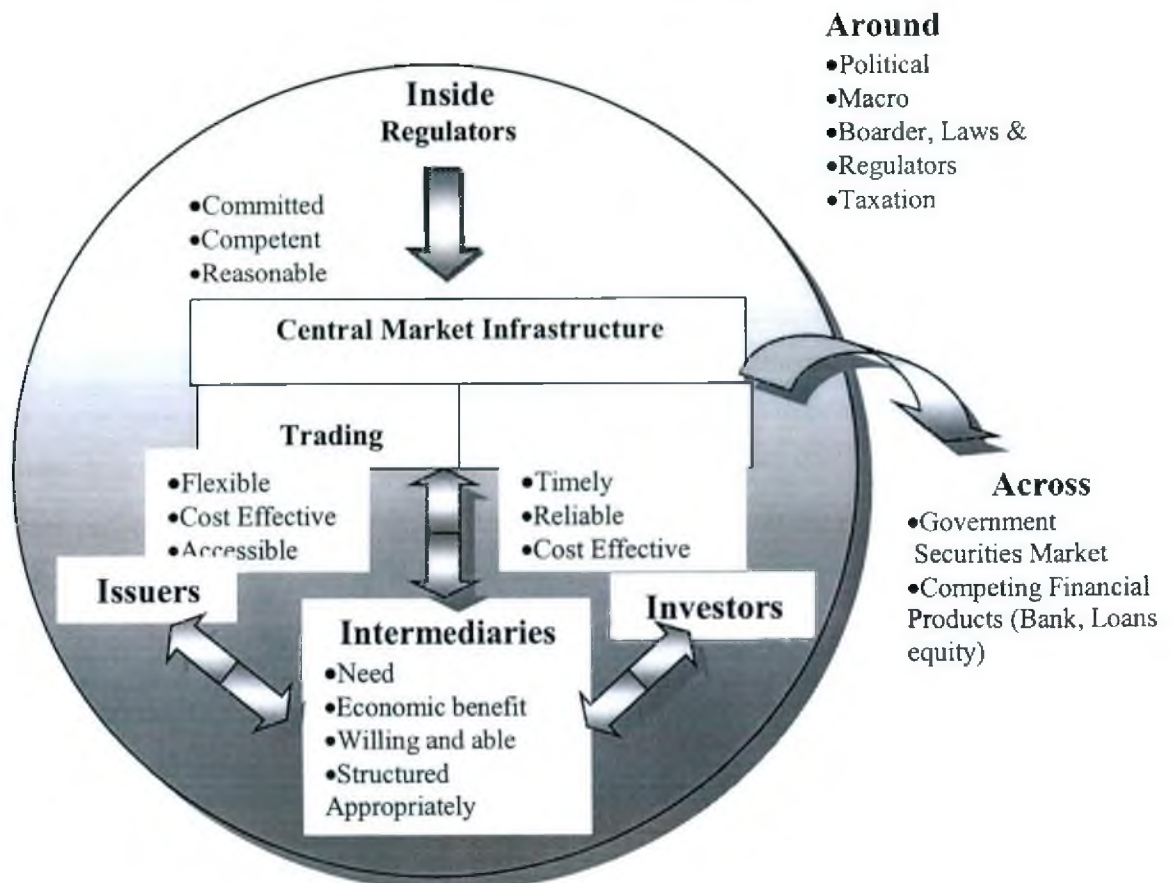
Government bonds and treasury bills are strong constituents of government securities markets. The switchover to borrowings by government at market related interest rates, and recent abolition of the system of automatic monetization in many economies contributed to development of genuine markets for government securities. Rigorous momentum can be brought into the financial markets of developing countries by (i) selling government securities through auctions; (ii) introducing new instruments such as zero coupon bonds, floating rate bonds and capital indexed bonds, (iii) introducing Treasury bills of varying maturities; (iv) establishing specialized institution, viz., Securities Trading Corporation; (v) introducing system of primary dealers and satellite dealers and the system of delivery versus payment; (vi) adopting standard valuation norms; and (vii) bringing transparency in operations through market process and disseminating information. Stocks represent risk capital, while bonds really represent borrowing against assets or cash flows. The former tends to attract investors seeking capital gains, while the latter, to attract those seeking income. All of these constitute part of capital markets.

Corporate Bond Markets

Corporations in countries that rely heavily on a combination of internal earnings and bank debt to finance their fixed investments can diversify their sources of finance through issuing bonds of their own. This requires active and liquid secondary markets for trading on those bonds in the concerned economies.

Internal earnings became increasingly insufficient to finance the growing volume of fixed investment during the late 1980s and early 1990s and bank loans, emanating from both domestic and foreign banks, were increasingly utilized. Equity finance also grew as corporate debt/equity ratios rose and foreign portfolio capital flown in at increasing magnitudes. The floatation of corporate bonds in a conducive and full-fledged market environment [see figure 5(iv)] featured by competition, prudential regulation and optimal structure of institutions, instruments and mechanism may provide the issuers better flow of funds for long-term investments. However, there are institutional constraints to corporate bond market development in developing countries. The interlocking relationships between corporations, banks and governments dissuade bond issuance by companies and also contributed to restricting the development of the demand side of the market. However, the size and growth of corporate bond markets ultimately hinge upon the financing patterns of companies.

Figure 5(iv): Environment of Bond Markets



Source: Alison H, (1999)

Mortgage Market

Mortgage market and the mortgage-backed securities contribute immensely to the operations of the financial markets through increasing the number of instruments. An efficient mortgage market is one with a wide range of loan products available to meet the varied financial needs of consumers. A mortgage is a long-term liability collateralized by real property. It is a kind of security by virtue of which a person or an organization acquires the rights in the specific immovable property of another for payment of money lent or to be lent under an agreement. Mortgage-backed and asset-backed securities are securities collateralized by assets that are not mortgage loans. These securities help stimulate both the demand and supply sides of the capital markets.

5.6.2 Capital Market: Non-securities Segment

Non-securities segment of the capital market comprises mainly commercial banks that make long-term and medium-term loans, non-bank financial institutions, contractual savings institutions, investment bankers, investment companies, venture capital companies, leasing companies, pension funds and various other long-term service providers. A strong institutional base is the pre-requisite for a sound financial market. Institutions mobilize savings and allocate those to the borrowers through the loan market. The operations and efficiency of securities markets depend mostly on the fund mobilization and allocation efficiency of institutional segment. Thus, the securities segment and the non-securities

segment of a capital market are interdependent. Following sub-sections state the role and contributions of some of the capital market institutions of non-securities segment.

Commercial Banks

Commercial banks are key investors of government and quasi-government securities. Their traditional role consists of mobilizing resources from the sectors generating surpluses and channeling them to the sectors that need them and by meeting the investment requirements of the economy, the banking system facilitates the process of capital formation. When domestic savings fall short of the investment requirements of the economy, the gap is met by way of borrowing from abroad. Banks also play an important role by facilitating international trade and service payments. Thus the banking systems facilitate the functioning of securities segment of the capital markets through providing payments and other services to mobilization, formulation and distribution of capital funds.

Banks occupy a unique place within the financial system. They operate with a wide variety of assets and liabilities. Financial intermediaries have recently undergone a profound transformation in developed markets with the ongoing changes in the global financial system. In developing countries, banks still play a preponderant role in financial intermediation. A system in which capital markets are the principal means of corporate finance is very different from one in which loans or credits predominate. In well-developed markets, high-quality borrowers often raise funds by approaching investors directly (disintermediating the banks). A loan-based system of corporate finance is more pronounced in debt markets with limited institution and specialization and small secondary market.

Non-bank Financial Institutions

Non-bank financial institutions (NBFIs)²² are rapidly becoming a vital segment of the financial system in developing countries. These institutions render invaluable contribution to the deepening and development of both money and capital markets. However, in market-based financial systems, such as those in most developed countries, the major portion of financing and services come from the capital market. Developed financial markets shifted from being bank-based to market-based because by the nature of their business, banks are not the most efficient institutions for providing all types of financial services. Banks are good in mobilizing savings and providing payment services and liquidity but they are constrained in providing store of value services. Therefore, bank-based financial markets tend to have a smaller range of equity type services. Non-bank financial institutions offer those services more efficiently. By adding liquidity, divisibility, informational efficiencies and risk pooling services, NBFIs have a major role to play in the development of the financial market by broadening the scope of mitigation of risks the investors encounter. Thus, NBFIs complement banks by providing services that are not well suited to banks. They fill the gaps in financial services that otherwise occur in bank-based financial markets. The non-bank financial sector plays important role in providing term financing through leasing, project financing and merchant banking activities. NBFIs also compete with commercial banks by unbundling the services provided by banks and force them to be more efficient and responsive to the needs of their customers. Most NBFIs are also actively involved in the securities markets and in the mobilization and allocation of long-term

²² NBFIs comprise a mixed bag of institutions, ranging from leasing, factoring, and venture capital companies to various types of contractual savings and institutional investors (pension funds, insurance companies, and mutual funds). The common characteristic of these institutions is that they mobilize savings and facilitate the financing of different activities, but they do not accept deposits from the public.

financial resources. The state of development of NBFIs is usually a good indicator of the development of financial market in general and the capital markets in particular.

Institutional Investors

As a consequence of the overall expansion of financial sectors relative to GDP, institutional investors have grown strongly in the past few decades, and demonstrated a boost in their share of total financial claims. Davis and Steil (2001) notes that the growth of institutional investors can be traced to various supply and demand factors that have made investing via institutions attractive to households. Supply-side factors suggest that institutional investors have offered their services relatively more efficiently than banks and direct holdings, thus fulfilling the functions of the financial markets more effectively. In the supply side, there is, inter alia, the ease of diversification, liquidity, improved corporate control, deregulation, and ability to take advantage of technological developments, enhanced competition and fiscal inducements. So, the prospective development of institutional investors has major implications for the structure and performance of financial markets. Adam Smith(1776) in "The Wealth of Nations" strongly viewed that better institutions lead to greater financial development and better economic performance. He writes,

Commerce and manufactures can seldom flourish long in any state which does not enjoy a regular administration of justice, in which people do not feel themselves secure in the possession of their property, in which the faith of contracts is not supported by law, and in which the authority of the state is not supposed to be regularly employed in enforcing the payments of debts from all those who are able to pay. Commerce and manufactures, in short, can seldom flourish in any state in which there is not a certain degree of confidence in the justice of government.

This view receives support from a number of recent empirical studies, including those by Knack and Keeffer (1995), Hall and Jones (1999), Acemoglu, Johnson and Robinson (2001 and 2002), and La Porta et al. (1998). In addition, Rodrik, Subramanian and Trebbi (2002) present evidence that, not only do high quality institutions contribute to economic development; such institutions are, in fact, the key determinant of economic development.

Anglo-American experience suggests that institutional investors can provide a strong stimulus to financial market development. This takes time and requires both critical mass and enabling regulations. Institutional investors comprise pension funds, insurance companies, and mutual funds, etc. The financial market activities of insurance and reinsurance companies and the insured greatly influence the stability and efficiency of financial markets. Insurance companies are becoming more exposed to market and credit risks, especially those transferred to them by banks. Although the profitability and occasional failures of insurance and reinsurance companies are a source of potential vulnerability for global financial markets, it is unlikely that insurance company insolvencies would have serious systemic effects. By improving the disclosure of the financial activities of insurance companies and, particularly, of reinsurance companies, in order for markets to understand the size and the profile of the risks present on their books, it is possible to eliminate the risk factors and stimulate their financial market participation. However, a vital question is: should a country promote the creation of institutional investors if it lacks well-developed securities markets? The answer to this question, says Vittas (1998), varies by type of investor and fund managers' role. He argues that pension funds and insurance companies should be promoted for their own sake, but mutual funds are unlikely to thrive without well-regulated securities markets.

Long-term relationships between business firms and investment banks are pervasive in developed security markets and there is evidence that better monitoring and information

result from these relationships. Therefore, security markets should allocate resources better when an investment banking industry exists.

Recent research put focus successively on the impact of the institutional investor's on the efficiency and stability of financial markets. Merton and Bodie (1995) defines efficiency broadly in terms of the ability to perform the underlying functions of financial markets, which are:

- The provision of ways of clearing and settling payments to facilitate exchange of goods, services, and assets;
- The provision of a mechanism for pooling of funds from individual households to facilitate large-scale indivisible undertakings and the subdivision of shares in enterprises to facilitate diversification;
- The provision of ways to transfer economic resources over time, across geographic regions, or among industries;
- The provision of ways to manage uncertainty and control risk. Through securities and financial intermediaries, risk pooling and risk sharing opportunities are made available to households and companies. The three main ways to manage risk are: hedging, diversifying, and insuring; and
- The provision of price information, thus helping to coordinate decentralized decision making in various sectors of the economy.

Contractual Savings Institutions

Contractual savings institutions (pension funds and life insurance companies) change depth of the domestic stock and bond markets and also liquidity in the former. Institutionalization of savings may modify financial markets through lengthening maturity of securities. First, an increase in the proportion of assets of contractual savings institutions in the domestic financial assets has a positive impact on depth and liquidity in the depth of stock and bond markets on average. Second, the impact on depth and liquidity in stock market is nonlinear (Impavido, Musalem, and Tressel, 2002a). It is stronger in countries where corporate information is more transparent. Third, there is evidence of a significant heterogeneity among countries. Contractual savings have a stronger impact on securities markets in countries where: a) the financial system is market based; b) pension fund contributions are mandatory; and c) international transactions in securities are lower. Although the primary function of these institutions is to provide sufficient, sustainable and affordable benefits for old age, recent research suggest that the spillovers on the financial system are significant [see Catalan, Impavido and Musalem (2000) and Impavido and Musalem (2000)] as they modify financing patterns of firms' and banks' [Impavido, Musalem and Tressel (2002a and 2002b)] by increasing the maturity of their liabilities. However, the nature of the impact of contractual savings institutions on stock market depends on many underlying factors such as the level of economic development, the legal environment and the demographic trends.

As argued by Vittas (1999 and 2002), preconditions for the development of contractual savings, and particularly pension reforms, are less stringent than expected if a gradual approach is chosen. Impavido, Musalem and Vittas (2002) provide an analytical framework for countries with a small financial system. They include sound macroeconomic policies, the existence of a core of efficient and sound banking and insurance institutions, and a lasting commitment for the creation of an effective regulatory and supervisory agency and reform of the capital markets. The long-term commitment of governments is particularly crucial, as a volatile macroeconomic environment would undermine the development of contractual savings. This suggests that the fiscal policy must be prudent.

5.7 Central Banks and the Financial Markets

Financial markets are important for achieving central banks' objectives: they are used by central banks to implement monetary policy and to extract the information they need to function. Central banks shape financial markets through interventions designed to promote financial stability and efficiency. Thus the financial markets are vital to the work of central banks.

In the implementation of monetary policy, it is often very useful for a central bank to be aware of the market's expectation of upcoming policy developments. Many central banks have long considered issues related to the stability of the components of the financial system (financial markets, financial institutions, and clearing and settlement systems). Recently, a number of central banks have taken a more integrated and focused interest in financial stability. This interest arises from the importance of the financial markets in a modern economy, the recognition of the high degree of inter-relationship of the components of the financial system, and the role of central banks in supporting a well-functioning financial market, for example, through short-term lending to solvent financial institutions with temporary liquidity problems. Given the growing importance of financial markets, the stability of financial system is an essential requirement, which calls for good understanding of how these markets operate, particularly in times of stress.

404138

Central banks formulate and implement monetary policy and in some cases, conduct other business lines to reinforce financial stability. For many central banks, financial market operations include managing foreign exchange reserves and forex market interventions. Moreover, as the fiscal agent of the government, a central bank has active interest in improvement of functioning and liquidity of government securities markets. With falling level of government debts in the developed countries and increasing level of that in the developing ones, many central banks are now contemplating to hold alternative asset classes, which carry implications for the degree of liquidity and credit risks as those assets bear. Central banks traditionally remain the regulator of money markets and as market structures evolve. It is important for them to have a profound grasp of the requirements for well-functioning financial markets.

5.8 Liquidity and the Financial Market Development

Liquid financial markets are generally perceived as desirable because of the multiple benefits they offer, including improved allocation and information efficiency. Liquid financial markets (a) allow a central bank to use indirect monetary instruments and generally contribute to a more stable monetary transmission mechanism; (b) permit financial institutions to accept large asset-liability mismatches, both regarding maturity and currency; (c) enable fostering more efficient crisis management by individual institutions, and reducing the risk of the central banks to act as 'lender of last resort' for solvent but liquid credit institutions; and (d) render financial assets more attractive to investors, who can more easily transact in them.

Market participants perceive a financial asset as liquid, if they can sell large amount of the asset without adversely affecting its price. Liquid financial assets are thus characterized by having small transaction costs, easy trading and timely settlement, and the power to limit influence of large trades on the market price.

Liquid markets tend to exhibit five characteristics: (i) tightness, (ii) immediacy, (iii) depth, (iv) breadth and (v) resiliency. Tightness refers to low transaction costs, such as the difference between buy and sell prices like the bid-ask spread in quote-driven markets, as

well as implicit costs. Immediacy represents the speed with which orders can be executed and in this context, also settled, and thus reflects, among other things, the efficiency of the trading, clearing and settlement systems. Depth refers to the existence of abundant orders, either actual or easily uncovered from potential buyers and sellers, both above and below the price at which a security now trades. Breadth means that orders are both numerous in number and large in volume with minimal impact on prices. Resiliency is a characteristic of markets in which new orders flow quickly correct the order imbalances, which tend to move prices away from what is warranted by fundamentals.

It is important to note that the concept of liquidity is also used to discuss other types of liquidity. A distinction can be made between: (a) asset liquidity, (b) an asset's market liquidity, (c) a financial market's liquidity, and (d) the liquidity of a financial institution. A liquid asset can easily be converted into legal tender, which per definition is fully liquid. Some financial claims, like demand deposits, are virtually fully liquid-as long as the credit institution is liquid since they can be converted without cost or delay into money during normal circumstances, while the transformation of other claims into legal tender may involve brokers' commission, settlement delays, etc. The emphasis here is on transaction costs and immediacy. The concept of an asset's market liquidity is broader and related to the ease with which, in the absence of new information altering an asset's fundamental price, large volume of the asset can be disposed of quickly at a reasonable price.

Institutional liquidity, on the other hand, refers to how easily financial institutions can engage in financial transactions with a view to quickly covering mismatches between their assets and liabilities (which may be measured by liquid assets ratios, etc.), and settle their obligations. The more liquid the assets in its portfolio are and the less liquid the liabilities are, the greater the flexibility in managing asset-liability mismatches and its ability to meet settlement obligations. The risk management system of financial institutions relies increasingly on the assumption that their financial assets are liquid.

The liquidity of a financial market as a whole depends on the substantiality of liquidity in each liquidity class. If there are different issuers, particularly in the corporate bond markets and equities markets, credit risk can be prevented substantially and there may be a significant segmentation of the market. But even there is a single issuer, individual assets may still have different characteristics, such as different maturities in the market for government securities of different voting rights for preference shares.

5.9 Securities Settlement System (SSS)

Securities settlement systems (SSSs) are a critical component of the infrastructure of global financial markets. In recent years, trading and settlement volumes have soared, as securities markets have become an increasingly important channel for intermediating flows of funds between borrowers and lenders and as investors have managed their securities portfolios more actively, in part because of declining transaction costs. Volumes of cross-border trades and settlements have grown rapidly, reflecting the increasing integration of global markets. Weaknesses in SSSs can be a source of systemic disturbances to securities markets and to other payment and settlement systems. A financial or operational problem at any of the institutions that perform critical functions in the settlement process or at a major user of an SSS could result in significant liquidity pressures or credit losses for other participants. Any disruption of securities settlements has the potential to spill over to any payment systems used by the SSS or any payment system. In the securities markets, liquidity is critically dependent on confidence in the safety and reliability of the settlement

arrangements. Traders will be reluctant to trade if they have significant doubts as to whether the trade will in fact settle.

The Securities Settlement System broadly includes the full set of institutional arrangements for confirmation, clearance and settlement of securities trades and safekeeping of securities. In recent years, most markets have established central securities depositories (CSDs) that immobilize physical securities or de-materialize them and transfer ownership by means of book entries to electronic accounting systems.

Securities Settlement Systems must have legal framework, trade confirmation system, settlement cycles, central counter parties (CCPs), securities lending system, central securities depositories (CSDs), delivery versus payment (DVP), timing of settlement finality and cash settlement assets, CSD risk controls to address participants' failures to settle, operational reliability, protection of customers' securities access, communication procedures and standards, efficiency and transparency, and the ability to manage cross-border risk-links, and regulation and oversight.

The reliable and predictable operation of an SSS depends on (a) the laws, rules and procedures that support the holding, transfer, pledging and lending of securities and related payments; and (b) how these laws, rules and procedures work in practice, that is, whether system operators, participants and their customers can enforce their rights. If the legal framework is inadequate or its application is uncertain, it can give rise to credit or liquidity risks for system participants and their customers or to systemic risks for financial markets in general.

5.10 Rural Financial Market

Financial markets that serve rural areas are normally treated as rural financial markets and in many aspects, they differ from urban markets, largely because of the nature of the rural borrowers. Developed country experiences show that when urban and rural loans are compared, average interest rates, collateral requirements, and other terms are nearly identical. The nature of rural economies-small communities, small borrowers, and undiversified industries-can lead to disparities in the availability of financial services among individual borrowers and communities, but financial market imperfections have detracted substantially from overall rural growth.

Observations on commercial banks, the farm credit system, government financial assistance programs, and a range of other rural lenders together with information on rural and urban loans and borrowers show that, on average, rural financial markets work fairly well in developed countries. But the situation in developing countries is different. Sporadic problems exist for some borrowers in some markets, risk financing (such as equity for new businesses and long-term operating loans for businesses and community organizations) is difficult to find, and many rural villages/communities lack competitive banking markets.

Rural borrowers are served by a wide variety of financial service providers. The most visible sources elsewhere in the world including Bangladesh are regulated financial institutions such as commercial banks and credit cooperatives societies, and non-regulated institutions, predominantly the micro finance institutions/NGOs in a large number. Other community-based village and char savings and loans associations (VSLA and CSLA) in Bangladesh are different types of ROSCAs (Rotating Savings Institutions) run through the systems of savings and lending and farm credit. Some other institutions and individuals also play important roles by supplying credit or by enhancing the competitiveness of rural

financial markets. More than three thousand micro finance institutions (MFIs) in Bangladesh as a special group of rural financial service providers has gradually been replacing the dominance of traditional moneylenders in the rural areas. Most prominent MFIs in Bangladesh are Grameen Bank, Association of Social Advancement (ASA), Bangladesh Rural Advancement Committee (BRAC) and Proshika. Some governmental organizations are also engaged in micro finance activities such as Bangladesh Rural Development Board (BRDB), Ministry of Youth and Sports, etc.

Retail lenders are responsible for originating loans in the rural financial markets. The degree of competition among them can determine how efficiently the rural financial markets serve borrowers. Government-supported credit enhancement programs help foster greater competition for eligible loans. They encourage the creation of new competitors, or increase the size of the market served by existing lenders and increases the lending capacity of financial institutions within a given market.

Three critical issues are crucial: (a) whether rural financial institutions have an ample supply of funds available to finance local economic development, (b) whether rural borrowers pay more for credit than do urban borrowers, and (c) whether rural financial markets satisfy viable demand for credit. For private lenders, the underlying concern is whether financial markets are economically efficient. An efficient financial market offers borrowers equal opportunities by allocating credit to its most profitable uses. But even this equality of opportunity may not yield a socially equitable allocation of resources. For example, the uneven distribution of education and wealth within the rural population creates an uneven distribution of creditworthiness.

The commercial banking system is the largest supplier of credit services to rural businesses. Other development organizations serve the widest range of borrowers and loan types in rural areas. Rural banks provide home mortgages, consumer loans, agricultural loans, and commercial/industrial loans. As the dominant lender in many markets, rural banks are well positioned to provide the commercial credit needed to finance rural development. The banking system as a whole and rural-headquartered banks in particular, are well positioned to meet the credit needs of rural communities in industrialized countries. Whatsoever, observations indicate that rural bankers are anxious to make loans to creditworthy borrowers.

Non-bank depository institutions, such as savings and loan associations, cooperatives and credit unions, typically serve a much narrower market than commercial banks, but these institutions, too, are well situated to meet the credit needs of their clientele. Savings and loans associations (S&LAs) are a major source of home mortgage credit in the rural areas, and credit unions provide consumer credit to their members. In markets served by S&LA's, these institutions act as strong competitors with commercial banks and other mortgage lenders providing homeowners with a ready supply of mortgage credit. Credit unions rely on low operating outlays to hold down the cost of their loans. Nonetheless, their small size and membership restrictions keep them from being a major source of credit in most rural financial market places.

Implications for the Rural Policy Agenda

Efficiently functioning rural financial markets are important to the long-term economic well being of rural areas. However, efficient financial markets may not provide adequate capital to support all of the economic development goals of particular rural communities. It is the role of policy makers to evaluate what type of policy interventions should be

designed to help rural communities to have greater levels of economic development. The high degree of diversity within rural areas in developed economies suggests that appropriate policy responses will likewise be quite diverse.

From the discussion of issues presented here, it is clear that there is a role for public sector intervention in rural financial markets if rural professions are to achieve their economic potential. There is evidence of capital shortage problems for rural businesses, households, and communities and this can have a detrimental impact on the economic development process. Some programs or structures are already in existence to help address these problems, such as micro finance/micro-credit for micro and small enterprises development, etc. But these are not effectively used by the rural communities. The important question is why these mechanisms can not be properly used, and what changes can be made to ensure greater supply of funds in the rural areas. Possibly, there is ample scope to resorting policy alternatives to respond to the real needs of rural communities.

Public policies should be designed to encourage private sector institutions to meet economic development goals through their activities in the country-sides. These policies should be designed to support the efficient functioning of financial markets, rather than creating alternatives to private sector markets. At the same time, it is important to identify ways to encourage greater uses by rural banks.

While financial markets alone cannot create economic development in the rural communities, access to capital for businesses, entrepreneurs, households, and communities is a necessary condition for economic growth. The ability of a rural community to adapt to changing economic circumstances depends, in part, on the availability of capital to support income and employment generating activities. And, the capacity of financial markets to provide this capital depends to a greater extent upon the willingness of government policy makers to address the critical issues related to the rural financial markets.

5.11 Functional Assessment of Financial Markets

The developing and less developed countries often suffer from structural, operational and regulatory weaknesses in their financial markets. Table 5.3 gives a picture of the poor financial market situation in developing countries.

Table 5.3: Functional Assessment of Financial Markets in Low-Income Countries

Function	Assessment
Capital mobilization instruments	Limited instruments and exit is not easy from markets except for bank deposits. Debt and deposit instruments are predominantly of a shorter term.
Managing risk	No derivative markets. Limited ability to diversify across markets.
Diverse ownership	Poorly supervised stock markets do not inspire faith in the small investors limiting the pooling and diversity of ownership.
Information development and price discovery	Thin and poorly supervised stock markets inhibit the process of price discovery. No takeover threat as a disciplining device. Limited ability to arbitrage across markets.
Clearing and settlement	Non-competitive institutional structures combined with weak regulation leads to inadequate development of clearing and settlement systems.
Dealing with agency issues	In the absence of market discipline, optimal contracting is difficult for overcoming agency problems. Limited ability to allow use of different markets for this purpose.
Attracting inflows	Volatile inflows to take advantage of arbitrage situations only.

Source: Compiled and developed by Author

The financial markets have expanded and deepened rapidly over the last decade and more specifically during the 1990s throughout the world. Despite their rigorous strives and also some visible changes, financial market in developing and least developed countries remained underdeveloped mainly due to technological backwardness, structural and regulatory weaknesses. On the demand side, the current expansion of the financial markets, especially the stock markets have been supported by the structural transformation in many economies, which is the direct outcome of the capital market development programs. On the supply side, the growth of savings from the household sector in addition to external funds in the form of foreign direct investment (FDI) and investments made by the financial institutions in the secondary markets have made the market more innovative and competitive, and enabled the issuers of securities and intermediaries to grow.

But the financial markets in developing countries are fragmented and face many other problems such as, repressive regulatory blockages, taxation absurdities, and ingrained cultural barriers acting as a disincentive to risk taking and entrepreneurship development. Further, the complex and expensive bureaucracy discourage the people who are willing to act in the financial markets, particularly in securities markets. The drawbacks in the emerging financial markets, which include shortage of the right type of skilled people, paucity of high-tech small and medium size enterprises (SMEs) and the reduction of institutional investors to take active part in financial markets. Concerns of the market policy makers, operators, participants, and stakeholders are how efficiently the local capital markets respond to the challenges of limited local and foreign investments, how the capital controls impact the activity in the macro economy that rapidly changing capital market and what their implications for monetary policy success are. The impact of various forms of capital markets including the government securities market and capital restrictions on the growth of an equity culture, IPOs, explosion of pension funds, increase in supply of domestic capital investment and economic growth are now enhanced dimensions of modern theory of financial markets. Increasingly, there is a blurring of the distinction between banks, securities firms and insurance companies. Financial conglomerates undertake all activities through their subsidiaries. There is therefore, an increasing need for consolidated supervision and coordination among regulators.

Efficient financial sector strategy rationalizes the financial system and upgrades the efficiency of the financial markets to assist the economies in transforming from directed to market-led operations. The overall development of financial markets is seriously restricted if the stock market in any economy is stagnant with the weak and ill-equipped capital market regulator to monitor the activities of market participants and the legal and regulatory framework lag behind the international standards. Therefore, any strategy of financial markets development should address these issue and aim at (i) stock market development, (ii) efficiency enhancement of the mutual fund industry, and (iii) long-term resource mobilization for the leasing industry.

The objectives of capital market development should include the (i) enhancement of prudent management of efficiency level and transparency of stock market as a reliable mechanism for mobilizing long-term debt and equity resources for the private sector; (ii) study of the constraints on and potentials of the mutual fund industry with particular focus on the institutional framework and operational efficiency of the major participants, viz., the government-owned investment companies, National Investment Trust (NIT) and investment corporations; (iii) exploration of new long-term financing alternatives including scrutinizing lease receivables to expand the resource base of the leasing industry; and (iv) building up capacity of regulatory authority.

Improvements in the operations, governance and management of the stock exchanges, establishment and prudent management of the centralized depository and clearing and settlement system, and strengthening regulations are essential for development of the stock market. Under the mutual fund component, amendments on regulations to be made to (i) expand investment options of mutual funds; (ii) allow for the establishment of special purpose funds; (iii) prevent conflicts of interest between fund managers and brokers; (iv) enhance the role of trustees; (v) implement disclosure requirements of net asset value on a daily basis; (vi) promotion of contractual savings institutions, (vii) remove restrictions on investments in various funds by other institutional investors, and (viii) streamline taxes to avoid double taxation.

5.12 Regulation of Financial Markets

Prudential regulation is important for ensuring the properly functioning financial markets irrespective of size and financial strength of the countries. The essential features an efficient regulatory system of financial markets should include:

- a. Rules for the markets and the participants, which are in line with market conditions and, at the same time, underpin the stability of the financial system;
- b. Organizational forms of financial market supervision which should mirror market structures, but not run ahead of them;
- c. Harmonized supervisory practices in order to improve and safeguard the 'level playing field';
- d. A sufficient quantity of highly qualified experts in the field of supervision.

Globalization, technological progress and international competition are the factors that reshape all the financial markets and of course, the stock markets throughout the world. The stock markets are engaged in fierce competition with each other. Issuers and investors want a liquid market that is efficient, secure and as cost-effective as possible in terms of both trading and settlement. Alliances and mergers are strategic options for strengthening competitive positions. These changes are taking place in a setting where there is comparatively little harmonization in the regulatory environment provided by securities and stock exchange laws. Relatively new competitors have been entering the field in the shape of electronic communication networks (ECNs). These are electronic trading platforms but are not licensed stock exchanges. In terms of turnover, ECNs do not play a major role at present but, even so, there arises the problem of competition between licensed and regulated stock exchanges and the scarcely regulated ECNs.

Over the years, financial regulation and supervision in many countries have been organized around specialist agencies that have distinct and separate responsibilities for banking, securities and insurance sectors. But there has been an apparent trend towards restructuring the financial regulatory and supervisory functions in many countries in recent years. One of such restructuring measures is the formation of unified regulatory and monetary agencies that supervise one or more of these areas (see table 5.4 in annex 2).

The main stimulants behind the current tendency of separating banking and financial regulation and supervision from the central bank and assigning it to an independent agency are the worldwide economic reforms and more importantly the financial liberalisation. Under the philosophy of ongoing worldwide financial liberalisation and integration of financial markets, the dividing lines between financial and even financial and non-financial institutions have become increasingly blurred. The arguments for separation of banking supervision from the central bank are that potential systemic financial crises would have to be handled by a committee, not a unified Central bank, which will enable each individual authority to tackle the problems in an unbiased manner and allows the market forces to

Chapter 6

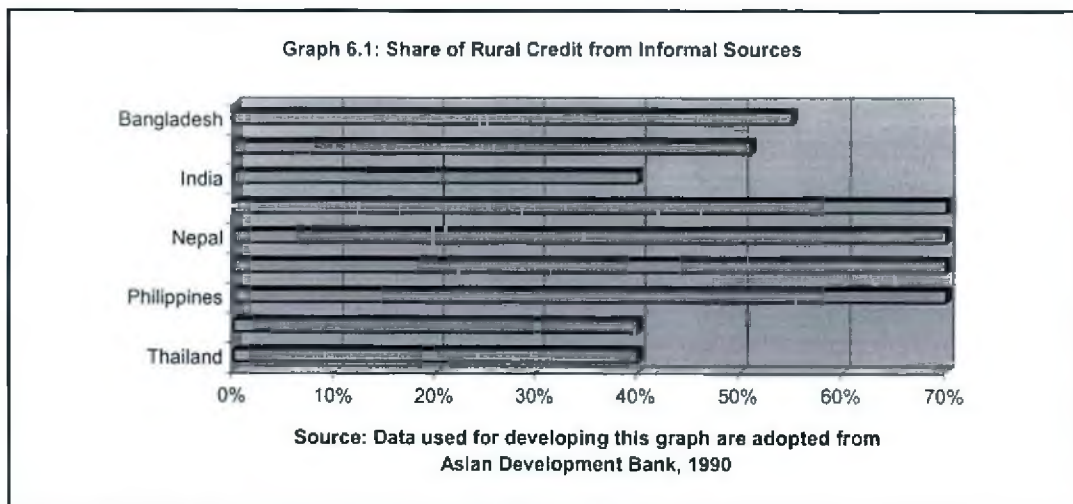
Financial Markets in Bangladesh

6.1 Introduction

The fundamental roles the financial markets play in fostering broad based economic growth are evident in many developed countries. A careful study of certain episodes and issues in financial history can help us make more informed decisions about the financial world of today whether we are bankers and traders, policy-makers, private investors or academics. In developing countries, policy and research focuses have been placed primarily on the improvement of the 'real' side of the economy rather than on the institutional aspects. Empirical literature and research often show that financial development, particularly the development of money and stock markets is correlated to current and future economic growth, capital generation and accumulation, and productivity improvements (Levine and Zervos, 1996). To bring these roles into full effect and reap their economic benefits, a financial market needs to be strategically developed, structurally sound and informationally and operationally efficient.

The previous five chapters have laid down the foundation of the thesis by elaborating the nature, structure, institutions, tools and instruments, stability and soundness requirements, operational mechanism and development impact of financial systems and financial markets in general with particular emphasis on those in developing countries. The general features found stand still through literature review in chapter 3, financial systems and markets in chapter 4 and 5 respectively, have facilitated the checking of comparative stance of financial markets in Bangladesh, their strength and weaknesses and the development requirements and potentials.

Bangladesh is a less developed country and its economy is dominated by informal sector (55%). The share of private and government formal sectors is 35 percent and 10 percent respectively. The informal financial activities in the country account for a large part of its financial markets, and have long been playing a significant role in the rural financial intermediation process. Institutions of informal financial market meet the credit needs of small and micro-enterprises: both farm and non-farm. Graph 6.1 presents the share of informal finance and a picture about how informal finance serves the credit requirements of those, which are often regarded as unbankable by the formal financial institutions.



However, the area of concentration of this dissertation, as has mentioned above, is the formal part of financial market in Bangladesh. This chapter draws an overview of structural, institutional and operational framework of the country's formal financial market along with the evolutionary process of various segments of the market. The following few chapters have made analytical and empirical evaluations on the performance of money market, foreign exchange market and capital market inclusive of testing the adopted research hypotheses.

6.2 Financial Market in Bangladesh: Structure and Depth

The ongoing wave of deregulation, globalization and advancements in information communication technology (ICT) continues to impact the structure of domestic and international financial markets and the nature of financial service firms. Currently, governments and regulators around the world are evaluating their rapidly changing financial systems and the ways those systems influence national economies. As the country's financial market remains infant and weaker, Bangladesh needs to develop and strengthen the structure and policy and operational efficiency of its financial markets to cope with and avail the benefits of long-going world-wide wave of financial market development.

Two major components of the country's formal financial system, money market and the capital market form the general structure of the financial market of Bangladesh. The current structure of the country's financial system and the financial market is depicted in figure 4(iv) in annex 1.

Few people are aware of the size and dimensions of the country's money market because the general public do not participate in many of its components, especially in the call money transactions and most businessmen don't encounter it in their daily activities. The money market of the country is mostly bank-based and its current structure comprises 49 scheduled banks that are in operation. Non-bank financial institutions established under the Financial Institutions Act, 1993 have been accorded permission by the Bangladesh Bank to participate only in the inter-bank money market transactions. Domestic foreign exchange market has greater impact on the functioning of the country's money market as the interest and inflation rates, and other economic and non-economic factors in this market heavily influence the prices of foreign exchange.

The formal capital market in Bangladesh comprises two segments: securities market and the non-securities market or institutional investors' part. The securities market operates through the stock exchanges as well as over the counter (OTC)²³. The non-securities segment concerns the banks and non-bank financial institutions that are engaged in providing short, medium and long-term financing.

Nevertheless, the financial market of Bangladesh serves the economy by way of both (a) indirect lending/financing through financial intermediaries and (b) direct lending/financing through securities markets. However, analyzing evolutionary process of the country's money and capital markets would certainly add some new inputs to the empirical examination initiatives made in the following chapters. Because a careful study of certain

²³ Over the Counter Market (OTC): When the broker/dealers negotiate directly with one another over computer networks and by phone to make pre-IPO placements or ,A security, which is not traded on an exchange, usually due to an inability to meet listing requirements. These securities and their /performance/activities are monitored by the Regulators. OTC stocks are usually very risky since they are the stocks that are not considered large or stable enough to trade on a major exchange. They also tend to trade infrequently, making the bid-ask spread larger.

episodes and issues in financial history can help us make more informed decisions about the financial world of today whether we are bankers and traders, policy-makers, private investors or academics.

6.3 Evolution of Money Market in Bangladesh

The bank-based money market in Bangladesh has evolved through a series of changes and reforms. Before the independence of the country in 1971, there were 1130 branches of 12 banks in operation in East Pakistan. Bangladesh inherited those banks and the journey of the country's money market began with them. The foundation of independent banking system in Bangladesh was laid through the establishment of the Bangladesh Bank (BB) in 1972 as the country's central bank by the Presidential Order No. 127 of 1972 (which took effect on 16th December 1971). Through the Order, the eastern branch of the former State Bank of Pakistan at Dhaka was renamed as Bangladesh Bank as a full-fledged office of the central bank of Bangladesh and the entire undertaking of the State Bank of Pakistan in, and in relation to Bangladesh has been delivered to the BB.

Bangladesh Bank has been entrusted with all of the traditional central banking functions including the sole responsibilities of issuing currency, keeping the reserves, formulating and managing the monetary and credit policy, regulating the banking system, stabilizing domestic and external monetary value, preserving the par value of Bangladesh Taka, fostering economic growth and development and the development of the country's money market (Bangladesh Bank Order, 1972). Nevertheless, the post-liberation government took initiatives and adopted measures to restructure the bank-based money market of Bangladesh. Initially, the government through the Bangladesh Banks (Nationalization) Order 1972 took the ownership of all inherited banks except foreign ones and formed six nationalized commercial banks (see table 6.1).

Table 6.1: Nationalized Banks under Banks (Nationalization) Order 1972

New Banks (NCBs)	Original Banks
Sonali Banks	The National Bank of Pakistan The Bank of Bahawalpur Ltd. The Premier Bank Ltd.
Agrani Bank	The Habib Bank Ltd. The Commerce Bank Ltd.
Janata Bank	The United Bank Ltd. The Union Bank Ltd.
Rupali Bank	The Muslim Commercial Bank Ltd. The Standard Bank Ltd.
Pubali Bank	The Australian Bank Ltd. The Eastern Mercantile Bank Ltd.
Uttara Bank	The Eastern Banking Corporation Ltd.

During 1972-83, the nationalized commercial banks performed the money market activities under a rigid regulatory regime. Throughout this period, the NCB-led money

market of Bangladesh suffered an infirmity due to absence of competition, and also from both allocation and operational inefficiency. On the other hand, the country lacked capital market because of absence of institutional investors and securities market until 1976. Thus the money market went on a long way with a thin instrumental and institutional structure. With the opening of the market for private sector banks, insurance and other financial institutions in 1984, the money market of the country started to get institutional stimulation. The financial sector reform project (FSRP) implemented in the country in the early 1990s placed particular emphasis on banking sector liberalization and development. The impact of the reforms has been investigated in chapter 10.

The formal money market institutions include the central bank (Bangladesh Bank) at the core as the regulator, 4 nationalized commercial banks (NCBs), 30 domestic and 10 foreign private commercial banks, and 5 specialized (development) banks. A total of 49 banks with over 6000 branches conduct money market operations. The non-bank financial sub-sector now comprises 28 non-bank financial institutions commonly known as leasing companies and 64 insurance companies, which are also permitted by Bangladesh Bank to participate in the inter-bank money market transactions. There is a large informal money market in the country that encompasses mainly the moneylenders of various types, small co-operative societies, a number of non-scheduled banks and micro finance institutions (MFIs). The MFIs and other non-bank financial institutions and agents are not under the regulatory purview of the central bank and therefore, kept off from the scope of this dissertation.

It is worth mentioning that the scheduled banks²⁴, in addition to taking deposits through various types of traditional bank accounts, making short-term lending and undertaking short-term investments, are now heavily involved in long-term lending. Long-term lending is taking place through large loan exposures either by a bank solely or through syndications of more than one bank. Under the provision of Clause 27 (3) of the Bank Company Act, 1991 in force in the land, if a particular loan amount to a single borrower exceeds 15 percent of the bank's own capital, such a loan is defined as large loan. However, no bank company in Bangladesh is permitted to lend 100 percent equivalent of its capital or more to one borrower. The practiced credit-deposit ratio is 80 percent, i.e., a bank can lend up to 80 percent of its total deposit receipts. Banks provide large loans for buying capital machinery and meeting other long-term fund requirements. Side by side with short-term financing, the country's banking system has also been contributing to both money and capital market development process. Besides the banks, their branches licensed and authorized by Bangladesh Bank to deal in foreign exchange (ADs), the approved moneychangers and the central bank at the core, no other formal or informal institutions are permitted to involve in the foreign exchange market activities.

6.4 Evolution of Capital market in Bangladesh²⁵

The present shape of capital market in Bangladesh has been evolved through a series of changes and reforms. The history of capital market in Bangladesh dates back to the Mughal era in the early 17th century, when limited scaled, but organized money and capital market

²⁴ It is mandatory for both domestic and foreign banks engaged in banking business in Bangladesh to be scheduled with the Bangladesh Bank under the provisions of the Bangladesh Bank Order 1972 (Presidential Order No. 127 of 1972).

²⁵ Information for this section (6.4) and the subsections under it (i.e. 6.4.1, 6.4.2, 6.4.3 and 6.4.4) have been adopted from various articles published in "History of Bangladesh: 1704-1971 (Economic History), Vol-2, edited by Sirajul Islam, published by Asiatic Society of Bangladesh, Dhaka, 1997 and Twenty Years of Pakistan: 1947-67, *Altaf Gauhar (1967)*: Pakistan Publications, Rawalpindi-Dhaka.

activities begun in Suba-e-Bangala. Since then the market underwent three different waves of state administrative regimes, namely the Mughal or Nawabi, British colonial and Pakistani regimes until the country's independence in 1971.

6.4.1 Mughal Regime

Although at a limited scale, the idea of capital market transactions started to consolidate in the very early stage of Mughal administration in the greater India including Bengal in seventeenth century. Bengal under the Nawabs was fairly developed in trade and communication. One English historian described Bengal of the Nawabi period as "easy in its finances, moderate in its expenditure, free from charges and cares of independent dominion, its inhabitants enjoying in the occupation of agriculture and commerce, public peace and abundance" (cited in Chaudhury, 1997). The prosperity of Nawabi Bengal was attributed to large investments by European nations and dispersal of Bengal raw silk, cloths etc. in vast amounts to the west and north and inland as far as Guzrat, Lahore and even Ispahan. Bengal exported large volumes of agricultural and industrial products to Asia and Europe. Asian merchants and Europeans, especially the English and Dutch East India Companies invested their money to buy exportable goods and sometimes provided local producers with loan funds. The volume of production of farmers and artisans were dependent on the supply of credit by local and foreign moneylenders and merchants. But the cost of borrowing money was very high. In 1720-21, the English companies' debt in Bengal amounted to Rs 2.4 million. The Dutch company also borrowed from the local capital market. Their debts to the Kashimbazar merchants with interest amounted to about Rs 1.5 million in September 1724. In March 1754, Dutch borrowings in Bengal stood at Rs 2.83 million. Jagat Seths had been the main creditor of the European companies. The French and the Ostend Companies also borrowed freely from the local money markets. The Ostend Company borrowed money from local Sarafs and merchants. In the three years between 1755 and 1757, the Dutch debt to the Houses of Jagat Seth amounted to Rs 2.386 million. At the time of the fall of Chandranagar in March 1757, the French owed Rs.1.5 million to the Jagat Seths.

The capital market of the 17th century Bengal often faced scarcity of funds. Availability of investible funds in Bengal was dependent on the exchange rate in Agra since local Sarafs and money merchants directed their funds to Agra to avail of the benefits of higher exchange rates. Commercial banks established in the second half of the 17th century were engaged in providing short, medium and long-term loans and trade financing. The growing pace of trade in Bengal resulted in substantial increases in the circulation of money that led to the development of banking and finance throughout Mughal Bengal. Generally, moneylenders, moneychangers, village merchants (mahajans) and shopkeepers performed the function of banks and advanced both long and medium term loans to rulers when the latter were in financial hardships. Indigenous bankers also issued and discounted hundies (bill of exchange) and bank drafts. Apart from their financial transactions with government, these banking houses also extended loans to private parties mostly on mutual trust and sometimes without a document, or even a witness. Long-term loans were also granted on mortgages of lands, ornaments and other properties.

6.4.2 British Regime

The British East India Company controlled both the administration and trade of Bengal until 1813. Later on, other British companies were allowed to enter into and conduct business in the Bengal area. To operate and manage production, and trade and commerce, the Houses of Agencies started coming into being under partnership arrangements with the British private traders and Calcutta-based merchants. But these agency houses and private

traders did not have sufficient money, technical knowledge and expertise. As a result, huge amount of capital and technical know-how was imported from Britain for investment in Bengal. All new firms, private traders and agency houses also used to borrow large amount of money from local sources. Issuance of paper certificates or bonds by the East India Company made the transfer of funds easier. The flow of long-term capital started to increase in Bengal with British investment in the railway sectors in 1854. Local moneylenders and landlords then lent their money to indigo planters. The existing banks were also involved in extending capital finance to various professionals and artisans. The Bengal Bank was the oldest bank in the British era. Three Presidential banks that followed the establishment of the Bengal Bank were the Bank of Calcutta (1806), Bank of Bombay (1840) and Bank of Madras (1843). After 1850, banks in British India started to extend long-term loans abreast of short-term lending. Seventeen loan offices were established throughout the Bangladesh region between 1850 and 1894. The various banking and financial institutions established in the present Bangladesh area during the British period include those in the name of loan office at Faridpur (1865), Bogra (1872), Barisal (1873), Mymensingh (1873), Nasirabad (1875), Jessore (1876), Munshiganj (1876), Dhaka (1878), Sylhet (1881), Pabna (1882), Kishoreganj (1883), Noakhali (1885), Khulna (1887), Madaripur (1887), Tangail (1887), Nilphamari (1894) and Rangpur (1894).

The Bengal Bank had opened its first branch in Dhaka by purchasing the Dhaka Bank in 1862. In 1873, it opened two branches in Sirajganj and Chittagong. Another branch of Bengal Bank was opened in Chandpur in 1900 AD. Six branches of Bengal Bank were in operation in the Bangladesh region until the partition of India in 1947 and these branches were located at Dhaka, Chittagong, Mymensingh, Rangpur, Chandpur and Narayanganj. In combination of the three presidential banks, the Imperial Bank of India was set up in 1921. The Reserve Bank of India came into being in 1935. In addition to those banks mentioned above, there were other banking and financial institutions throughout the British India including the territory of Bengal.

The bank-finance run capital market was augmented significantly by the establishment of 15 new commercial banks in the region between 1896 and 1942. Banks established in this period were the Kurigram Bank (1887), Kumarkhali Bank (1896), Mahaluxmi Bank, Chittagong (1910), Dinajpur Bank (1914), Comilla Banking Corporation (1914) and Comilla Union Bank (1922). Major Indian banks of the period having branches in the territory were the National Bank of India (1864), Bengal Central Bank (1918), New Standard Bank (1920), Imperial Bank of India (1921), Pioneer Bank (1923), Bank of Commerce (1929), United Industrial Bank (1940), Habib Bank (1941) and United Commercial Bank (1942).

6.4.3 Pakistani Regime

Following the partition of British India in 1947, Pakistan inherited banking and credit structure comprised of 631 branches of various banks, including some foreign ones, having no formal securities market, i.e., stock exchanges. As the headquarters of most of these bank offices were located in India, 436 bank offices had to shut down within six months of partition. Until the establishment of the State Bank of Pakistan-the central bank of the country in July 1948, the Reserve Bank of India performed central banking functions for both countries under the partition agreement. Along with the normal central banking activities, the State Bank of Pakistan was entrusted with the responsibility of operating and fostering the growth of the country's monetary and credit system. The Bank took significant steps to develop the country's banking system through setting up of commercial banks and credit institutions.

The National Bank of Pakistan, a commercial bank was set up in 1949. In all, 36 scheduled commercial banks were in operation in the united Pakistan. Most of these banks were owned by the Pakistanis and only three of them namely, National Bank of Pakistan, Habib Bank and the Australasia Bank, each had a branch in the East Pakistan in 1949. During 1950-58, three other Pakistani-owned banks, the Premier Bank, Bank of Bawalpur and Muslim Commercial Bank had opened branch of their own in East Pakistan. Four Pakistani-owned banks, the United Bank, Union Bank, Standard Bank and Commerce Bank conducted business in the province during 1959-1965. Apart from the progress in commercial banking, other expansions had there been taken-place to meet medium and long-term credit requirements of agriculture, industry and housing through setting up of several specialized financial institutions during the period from 1947 to 1970.

The eastern province of Pakistan (East Pakistan) had only two banks owned by local business groups with headquarters at Dhaka, the Eastern Mercantile Bank (presently Pubali Bank) and Eastern Banking Corporation (presently Uttara Bank) established in 1959 and 1965 respectively. Bank fund-based capital market in the territory of Bangladesh experienced a slow growth during the British and Pakistan periods. There had been only 25 bank branches in 1901 and the number grew to 668 in 1946. After the creation of Pakistan in 1947, a total of 148 branches of different banks had been closed by 1950. The number of branches reduced to 520 by 1965. The later years, however, show some dramatic changes in the situation and the number of bank branches increased to 1025 in 1970.

The institutions and instruments that comprised the capital market in Pakistan included: (a) post office saving banks, postal life insurance, defense saving certificates and prize bonds; (b) the National Investment (Unit) Trust; (c) the Industrial Corporation of Pakistan; (d) specialized credit institutions for agriculture, industry, and house-building viz. the Agricultural Development Bank, Industrial Development Bank, Pakistan Industrial Credit and Investment Corporation, and the House Building Finance Corporation of Pakistan.

As the first stock market in Pakistan, Karachi Stock Exchange was established and registered in 1949 at Karachi. At that time, some organized stock dealings also took place in Lahore. The East Pakistan Stock Exchange Association Limited was founded in 1954 in Narayanganj, which commenced operations in 1956. However, the really active market was the Karachi Stock Exchange. Initially, the Karachi Stock Exchange and the East Pakistan Stock Exchange Association Limited provided market places for gilt-edged securities as well as for equity issues of public limited companies. The East Pakistan Stock Exchange Association Limited was renamed the Dacca Stock Exchange Ltd (DSE) on 23 June 1962 and was shifted to Dhaka.

The insurance industry in the country had substantially contributed to the capital market development in Pakistan. With 81 companies including 40 indigenous ones, the insurance industry was a major supplier of long-term funds in the capital market. Of the 40 indigenous insurance companies, 10 were registered in East Pakistan. Life insurance became an important source of capital formation in the economy. Total investment of all insurance companies at the end of 1964 was Rs.386.81 million.

6.4.4 Bangladesh Period

In 1971, the independent Bangladesh inherited from Pakistan a very small financial market consisting of 1130 branches of 12 commercial banks, the Dacca Stock Exchange Ltd, 10 insurance companies established between 1958 and 1971, and the Samabaya (co-operative) Bank Ltd. After the independence of Bangladesh in December 1971, the bank-led financial market in the country started operations with the inherited bank branches, which were

merged into six banks, all nationalized and renamed. The new names of the banks were the Sonali Bank (The National Bank of Pakistan, The Bank of Bawalpur, The Premier Bank), Agrani Bank (Habib Bank, Commerce Bank), Janata Bank (United Bank, Union Bank), Rupali Bank (Muslim Commercial Bank, Standard Bank), Pubali Bank (Australasia Bank, Eastern Mercantile Bank) and Uttara bank (Eastern Banking Corporation). Bangladesh Bank, the central bank of the country, was set up on 16 December 1971 by virtue of the Bangladesh Bank Order, 1972. The government had accepted the assets and liabilities of the Deputy Governor's office of the State Bank of Pakistan in Dhaka and vested them to Bangladesh Bank.

The activities of the DSE went suspended in 1971 due to the war of liberation and also remained dormant in the post-liberation years until the middle of 1976. The DSE resumed its operations in mid 1976. As a step towards the development of capital market for encouraging the base of investment in the country, the government of Bangladesh established the Investment Corporation of Bangladesh (ICB) on 1st October 1976. Another significant development was setting up of the International Finance and Investment (IFI, currently IFIC Bank) for the purpose of undertaking banking and other financial business outside Bangladesh either singly or in collaboration with companies, financial institutions and banks. The principal objective of establishing the IFI was to develop and strengthen banking and financial relationship between Bangladesh and important financial centers in other countries, particularly the oil-rich Arab countries of the Middle East.

The ICB (Investment Corporation of Bangladesh) and the IFI (International Finance and Investment) helped substantially in adding momentum in the country's capital market. The ICB was also entrusted with the responsibility of accelerating the pace of industrialization, developing a vibrant capital market and providing institutional support to meet the equity and knowledge gap of public limited companies in the industrial sector. Over time, ICB expanded its area of operation. It now underwrites public issue of shares and provides bridging loans to priority sectors. It also participates in direct purchase of shares, and the underwriting, purchase, and sale of debentures, and bonds. It has been managing investors' accounts, mutual funds and unit funds and participating in trade in the stock exchanges. In the mid-1980s, two private investment companies namely, National Credit Ltd. and Bangladesh Commerce and Investment Ltd., were permitted to participate in the capital market, but their activities remained limited.

The growth of capital market in Bangladesh had been very slow because of a number of reasons including market imperfections and weaknesses in the regulatory framework. Long-term funds required by industrial enterprises were generally provided by government-owned development finance institutions (DFIs) at concessional and directed interest rates. These DFIs included the Bangladesh Shilpa Bank, Bangladesh Shilpa Rin Sangstha, Bangladesh Krishi Bank, Rajshahi Krishi Unnayan Bank and Bank of Small Industries and Commerce. Bangladesh Small & Cottage Industries Corporation (BSIC) is another institution that provides medium and long-term loans to small industries either directly or through consortium of commercial banks. Bangladesh House Building Finance Corporation (HBFC) provides long-term loans for construction of residential houses. DFIs generate their investible funds through allocations from government sources, credit from international financial institutions, and borrowings from the Bangladesh Bank. Co-operative banks in the country provide medium and long-term credit for purchase of land and agricultural equipment.

During the early 1970s, the debt-equity ratio in borrowings from the DFIs was relatively high. Yet, in the absence of a securities market, companies had to borrow from the debt market. They avoided the securities market even after its revival through the reactivation of the DSE in 1976. Small savers were also reluctant to invest their surplus funds in the capital market because of lack of confidence. Commercial banks and DFIs were preferred sources of capital for people having proximity to power and the intention to appropriate public funds through defaults in payment. The borrowers took advantage of the environment in which the loan recovery mechanism was ineffective. There were no stringent measures to recover overdue loans or prevent their turning into bad debts.

6.4.5 Recent Developments²⁶

The capital market in Bangladesh, particularly the securities segment was almost unregulated in the absence of any exclusive statutory regulatory agency until 1993. The Ministry of Finance governed the activities of the DSE, which said to have been very much routine and nominal in actual sense. The market started to get a disciplined shape since the early 1990s. To activate the country's securities market, the government in 1993 founded the Securities and Exchange Commission (SEC) as the regulator of the capital market. Major objectives of establishing the SEC are to protect the interests of investors in securities, develop the securities market, and ensure compliance of laws relating to proper issuance and exchange/trading of securities. In the subsequent years of 1990s, some more important laws were enacted.

The government policy shift from state-ownership to private sector-led economic growth initiated in the early 1980s stimulated huge private sector responses and motivated the key players in the capital market viz. the investors and the issuers. This has helped in expanding the securities market activity. With the commencement of functioning of the SEC, Bangladesh securities market statistics have been included in the Emerging Markets Fact Book of the International Finance Corporation (IFC). Over time, more initiatives have been taken to deepen and develop the market. As a part of expanding the size of non-securities segment, a number of institutions have been allowed to undertake merchant banking in Bangladesh.

The establishment of non-bank financial institutions under the Financial Institutions Act 1993 has expedited the process of capital market development. The private sector entrepreneurs responded quickly by establishing a remarkable number of leasing-centric non-bank financial institutions, which are now 28 in number upto December 2005.

To broaden the institutional and functional structure of the country's securities market, the second stock exchange in the country, the Chittagong Stock Exchange (CSE) was established on 1 April 1995. The CSE commenced its operation on 10 October 1995 by adding substantial movements in the securities market activities. During 1998-2000, the government implemented a capital market development project (CMDP) under the financial assistance of the Asian Development Bank. The objectives of the CMDP were to broaden the capacity of the equity market and to develop a fair, transparent, and efficient capital market. The specific targets of the CMDP were to (i) strengthen market regulation

²⁶ Information for this sub-section have been adopted from 'Activities of Banks and Other Financial Institutions in Bangladesh', various issues published by the Ministry of Finance, GOB, Annual Reports of concerned years of Bangladesh Bank, Commercial Banks and Non-Bank Financial Institutions in Bangladesh and related monthly, quarterly publications and annual reports of Securities and Exchange Commission and Dhaka and Chittagong Stock Exchanges.

and supervision, (ii) develop capital market infrastructure, (iii) modernize capital market support facilities, (iv) increase the supply of securities in the market, (v) develop institutional sources of capital to improve the demand for securities, and (vi) improve policy coordination. Although the outcomes of the reforms were not significant, the CMDP helped in bringing into light the institutional and operational efficiency development requirements of the capital market.

In continuance of efforts to bring positive changes in the capital market regulation and performance development, more reforms have been made in the securities market related laws. Some new laws have been introduced during 1976-2004. At present, the securities business in Bangladesh is regulated by Capital Issues (Continuance of Control) Act 1947, Companies Act 1994, Securities and Exchange Ordinance 1969, Securities and Exchange Rules 1987, Securities and Exchange Act 1993, Securities and Exchange Commission (Amendment) Act 1993, Securities and Exchange Commission (Brokers, Stock Dealers, Sub-Brokers) Regulation 1994, Securities and Exchange Commission (Insider Trading) Regulation 1994, Securities and Exchange Commission (Merchant Bankers and Portfolio Managers) Regulation 1994, Initial Public Offering (IPO) Rules 1998, The Central Depository Bill 1999, Margin Rules 1999, Trust Act 1882 and Securities and Exchange Commission (Mutual Funds) Regulation 1994. Moreover, there are specific rules and regulations for controlling the operation of stock exchanges. Table 6.2 in annex 3 shows the development indicators of securities market in Bangladesh throughout the period of 1997-2004. It is evident from the table that none of the market indicators experienced stable growth pattern except in case of a number of listed companies.

On 10 August 1998, automated online screen based trading system began in the securities market of Bangladesh with adoption of the Central Depository System (CDS) for electronic settlement of share trading in the DSE (SEC, 2005). On 24 January 2004, the DSE became a full depository participant (DP) of the Central Depository of Bangladesh Limited (CDBL) to facilitate trading of and provide its non-DP members with accounting and clearing services. The ultimate objective is to stimulate the stock trading activity.

Initially, the listed shares in the stock market were grouped into 13, which have later been extended to 16 on the basis of nature of businesses of sponsor/issuing companies. Table 6.3 in annex 3 shows the group-wise market capitalization performance of traded shares at the stock exchanges during 1996-2004.

In the mid-1990s, capital market of Bangladesh faced a number of critical issues, especially the share price bubbles and the market crash in 1996-97 due to various reasons, which has been examined in a latter section. Following the severe consequences of debacle in the stock market, some new policy and regulatory stringencies have been adopted, which are also discussed in later sections.

The non-securities segment is now constituted by institutional investors such as commercial banks (49), investment bankers and companies, merchant bankers (26), insurance companies (68), pension funds and schemes, DFIs (5), postal saving bank and schemes, postal life insurance, deposit pension schemes, employees insurance fund, security deposits, gift certificate deposits, sundry deposits, leasing companies and other non-bank financial institutions and co-operative land mortgage banks.

Chapter 7

Money Market in Bangladesh: Performance Analysis and Development Implications

7.1 Introduction

A money market²⁷ integrates a set of institutions, instruments, conventions, and practices with the aim of facilitating lending and borrowing of money and a range of monetary assets on a short-term basis different from the capital market, which is concerned with medium- and long-term credit. Thus, money market constitutes the short-term part of a financial system. The operational framework of financial system provides the key link between its monetary policy strategy and the money market. The money market is the first step in the transmission mechanism of monetary policy and a key source of information on expectations about monetary objectives. The monetary policy implementation is based on the control of very short-term, money market interest rates

The role of money market is commonly seen as the provision of short-term funds and the distribution of liquidity within the financial system. As the most dominant part of financial market in Bangladesh, the money market works both as a wholesale market at the inter-bank level and retail market at customers end. The market provides highly liquid, short-term IOUs. Banks and other non-bank financial institutions manage their liquidity through money market operations. They utilize their surplus liquidity by investing in the money market and fund their shortage of liquidity through borrowing from this market. Major participants in the money market of Bangladesh include all scheduled banks (domestic and foreign), leasing companies and the members of the public and other institutional and non-institutional entities in retail transactions.

This section provides an analytical profile of the formal money market in Bangladesh, focusing on the market's evolution, structure, tools and instruments, performance of its various components and the market's aggregate efficiency level.

7.1.1 Money Market Instruments²⁸ in Bangladesh

The money market of Bangladesh functions with a few traditional instruments and payment system tools. The list of existing money market products includes bank deposits of various

²⁷ The money market is the market that involves the short-term lending and borrowing of funds among a range of participants. The typical instruments traded in a money market have a short maturity and include treasury bills, central bank bills, certificates of deposit, fixed term deposits receipts (FRDs), banker's acceptances, and commercial papers. They also include borrowing through repurchase agreements and similar arrangements. Money market provides short-term liquidity to governments and financial and non-financial corporations. An active money market allows entities to manage their liquidity in an efficient manner by facilitating investment of excess holdings of cash in interest-bearing assets, which can be drawn upon when needed, and by providing a source of funds for those short of liquidity, or who wish to finance short-term positions in other markets.

²⁸ Generally, the maturity of all money market instruments is less than one year. But in some countries, the maturities vary up to five years depending on the policy of the respective monetary authorities. For example, 2 and 5 years Bangladesh government treasury bills are treated as money market instruments. However, money market instruments are, as a general rule, bearer documents and thus freely transferable merely by delivery. Any bearer of one of these instruments is deemed to be a holder for value and the financial institution on whom the instrument is drawn and to whom it is presented for payment is thus bound to honor its obligation thereon.

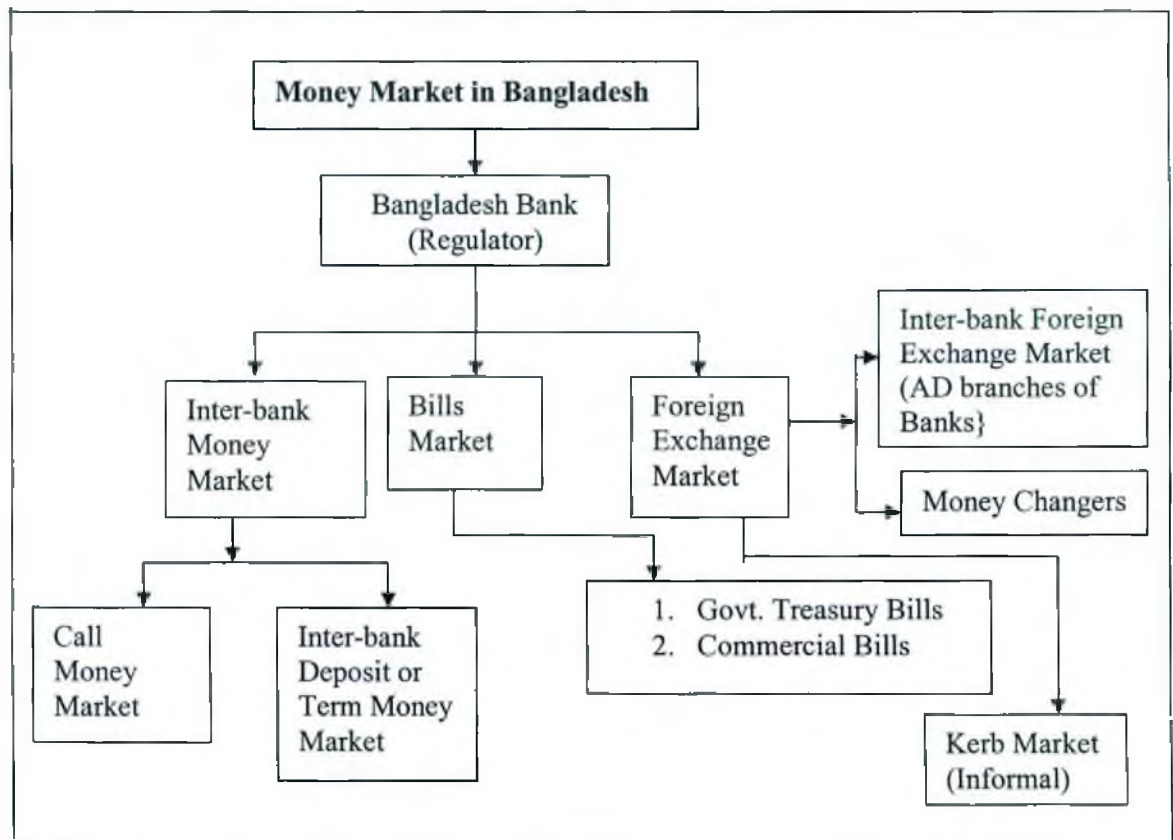
kinds such as demand, short-term (STD) and fixed deposits (FDRs), non-interest bearing current accounts deposits, special deposit schemes offered by banks, certificate of deposits (CDs), government treasury bills, bearer certificate of deposit and bills payable that constitute the liability side, and the loans and advances of different types that form the assets portfolio of the banks' balance sheet. There are no short-term tradable instruments and money market funds that are available in developed markets as shown in table 5.1 in chapter 5.

The list of government sponsored money market instruments includes mainly government treasury bills and several other interest bearing saving certificates. Interests on government saving certificates are payable to the buyers/holders quarterly, semi-annually and annually at rates fix up by the government from time to time. The treasury bills market at present operates with 6 different maturity government treasury bills, sold through regular weekly auctions on discount basis. Another non-tradable but easily convertible government debt security is one hundred taka denominated prize bond. Handsome amount of cash prizes are paid to the holders for the winning numbers drawn through quarterly lotteries under strict government supervision. Deposit taking and lending activities of non-government organizations (NGOs) and micro finance institutions (MFIs) are limited only to their members. Although the activities of these institutions help promoting the performance of money market, they are yet to be recognized as formal money market institutions.

7.1.2 Functional Structure of Money Market in Bangladesh

The formal money market of Bangladesh mainly consists of three components [see figure 7(i)]: inter-bank money market, bills market and the foreign exchange market. The inter-bank money market again comprises the call and inter-bank deposit markets.

Figure 7(i): Structure of Money Market in Bangladesh



Source: Developed by the Author

Sometimes, the inter-bank deposit money market is also called term money market, as the deposits are made for various specified tenures. The bills market has two components: government treasury bills and the commercial bills. Foreign exchange market traditionally encompasses the inter-bank foreign exchange market and the approved moneychangers. As the presence of parallel or informal korb market in foreign exchange is dominant in the country, it is shown in the market's microstructure in figure 7(i) at the previous page.

The operational framework of money market in Bangladesh is based on two main instruments: maintenance of fractional reserve requirements and open market operations applied through the issuance of government treasury bills, their 'repo' and 'reverse repo' transactions. Open market operations provide the money market with liquidity in exchange for eligible government securities, the government treasury bills and are mainly conducted by the country's central bank.

7.1.3 Inter-bank Money Market²⁹ in Bangladesh – Basic Characteristics

Inter-bank money market (IMM) is an organized market in which the participating institutions exchange funds represented by deposits with the Bangladesh Bank (BB). Participation in this market is allowed to institutions that are established and/or operate in the Bangladesh territory and are subject to the minimum reserve requirement system, and to those which, through the nature of their activity, are related to the money market. Inter-bank call money represents over 90% of total inter-bank transactions and the residual comprises inter-bank term money or notice deposits. The term deposits take the form of short-term deposits (STDs) and fixed deposits (FDs). There is no prescribed bottom or upper time limit for inter-bank term deposits from regulator's part. The participating banks can make such deposits for any maturity as per their requirements. Central bank's reserve requirements, such as SLR and CRR are not applicable on inter-bank deposits, as these are not considered as a constituting part of base money³⁰. On the other hand, no withholding tax³¹ for call deposit is required, but for STD & FDRs, this tax is 10 percent. Inter-bank money market of Bangladesh is mostly based in Dhaka. However, the IMM in Bangladesh is not completely an inter-bank market hence non-bank institutions are allowed access to this market.

²⁹ *Inter-bank market is the market in which banks lend or borrow reserve deposits to each other. This market allows banks with excess liquidity to lend these funds to banks with a shortage of funds, often overnight and usually on an unsecured basis. An efficient inter-bank market improves the functioning of the financial system by enabling the central bank to add or drain liquidity from the system more effectively and banks to redistribute their individual excesses and shortages of liquidity amongst themselves without causing undue interest-rate volatility. If funds do not flow freely among banks in the inter-bank market, this impedes liquidity management by individual banks, posing a risk to financial stability, and could result in the central bank having to supply liquidity to banks on a case-by-case basis, complicating the management of monetary policy.*

³⁰ *Base money or monetary base/money base: The base money (often called narrow money) comprises only of currency (banknotes and coins) and commercial banks' reserves/deposits with the central bank. As such, it is a narrow definition of money supply, consisting of only the most liquid forms of money. Wider definitions of the money supply include the public's bank deposits and are therefore larger in volume and encompass money of a lower liquidity.*

³¹ *The principle of a withholding tax is that it is withheld (retained) by the payer and given directly to the taxation authorities. The payee is given only the balance. The primary motivation is to reduce tax evasion or failure to pay.*

The common characteristics of IMM in Bangladesh are summarized as follows:

- (i) The local money market is restricted to domestic users;
- (ii) The major transactions in the IMM take place mainly in Dhaka where the head offices of all banks and other financial institutions are located. Sub-urban and rural branches of banks usually remit their excess funds to their respective head offices on which the head offices pay interests. The head offices, after meeting their liquidity requirement, invest the surplus funds in the call money market or make loans and advances to various users;
- (iii) The IMM is a telephone call-based over the counter (OTC) market. There is no brokerage house or intermediary organizations; the transactions in call money market usually take place on the basis of bilateral negotiations. Since call loans are made on clean basis, i.e., without any security, lending institutions/banks are always cautious in the selection of borrowing banks/institutions;
- (iv) The ratio of non-performing loans (NPL) of domestic banks is higher than that of the foreign banks operating in Bangladesh. The loan default culture is an obstacle to the development of money market in the country. Local private banks appear to be the regular borrowers in the call money market;
- (v) Information processing and dissemination systems of banks in Bangladesh are outdated. Market players are therefore unable to forecast the demand and supply levels of funds in the IMM. The asymmetries in the information system induced the vast liquidity holder banks and financial institutions to charge high interest rates in the IMM. This situation reveals the market's inefficiency and the level of imperfection;
- (vi) There is no recommended code of conduct for money market players and participants. Participation in the inter-bank call money market is not mandatory for banks. However, inducement from Bangladesh Bank's part is that banks should make call loans considering the liquidity and solvency of borrowing-banks and other financial institutions;
- (vii) Inter-bank call money (overnight) rates are very volatile, and occasionally spike as high as 20-35% and drop as low as 4-5%. Recently, the rate has been recorded even higher than 70 percent, which prevailed for a while, gradually declined and stabilized at around 45 percent for sometimes.

7.1.4 Call Money Market

The call money market functions within the framework of the inter-bank money market. Call money is an amount borrowed or lent on demand for a very short period, usually overnight. If the period is more than one day, it is called notice money. As per usual practice, if the borrowing and lending occur for more than 7 days to any longer maturity, these are termed as inter-bank deposits or term money. Call money captures over ninety percent of total IMM transactions. It is found that inter-bank deposits generally took the maturity of 7 days to 3 months, but longer tenure is not restricted. Such deposits for more than six months and above are very infrequent in the IMM. Intervening holidays and/or Fridays are excluded for this purpose.

The inter-bank call money market in Bangladesh is not quote-driven (brokers/dealers market). It is rather an order-driven market. In a quote-driven market, dealers quote bid and ask prices, i.e., two-way rates of interest and dealers may take positions, while in a pure order-driven (by negotiations) market, potential buyers and sellers contact each other, submit orders. There is no third party involvement in the inter-bank money market in Bangladesh. The borrowing and lending institutions directly negotiate the transactions and process and settle them through the central bank. No collateral security is required to cover these transactions. In this non-collateralized operation, the institutions provide, on a trust basis, to other institutions authorized to operate in the market, through their funds held in their local currency (current) accounts with the Bangladesh Bank.

The call money market in Bangladesh is now functioning in an open market environment. In fact, there is no set pricing mechanism in the IMM. The intervening institutions are free

to negotiate the amounts to be borrowed or lent, interest rates, maturities (from overnight to any longer), and value date (i.e. the day of making or receiving payments, which may be on the same business day, or on the first or second following business day). There is no minimum or maximum threshold amount to be negotiated/transacted in a deal, but the market practice is usually 10 million, i.e. 1 crore Taka. However, market records show that towards the end of the day of business or during liquidity crisis period, banks borrow/lend Taka 5.0 million or even less than that.

The Bangladesh Bank needs to be informed of each deal in order to processing the financial settlement and making accounting entries in the taka current accounts of the banks and institutions involved. On the maturity date, Bangladesh Bank automatically makes the reimbursements of principal and interests to and from their taka current accounts maintained with it without intervention of the counter-parties.

Collateralized operations are in practice in the treasury bills market in the form of repurchase agreements³² (repo) and reverse repurchase³³ agreements (Reverse repo) keeping or taking treasury bills as collateral security, whose management and operations are entrusted to the Bangladesh Bank. The treasury bills market in the country now operates with dematerialized instruments, where no physical scrip is transferred to the buyers. All T-bill related transactions are settled and recorded through the recently introduced 'central depository system (CDS)³⁴'. Bangladesh Bank has its special 'T-bills Electronic Registry³⁵' with the CDBL run under the central depository system (CDS). The

³² Repo/Repos, short for *repurchase agreements*, are contracts for the sale and future repurchase of a financial asset, most often treasury securities. On the termination date, the seller repurchases the asset at the same price at which he sold it, and pays interest for the use of the funds. Although legally a sequential pair of sales, a repo is essentially a short-term interest-bearing loan against collateral.

A contract in which the seller of securities, such as treasury bills, agrees to buy them back at a specified time and price. Also called repurchase agreement or buyback.

The annualized rate of interest paid on the loan is known as the repo rate. Repos can be of any duration but are most commonly overnight loans. Repo for longer than overnight is known as term repo. There is also open 'repos' that can be terminated by either side on a day's notice. In common parlance, the seller of securities does a repot and the lender of funds does a reverse. Because money is the more liquid asset, the lender normally receives a margin on the collateral, meaning it is priced below market value, usually by 2 to 5 percent depending on maturity.

³³ Reverse Repo - Reverse Repurchase Agreement – Reverse repo was introduced in Bangladesh on 3 May 2003. It is a purchase of securities with an agreement to resell them at a higher price at a specific future date. This is a way to borrow money and allow the securities to be held as collateral. Reverse repos occur most often in government securities, and often also in other securities that are highly valued and thus considered a good source of collateral.

³⁴ CDS - Central Depository System is a computer based Electronic Book Entry System to record and maintain securities and to register their transfers. It facilitates holding of securities in electronic accounts and faster and easier processing of transactions for securities (shares, bonds and treasury bills). In Central Depository System, ownership will be changed without physical movements of securities or execution of transfer deeds. The ownership will be transferred as soon as securities move from one account to another. CDS is purely a settlement vehicle and will not affect the trading in any manner whatsoever.

³⁵ The purpose of Electronic T-bills Registry- Issuing scrip-less T-bills and recording them in an electronic registry at CDBL, results in: (a) eliminating the need to issue and keep track of paper certificates; (b) facilitating transfers of ownership arising from secondary market transactions; (c) eliminating the need to present certificates upon maturity; and (d) ensuring an up-to-date record of owners, which would be as

Central Depository of Bangladesh Ltd (CDBL)³⁶ is a private sector limited company that sells CDS services in the country on commercial basis. Electronic entries are made for each transaction as and when necessary in BB's T-bills Electronic Registry. The CDS has provided the infrastructure and facility for centralized as well as electronic same day settlement of T-bill transactions through linking up all participating banks and other institutions with online transmission system.

A high profiled committee (T-bills Auction Committee) in the Bangladesh Bank conducts the T-bill auctions for issuance, repo and reverse repo deals. After the completion of the auctions, BB makes required debit and credit entries in its computer-based subsidiary ledgers for each participating bank having online connection with the CDS. Entries made in the subsidiary ledgers of the BB automatically reach the BB's Electronic T-bills Registry with the CDBL. The CDBL then makes subsequent postings into the CDS-based accounts of the participating banks and institutions.

7.1.5 Performance of Inter-bank Money Market

Call money transactions are at the central focus of inter-bank money market (IMM). The call money transactions do occur as overnight borrowing and lending amongst the participating banks and leasing companies. The performance of call money market is measured in terms of movement of interest rates, number of deals held, amount involved and the market turnover in relation to GDP. Market turnover reflects the ease with which institutions can manage their liquidity, without having a major influence on interest rates or exceeding credit limits. Turnover depends on several factors, including the type of instruments traded, interest rate flexibility, the maturity profile of inter-bank loans and the nature of market regulations. The inter-bank money market in Bangladesh is institutionally deep but thin in instruments. There is no local currency interest rate or other financial derivatives in the money market of Bangladesh. In general, trading of debt securities, other than government treasury bill, is not a strong feature of the country's money market. There are no private sector papers in the money market that can function as a substitute for direct bank loans. Thus the inter-bank money market of Bangladesh suffers short supply of instruments and other structural and strategic shortcomings.

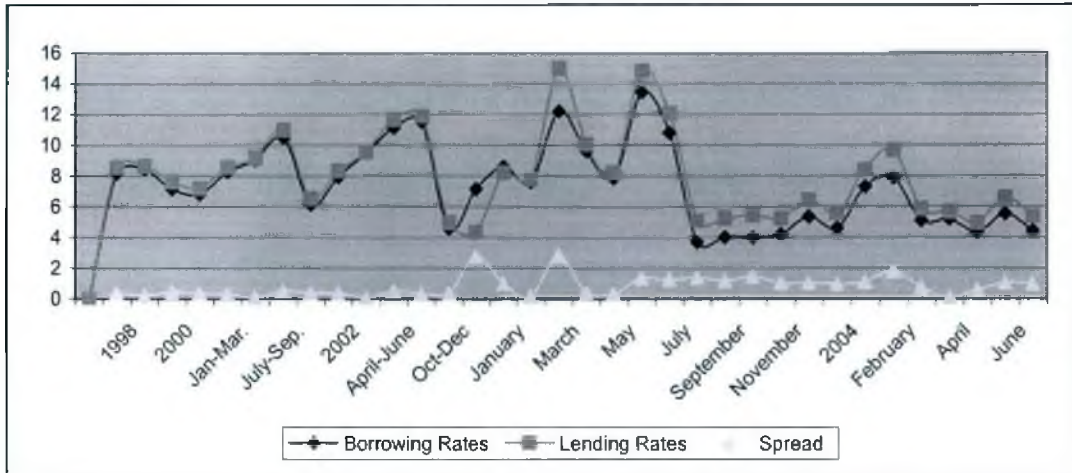
The movements of call money interest rates during 1997-2004, as shown in tables 7.1 in annex 4), and graph 7.1 reveal the market's overly fluctuating behaviour throughout the entire period in question. Both borrowing and lending rates reached their highest in June 2003 and stood at 33.25% and 34.99% respectively. Their average positions were also

current as the last transfer recorded in the system. Other operational facilities provide by the Electronic T-bills Registry includes doing away with the need to store (in vault or safe) and account for physical certificates, strengthening controls over T-bills under custody on behalf of third parties as proper segregation can be effectively enforced at the registry level; protecting investors' T-bill holdings from potential misuse by intermediaries since their holdings can be kept under their names at the registry; promoting secondary market trading with a reliable and efficient infrastructure that facilitate transfers of ownership; and ensuring timely receipt of maturity payments by enhancing investors to designate bank accounts where payments can be credited.

³⁶ CDBL-The Central Depository of Bangladesh Limited (CDBL) is a company set up by the banks, stock exchanges and other institutions to operate the central securities depository in Bangladesh. A depository is like a bank for shares instead of money. Instead of holding shares in the form of certificates, investors have accounts in the depository and are able to move securities and settle stock exchange transactions by an electronic update of their accounts. The core service of a depository is the efficient delivery, settlement and transfer of securities through a computerized book entry system. Virtually, all established markets including Japan, India, Malaysia, Pakistan, Sri Lanka, Thailand and most developed countries have central depositories.

highest: borrowing 10.80% and lending 12% in the same month. This rates hike followed the previous month's up surges, when the highest borrowing and lending rates were 25.78% and 28.59% in May 2003. This month's average borrowing and lending rates were 13.44% and 14.80% respectively. Since July 2003, the rates declined and the trend continued up to December and then started increasing again in January 2004. Both borrowing and lending rates rose to 50% and 54.66%, registering a wide spread or rate differential of 4.66% for a couple of days. The average borrowing and lending rates in January 2004 were 7.87% and 9.66% respectively. Since February 2004, the rates started to decline and continued up to June 2004, the end of the period under analysis (see also graph 7.2).

Graph 7.1 Movements of Call Money Borrowing and Lending Rates and The Trends in Rate Differentials



Graph 7.2: Monthly Weighted Average Interest Rates of Call Money Market 2003-04

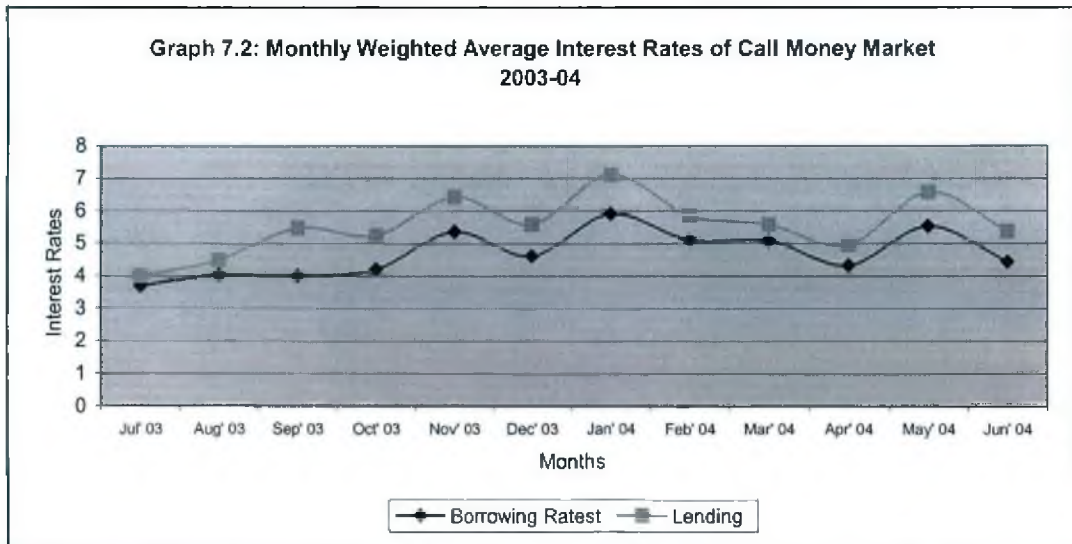


Table 7.2 in annex 4 and graph 7.2 present the borrowing and lending rate differentials or spread in percentile terms. The rate differentials were narrow during 1997-2002, moved between 0.12% lowest to 0.55% highest, only except the October-December quarter of 2002, when it was 2.76%. Monthly interest rate differentials or spread were moderately higher in 2003, moved between 0.34% and 1.76% with an exception of 2.82% in the month of February of the same year. The early six months of 2004 experienced lower market rate differentials excepting the highest 1.79% in January and 1.05% in May. The differential

again dropped to 0.94% in June. The wide variations in the call money rates show a volatility of this market caused mainly by supply side instability. The widely varied interest rate differentials express the instable behaviour of the market. Hence, widening spreads over time increases risk exposures rather than lessening of competitive pressures in the market.

Table 7.3 in annex 4 presents the comparative state of call money rates with other market rates including commercial lending and deposit rates of banks, yields on treasury bills and stock market (DSE) dividend. Although little declines were being evident in the commercial lending rates of banks during the financial year 2003-04 compared to bank deposit rates and the rate of returns on treasury bills and stock market yields, the lending rates were still higher compared to call money and customer deposit rates in 2003-04. This situation states that there was no benchmarking effect of market rates for money market retail rates and the money market retail rates for customers did not follow the track of the inter-bank market rates. The lending rates were excessively above the deposit rates, which is apparently anomalous also to the "bank rate"³⁷. Although the inflation rate slightly increased, the bank rate has decreased significantly from 6 to 5 percent, which prevailed during the latter months of the financial year 2003-04. Usual expectation is that the lower the bank rate and the call money rates, the lower are the retail lending rates in an efficient credit market. But the interest rate performance of money market in Bangladesh remained sub-optimal as the inter-bank market did not work as benchmark for retail operations rates for customers.

Market turnover measures activity, or amount of transactions, in the market. It reflects the ease with which institutions can manage their liquidity, without having a major influence on interest rates or exceeding credit limits. Transactions embody new information, which is rapidly absorbed into interest rates in active markets. Turnover depends on several factors, including the type of instruments traded, interest rate flexibility, the maturity profile of inter-bank loans and the nature of market regulation.

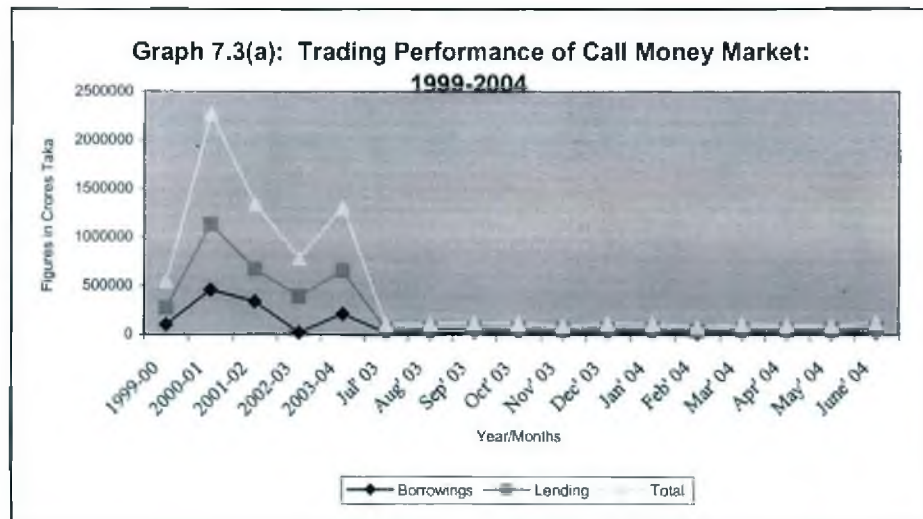
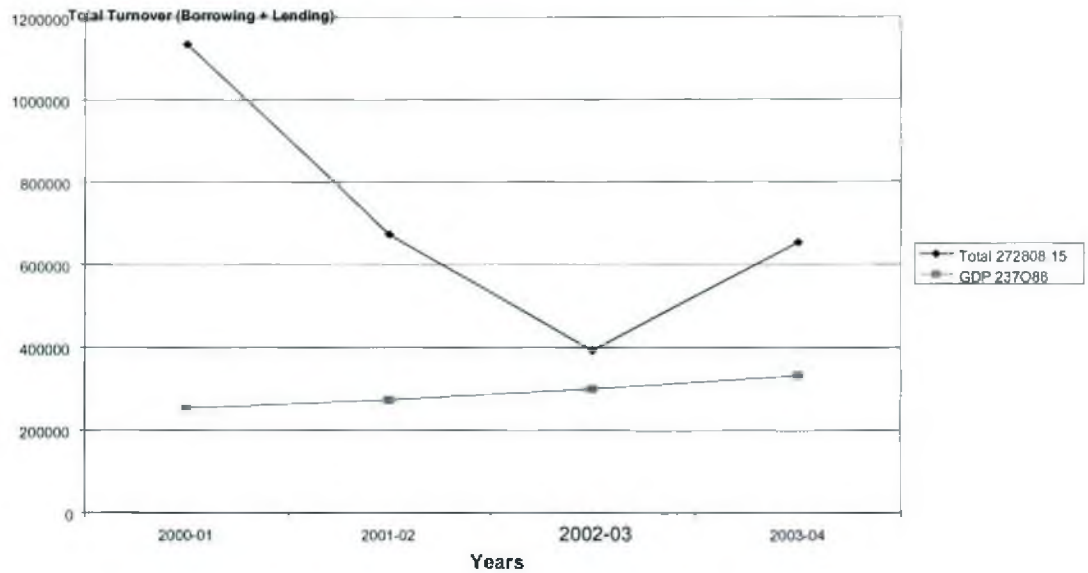
Table 7.4: Turnover Ratios of Call Money Market: 1999-2004

Year	Borrowings	Lending	Total	GDP	Turnover Ratios
1999-00	102741.95	170066.2	272808.15	237086	1.15
2000-01	457528.25	677762.84	1135291.1	253546	4.48
2001-02	338543.3	334545.67	673088.97	273201	2.46
2002-03	17087.61	375889.57	392977.18	300580	1.31
2003-04	212337.98	441464.41	653802.39	332560	1.97

Source: Bangladesh Bank

³⁷ Bank Rate: The rate at which, the central banks discount first class commercial bills (lending rate to the scheduled banks that borrow through the Discount Window). 'Bank Rate' varies from time to time as and when re-fix by the central bank.

Graph 7.3: Call Money Market Turnover Ratio in Terms of GDP



However, yearly inter-bank money market turnovers and the turnover ratios in relation to GDP were found to be moderately significant during 1999-2004 [see table 7.4 above, and table 7.5 in annex 4), and graph 7.3 and 7.3(a)]. The overall transaction volumes show fluctuations with declining trend. This situation implies that the IMM in Bangladesh is not a robust one.

7.2 Bills market

The bills market deals mostly with government treasury bills, only with limited number of commercial bills such as import and inland bills. Treasury bills are the lowest risk category short-term government debt instruments. Bangladesh Bank issues these at pre-fixed and pre-declared weekly auctions on discount basis. There are now six types of government treasury bills in the market. The performance of the foreign exchange market in the country is investigated in chapter 8. In fact, the treasury bills market is a guilt-edged market where the payment of both principal and interest on those bills are guaranteed by the government.

Bangladesh Bank as the banker to the government and public debt manager manages the issuance, sells and repurchases of government treasury bills.

The issuance and redemption/retirement of government treasury bills depends on the fiscal consideration of the government. The government finances its budgetary deficits by selling treasury bills and decides how much of the public expenditure is to be financed through selling treasury bills. Other vehicles of public borrowing from the money market (i.e., banking system) include:

(a) Credit by the Bangladesh Bank, which represents:

- (i) Overdraft to the government
- (ii) Outstanding ways and means advances
- (iii) Bangladesh Bank's holdings of government securities and treasury bills including special ad hoc and other special ad hoc treasury bills
- (iv) Bangladesh Bank's holdings of Bangladesh Savings Certificate
- (v) Government debtor balances
- (vi) Loans to autonomous and semi-autonomous bodies

(b) Credit by deposit money banks represents:

- (i) Total outstanding advances and bills to the government by the deposit money banks
- (ii) Deposit money banks' holdings of government securities and treasury bills, and
- (iii) Deposit money banks' holdings of Sanchayapatra and prize bonds.

Since the treasury bills are sold through competitive weekly auctions on discount basis, yields on these bills are determined not arbitrarily by the issuer, but by the market. However, the supply is still dependent on the government's decision on how much to be borrowed by using this window.

7.2.1 Treasury Bills Market in Bangladesh: Development and Behaviour

Treasury bills are direct and unconditionally guaranteed short-term government debt instruments in the form of marketable securities that were originated in Great Britain in 1877 and have long been using as a means of short-term borrowing by governments to cover budgetary deficits and sometimes, to refinance other maturing short-term obligations. As the main component of 'floating debt' of a government and a strong money market instrument, treasury bills play a crucial role in raising short-term funds and are often used as an effective tool of achieving monetary policy targets. The government treasury bills (T-bills) do not bear default risk since these are issued and guaranteed by sovereign governments. Other salient features of these bills amongst many are high quality, low minimum denomination and a favourable tax status. So, a wide variety of investors prefer investing in these bills. Available information from developed and some emerging countries suggest that commercial banks, individuals, money market mutual funds, pension funds and foreigners are among the largest investors in government treasury bills. Non-bank financial institutions namely, insurance companies and state and local government bodies also invest in these bills.

The government of Bangladesh introduced T-bills in three different phases. On the basis of issuing period, T-bills may be classified into three generations: first, second and third (Azad, 2002). The first generation T-bills issued during 1972–1977 include (i) 90-day ad-hoc treasury bills issued in June, 1972; (ii) 3-month government treasury bills @3% interest issued in August 1972; (iii) 90-day special treasury bills @ 6% interest issued in June 1976 and (iv) 6% special treasury bills issued in February, 1977. These were introduced mainly to raise short-term funds to meet government's specific cash

requirement arising from mismatches between revenue incomes and expenditures. These T-bills had also been used to implement and control monetary policy issues during the first few years after the independence of the country. However, sale of three of the four first generation T-bills had been totally closed by December 1985 in different phases. The 90-day maturity T-bills had continued until 18 December 1994, when its sale was also stopped. The redemption/retirement of all first-generation T-bills had created supply-shortage of money market securities and squeezed the short-term investment opportunity for banks and other approved non-bank investors. The situation helped accumulation of huge excess cash reserves in tills of banks.

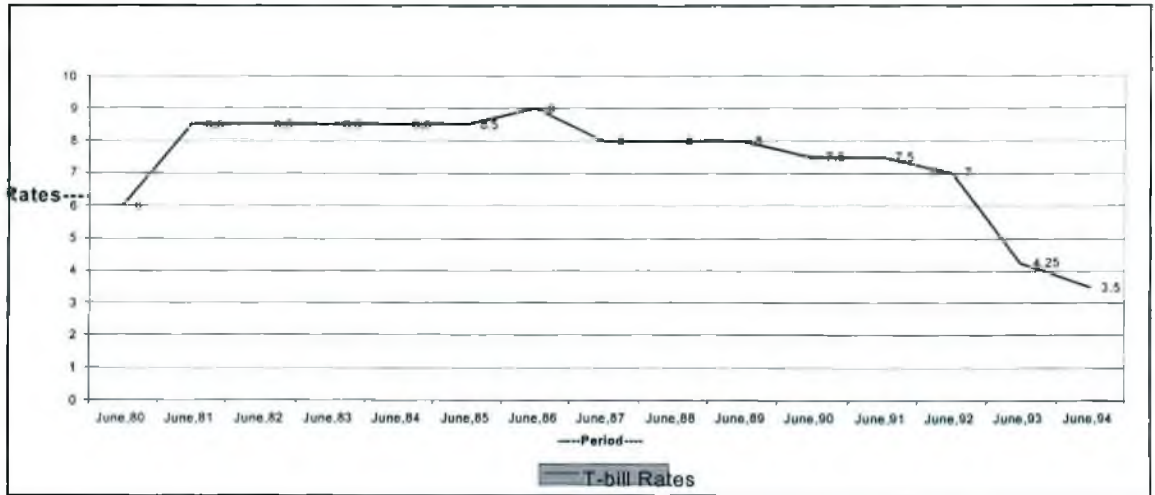
To reactivate the bills market, the government on 25 November 1995, introduced weekly auction-based sale of new T-bills of 30-day and 90-day maturities. These bills, however, did not receive expected response from the investors including the banks. At that time, Bangladesh Bank issued a new Bangladesh Bank bill (BB-bill) of 30-day maturity. Because of relative ease of handling and conversion, BB-bills continued absorbing larger investments over T-bills. Following the declines in the demand for T-bills, Bangladesh Bank conducted a study which had identified several factors that induced the banks to buy more BB-bills instead of government T-bills. These are: (i) higher tax rebate for local banks on their incomes derived from BB bills than that of T-bills, (ii) relatively easy and less cumbersome process of tender/bid submission, and quick issuance and prompt encashment options of BB-bills, (iii) easy process of transferring ownership of BB-bills, (iv) lower transaction costs for BB-bills, (v) known information about the higher yield on BB-bills beforehand the auctions, (vi) shorter interval between the auctions for BB-bills and treasury bills that caused scarcity of sufficient investible funds in the hands of deposit money banks (DMBs), (vii) higher yields on the investment in the call money market above the treasury bill rates, (viii) in-adequate supply of T- bills, (ix) preference of DMBs to invest in very short-term instruments such as 7-day or 15-day T-bills, which were non-existent, and (x) absence of active secondary market. To remove sluggishness in the demand level of T- bills, Bangladesh Bank had decided to gradually withdraw BB-bills from the market. The sale of BB-bills had been closed in March 1997. To stimulate the T-bills market, on the other hand, the government issued new T-bill of 180-day on 7 February 1996 and 1-year on 16 March 1997. These 30-day, 90-day, 180-day and 1-year maturity T-bills of second generation had been sold regularly through weekly auctions up to August 1998.

Pursuant to the objective of strengthening T-bills market by mitigating the aforesaid problems and standardizing accounting procedure and auctioning schedules; the government on 6 September 1998 introduced six restructured-maturity 28-day, 91-day, 182-day, 364-day, 1-year and 5-year T- bills, which had replaced all of the second-generation T- bills. These newly introduced bills are designated as third-generation T-bills. The treasury bills market in Bangladesh now performs with these third generation T-bills. Following three subsections present an analysis on the behavioural patterns of T-bills market in Bangladesh.

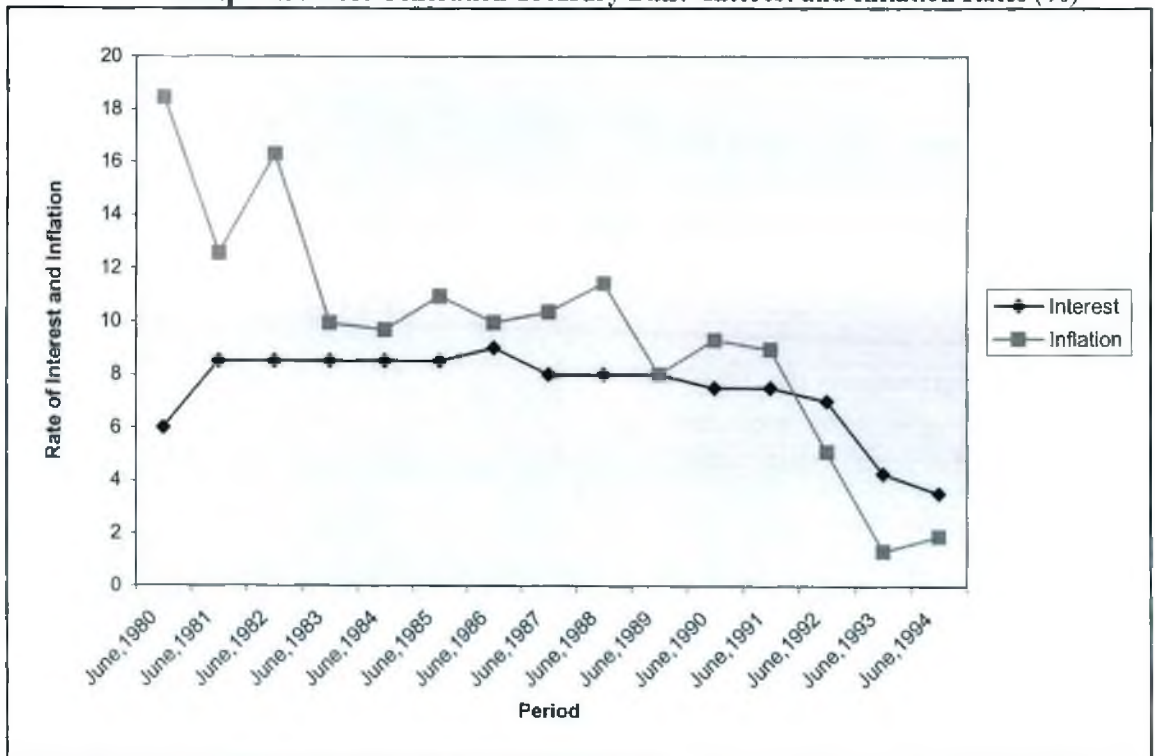
Performance of First Generation Treasury Bills

The first generation government T- bills that introduced in 1972 -1977 were sold at prefixed rates of interest to selected buyers, particularly to the commercial banks (the deposit money banks-DMBs) and a very few non-bank financial institutions. Holding of T-bills by these institutions had varied extensively throughout the period from June 1980 to April 1994 (see table 7.6 in annex 4) due to variations in the governmental need for short-term financing.

Graph 7.4: Rate of Interest on First Generation Treasury Bills



Graph 7.5: First Generation Treasury Bills: Interest and Inflation Rates (%)



Interest rate structure on these first-generation T-bills may be seen on graphs 7.4 and 7.5 above, which recorded downward trend since June 1986. Absence of secondary market or lack of conversion facility for government T-bills to meet immediate liquidity requirement, but simple process of buying from and selling of BB-bills to the central bank before maturity had also prompted the declines in the performance of T-bills market.

The DMBs' holding of T-bills amounted to Tk.2.35 billion as on 30 June 1980 accompanied by 6 percent constant rate of interest. In the following years the volume of such holdings and the corresponding interest rates had increased, but remained static up to June 1985. At the end of June 1981, total holding of T-bills by the DMBs stood at Tk.3.33 billion against Tk.2.35 billion in June 1980. The interest rate also increased from 6 percent

in June 1980 to 8.55 percent in October 1980 and kept unchanged until 15 September 1985. From 1985 through June 1987, the volume of holdings of T-bills by the DMBs increased moderately by an accompanying change in the rate of interest. The interest rate was fixed-up at 9 percent on 15 September 1985 and continued up to 21 January 1987, which had later been reduced to 8 percent and continued until 5 May 1990. During the period from June 1989 to January 1993, holding of T-bills by the DMBs rose sharply than the preceding years but dropped to only Tk.0.42 billion and Tk.0.46 billion at the end of April and June 1994 respectively. The respective interest rates had also gradually been reduced and lowered further from 8 percent in 1990 to 7.5 percent in 1991, and 3.5 percent on 16 June 1994. The supply side of T-bills during 1972-1994 had been driven mainly by the government's requirement for short-term funds rather than market forces. The higher rates of interest on BB-bills also contributed to the sluggishness in the demand for T-bills.

Performance of Second-Generation Treasury Bills

With the commencement of competitive auctioning of two initial second-generation T-bills of 30-day and 90-day maturity on 25 October 1995, the behavioural pattern of bills market in Bangladesh took a new turn and got some momentum. The approved investors, particularly the commercial banks (the DMBs) have shown much interest in investing in these government securities as they provided alternative maturity choices (see table 7.6, column 3 in annex 4). Table 7.7 and the corresponding graph 7.6 shows the increasing trend in bids offered and accepted for 30-day and 90-day T-bills throughout 1996-98 with only a little exception for 1-year and 180-day T-bills in 1998. It could also be seen on graph 7.6 that bids for maximum amounts were submitted for 30-day T-bills throughout 1996-98, which was the shortest maturity one amongst the second-generation T-bills. Highest number of bids and their corresponding value for 30-day maturity treasury bills clearly reveal the investors' preference for shorter maturity investment opportunities. Value of bids offered and accepted for 30-day maturity bills were Tk.11.09 billion and Tk.6.97 billion in 1996, Tk.164.37 billion and Tk.123.79 billion in 1997, and Tk.170.66 billion and Tk.86.41 billion in 1998 respectively (see table 7.7). Both offers and acceptances were many times greater than for 90-day, 180-day and 1-year T-bills during the same years. This reflects the huge demand for short maturity T-bills.

Table 7.7
Demand Level of Different Maturity Second Generation Treasury Bills: 1996-98
(Figures in Billion Taka)

Period	30-Day		90-Day		180-Day		1-Year	
	Bids Offered	Bids Accepted	Bids Offered	Bids Accepted	Bids Offered	Bids Accepted	Bids Offered	Bids Accepted
1996	11.09	6.97	5.29	2.34	0.42	0.20	0	0
1997	164.37	123.79	10.46	5.95	2.45	0.49	13.52	6.25
1998	170.66	86.41	4.32	1.12	2.21	0	51.46	21.54

Source: Bangladesh Bank Bulletins, various issues

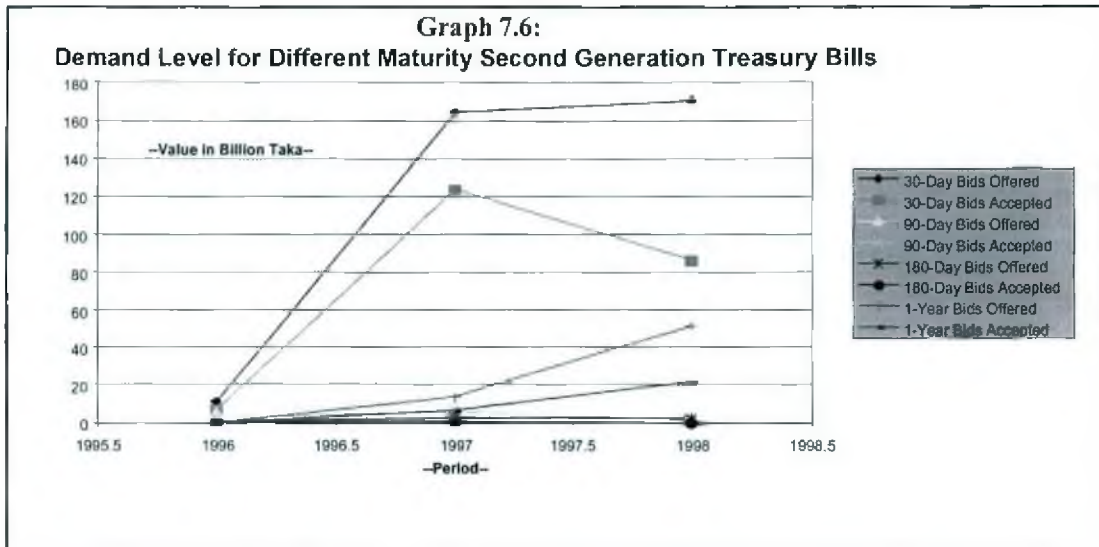


Table 7.8 in annex 4 shows the quarterly movement of interest rates on second-generation T-bills. Although the interest rates on 30-day T-bills have varied, an upward trend in the rates of 90-day T-bills has prevailed up to second quarter (April-June) of 1998 above the average bank deposit rates.

Table 7.9 shows that annual interest rates/returns on 30, 90 and 180-day maturity T-bills have increased gradually and remained above the average bank deposit rates but almost parallel to the call money rates. Average annual inflation rates have experienced declines from 5.20 percent in 1995 to 4.07 percent in 1996 and 3.89 percent in 1997. So the impact of inflation on the real rate of returns on treasury bills was lower. It is important to note that most of the bids offered for 180-day and 1-year T-bills were not accepted as the bidders claimed excessively higher rates of discount.

Table 7.9: Annual Weighted Average Rate of Returns, by type of investment(%)
(October, 1995- September, 1998)

Period	Second Generation Government Treasury Bills				Bank Deposits	Stock Dividend Yield (DSE)	Call Money Rate (Lending)	Returns on BB-bills	Inflation (12 Months Average)
	30-Day	90-Day	180-Day	1-Year					
1995	--	5.82	--	--	N/A	5.20	N/A	5.20	N/A
1996	6.38	6.89	7.80	--	6.77	4.07	N/A	4.07	6.77
1997	7.49	8.54	9.70	11.08	7.86	3.89	8.56	3.89	7.86

Source: Bangladesh Bank Bulletins and Bangladesh Bank: Monthly Economic Trends, concerned issues

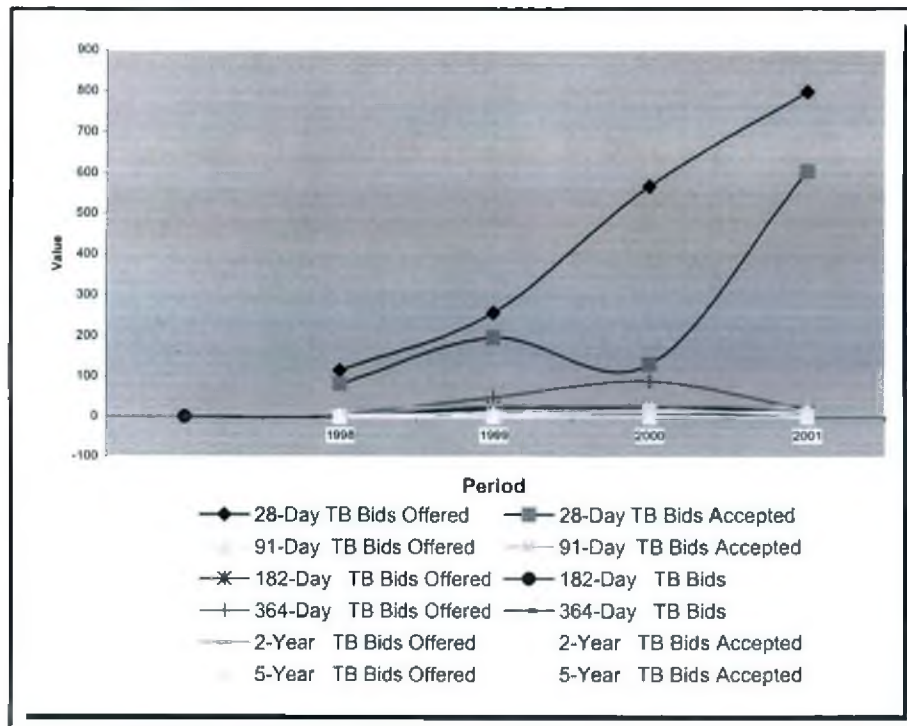
Despite upward movement of interest rate on the second-generation T-bills significantly above the bank deposit and call money rates, investors' inclination for investment in BB-bills still remained greater than the T-bills mainly due to hassles in dealing with the later bills (see table 7.9).

Performance of Third Generation Treasury Bills

It has mentioned above that the third-generation of T-bills combines 28-days 91-days, 182-days, 364-day, 2-years and 5-years maturity government short-term debt securities. Table 7.10 in annex 4 and graph 7.7 indicate that the demand for shorter maturity, i.e., 28-day maturity T-bills was much higher than all other third-generation T-bills throughout the period 1998-2001. The second highest bids were offered for 2-year T-bills, while the 364-day and 182-day bills possessed the fourth position in the bidding race. Bids offered and

accepted for 91-day and 5-year T-bills were not significant enough to compare with 28-day T-bills.

Graph- 7.7: Aggregate Demand Level of Second Generation Treasury Bills:1998-2001



Data presented in table 7.11 express the volatile conditions in the annual weighted average rate of returns on third-generation T-bills of all maturities. Stock market (DSE) dividend yields were below the bank deposits and call money but moved around the rates on 28-day and 91-day T-bills in the years 2000 and 2001.

Table 7.11: Annual Weighted Average Returns by type of investment, September, 1998-2001

Period	Government Treasury Bills						Bank Deposit Rates	Stock Dividend Yield	Call Money Rate (Lending)	Inflation (12 Months Average)
	28-Day	91-Day	182-Day	364-Day	2-Year	5-Year				
1998	8.33	9.03	--	10.60	11.57	--	7.11	N/A	8.64	6.99
1999	9.09	7.66	8.18	9.02	9.35	--	7.26	N/A	7.61	8.91
2000	6.19	6.35	7.18	8.00	8.64	13.83	7.08	6.83	7.21	3.41
2001	5.91	6.49	6.20	7.75	8.05	10.54	6.75	6.35	8.57	1.59

Source: Bangladesh Bank Bulletin, Annual Reports and Monthly Economic Trends, concerned issues.

Table 7.12 shows the weighted average annual rates of return on government T-bills and their percentage changes compared to returns on other investment opportunities. A significant extent of fluctuations in the rates of return/yield on various maturity T-bills and other investments was prevailed in the bills market during 1996-2001 (see table 7.12).

Table 7.12: Annual Weighted Average Rate of Return on Government Treasury Bills and Percentage Change compared to other Investment Returns (Percent)

Period	Movement of T-bills Rates	Average T-bill rates	Percentage Change	Bank Deposit Rates	Stock Dividend Yield	Call Money Rates (Lending)	Inflation (12 Month Average)
1996	5.68-7.87	6.78	--	6.49	N/A	N/A	4.07
1997	7.11-11.77	9.44	39.23	6.98	N/A	8.55	3.89
1998	7.84-12.14	9.99	5.83	7.11	N/A	8.64	6.99
1999	6.20-10.44	8.32	(-) 16.72	7.26	N/A	7.61	8.91
2000	5.98-16.65	11.32	36.06	7.08	6.83	7.21	3.41
2001	3.38-10.65	7.02	(-) 37.99	6.75	6.35	8.57	1.59

Source: (1) Bangladesh Bank-Economic Trends (2) Monthly Review-Dhaka Stock exchange

Monthly data (see table 7.13 in annex 4) regarding the rates of return on T-bills, stock market dividend (DSE), bank deposits and call money market rates during January, 2001–June, 2002 express that the returns on all of these investments were less volatile except the call money rates compared to previous years.

Interest rates on 28-days and 91-days T-bills had slowly declined from 5.89 per cent in October 2001 to 3.38 percent in June 2002. Call money market rates had fluctuated widely during January 2001-June 2002 because of mismatches in the demand for and supply of short-term funds in the call money market. During January-June 2002, the average call money rate increased to its highest of 16.75 percent due to shortage of liquidity in the market caused by excessive credit expansion by banks above the credit-deposit ratio of 80 percent (see table 7.14 in annex 4).

Consequently, they had faced problems in maintaining statutory liquidity requirements (SLR) of 20 percent of their total deposit liabilities. In this situation, the deficit banks sought more short-term funds in the money market to fulfil the cash reserve ratio (CRR). This had pushed the call money interest rates up. The inflation rates during the period in question did not cross the single digit; moved between 1.47 percent and 2.18 percent during January-December 2001 and early two months of 2002, but continued to rise during March – June, and stood at 2.39 percent at the end of June 2002.

Table 7.15: Premature Encashment of Government Treasury bill

Period	Amount (Million Taka)
Nov-Dec '92	265.5
Jan-June '93	1716
July-Dec '93	110
Jan-June '94	165
July-Dec '94	N/A
Jan-June '95	N/A
July-Dec '95	390
Jan-June '96	300
July-Dec '96	1210
Jan-June '97	5770
July-Sept. '97	4530
Oct-Dec '97	3620
Jan-June '98	17620
July-Dec '98	9870
Jan-June '99	9265
July-Dec '99	1320
Jan-June '00	37090
July-Dec '00	4370

Source: Bangladesh Bank

Although characterised by wide fluctuations, the bids offered and accepted in the primary market of government T-bills had substantially increased. However, the absence of secondary market forced the holders to do premature encashment/discounting of T-bills with the Bangladesh Bank to meet their emergency cash requirements (see table 7.15). Premature encashment was subject to penalty imposed by the Bangladesh Bank. Premature encashment thus enhanced the operating expenses of holders of T-bills and ultimately increased their cost inefficiency. On the other hand, dealing cost for the discounted treasury bills including the cost of their re-issuance unnecessarily raised the government expenditure.

Steps Pursued to Develop Market Performance During 1995-2002

In addition to introducing and regular auctioning of a good number of treasury bills, investors' base for government T-bills has been extended through allowing non-bank financial institutions (leasing companies) and insurance companies to transact in inter-bank call money market. 'Delivery versus Payment (DVP) system was introduced for issuing T-bills against accepted bids within 24 hours of announcement of auction results. Transfer process of the bills has been made easier. With the opening of 'Repo' (Repurchase Agreement) for 28-day maturity T-bills on 2 July 2002, a secondary market option for those T-bills has been commissioned. For smooth functioning of 'Repo' market, physical transfer of scrip of T-bills has been discontinued. Instead, the system of opening custodial account under title '28 days Treasury bills SGL' with Bangladesh Bank in the name of purchasers of the bills was introduced. Under this arrangement, Bangladesh Bank while selling 28-day T-bills makes firm commitment to buy them back at a specified price and date.

In spite of adoption of various reforms, the T-bills market in the country still remained less attractive. None of the non-bank financial institutions transacted in government T-bills till the end of 2001. Only one private sector insurance company (Delta Life Insurance Co.) and the state-owned Jiban Bima Corporation (Life insurance Company) have invested in T-bills. Delta Life's investment in T-bills was Tk.271.78 million in 1999 and Tk.272.75 million in 2000, which were 27.57% and 21.68% of its total investment in the respective years. But records show that these two companies encashed their holdings of T-bills with the Bangladesh Bank many times before maturity. The absence of secondary market was again made liable for such disposals. Although there was no shortfall in aggregate liquidity in the banking system after 1990, some individual banks faced fund-shortages in maintaining SLR and CRR. While lending, some banks have exceeded the practiced credit-deposit ratio of 80% (total credit to total deposit) and thus, experienced liquidity shortfalls. On the other hand, most of the DMBs as a part of enhancing efficiency in asset management have reshuffled and re-diversified their lending and other investment portfolios, which pushed them to seek more liquid funds. Besides, the DMBs required cash to pay back term deposits such as FDR, DPS, etc. on or before maturity. All of these have compelled the banks to do encash T-bills of their holdings before maturity. Table 6.15 exhibits the picture of premature encashment of T-bills, rose from Tk.1716.0 million or 31% of total holdings of DMBs in June 1993 to Tk.5770.0 million or 47% in June 1997, and Tk.37090.0 million or 48% in June 2000.

Treasury Bills Market: Current Scenario

As explained earlier, sell or issuance of T-bills in Bangladesh was limited to DMBs and approved non-bank financial institutions through weekly competitive biddings. Investors' base in the T-bills market has further extended in 2002. On 7 August 2002, Bangladesh Bank allowed pension and provident funds access to the T-bills market. Currently, the T-bills are sold on both competitive and non-competitive biddings. The competitive bidding

system for DMBs and non-bank financial institutions remained same. The non-competitive bidding is specialized for pension/provident funds, which do not require quoting discount rates. They offer only the volumes they are interested to buy and such offers are not subject to a minimum size. Offers of the pension/provident funds are accepted fully at the weighted average rate of competitive bids accepted in case of DMBs and non-bank financial institutions. Thus, the investors' base for government T-bills in Bangladesh currently comprises deposit money banks (DMBs), non-bank financial institutions especially leasing companies, insurance companies and pension and provident funds. Settlements and records of market operations are made through the central depository system (CDS).

The T-bills market in Bangladesh get stimulant with the introduction of Repo auctions for commercial banks and financial institutions on 2 July 2002 and the Reverse Repo on 3 May 2003. The ultimate objective of introducing 'repo' and 'reverse repo' is to suck-out liquidity from and inject to the market as and when necessitates, in addition to providing the holders with the facility to convert the bills into cash and option to borrow keeping the holdings of treasury bills as collateral security. The broad objectives of repo and reverse repo are as follows:

- To provide Bangladesh Bank with greater flexibility in determining both the quantum of adjustment as well as the rates by responding to the monetary system on a daily basis;
- To help Bangladesh Bank ensure that the injected funds are being used to fund day-to-day liquidity mismatches;
- To help Bangladesh Bank set up a corridor for monitoring short-term rates, which should ideally be governed by the reverse repo and repo rates and impart greater stability in the market.

The secondary or after-market trading of T-bills through repo and reverse repo brought new dimension in the bills market. These operations enabled the commercial banks/DMBs managing their liquid assets profitably and minimizing their reliance on central bank for liquidity. During January-December 2003, the T-bills market was remarkably active featured by greater number and volume of bids offered and accepted along with substantial amount of outstanding bills (see table 7.16). Large volume of outstanding bills in the market meant to their supply adequacy. On the other hand, large offers of bids imply larger demand level. Thus the T-bills market during 2003 seemed to be performed well. However, in January-June 2004, market experienced declines, as the bids offered and accepted, and the volume of their outstanding decreased. Decrease in outstanding in this case meant to reductions in government's borrowing through T-bills. When certain securities are in short supply, it weakens the market activity. Presence of abundant outstanding bills accompanied by secondary trading facilities ensures higher degree of liquidity for floating securities. On the other hand, an increase in liquidity tends to increase investor confidence and promote broader market participation. The T-bills market in Bangladesh now possesses some of these structural and institutional features and can be said as a moderately performed one.

Table 7.16: Quarterly Auctions of Government Treasury Bills: 2003-04

Period Quarter	[28-Day, 91-Day, 182-Day, 364-Day, 2-Year and 5-Year]				(Billion Taka)		
	Bids Offered		Bid Accepted		Bids Retired Retired	Outstanding Bills each quarter	Weighted Average Annual Rate of Return (%)
	No. of Bids	Face Value	No. of Bids	Face Value			
Jan-Mar'03	610	119.61	460	106.80	112.75	128.12	7.60 – 11.50
Apr-Jun'03	507	95.46	327	79.54	73.23	134.41	7.00 – 11.45
July-Sep'03	1121	177.36	562	115.72	90.14	160.05	5.08 – 11.00
Oct-Dec'03	624	101.51	380	80.05	91.99	18.05	3.93 – 8.60
Jan-Mar'04	346	58.17	274	55.49	51.73	151.81	3.93 – 8.00
Apr-Jun'04	242	42.23	195	39.10	43.72	145.80	3.99 -7.00
Total 2003-04	3450	594.34	2198	476.7	463.56	738.24	

Source: Bangladesh Bank

Initially, the 'repo' market has performed well, as evident by greater number of auctions held during the financial year 2002-03 (see table 7.17 in annex 4). In 2003-04, the number of auctions declined to around half of the preceding year. It indicates that banks hold sufficient liquidity and their reliance was smaller on central bank (CB) for cash. Noteworthy, 'repo' and 'reverse repo' auctions were held for one, two and seven days, which indicate that banks have availed this market for accommodating very short-term liquidity requirements.

In the repo market, the BB buys/repurchases T-bills from the banks referring to their borrowings from the central bank. Reverse repo works as counterpart to the repo auctions. Under a 'reverse repo' deal, the purchaser of T-bills/securities makes agreement(s) to resell them at a higher price at a specific future date. This is a way to borrow money and allow the securities to be held as collateral. Thus the 'Reverse repo' market offer the holders of T-bills with the facility to adjust their short-liquidity position taking the bills as collateral, and the purchasers with a tool of managing and/or investing their excess liquidity in the money market. However, in the initial quarter of its introduction on 3 May 2003, the reverse repo market was active in terms of number and volume of bids offered and accepted (see table 7.18). Later on, it declined but still remained satisfactory. Table 7.19 exhibits the interest rate structure of three different types of transactions of government treasury bills in Bangladesh.

Table 7.18: Reverse Repo Auctions (Billion Taka)

(Billion Taka) Period 2003-04	No of Auctions Held	Bids Offered (Face Value)	Bids Accepted (Face Value)	Weighted Average Rate of Interest (%)
July-Sep'03	59	183.50	166.20	2.50-3.95
Oct-Dec'03	32	46.75	36.85	2.33-2.50
Jan-Mar'04	14	22.72	21.08	2.50-3.00
Apr-Jun'04	16	47.17	47.17	2.50-2.90
Total	121	300.14	271.3	

Source: Bangladesh Bank

Table 7.19: Interest Rates on Treasury Bills issued, Repo and Reverse Repo Auctions: 2003-04
Weighted Average (%)

Year/Quarters	Treasury Bills Auctions (issue)	Repo Auctions	Reverse Repo Auctions	Inter-bank Call Money Market Rates
Jul-Sep-02	6.88	6.06	-	4.78
Oct-Dec-02	8.89	7.85	-	5.75
Jan-Mar'03	9.55	8.50	-	10.36
Apr-Jun'03	9.23	19.03	-	11.20
July-Sep'03	8.04	5.01	3.23	4.58
Oct-Dec'03	6.27	4.75	2.42	3.42
Jan-Mar'04	5.97	4.75	2.75	6.55
Apr-Jun'04	5.50	4.75	2.70	5.26

Source: Bangladesh Bank Bulletins, Various issues

Government T-bills are approved securities for banks to be held as a part of maintenance of their SLR in addition to a short-term investment vehicle. Of the banks' SLR requirement, at least 12 percent need to be kept in the form of T-bills. In recent times, banks have shown much interest in investing their funds in government T-bills. The "Repo", and "Reverse Repo," markets prompted such interest. The members of the public can buy and hold T-bills. But they are not allowed direct participation in auctions. Banks can buy T-bills for their customers and hold until maturity or resell. However, the buying of T-bills by the general public has been found very insignificant till 30 June 2004. The non-participation of public in T-bills has been influenced mainly by higher interest rate structure of other investment vehicles such as bank deposit, post office savings, government-saving certificates and stock market returns (see table 7.20 in annex 4).

The inter-bank money market activities are causally related to the entire money and credit system of the economy as the liquidity and the interest rate structure in this market including the 'bank rate' have their sensitive impacts on the real, trade and other service sector productivity. The money market and the financial market as a whole cannot operate independently without a strong demand side. This requires development of productivity of both real and service sectors in the economy.

7.2.2 Commercial Bills Market

The commercial bills market remained very narrow in the country largely because of lower level of industrialization and a slow growth of trade and commerce. Banks traditionally finance two broad categories of commercial bills viz. inland bills³⁸ and import bills. The recipients/holders discount/sell these bills for cash to the banks, which pay the holder with the face value of the bills less collection charges and the interest for the remaining period of maturity. Bangladesh's credit market is heavily cash-based. Number of inland bills - usance and back-to-back and foreign back-to-back letters of credit are small in number as well as in value. Moreover, contract based exports are now increasing gradually from Bangladesh under which export proceeds in most cases are received through telegraphic transfers (TTs). This is because of the foreign buyers' reluctance to take the hassles of handling documents and other formalities in settling letters of credits (L/Cs). So the number of foreign receivables has been reducing over time. Some documentary collections are made through the exporters' banks against contract-based exports. But contracts are not resell/discountable, as the Uniform Customs and Practices for Documentary Credits (UCPDC) and other international trade agreements and laws do not provide recourses against certain risks, such as non-delivery of goods, non-payment of bills, settlement

³⁸ *Inland Bill is a bill of exchange (a negotiable instrument) drawn and made payable in the same country.*

discrepancies and other disputes unlike the letter of credit (L/Cs). So the contracts are not accepted by banks for discounting or resell. All of these have serious bearings on the development of commercial bills market in the country. There is no central bank sponsored instruments in Bangladesh like federal bills or federal funds in the USA and other countries. Two Bangladesh Bank bills (BB-bills) of 91 and 30-day maturity with 100 Taka par value that introduced in December 1990 and 1995 respectively, were in floatation until March 1997. Since their withdrawal from the market in April 1997, the money market of the country has been going without any central bank sponsored instruments.

Tables 7.21 and 7.22, and graph 7.8 reveal a miserable performance of the country's commercial bills market during 1991-2004. The inter-bank bills market went without any transaction since 1997-98. There is no instrument to be traded in this market. Although selling or rediscounting of public and private bills experienced upward trend, this is quite smaller and insignificant both in number and amount.

Table 7.21: Performance of Commercial Bills Market in Bangladesh: 1991-2004

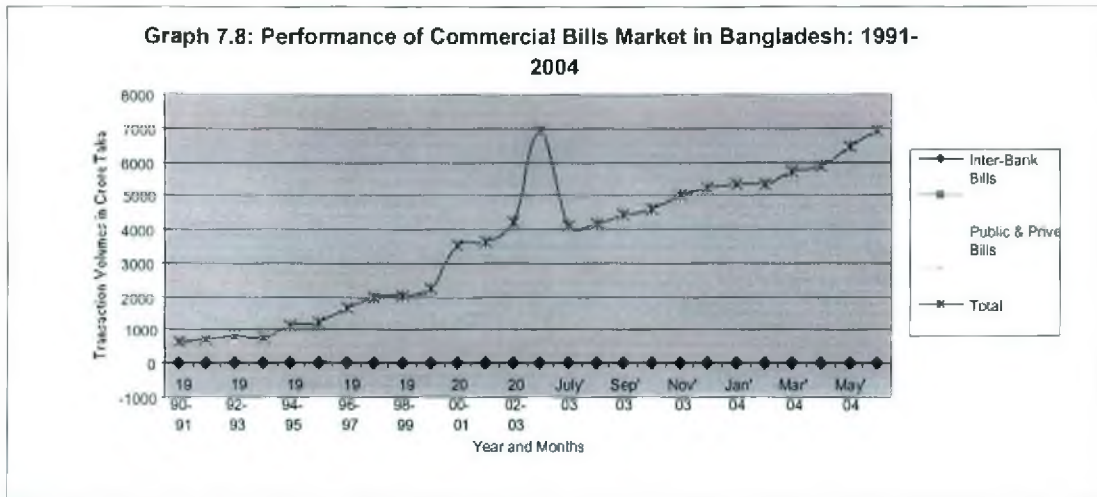
Year	Import and Inland Bills Purchased/Discounted: 1997-2004	
	Inter-bank Bills	Public and Private Bills
1990-91	25.8	640.80
1991-92	32.4	697.70
1992-93	25.2	762.60
1993-94	17.0	745.40
1994-95	-	1121.2
1995-96	-	1233.0
1996-97	0.60	1681.3
1997-98	-	2005.5
1998-99	-	2040.2
1999-00	-	2270.8
2000-01	-	3523.6
2001-02	-	3639.1
2002-03	-	4223.1
2003-04	-	6915.9

Source: Bangladesh Bank, Economic Trends, concerned issues

Table 7.22: Month-Wise Performance of Commercial Bills Market: 2003-04

Months	Import and Inland Bills Purchased/Discounted 2003-04	
	Inter-bank Bills	Public and Private Bills
Jul-03	-	4126.3
Aug-03	-	4141.3
Sep-03	-	4455.4
Oct-03	-	4616.9
Nov-03	-	5006.3
Dec-03	-	5238.5
Jan-04	-	5333.3
Feb-04	-	5320.7
Mar-04	-	5694.6
Apr-04	-	5883.5
May-04	-	6471.9
Jun-04	-	6914.9
Total (2003-04)	-	63203.6

Source: Bangladesh Bank, Economic Trends, concerned issues



7.3 Liquidity in the Money Market

Importance of liquidity in the money market lies in the fact that it allows the investors managing their portfolios and risks more efficiently and thus helps in reducing the cost of borrowings. Four major dimensions of liquidity are tightness, depth, immediacy, and resilience. Tightness is the market's ability to match supply and demand efficiently, which can be measured by the bid-ask spread. Depth is related to the ability of a market to absorb large trade volumes without any significant impact on prices, and can be approximated by the amounts traded over a period of time (turnover) and quote sizes. Immediacy is the speed with which orders can be executed and settled, and resilience is the speed with which price fluctuations arising from imbalances in trades are dissipated.

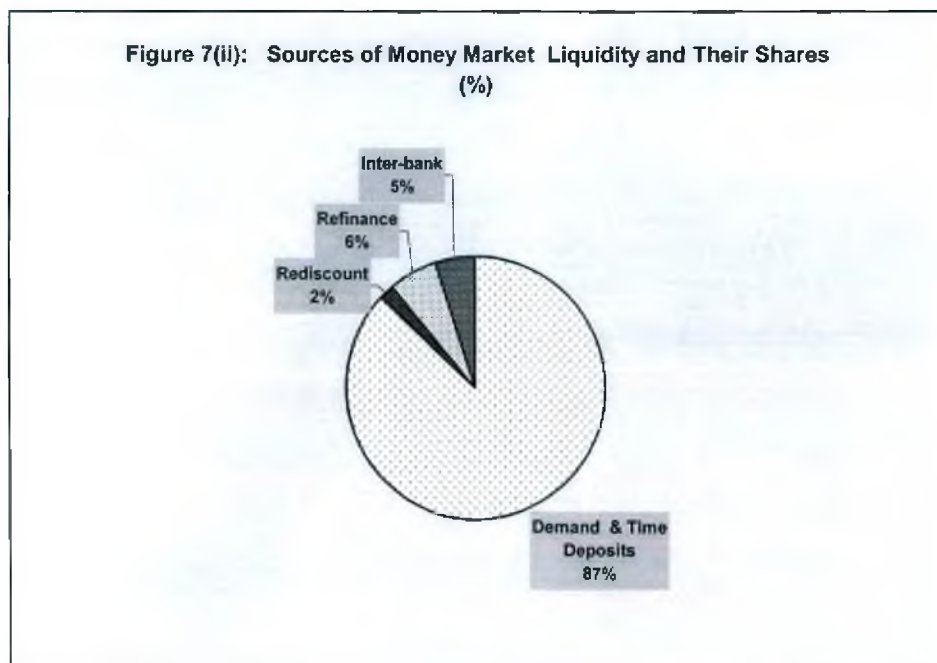
However, these dimensions of liquidity are particularly absent in the money market of Bangladesh. Participating banks in the inter-bank market do not quote two-way rates: bid and ask for borrowing and lending. So there is no scope of finding and investigating into spread differentials for checking market tightness. Inter-bank market transactions and trade turnovers are not publicly known. On the other hand, no systematic and separate records of call, notice and term money (inter-bank deposits) are maintained. As a result, there is no scope of measuring the transactional depth of the market. A central information processing point in the financial market is an essential in order to get signals on price movements in the money market.

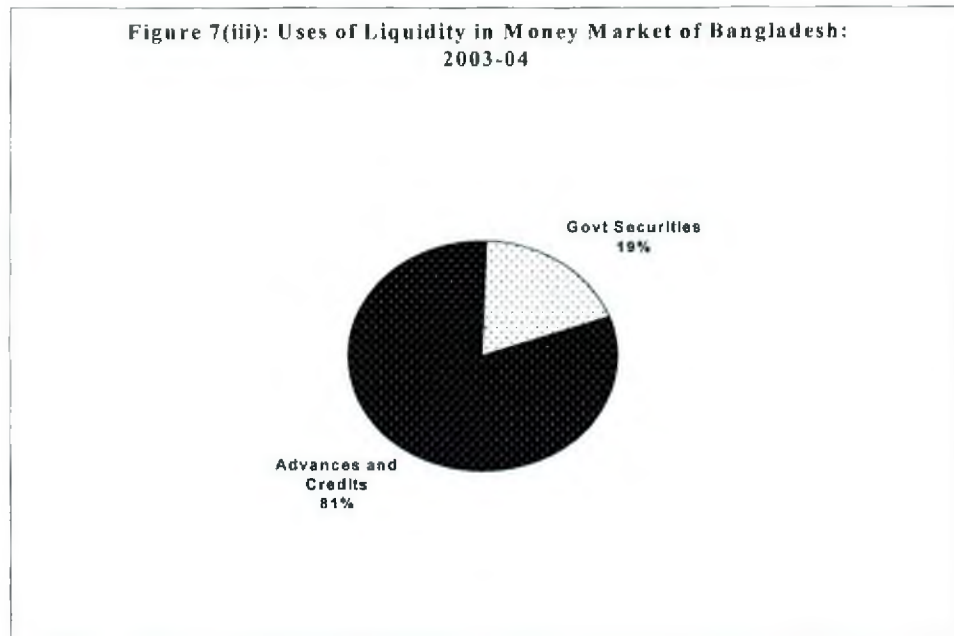
As the agreed or accepted orders originated in the inter-bank money market are settled through a lengthy and cumbersome process, the immediacy condition in the money market of the country does not exist, even at the level it does in the emerging Asian markets. The orders are executed through the participating banks' Taka current accounts maintained with the Bangladesh Bank. The lending institutions draw Bangladesh Bank cheques in favour of their counter-parties. Once the cheque(s) are received, Bangladesh Bank makes debit and credit entries simultaneously from and to the deposit accounts of lender and borrower respectively. This process is completed manually and takes time. An electronic transfer system is yet to be established. Lastly, there is no set pricing mechanism in the inter-bank market. The inter-bank market is not screen-based, and is highly unstructured one where the participants negotiate their transactions mostly by telephonic conversation. There is no central adjustment tool/mechanism for observations on the price movement and the volume traded and also no mechanism of adjustment of the price, and supply and demand

imbalances in the market. Each participating bank reports their volume of transaction and both borrowing and/or lending rates to the central bank individually on the following day of particular trading date. Processing these information takes at least two days and meanwhile, the market scenario gets significantly changed. It is, therefore, almost impossible to achieve market resiliency in the money market of Bangladesh under the existing system.

It has been mentioned earlier that non-bank financial institutions, especially the leasing companies have been allowed access to the inter-bank money market. The objective was to strengthen the market trading. But market survey shows that the leasing companies are engaged only in borrowing activity in the market. There is no evidence of their participation in lending in the inter-bank money market. They borrow at lower cost in this market and re-lend the borrowed funds to their customers in the form of leased properties or else. They invest the funds to finance more permanent assets. In most cases, the leasing companies renew and roll over the overnight borrowings again and again instead of repaying or re-channeling the funds to the lending bank or to the market by repaying or re-lending. This is absolutely against the market norms and the practice erodes liquidity from the market.

Accumulation of liquid funds by banks in the money market depends on a number of factors. Major source of liquidity is demand and time deposits, which form the demand and time liabilities of banks in the liability side of their balance sheet. Figures 7(ii) and 7(iii) reflect the primary sources of liquidity in the banking system in Bangladesh and their uses respectively. Figure 7(ii) tells that the largest share of money market liquidity is sourced from the banking system in the form of demand and time liabilities, which has now approximated as 87 percent. The inter-bank money market, refinancing and rediscounting together provided the rest 13 percent of the total liquidity. Figure 7(iii) reflects the facts that 81 percent of banks' liquid assets are used for lending purposes and the rest (19%) are invested in government securities.





7.3.1 Determinants of Money Market Liquidity

Money market institutions especially, banks are subject to statutory liquidity reserve requirement system imposed and overseen by the central bank. The reserve requirements are imposed in the form of Statutory Liquidity Reserve (SLR³⁹) and Cash Reserve Ratio (CRR), which are changed from time to time by the central bank in accordance with its ultimate objective of establishing price stability and credit and interest policy. The central bank pursues its goals operationally by periodically intervening in money market to affect the level of bank reserves and observes overnight rates of interest in the call money market. Excessive volatility in the money market interest rate structure is viewed as an inability of the central bank to achieve its intermediate monetary goals and stabilize market expectations.

The first and foremost determinant of money market liquidity is the level of SLR and CRR. Current structure of SLR requirements of banks in Bangladesh is presented in table 7.23. Table 7.23.1 shows the general structure of CRR requirements for the years prior to 1999.

**Table 7.23: Current Structure of SLR and CRR Requirements of Banks in Bangladesh
(October 1, 1999 – February 28, 2005)**

Category of Banks	SLR (%)	CRR Portion (%)	Remarks
NCBs	16	4	-
PCBs	16	4	Except Islamic Banks
SPBs	-	4	Only CRR Portion
FCBs	16	4	-
Islamic Banks	10	4	-

Note: SLR comprises the liquid assets that can be converted immediately into cash and the Cash Reserve Ratio (CRR) kept in current accounts of banks maintained with Bangladesh Bank.

³⁹ SLR represents the total percentile reserve requirements under fractional reserve system of banking. CRR is the percentile portion of SLR.

The higher the reserve requirements, especially the CRR, the lower is the liquidity in the banking system and lesser is the lending capacity of deposit money banks (DMBs). Prior to 2002, the SLR was 20 percent of banks' total deposits receipt, where the CRR was 5 percent. Bangladesh Bank has restructured and lower the reserve requirements (see table 7.23) in order to make availability of more liquidity in the market and enable the banks to extend more credit facilities to the retail customers. At present, the general structure of SLR and CRR is 16% and 4% respectively, excepting Islamic and specialized banks.

The specialized banks need to maintain only the CRR, which is now 4%. The SLR and CRR for Islamic banks are 10% and 4% respectively.

**Table 7.23.1: General Structure of SLR and CRR Requirements of Banks
(Upto September 30, 1999)**

Duration	CRR Requirements (%)
Upto October 1987	5
October 1987 to April 3, 1991	10
April 4-24, 1991	9
April 24 – November 29, 1991	8
November 30, 1991 to March 31, 1992	7
April 1, 1992 to May 27, 1992	6
May 28, 1992 to September 30, 1999	5

Source: Bangladesh

It was expected that the decrease in CRR would result into lesser funds to be locked up in Bangladesh Bank's vault, rather further infusion of funds into the monetary system. Another objective of reducing the CRR was to enhance liquid funds with the banks to stimulate the call and term money market. This would in turn reduce the call rates and the borrowing cost of the real and trade sector entities in the retail market. Because the interest rates in the inter-bank money market have benchmarking effect on the retail deposit and lending rates. But the CRR cut has created a terribly uncomfortable situation flushing the banking system with surplus liquidity (see table 7.24 in annex 4). The limited investment opportunity other than the government T-bills is a basic problem for banks in Bangladesh to utilize their liquid assets for earnings. Another important reason for huge liquidity accumulation in the market is increased number of customer approaches for opening deposit accounts that increased the inflow of cash to the banking system. Table 7.24 in annex 4) further shows that total liquidity in the money market increased from Taka 27337.25 crore in financial year (FY) 2002-03 to Taka 28685.64 crore in FY 2003-04, by recording an annual growth of 5 percent. The surplus liquidity has also grown to aka 11754.25 crore in 2004 from Taka 10897.33 crore in 2003 exposing a growth of 8 percent.

However, bankers now consider that minimal investment avenues and high risks characterize the existing credit market in the country. So it is not a very fruitful exercise of going speedily with credit expansion plan. Moreover, credit risk has always been there in the banking industry because of the very nature of the business. The risk level in credit market is also increasing because of mounting non-performing assets (NPAs). Almost all banks have been facing the problem of bad loans, burgeoning non-performing assets, thinning margins, etc. as a result of which, banks loose interest in granting loans to corporate and other borrowers. These factors, as well as the increased deposits resulted in a liquidity flush in the banking system leading to a situation in which mobilization of funds for productive purposes is much more risky the bankers are concerned for possible non-recovery of advances.

In addition to the above reasons, high lending rates are often made responsible for sub-optimal investments in manufacturing, which create vast array of liquidity in the banking system. On the other hand, increases in the country's net foreign assets have contributed to the huge liquidity accumulation in the money market. Growth in reserve money also provided the money market with increased liquidity. Reserve money recorded an increase of Tk.1724.0 crore or 7.09 percent during July-May, 2003-04 against the decrease of Tk.67.00 crore or 0.28 percent during July-May, 2002-03.

Graph 7.9: Reserve Money Growth in Bangladesh: 1993-2005

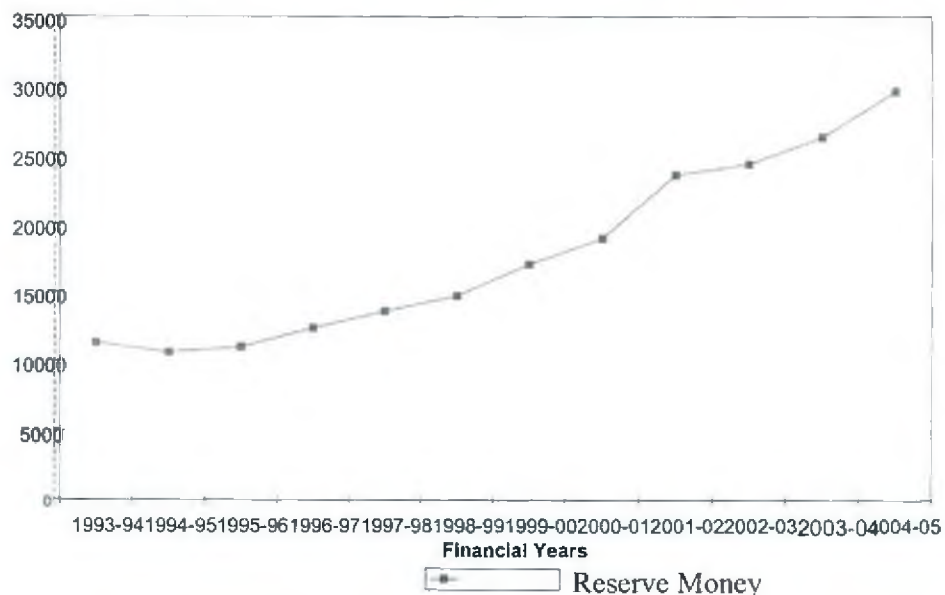


Table 7.25 in annex 4 and graph 7.9 reveals the financial year wise trends in reserve money growth in the economy during 1993-2005. The money multiplier⁴⁰ also increased from 4.69 at the end of June 2003 to 4.76 at the end of May 2004. All of these factors helped the market liquidity to grow. Increases in monetary base⁴¹ also help increase liquidity in the

⁴⁰Money multiplier asserts that the lending of banks automatically expands the credit money supply to a multiple of their aggregate reserves. In its basic form, that multiple is equal to the reciprocal of the required reserve ratio.

⁴¹ The monetary base exists in two forms: (1) banks' own deposits at the central bank and (2) cash, i.e. notes and coins. Banks maintain accounts at the central bank for check clearing requiring the inter-bank transfer of deposits. Each bank must hold enough reserves on deposit at the central bank to cover the checks written by its own depositors. Normally the

money market. The increasing inflow of foreign exchange, especially as workers' remittances from various countries heavily influenced the growth of the economy's reserve money. The state of migrant workers' remittances is analysed in chapter 8.

The discount window through which the central bank provides liquidity/cash support to the banks that are temporarily in shortage of cash, ultimately helps in stabilizing the money market liquidity. However, receiving liquidity support from the central bank through the discount window is a cost bearing tool. The central bank charges interest on the amount availed by the banks at a rate commonly known as 'bank rate', which has been changed many times during the last three decades (see table 7.26 in annex 4).

Nonetheless, frequent use of discount window exposes a bank's lower capacity of meeting the customer demands against demand deposit withdrawals. This criterion is also used by the central bank as a regulatory yardstick to evaluate the level of liquid assets of banks. The central bank discourages frequent use of the discount window. The rates in the inter-bank foreign exchange market also significantly influence the money market liquidity, especially because the money market provides local currency counterpart for domestic foreign exchange market transactions either for their own trading or as loans and advances to the customers. Further, the contributions of the banks to the 'Deposit Insurance Scheme' managed by the central bank as a safety vehicle of depositors money, impact the liquidity position of member banks. It is compulsory for each scheduled bank in Bangladesh to pay a premium of Tk.0.07 for each one hundred Taka of its total deposits. The central bank's monetary policy, particularly the growth of money supply and the development of reserve money help increase the activity of the money market.

7.3.2 Government's Fiscal Operations and the Money Market Liquidity

There are some other factors that impact the liquidity in money market both positively and negatively depending again on their application and objectivities. Important amongst the factors are the extent and volume of trade transactions including import and exports, savings behaviour and bank-habit of household and institutions and corporate bodies. Fiscal operations, especially public savings and expenditure of the government also impact the liquidity in the economy. Public borrowings from the banking system that take place in case of mismatches between public expenditure and revenue receipts squeeze the market's liquidity level and limit the credit-flows to the private sector. Domestic price level, movements in consumer price indices and industrial investments greatly help the demand for liquidity to rise. Excessive lending rates are proved to be deterrent to the private sector investments initiatives. Given the available investment avenues, excessive government borrowing from the money market for financing budgetary deficits put pressure on the

inter-bank lending market serves to redistribute bank reserves where they are needed. However when aggregate bank lending increases, the central bank is obliged to add reserves in order to maintain the inter-bank lending rate on target. It does so by buying Treasury securities from the public. The selection and control of the short-term interest rate is the primary monetary policy tool of the central bank.

Cash is by far the largest component of the monetary base, and used primarily as street money. The amount of cash in circulation depends entirely on how the public chooses to divide its money between bank deposits and cash. Since cash is not interest bearing, the public normally holds no more than it needs. However as the economy grows, there is an increasing demand for cash. Withdrawals of cash reduce a bank's reserves, which forces the central bank to replenish those reserves in order to defend its interest rate target. In effect, when the public needs more cash, it sells some of its Treasury securities to the central bank.

Banks are at the very center of the payment system. One of the key roles of the central bank is to ensure the liquidity of that system. The central bank therefore cannot arbitrarily target the quantity of bank reserves it issues. It must provide whatever reserves are needed to support cash withdrawals from banks as well as changes in aggregate bank lending.

level of liquidity. Table 7.27 depicts the government's fiscal operations and the deficit financing strategies.

Table 7.27: GOB's Deficit Budget Financing (In Billion Taka)

Sources Financing	FY 02	FY 03	FY 04	FY 04 (Quarterly)			
				Q1	Q2	Q3	Q4
Domestic Financing	55.9 (2.0)	57.9 (1.0)	59.7 (1.8)	10.1 (0.3)	7.0 (0.2)	12.2 (0.4)	30.4 (0.9)
Bank Financing	16.8 (0.6)	15.0 (0.5)	15.0 (0.5)	-3.6 (-0.1)	-4.6 (-0.1)	5.1 (0.2)	18.1 (0.5)
Non-bank Financing	(39.1) (1.4)	42.9 (1.4)	44.7 (1.3)	13.7 (6.4)	11.6 (0.3)	7.1 (0.2)	12.3 (0.4)
Foreign Financing	62.4 (2.3)	69.9 (2.3)	80.0 (2.4)	-2.0 (-0.1)	-4.8 (-0.1)	16.6 (0.5)	70.2 (2.1)
Total	118.3 (4.3)	127.8 (4.3)	139.7 (4.2)	8.0 (0.2)	2.2 (0.1)	28.8 (0.9)	100.7 (3.0)

Source: Bangladesh Bank; Note: Figures in parenthesis are percentages of GDP

Government's revenue receipts largely influence the public borrowing needs from the money market via the banking system. Table 7.27 shows that there were budgetary deficits in each financial year during 2002-2004. However, revenue receipts by the government fluctuated widely during the financial year 2003-04, which has driven the government's borrowing needs from the banking system.

The government of Bangladesh used to fund its deficits mainly by selling treasury bills and borrowing from the banking system. Table 7.27 also exhibits the picture of mismatches between the government's revenue earnings and expenditures throughout the period 2001-04. When funds from foreign and other domestic sources are not sufficient to finance deficits, the government borrowed directly from the banking system. But such borrowings from banks and non-bank financial institutions in the recent past did not constrain the growth process of liquidity in the banking system. However, markets with lower liquidity have been affected more by the government borrowings since such borrowings limit the lending capacity of banks to the private sector. Section 7.2 earlier incorporates the instruments or tools of government borrowing from the banking system.

7.3.3 Money Supply and the Money Market in Bangladesh

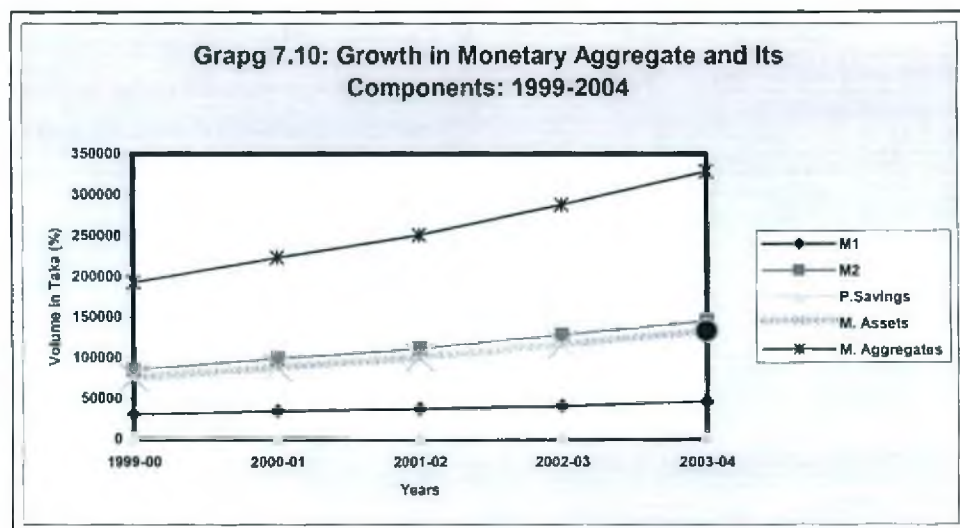
Like monetary authorities of most other nations, Bangladesh Bank, the central bank and monetary authority of Bangladesh pursues its monetary policy through 'fractional reserve' system, which refers to maintenance of a certain percentage of bank deposits as reserves. Deposit money banks (DMBs) are able to create credit money in fractional reserve system, thus play fundamental role in the money supply process. The DMBs create credit money in the form of taking deposits and issuing loans and advances. Credit money is by far the largest part of the money supply. The CB creates the base money, comprising currency (only of notes and coins) and deposits of the scheduled at the CB issued to banks. The CB deposits, together with the vault cash that banks hold, are known as reserves. Banks must hold enough reserves to convert customer deposits into base money on demand. In a fractional reserve system, banks play two distinct roles. As depositories, they are key players in the monetary and payment system: accepting deposits, paying on behalf of depositors, and exchanging currency and deposits on demand. As profit-seeking

enterprises, banks create interest-earning assets for themselves by issuing loans, thereby increasing the money supply.

7.3.4 Money Supply and the Monetary Aggregates in Bangladesh

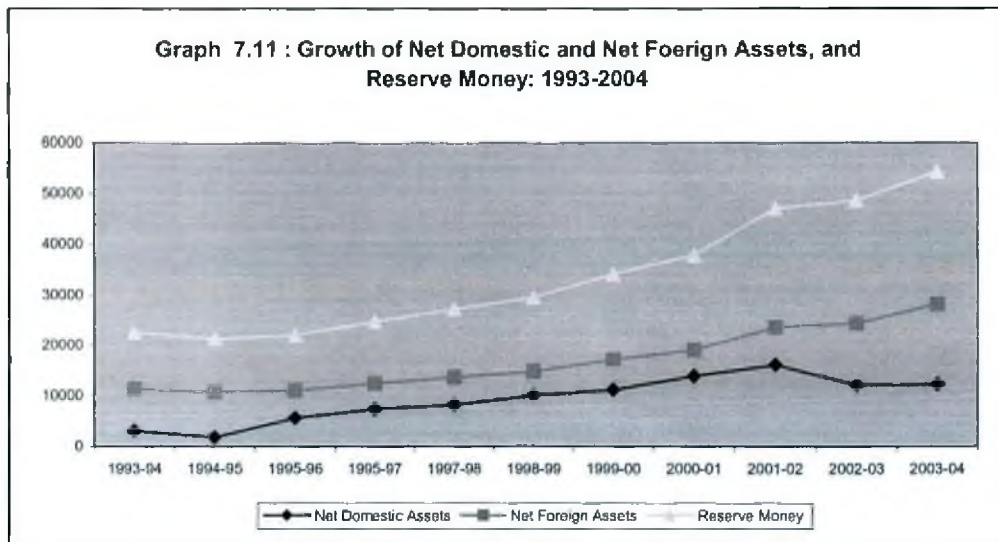
In money supply mechanism, Bangladesh Bank mainly tracks two monetary aggregates, M_1 and M_2 . M_1 comprises the traditional definition of money as a means of payment. It includes currency outside banks plus the checking or demand deposits in DMBs plus banks' deposits at the Bangladesh Bank. Demand deposits in M_1 are interest-bearing deposits with no restrictions on checking. Currency outside banks again includes Bangladesh Bank notes and coins plus government notes and coins plus currency in tills of deposit money banks. Currency in Bangladesh Bank vault is not a part of M_1 , although they are part of the monetary base, sometimes designated as M_0 .

M_2 includes M_1 plus time deposits. In Bangladesh, inter-bank or wholesale deposits are not included in monetary aggregates. M_1 , M_2 and post office deposits together form the monetary assets in the Bangladesh economy. Each of these monetary aggregate serves different purpose for the Bangladesh Bank. Table 7.28 in annex 4, and graph 7.10 shows the increase in each monetary aggregate during the financial years 1999-2000 to 2003-04. The basic aggregates, i.e., M_1 and M_2 continued to increase with the increased volumes of demand and time liabilities of banks in the economy. The growth of M_2 was remarkably prominent as the time deposits increased gradually each year throughout the period. Despite small in size compared to both demand and time liabilities of banks, post office deposits also registered accelerations in its growth and contributed to the development of the economy's monetary assets.



Combined growth of both net domestic and foreign assets of the country helped increase the reserve money⁴² in Bangladesh economy during the financial years 2002-03 and 2003-04 (see table 7.29 in annex 4 and graph 7.11), which in turn added positive contribution to overall monetary growth process.

⁴² Reserve money equals net domestic assets plus net foreign assets.



7.3.5 Money Market and Monetary Policy Implementation

The basic goal of monetary policy is to provide the financial liquidity needed for a growing economy while limiting consumer price inflation to some small positive value. Monetary policy can be implemented in two different ways: (1) selection and control of the money supply growth rate, leaving the money market interest rate as a residual, or (2) selection and control of the money market interest rate, leaving the money supply as a residual. The money market rate is the interest rate at which financial institutions lend deposits to each other overnight i.e., inter-bank call money rates.

The first option is feasible only if the central bank has direct control on the money supply. Some economists consider that such a system should operate with a fixed money supply growth rate at about 4% per year, consistent with the potential growth rate of the real economy plus a small inflation rate (Friedman, 1953). A key objection to this option is its inflexibility. Certainly, there are significant external shocks that arise and impact the economy from time to time. The damage of shocks could be ameliorated with temporary changes in interest rates that a fixed money growth rate policy would not allow.

Accommodation of monetary policy operations is an important function of money markets in liberalized financial sectors and Bangladesh is not an exception. In controlled regimes, the monetary authority directly controls credit as a tool of economic management and financial institutions ration the credit released by the central bank. In liberalized regimes, the authority must manage monetary conditions indirectly, through operations that affect the price of money and credit. This is achieved by altering the banking system's net liquidity to induce desired interest rate changes in a liberalized economy. Various mechanisms facilitate monetary management, including changes in banks required reserves, discount window arrangements, central bank securities issues, treasury bills tender arrangements and open market operations. So, the latter is the most flexible method for managing the banking system's liquidity in liberalized financial sector. Bangladesh Bank pursues the latter policy option.

Figure 7(iv) in annex 4 adopted from Lynch (1996) provides a schematic outline of a standard transmission process for open market operations. The figure, for example, assumes that the monetary authority tightens liquidity to drive up money market interest rates. This

directly affects borrowers in the money market; both financial institutions and companies that obtain working capital through available bank instruments such as short-term bills, commercial paper, or other loan facilities that are tied to money market interest rates. Sustained changes in inter-bank money market (IMM) interest rates feed through to banks' retail interest rates, which affect smaller business and individuals.

The cost of money and credit impacts the real economy, affecting investment and consumption decisions and ultimately feeds into the variables like the balance of payments and economic growth, which are the usual economic policy targets. There are subsequent feedback effects, which restore balance to bank reserves at a new level that is consistent with the target variables.

The implementation of monetary policy of this pattern depends on the degree of openness of the economy (especially the capital account), the exchange rate regime, the financial structure and level of financial development. This affects the speed and potency of different elements of monetary transmission process and influences the selection of intermediate targets for monetary policy.

Several conditions must be met for the successful operation of monetary policy under a liberalized regime. First, the money market must be deep enough to facilitate effective open market operations. Money markets must emit continuous price signals, which the monetary authorities can shade through intervention, as warranted by monetary policy considerations. This requires a viable market independent of the monetary authority's transactions, a further advantage of which is anonymity afforded to the monetary authority in its actions (Lynch, 1996). Bangladesh could not pass this hurdle cleanly, with the result that the monetary authority unable to influence monetary conditions and interest rates without resort to direct controls, or other ad hoc solutions. Bangladesh Bank intervenes in the money market through repurchase agreements, but this has limitations, as the supply and market outstanding of government treasury bills depend on the borrowing needs of the government from the banking system. However, when the market rate rises abruptly, the central bank purchases treasury bills from the banks to increase the aggregate supply of liquidity. When the market rate falls below the target, the central bank sells treasury bills to reduce liquidity in the market. In this way the central bank continually adjusts the supply of loanable funds to meet the demand at approximately the expected rate.

In most developed economies, foreign exchange derivatives are used as an effective mechanism for managing liquidity. Effective intervention requires a deep foreign exchange market, with large outright forward and swap markets. Bangladesh lacks such a market. Developing countries lack depth to facilitate liquidity management (see ADB, 1993, and Lynch and Norton, 1992) and capital controls inhibit the integration of domestic money and foreign exchange markets. Financial market of Bangladesh characterizes by those lacks. If changes to money market interest rates can be effected through open market operations, a further requirement for successful implementation of monetary policy is the existence of stable relationships between:

- Money market interest rates and bank retail interest rates;
- Interest rates (wholesale and retail) and money and credit demand,
- Credit demand, savings and economic activity, and
- Money demand and economic activity.

Establishing such relationships is important for Bangladesh economy, because the direct transmission of money market interest rates changes to credit is weak in the absence of significant number of instruments, such as commercial bill and commercial papers and other

short-term tradable securities and money market funds. On the other hand, thin inter-bank money and foreign exchange markets limit the sensitivity of banks' marginal funding costs to money market interest rates.

7.3.6 Findings and Implications

(a) Findings

The institutional structure of money market in Bangladesh is deep enough as there are a remarkable number of deposit money banks and leasing companies acting in the inter-bank and retail customer niches of the money market. The money market in the country is now working in an open economic environment. However, the market has not attained a significant level of dynamism even after the implementation of decade long reforms. It is still functioning with a set of traditional and thin instruments and tools having any convertible certificates/papers or tradable securities except government treasury bills. The inter-bank market, the building block of the money market also remains stereotyped in borrowing and lending having no inter-bank bills.

The transaction volume in the inter-bank money market has not increased significantly. Money markets of Bangladesh are not integrated. The interest rates are very high. There are wide differences between lending and deposit rates and the absence of optimal instruments discourages investments in this money market. The money market of the country is highly concentrated to inter-bank call money transactions and the trading of restricted supply-led government treasury bills. Activities of the leasing companies are extremely limited to only in borrowings in the inter-bank money market inconsistently with the market norms. In most cases, leasing companies offer higher rate of interest on their borrowings to attract the lending banks, violating the market rules. In this situation, lending banks also show much interest to lend to the leasing companies for higher yields, creating instability in the market rates. Moreover, non-pay-back and frequent renewal and rollover of overnight loans by the leasing firms create market distortions. Other constraints of money market in Bangladesh are:

- poor technological infrastructure, especially networks that make it difficult to implement electronic settlement;
- lack of technical expertise in market operations and information technology; and
- uncertainty and instability of dematerialized financial transactions because of weaknesses of the existing legal framework.

(b) Implications

Money markets ought to allocate finance where it is most needed, and thus contribute to greater productivity, employment and the reduction of poverty. Yet, in practice, they have not performed this function at all well. Vast segments of the population are still un-served, and inappropriate financial services are offered and inflexible contracts are extended. Poor farmers and small businesses are generally excluded from conventional the services of financial institutions like the commercial banks.

A good working money market allows retention of private sector savings in the country, which promotes investment and growth. In addition, an effective money market allows for price stabilization and positive real interest rates making deposit money attractive compared to cash. Another key factor is building-up an efficient national payment system that transfers money, meets the needs of economic agents, and provides cost efficiency, timeliness and predictability, and security and transparency.

The above stated situation necessitates that the policy measures for attaining structural, instrumental and operational soundness in the money market of Bangladesh must cover the following aspects:-

Unless there is a system of a two-way quote in the inter-bank market, market players tend to manipulate the market mechanism. The introduction of two-way quote system will help increase competitiveness in the market. If established, there should be spread band prescribed by the central bank, which could be changed from time to time as needed for market stability. This arrangement may prevent abnormal price hikes in the inter-bank money market.

The wave of liberalization requires presence of more instruments to increase the market liquidity and the competitiveness. Along with making enhanced supply of T-bills, various types of central bank bills or funds may stimulate the present state of money market in the country. Deepening of market transactions essentially requires increased number of instruments and the volumes of their outstanding. It could be an effective strategy to increase the competitiveness in the inter-bank money market by introducing quote-driven dealings instead of ongoing order-driven practices. Allowing brokerage houses in the inter-bank market will add new dimension and increase market depth.

The activities of leasing companies in the money market be reviewed and monitored intensively so that they behave in the market in accordance with the market norms. A better option may be withdrawal of their access from the inter-bank money market. The leasing firms are by nature long-term lending institutions in the capital market. Picking funds by them from the call money market dries up the liquidity and channel those to long-term investments, which create supply shortage of liquidity in the money market and drives up the money market interest rates.

Bangladesh Bank needs to have a concrete and clear role in the domestic foreign exchange market and demarcated its regulatory functions with those of BAFEDA (Bangladesh Foreign Exchange Dealer's Association). At present, commercial banks are being habituated to refer everything to central bank despite having a set of guidelines. The plea is to shift the liabilities of their inability to shoulder responsibility on the central bank's neck. This is because the commercial banks in the country are suffering from efficient and responsible human capital. Bangladesh Bank must come up with clear compliance guidelines and adopt progressive policies that will compel the commercial banks to shoulder responsibilities. These steps will develop market norms and discipline, and activate market operations.

Both domestic inter-bank money and foreign exchange markets are inter-dependent for liquidity. Dealing in foreign exchange market involves two currencies: local and foreign. Buying foreign currency in the domestic market requires local currency, which is financed by the money market affecting the local currency liquidity position of banks. Shortage of local currency liquidity increases the interest rate on borrowings for financing the foreign currency buying by banks or customers. Increased inflow of foreign currency in the domestic foreign exchange market and their subsequent sells diversify and balance the liquidity between these two markets. This needs extended coordination between these markets.

The issue of risk is especially crucial for high value transaction in the money market. Effective risk reduction requires an overall solution involving all high value payment system participants. The solution lies in the full implementation of an RTGS (Real Time

Gross Settlement System), where the settlement is done in real time on an individual basis and on central bank accounts.

Bangladesh Bank introduced RTGS, but the efficiency of the system needs improvement for elimination of inter-bank settlement risk. Its operational implications are:

- the intra-day settlement cash and the scheduling of outgoing payments must be carefully managed because each bank must ensure sufficient liquidity for immediate settlement of its payments;
- the intra-day customer exposures must be monitored;
- the central bank must provide intra-day overdraft facilities and potentially intervene in order to avoid gridlock;
- in addition to government treasury bills, the securities market must be developed in order to provide an adequate supply of eligible securities as collateral;
- inter-bank markets must develop in order to recycle settlement cash; and
- the access to the RTGS system must be restricted to actors with sufficient financial and technical strengths, complying furthermore with technical standards and risk management procedures.

In setting up an effective national money market, it is necessary to exploit common interests without inhibiting market forces such that:

- all interested parties should be involved in the money market reform process;
- banks should cooperate in establishing the inter-bank money market and the payments infrastructure;
- commercial banks should compete in the market for intra-day credit with the central bank as lender of last resort; and

In many cases, implementation of a national money market operations system means streamlining rules and automation of a process through different means. But all requirements are never known at the start. This is why it is important in the implementation process:

- to establish a mechanism of responding to new requirements and changes;
- to focus on software rather than hardware as a way to continuously ensure that the solution meets the requirements;
- to look for modular solutions;
- to put emphasis on user education and change management strategy; and
- to ensure security.

Development of infrastructure is also important for money market development. First, an efficient trading system is required; introduction of a dealer mechanism and development of short-term securities trading in the money market may be the initial steps. Modernization in financial sector regulations and the tax regime can affect money market development. The private sector orientation, liquidity and the institutional and instrumental efficiency of the national financial sector can ensure the efficient operations of the money market in the country. The rationale is: transaction costs in more active markets are lower and therefore, an active market facilitates further trading. The market players need to be much more aware and skilled for better management of their funds. This requires imparting them with practical and need-based education and training either through the concerned banks or government sponsored programs. Foreign banks working in the market and have long experience may sponsor such skill and capacity building programs for local bankers.

Exogenous factors such as growth potentials in factor markets, their structure and behaviour impact operations of financial markets, especially the money markets. Labour market has also remarkable impact on the operations of short-term money market. Theoretical linkages between factor market, labour market, financial market and economic growth have been found in various studies. Adeola, et al (2000) argues that that the structure and operations of labour market influence the performance of financial markets, and ultimately impact the economic growth. Sharp falls in real wages have profound impact on productivity in both private and public sectors. Measuring the impacts of both factor and labour markets is important prior to initiation of strategic plan for money and financial market development in Bangladesh, as these issues have hardly been received any attention.

The low rate of financial deepening in terms of institutions, instruments, customers and other agents contribute to the slow growth of the financial system. Although the country's financial market experienced deepening in institutions, instrumental and customer bases are extremely weak. Development initiatives for money market in particular and the financial market in general must put due emphasis on these particular aspects.

7.4 Interest Rate Pass-through in the Money Market of Bangladesh: An Empirical Examination

7.4.1 Theoretical Background

Inter-bank money market interest rates, commonly denoted as money market rates, pass-through to and benchmark banks' retail interest rates for customers. In general, changes in policy (administered/official) or money market interest rates adjust to retail interest rates with a delay. The retail rates refer both to interest rates that banks charge on loan customers and pay to depositors. Such a transmission process is termed as interest rate pass-through. Bredin et al (2001) notes that the term pass-through refers to the extent to which changes in money market rates are reflected in changes in retail rates both in the short and long run. Complete pass-through occurs when a movement in the money market rates leads to a one for one change in retail rates. Retail rates are said to be 'sticky' when there is a slow response of these rates to movements in the money market rate. The rate of interest charged by a financial institution is a function of the marginal cost of funds to that institution. Thus, changes in money market rates are likely to feed into changes in the rates charged to customers since this represents a change in the financial institutions' marginal cost. One useful proxy of this cost is the wholesale money market rate i.e. the cost to a bank of borrowing from other banks in the inter-bank money market. Other possible proxies of the opportunity cost of funds are the short-term lending facility provided by the monetary authority to banks and the deposit rates offered to or lending rates charged on their customers by financial intermediaries.

The changes in money market interest rate and the process of their pass-through to the retail market rates requires a stable long-run relationship between them. Adjustment of money market rates to retail rates, or changes in retail customer rates to money market interest rates is not immediate, as interest rate sensitivity differs amongst bank customer categories. Other influencing factors are fixed or transaction costs, credit constraints, risk aversion, volatility of the end-of-day liquidity, etc. The extent and speed of adjustment between money market rates and banks' retail rates also depends on the competitiveness of the financial system concerned. The speed of adjustment of interest rates between markets may also vary with the economic cycles. Economists argue that the pass-through and benchmark relationship is tighter in developed and efficient money markets. In other words, the money markets in which the interest rates pass-through takes place in full and benchmark the rates

for other financial institutions is a developed and efficient money market.

As the money market is a source of banks' marginal funds, changes in interest rates in this market usually pass on to loan-customers to maintain profitability (subject to the market size limitation). Money market instruments provide competition for bank deposits. Even where money markets are small, contestable market theory⁴³ applies to place a limit on the difference between wholesale and retail interest rates. Most importantly, money market participants are efficient at collecting, analyzing and absorbing new information flows that affect interest rates, given their communications and analytical resources.

These propositions have been widely discussed, but were never systematically put to test in Bangladesh. This study attempted to perform such a test in particular, by estimating the interest rate reactivity in the money market of Bangladesh (in both inter-bank and the retail customers' parts). In the absence of a yield curve or any benchmark rate, there is no scope of analyzing the interest rate benchmarking relationship in Bangladesh. Thus this study is conducted to investigate the effectiveness of pass-through of money market interest rates to retail customers' lending rates in the country.

Numerous studies have provided estimates on the pass-through of interest rates in recent years. BIS (1994), Borio & Fritz (1994), Cottarelli & Kourelis (1994), Lowe (1994), Mozzami (1999) and Mojon (2000) have attempted to quantify the degree and speed of pass through from money market rates to retail rates for a number of countries. In general, these studies have found that the degree of pass through varies across particular retail rates and there are also significant differences across countries. For example, Borio & Fritz (1994) conducted point estimates of the long run response of loan rates to money market rates and found that the changes ranged between 0.8 and 1.1 across a number of countries. While Cottarelli & Kourelis (1994) found a long run pass through coefficient on average of 0.97 with a range of 0.75 to 1.25 approximately using one lending rate. The speed at which changes in money market rates are completely transmitted to retail rates can vary from anything between 3 months to 2 years.

Cottarelli & Kourelis (1994) and Mojon (2000) have tried to relate country specific characteristics to the degree of pass through in the short run. Both studies use a panel data approach to relate estimates of the degree of short run pass-through to variables such as banking competition, money market factors, financial structure, and bank costs. These researchers noted that mainly the inflation, a volatile money market rate, and lack of competitions are the main factors positively related to stickiness.

Lynch (1996) used a simple model of interest rate changes to test the pass-through relationship in money and retail interest rates. Lynch (1996) found that in a perfect benchmarking relationship, the α_1 coefficient equals one, and further away from one it moves the less is the influence of money market interest rates on the general structure of retail interest rates. Lynch's (1996) model is as below:

$$DEP_t = \alpha_0 + \alpha_1 * MM_t + u_t$$

⁴³ *Contestable Markets Theory: A perfectly contestable market is one in which entry and exit is absolutely costless. In such a market, competitive pressures supplied by the perpetual threat of entry, as well as by the presence of actual current rivals, can prevent monopoly behaviour. In recent years the term contestable markets has been used by Baumol, Panzer and Willig. A contestable market requires barriers to entry to be low, and a perfectly contestable market requires a total absence of barriers to entry. Barriers to entry for example being, special licenses, patents, copyrights, high fixed costs, marketing barriers (legal and illegal) constructed by incumbent firms.*

DEP - (nominal) bank deposit interest rates.

MM - (nominal) money market interest rates.

However, so far there is no consensus regarding the most appropriate test for association or co-integration in the money market interest rates and there is no general empirical approach to report results for a variety of tests. Three general approaches are widely used for testing whether the economic time series are associated or co-integrated. These are:

1. single equation static regressions (Engel & Granger, 1987)
2. vector auto regressions (Johansen 1988, 1991 & 1995),
3. single equation error correction models.

Both Cottarelli & Kourelis (1994) and Mojon (2000) studies have adopted a single equation error correction model (ECM) in order to quantify the dynamics of retail rate adjustment following a change to market interest rates. Lynch (1996) adopted the vector auto regressions (Johansen, 1988, 1991 & 1995) to test the co-integrated and benchmarking relationships between money market rates and retail customers' deposit rates.

7.4.2 The Model and the Variables

The following model has been used for testing hypothesis 1 of the study: The changes in the inter-bank money market interest rates pass-through to banks' retail customer lending rates.

$$\text{Lend_Rate} = \alpha + \beta_1 \text{IMMBorr_Rates}_t + \beta_2 \text{Inflation}_t$$

Dependent variable: Lend_Rate (nominal annual average bank lending interest rates)

Independent variables: IMMBorr_Rates (nominal annual average inter-bank money market borrowing interest rates)

Infl_Rate-(annual average inflation rates)

Inter-bank borrowing and banks' customer lending rates are required to be positively or progressively related. Increases in inter-bank borrowing rate tended to be passed-through or shifted to customer lending rates as the lending banks have to cover the cost of funds and maintain profitability.

The adopted research hypothesis is that the changes in the inter-bank money market interest rates pass-through to banks' retail customer lending rates. The null hypothesis (H_0) is that the inter-bank borrowing interest rates didn't pass-through to retail bank lending rates.

In general, nominal interest rate is not a good unit in which to measure association or variance because the units become inflated over time. For example, the association/variance of the later half of the series may be much greater than the first half, may be due to inflationary effects. So inflation is included as a predictor in the model, which tells us how the inflation is correlated to both dependent and the other independent variable in the model. According to Lynch (1996), in a perfect benchmarking relationship, the α_t coefficient equals one, and further away from one it moves the less is the influence of money market interest rates on the general structure of retail interest rates. In line with Lynch (1996), we may stand and state that in a perfect pass-through relationship, the coefficient R squared equals one, and further away from one it moves the less is the influence of money market interest rates on the banks retail lending interest rates.

7.4.3 Regression Results and the Explanations

Statistical Description of Data

Table 7.30 shows that spread between standard deviations and the minimum, maximum and mean of both dependent and independent variables are larger, indicating the dispersed or scattered distribution of data in the model and their distant location and variability. The large differences in them are also supported by large value of skewness and kurtosis substantially greater than and distant from zero, the critical level to prove normal distribution.

The skewness measured in our case is -.554 for IMM Borrowing, -2.230 for retail lending and 0.660 for inflation rates. Kurtosis for IMM borrowing rates is 0.525; retail lending rates 5.532 and inflation rates -.643. Thus the non-symmetry between call money borrowing, retail customer lending and inflation rates are largely dispersed. The departures from symmetry therefore, indicate none or lower level of pass-through had taken place in the broader money market of Bangladesh.

Table 7.30: Descriptive Statistics (continued)

	N	Minimum	Maximum	Mean		Std. Dev
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
IMM Borrow	8	4.93	9.49	7.4875	.49520	1.40063
Lending Rate	8	11.15	13.46	12.8212	.25325	.71629
Inf Rate	8	1.94	8.66	4.6763	.82470	2.33261
Valid N (listwise)	8					

Descriptive Statistics (continuation)

	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
IMM Borrow	8	-.554	.752	.525	1.481
Lending Rate	8	-2.230	.752	5.532	1.481
Inf Rate	8	.660	.752	-.643	1.481
Valid N (listwise)	8				

Correlation Matrix (see table 7.31) shows that IMM borrowing rates are correlated with retail customers' lending rates with coefficient value of 0.641. But inflation is negatively correlated with both IMM borrowing and retail lending rates. In statistics, random variables whose covariance is zero are called uncorrelated. In other words, if the random variables are independent, then their covariance is zero. Coefficient Correlations (see table 7.32) exhibits that covariance of IMM borrowing rate and the rate of inflation is very close to zero (0.004), in addition to their negative correlation as estimated in correlation matrix (see table 7.31). So these variables are nearly independent, i.e., their level of co-movement is very little or drastically insignificant with IMM borrowing and inflation rates. Thus we can exclude inflation rate while we analyze the covariance or level of co-movement of IMM borrowing rates with the retail lending rates separately. The level of variance of IMM borrowing rate and inflation rate is 0.032 and 0.015 with retail lending rate (the dependent variable) respectively. This helps us estimating the individual level of association of IMM borrowing rate with dependent variable (retail lending rates) from R squared value produced in the model summary (see table 7.33).

Table 7.31: Correlations

		Lending_Rate	IMM_Borrowing	Inf_Rate
Pearson Correlation	Lending_Rate	1.000	.641	-.131
	IMM_Borrowing	.641	1.000	-.213
	Inf_Rate	-.131	-.213	1.000
Sig. (1-tailed)	Lending_Rate	.	.043	.378
	IMM_Borrowing	.043	.	.306
	Inf_Rate	.378	.306	.
N	Lending_Rate	8	8	8
	IMM_Borrowing	8	8	8
	Inf_Rate	8	8	8

Table 7.32: Coefficient Correlations(a)

Model			Inf_Rate	IMM_Borrowing
1	Correlations	Inf_Rate	1.000	.213
		IMM_Borrowing	.213	1.000
	Covariances	Inf_Rate	.012	.004
		IMM_Borrowing	.004	.032

a Dependent Variable: Lending_Rate

Model summary (see table 7.33) exhibits the R, R squared and adjusted R square values. R squared is 0.411, which is only marginally significant, does not reflect the complete association of independent variables with dependent variable. The joint level of variance of independent variables with dependent variable is larger (i.e. $1 - R^2$). The lower level of joint association of independent variables (given the negative correlation of inflation with the dependent variable, and the negative or insignificant correlation and covariance with the other independent variable, i.e., IMM borrowing rates) help us making a general inference that IMM borrowing rates didn't completely passed-through to banks' retail lending rates. The adjusted R^2 value⁴⁴ (0.175) and F-value in table 7.34 also supports the above inference.

Table 7.33: Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.641(a)	.411	.175	.65060	.411	1.742	2	5	.267

a Predictors: (Constant), Inf_Rate, IMM_Borrowing

b Dependent Variable: Lending_Rate

⁴⁴ Adjusted R-squared is computed using the formula $R^2 - (k - 1) / (n - k) * (1 - R^2)$, where: n = # of observations, k = # of independent variables. Accordingly: smaller n , decreases R^2 value; larger n , increases R^2 value; smaller k , increases R^2 value; larger k , decreases R^2 value. As per the formula, when the number of observations is small and the number of predictors is large, there will be a much greater difference between R-square and adjusted R-square and the adjusted R-square will be much less than 1). By contrast, when the number of observations is very large compared to the number of predictors, the value of R-square and adjusted R-square will be much closer. The first proposition is true in this analysis, i.e., adjusted R-square lesser than R-square, which is again much less than 1 means the dependent variable (retail bank lending rates) was insignificantly correlated with independent variables (money market borrowing rates and inflation). Their non-linear and distant moves reflect their dissociated behaviour.

Table 7.34: ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.475	2	.738	1.742	.267(a)
	Residual	2.116	5	.423		
	Total	3.591	7			

a Predictors: (Constant), Inf_Rate, IMM_Borrowing
 b Dependent Variable: Lending_Rate

Testing the Null Hypothesis (H_0)

The t-values shown in table 7.35 are 2-tailed in Pearson correlation. We want 1-tailed t-values. The one-tailed significance level is twice the two-tailed probability level: If SPSS reports 0.05 for 2-tailed, then the one-tailed equivalent significant level is 0.10. The t-values exceeded the significant level of 0.10 in our test. That is, it gives the "direct" or "net" effect. Here, the 'sig' column (see table 7.35) shows the highly correlated coefficients, which have crossed the critical level of 0.10 at 1-tailed Pearson Correlation rejecting the null hypothesis. Thus the research hypothesis is true and valid. In other words, the model satisfies the research hypothesis that the interest rate pass-through from money market to banks retail customer lending rate took place in Bangladesh during the period under investigation. But completely rejecting the (H_0) tended to be Type 1 error, as the R squared with 0.411 is lower and reflect the greater fraction of variations of independent variables with dependent variable. So we can draw an inference that the observed pass-through did occur in the money market of Bangladesh only marginally, rather than fully. On the other hand, the fraction of covariance of IMM borrowing rates and the retail bank lending rates is extremely lower and it reflects larger spread between them and their distant movements from one another. So we cannot reject the H_0 completely. The residual statistics (see table 7.36) also tell about the dispersed movement in money market borrowing and retail lending rates.

Table 7.35: Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	10.355	1.551		6.675	.001
	IMM_Borrowing	.328	.180	.642	1.827	.127
	Inf_Rate	.002	.108	.005	.016	.988

a Dependent Variable: Lending_Rate

Table 7.36: Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	11.9835	13.4755	12.8213	.45905	8
Residual	-.83349	.69094	.00000	.54986	8
Std. Predicted Value	-1.825	1.425	.000	1.000	8
Std. Residual	-1.281	1.062	.000	.845	8

a Dependent Variable: Lending_Rate

Fitness of the Model

In our model, $F = 1.742$ (Sig. 0.267) shown in table 7.33 and also found in ANOVA (see table 7.34) is thus statistically significant and clearly expresses the model's goodness-of-fit.

7.4.4 Graphical Estimations

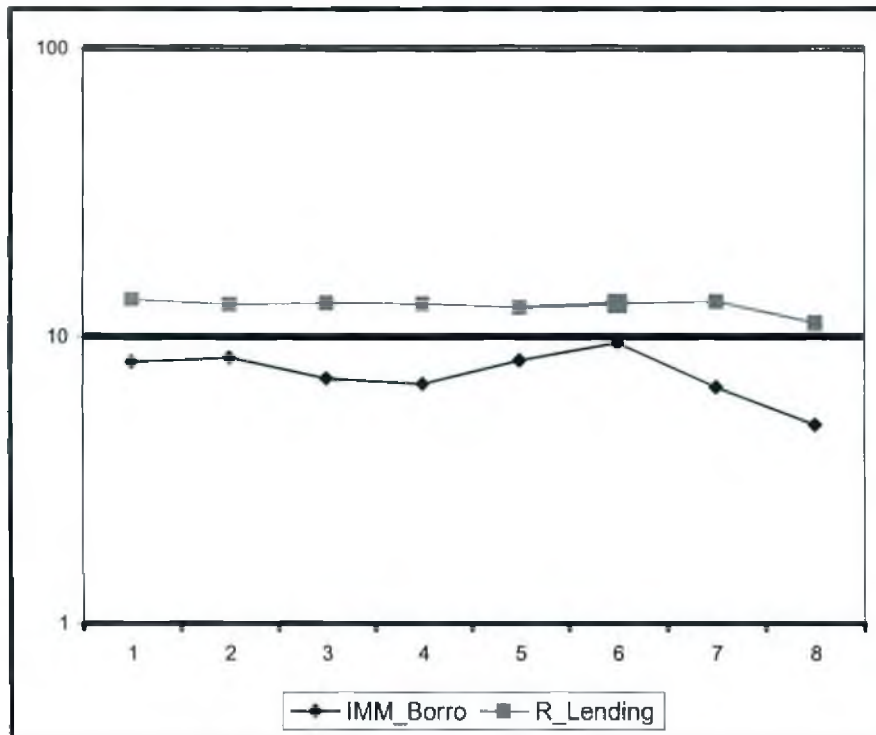
Graphical estimation also reveals the partial pass-through of IMM interest rates to banks retail lending rates in Bangladesh.

Table 7.37: Basic Data-Yearly Average Call Money Borrowing and Retail Lending Interest Rates and the Rate of Inflation

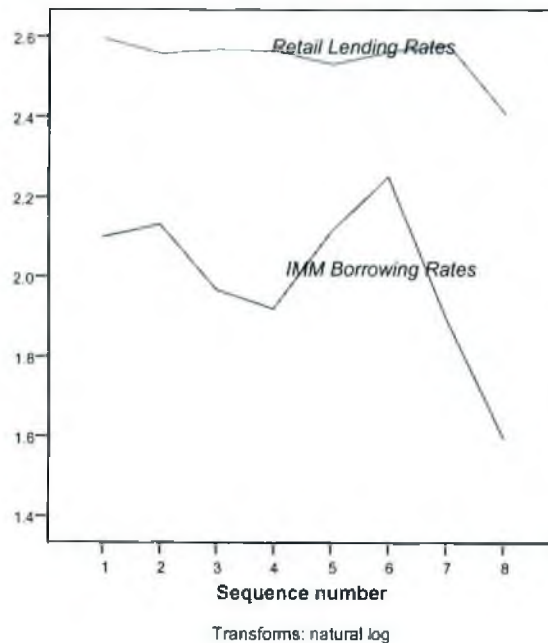
Year	IMM Borrowing Rates (Yearly Average Nominal Borrowing)	Retail Lending Rates (Nominal Average Yearly)	Inflation (12 Months Average)
1997	8.16	13.46	3.96
1998	8.43	12.96	8.66
1999	7.15	13.09	7.06
2000	6.82	13.03	2.79
2001	8.26	12.62	1.94
2002	9.49	13.02	2.79
2003	6.66	13.24	4.38
2004	4.93	11.15	5.83

Source: Bangladesh Bank

**Graph 7.12
Movement of Inter-bank Money Market Borrowing
and Banks Retail Lending Rates during 1997-2004**



Graph 7.13
Movement of Inter-bank Money Market
Borrowing and Banks Retail Lending Rates during 1997-2004



Graph 7.12 drawn from basic data (see table 7.37) in Excel shows the skewed movements of both inter-bank borrowing and banks retail customer lending interest rates during 1997-2004. The varying trends in the curves at various points of time reflect their unparallel behavior accompanied by larger spread, which do not satisfy the complete pass-through of said interest rates. Time series plot drawn under natural log transformation in SPSS (see graph 7.13) shows the similar un-parallel moves between the IMM borrowing and retail lending rates and therefore, there was no sequence in their movements.

7.4.5 Findings and Implications

The main finding of the analysis is that pass-through of interest rate from the inter-bank money market to retail customer market is incomplete and registered scattered movements in Bangladesh. These findings do not reflect the efficiency and soundness of money market in Bangladesh.

Many factors may be made liable for small and slow transmission of money market rates to retail customers market in Bangladesh. The sensitivity effect of money market interest rates, i.e., the marginal cost of bank funds in the inter-bank money market with the rates that apply to loan customers is hardly monitored in Bangladesh. There is no target interest rate or yield curve⁴⁵ in the country's financial markets to benchmark. The money market of the country does not fulfill the efficiency and structural criteria as stated earlier. The central bank (Bangladesh Bank) pursues open market operations through issuance, 'repo' and 'reverse repo' of Government T-bills. The money market of Bangladesh lacks cross-market

⁴⁵ The yield curve refers to the slope of rates in the Treasury bond market, and an inverted yield curve traditionally signals a slowing economy or a recession.

linkages⁴⁶ due to its non-integration with regional and international financial markets. It still suffers from the problem of a set of developed financial instruments and severe information asymmetry. Inadequately structured data sources, inefficient data collection and data dissemination processes have contributed to the severity of information asymmetry. Under the deregulated interest rate regime, banks followed their own interest rate policies, which were in most cases heterogeneous in the absence of spread or margin management mechanism and a benchmarking interest rate or yield curve. Bangladesh Bank does not follow suit any target or policy rate of interest. In case of rate hikes in the market, BB thus applies open market operations and moral suasion techniques and asks the large banks, especially the NCBs, to release more fund in the inter-bank money market in order to provide additional liquidity and drive-out the rates. In an ideal situation, the margin between money market interest rates and bank retail rates is determined by the structure of the financial system. An efficient financial system absorbs small or transitory movements in money market rates and vis-à-vis. As the country's financial system is weak in structure and operations and in providing speedy payment/fund transfer facilities, it couldn't absorb even the impact of small changes in the money market, which resulted abnormal rate hikes for a number of instances. Several factors can alter the structural relationship, or spread, between interest rate categories. These include changes in the internal competitiveness of the financial system under deregulated regimes, technology developments, bank marketing policy and other macroeconomic factors. Not much attention has been paid on to these structural factors in the financial market of Bangladesh. But in a developed and efficient money market, pass-through of interest rates takes place fully and speedily, as they properly address those structural changes.

The spread between the IMM borrowing and retail lending rate, and retail deposit and lending rates are found extremely larger. Several factors are likely to explain the spread between the retail rate and the marginal cost of funds in Bangladesh. - the rates on which the banks borrow from the inter-bank money market, or the rates they pay on their deposit liabilities. Although the market is highly deep with a mentionable number of banks and other financial institutions and the market has been working under a deregulated environment, collusion on the part of financial institutions and high fixed costs of entering the market are liable for larger differences in the price of funds. Asymmetric information between borrowers and lenders may cause this premium to vary depending on the market or the state of the economy. Differences in rates charged on to different customers might be based on the differences in credit worthiness or riskiness of particular borrowers. But this rule is hardly followed in Bangladesh. In such a situation, borrowers have become habituated to non-payment of bank loans; rather shown much willingness to borrow more without considering the increases in interest costs. This has ultimately helped inflate the banks' non-performing assets and weaken their asset portfolios.

Lags in the full adjustment of retail rates are likely to occur due to the difficulty of determining whether changes in IMM rates are permanent or temporary or whether changes in policy rates are expected or unexpected. The banking sector may be slow to respond to temporary changes in the IMM rate but quicker to respond to more permanent changes in interest rates.

Another consideration is the relationship between short-term and long-term interest rates i.e., the term structure of interest rates and how this relationship affects retail rates. This is important for a number of reasons. Firstly, depending on the proportion of retail rates

⁴⁶ *Cross-market linkages: linkages across the two or more most active markets where market impulses, expectations and shocks transmit amongst markets.*

which are fixed or variable, determine the relative importance of movements in short-term or long-term interest rates and influence the degree of pass through from money market rates to retail rates. Secondly, is the main concern from which source of funds for financial intermediaries derived: short-term or long-term capital market.

If the main source of financing is from the short-term source, then changes in short-term rates are likely to feed into retail rates. Alternatively, if the main source is from long-term capital markets, then there will be a weaker link between changes in IMM rates and retail rates. In Bangladesh, until recently variable interest rates are the norm and the main source of funds are from wholesale money markets and deposits that are closely connected to short-term money market rates. But due to pre-announced interest rate structure, the changes in IMM rates could not apply on the existing borrower-customers, but on to new comers. Thus the partial pass-through of IMM interest rates to retail customers' rate remained incomplete in Bangladesh.

The relative elasticity of the supply and demand for loans is important determinants of the degree to which interest rate movements do pass through to customers. If one thinks of a change in the money market rate as an exogenous change in the marginal cost of funds for financial institutions, then the elasticity of supply and demand, in a particular retail market, will determine how much of such a change in cost is passed on to the consumer or absorbed by the financial institution. In monopolistic or oligopolistic settings there generally won't be a one for one movement in retail rates in response to changes in money market rates. In spite of an institutionally depth and competitive environment, the interest rate-pass-through effects have been found very limited in extent. This may be due to small size of the credible and reliable customer base and the higher level of intra-industry competition.

A crucial issue here is the degree of substitutability between funds raised on both short-term and long-term capital markets. Recently, the non-bank financial institutions have substituted the services and products of banks and development of capital market may have significant influence on the incomplete pass-through to take place in the money market in Bangladesh.

These same factors are likely to influence both the degree to which changes in the money market rate are passed through to retail rates as well as the speed at which such pass through occurs. Consumption and investment decisions made by households and firms are affected by the rate of interest charged on them by banks and other financial intermediaries. A critical element of the transmission of monetary policy is the degree and speed at which changes in the short-term policy rate are transmitted to retail rates faced by firms and households.

Many other factors may have their contribution to the lower level of interest rate pass-through between inter-bank money market and the retail customers' market in Bangladesh. The environments in which banks operate have changed substantially during the sample period. A number of structural changes in the money market in particular and in the entire financial market of the country have impacted the market performance including the institutional changes as well as the exchange rate regime changes witnessed during this period. These changes have not been taken into consideration. These might have substantial impact on the movement of interest rate structure and more specifically on the money market rates. The empirical results are consistent with previous studies, although the degree of pass through found here is relatively lower. However, for the vast majority of retail lending rates, pass-through is less than complete, while the speed of adjustment varies

across series. The ultimate implication is that the interest rate hikes the inter-bank money market of Bangladesh experienced at several points of time didn't comply with the pass-through rules, by caused by the influence of different structural factors. This situation requires that the market needs develop its efficiency in all areas to combat the influencing non-market and other structural factors.

7.4.6 Limitations of the Analysis

This analysis didn't attempt to quantify the degree and speed of pass-through between the inter-bank money market rate and retail lending and deposit rates. As has been discussed, this process is important since it will determine in part how sensitive the domestic economy is to monetary policy changes as well as determining the speed at which the real economy responds to such policy rate changes. However, the aim of the analysis is to increase our understanding on this particular aspect of monetary transmission mechanism in Bangladesh context, which is achieved to a substantial extent. Understanding the interest rate pass-through process is important since it will determine in part how sensitive the domestic economy is to those changes in the structure of interest. Nevertheless, an important issue not dealt in the study is structural change that occurred in the financial sector during the period in question. Further work in this area might consider issues relating to the degree of pass through and the speed of adjustment.

Chapter 8

Foreign Exchange Market

8.1 Introduction

The Foreign exchange (forex) market performs an international clearing function by bringing two parties wishing to trade currencies at agreeable exchange rates. Money market and forex market are inseparable as the demands for foreign exchange originate in the domestic financial market, which is again financed by the domestic money markets. Transaction in the foreign exchange (forex) market inevitably involves two currencies: local and foreign. An importer borrows local currency from the domestic money market to buy foreign exchange to make import payments or else. The export earnings or receivables are sold to banks against local currency to pay back the loans he owes to banks in domestic money market. The interest rate structure in the domestic money market and the exchange rate of local currency against foreign currencies has significant impact on the demand for forex in the domestic market. Thus the money and forex markets of an economy are causally inter-linked.

In this chapter, the soundness of foreign exchange market of Bangladesh is examined by analyzing regulatory stance, size and transaction volumes in inter-bank market, distribution of authorized dealer (AD⁴⁷) branches of participating banks, their shares in the country's foreign exchange holdings, behaviour of exchange rate movements and the level of ADs' involvement in forex market dealings.

Foreign exchange market of Bangladesh is limited in size and structure, instruments, transaction volume and the extent of participation of ADs in trading in foreign exchange in international financial markets. In essence, foreign exchange market in Bangladesh is mostly based on inter-bank transactions amongst 49 commercial banks (both local and foreign) through their 658 AD branches (see table 8.1 in annex 5). ADs adjust their exchange position in the inter-bank market. They are the only resident entities in the foreign exchange market to trade and hold foreign exchanges both at home and abroad. Bangladesh Bank issues licenses of authorized dealership in foreign currencies only to selected branches of scheduled banks after intensive review of each bank's past performance, branch network, level of skill to deal in foreign exchange and overall financial strength. The amount of foreign exchange holdings by the authorized dealers is subject to open position limits prescribed by Bangladesh Bank. In addition to authorized

dealers, there are now 260 approved moneychangers throughout the country to buy foreign currencies from tourists and sell them to outgoing Bangladeshi travelers as per annual entitlement fixed up by Bangladesh Bank from time to time. Moneychangers' excess holdings beyond the permitted balance (currently USD 25 thousands or its equivalent in other single or combination of currencies) are to be sold to ADs in the respective areas. The

⁴⁷ Authorized Dealer branches (ADs) of commercial banks are licensed by the Bangladesh Bank under the provision of the Foreign Exchange Regulation Act 1947. No resident individual and entity except the authorised dealers in foreign exchange can maintain foreign currency accounts and trade in foreign exchanges without license from the central bank. Exceptions in this regard are the exporters entitled to avail retention quota from their export earnings provided they spend their retained foreign currency for export business development. But release of foreign currency by the ADs in favour of such exporters needs approval from the Bangladesh Bank.

retainable amount of USD25000.00 to be retained with concerned AD bank. Some service institutions like hotels and shops have also obtained limited money changing licenses to accept foreign currencies from the foreign tourists, but they can sell such currencies only to authorized dealer banks. Transactions in foreign exchanges by customers take place mainly to meet their demand for individual needs such as paying educational and medical expenses and facilitating export, import, and cross-country outward remittances. Uses of foreign exchange by government and public sector enterprises are connected to import of food, fuel, machineries, military equipment, repayment of foreign public debt, pay and allowances of employees in foreign missions, payment of subscriptions to international organizations, etc.

8.2 Development of Foreign Exchange Market in Bangladesh

The foreign exchange market of Bangladesh evolved in phases with the adoption of forex regimes from time to time. At present, the foreign exchange regime in Bangladesh is a free-floating one in current account transactions, given the capital account non-convertible. Bangladesh Bank has declared exchange rate of the country's currency (Bangladesh Taka-BDT) as free floating against the United States Dollar (US\$) on 29 May 2003 and the regime was given with effect from 31st day of the month.

Immediately after independence of the country in 1971, Taka was brought at par with the Indian rupee and pegged with pound sterling. Within a short time, the value of Taka experienced a rapid decline against foreign currencies and in May 1975, it was substantially devalued (see table 8.2 in annex 5). In 1976, Bangladesh adopted a regime of managed float, which continued up to August 1979, when a currency-weighted basket method of exchange rate was introduced. The exchange rate management policy was again changed in 1983 by the trade-weighted basket method and the US Dollar was chosen as intervention currency. At the same time, a secondary exchange market (SEM) was allowed parallel to the official exchange rate. The objective of permitting the SEM was to encourage the Bangladeshi expatriates with premium exchange rate above the official rates to send their hard-earned money to their home country through banking channels. But this has facilitated the rising of informal kerb market in the economy.

Up to 1990, multiple exchange rates were allowed under different names of export benefit schemes such as, Export Bonus Scheme, XPL, XPB, EFAS, IECS, and Home Remittances Scheme. This led to a wide divergence between the official rate and the SEM rate creating instability in the domestic price level. This situation gradually gave rise to a number of stringent and repressive regulations and forced the government to introduce various types of implicit or explicit guarantees for the users of foreign exchange, which again resulted in a number of macro-economic imbalances in the country. These conditions prompted the government to adjust the official exchange rate in phases and liquidate the difference of official rates with the rate at SEM. The two rates were finally unified in January 1992 and the SEM was officially declared closed. However, the informal or parallel market in foreign exchange was still growing.

In reality, Bangladesh did not have foreign exchange market up to 1993. Bangladesh Bank as the agent of the government played the role as sole purveyor of foreign currency among users. It tried to equilibrate the demand for and supply of foreign exchange at officially declared exchange rates determined by it. However, Bangladesh Bank later on started to make policy shifts and adopted the policy of easing controls on foreign payments and exchange rate arrangements, leading to liberalization of the country's foreign exchange regime.

With the view to creating a competitive market in line with the country's trade liberalization and export-led growth strategy, the government planned to undertake reform measures and subsequently adopted the terms of Article VIII of the IMF Articles of Agreement. Under the Agreement, exchange rate system was made partly floating for current account transactions on 24 March 1993. This declaration symbolized a turning point in the country's exchange management and exchange rate system. The liberalization, although limited, abandoned most restrictions and gave more freedom to outward travel expenditures, and additional channels of cross-border payments.

The second round of currency convertibility took place on 17 July 1993 and this marked the beginning of a relatively open foreign exchange market in Bangladesh. Until then the Bangladesh Bank used to declare mid-rate along with the buying and selling rates for dollar applicable to authorized dealers. Initially the spread was Taka 0.10, which was gradually widened to Tk0.30. Bangladesh Bank closely monitored the system of exchange rate management and the movement of the exchange rate of Taka against a basket of currencies through a mechanism of real effective exchange rate (REER⁴⁸), which intended to keep the exchange rate close to the equilibrium level.

Introduction of the free-floating foreign exchange regime was expected to create a competitive environment in the forex market, promote the country's international trade, enhance the external viability of the economy, boost up the export-earnings by improving the competitiveness of the exportables, enhance the inflow of foreign capital both as FDI and portfolio investments and ultimately, upgrade the economy's international credibility.

8.3 Market Operations

Trading in foreign currencies in international financial markets by Bangladeshi banks is restricted. As per the Bangladesh Bank's guidelines for forex transactions, banks operating in Bangladesh are free to buy or sell foreign currencies forward with the intention to neutralize the risks arising from definite and genuine transactions. All forward contracts should be treated as firm and should be closed out on expiry. Forward contracts cannot be

⁴⁸ REER-The real effective exchange rate (REER) (or, equivalently, the "Relative price and cost indicators") is calculated as the sum of the nominal rate and a trade-weighted price or cost deflator. The REER attempts to show the movement in the prices or costs of production of domestically produced goods relative to the prices or costs of goods produced by competitor countries, when expressed in a common currency. Double export weights are used to calculate NEERs and REERs, reflecting not only competition in the home markets of the various competitors, but also competition in export markets elsewhere. DG ECFIN's system for the calculation of effective exchange rates permits the user to make individual choices of competitor countries, reference period, and method to calculate trade weights and, in the case of real effective exchange rates, price or cost deflators.

The NEER is a weighted average of major bilateral nominal exchange rates, with weights based on the trade shares reflecting the relative importance of each currency in the effective exchange rate basket. The REER is obtained by adjusting the NEER for inflation differentials with the countries whose currencies are included in the basket. As the inflation rate in each country is assumed to broadly indicate the trends in domestic costs of production, the REER is expected to reflect foreign competitiveness of domestic products. However, one cannot solely rely on the REER indicator to gauge the variations in competitiveness, as it does not adequately capture the impact of a host of other factors such as the changes in macro-economic policies, changes in the trade and exchange system including the changes in the regulatory and institutional environment and productivity changes. In addition, there could be data deficiencies, particularly in the price indicators. Nevertheless, effective exchange rate indicators are widely used to assess competitiveness. The main focus of the NEER and the REER is on the trade balance, particularly the exchange rate induced changes in trade flows. A trend appreciation of the real effective exchange rate is considered unfavourable for the growth of export and import competing industries.

rolled-over. In order to extend forward period, the existing forward must be 'buy back', or 'sell back', with the bank's, "TT Clean Buying Rate", or "TT and OD Selling Rate", which is lower, or higher as the case may be. This rule is made with the view to preventing the banks from engaging in speculative forward deals in the forex market. The banks may undertake swap transaction to cover their risks arising from forward transactions. But foreign currency-foreign currency (FCFC) forward and swap transaction is restricted.

Authorized dealer banks are subject to open position. They may hold with either short or long position up equivalent to 12.50 percent of their core capital⁴⁹. In the event of speculation on an appreciation of the value, an authorized dealer may buy more foreign currencies than it needs, but at the end of the day it must maintain its limit by selling excess currencies either in the inter-bank market or to customers. Authorized dealers maintain forex-clearing accounts with Bangladesh Bank in US Dollar to settle their mutual claims at home or abroad. Bangladesh Bank pays interest on the credit balance of forex clearing account of ADs at the rate Bangladesh Bank (BB) receives from Federal Reserve Bank of New York (FRB) on its investment in US government treasury bills. However, ADs have open permission from the Bangladesh Bank to establish correspondent relationships with foreign banks (foreign correspondents) in different countries and to maintain "nostro accounts" with them in US Dollar, Pound Sterling, Euro, Yen or else as per their requirements and preferences. It is mandatory for banks to report the balances of their nostro accounts to Bangladesh Bank on daily basis. Banks require reconciling their nostro account balances and Bangladesh Bank monitors the regularity of the reconciliation.

The inter-bank foreign exchange market of Bangladesh is mainly confined to the city of Dhaka. The participants in the domestic foreign exchange market, apart from banks, are traders, importers and exporters, members of the public, private and public corporate bodies, and the government.

By virtue of the authority entrusted to it under provisions of the Foreign Exchange Regulation Act, 1947 (FERA) in force in the land, Bangladesh Bank regulates and oversees the foreign exchange system and the forex market in the country. However, it does not operate directly and instead, regularly watches activities in the market and intervenes, if necessary, through commercial banks. From time to time, it issues guidelines for market participants in the light of the country's monetary policy stance, foreign exchange reserve position and balance of payments (BOP) in order to stabilize the overall macro-economic situation including stabilizing domestic monetary value and maintaining a competitive external par value of Bangladesh Taka. Bangladesh Bank issues foreign exchange guidelines through a regularly updated Exchange Control Manual. Detail operational procedures for the forex market and the instructions of the FERA are explained in the book titled "Guidelines for Foreign Exchange Transactions (GFET) by Bangladesh Bank, updated periodically to incorporate amendments and additions. The ADs have to follow the

⁴⁹ Core Capital: Each scheduled bank in Bangladesh now requires maintaining a 9% capital adequacy ratio (CAR) on its total risk-weighted assets. Of CAR, at least 4.5 percent as Core capital, which is Tier 1 capital. Core or Tier 1 capital = Paid up capital + non-repayable share premium + statutory reserves + general reserves + retained earnings + minority interest in subsidiaries + non-cumulative irredeemable preference shares.

⁴⁹ Another 4.5 percent is Tier 2 capital or Supplementary capital = General provisions (1% of unclassified loans) + asset re-valuation reserves + perpetual subordinate debts + all other preference shares + exchange equalization fund.

instructions and procedures of the GFET while engaging and making transactions in foreign exchanges.

8.4 Market Analysis

Before the introduction of free-floating exchange rate system in May 2003, the ADs had assured access to funds from Bangladesh Bank at known cost and assured buy-sell margins. Transaction fees were also included in the pre-determined exchange rate made by the central bank. With these given facilities, the ADs were reluctant to involve in competition and engage in inter-bank transactions. So the users of foreign exchange were deprived of competitive prices at both supply and demand ends. The situation has now changed and the reliance of authorized dealers on Bangladesh Bank for funds has been gradually reduced with the commencement of free-floating exchange regime. It was assumed that in addition to achieving macro-economic objectives as mentioned, the free-floating exchange rate mechanism would activate the inter-bank forex market by increasing turnover and stimulate competition in retail market operations. But there had been no significant improvement in this regard.

8.4.1 Transaction Volume in the Forex Market

Contrary to the expectation, the inter-bank forex market transactions declined in 2003-04, the first year under the free-floating exchange regime. Tables 8.3 and 8.4, and graphs 8(a) and 8(b) show the trend in forex market transaction volume between the period 1994-95 and 2003-04. The declines in the transaction volumes continued in both monthly and yearly figures.

Table 8.3: Yearly Inter-bank Transaction in Foreign Exchange Market in Bangladesh
(Million US\$)

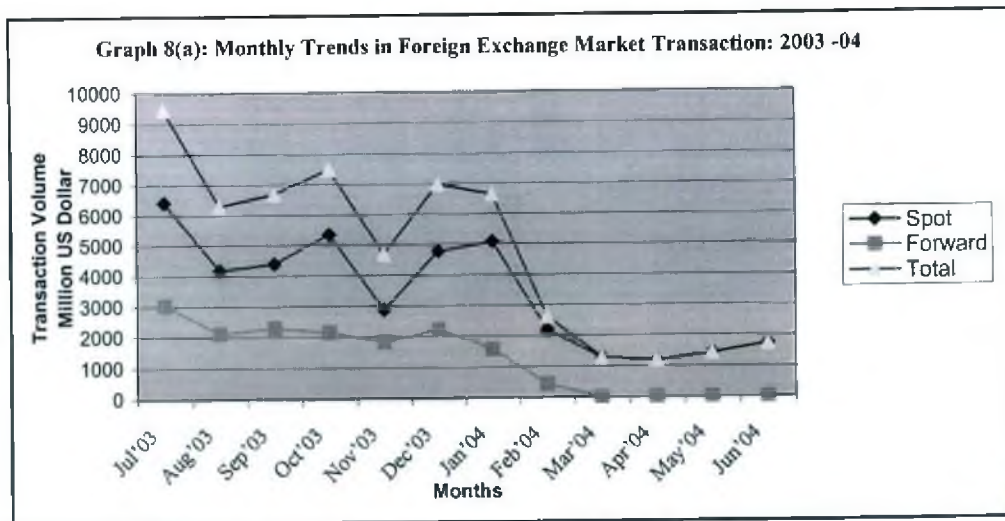
Financial Years	Volume of Transactions
1994-95	2,305.87
1995-96	4,723.63
1996-97	7,278.42
1997-98	11,200.89
1998-99	12,417.53
1999-00	24,282.04
2000-01	56,909.54
2001-02	98,158.72
2002-03	91,693.53
2003-04	56389.27

Source: Bangladesh Bank and BAFEDA

Table 8.4: Monthly Trends in the Inter-bank Foreign Exchange Transactions in Bangladesh: Financial Year 2003-04 (Million US\$)

Month	Spot	Forward	Total Transactions
Jul'03	6412.00	3040.23	9452.25
Aug'03	4176.06	2113.74	6289.80
Sep'03	4374.75	2300.75	6675.50
Oct'03	5332.97	2145.41	7478.38
Nov'03	2853.96	1825.78	4679.74
Dec'03	4762.31	2210.03	6972.34
Jan'04	5074.29	1563.96	6638.25
Feb'04	2181.26	427.14	2608.40
Mar'04	1281.99	0.42	1282.41
Apr'04	1184.48	0.00	1184.48
May'04	1413.77	0.00	1413.77
Jun'04	1713.85	0.10	1713.95
Total	40,761.69	15627.56	56389.27

Source: Bangladesh Bank and BAFEDA



8.4.2 Exchange Rate Movements

The present free-floating exchange rate regime of Bangladesh for current account transactions has been evolved through passing over three decades long controlled, managed and partly float system. The exchange rate of Taka against US Dollar has been devalued or re-fixed as many as 131 times during 1972-2003 (see table 8.2 in annex 5). Table 8.5 summarizes the average yearly exchange rates for the period between 1991-1992 and 2003-04. Table 8.6 incorporates the movements of average monthly exchange rates during the financial year 2003-04, the first post-floating period. The corresponding graphs 8(c) and 8(d) similarly demonstrate the yearly and monthly average exchange of Bangladesh Taka against UD Dollar.

Table 8.5: Average Yearly Exchange Rate (Taka per USD): 1991-2004

Financial Year	Rate	Standard Deviation	Mean	Median
1991-92	38.15	6.513935	45.11364	42.7
1992-93	39.14			
1993-94	40.00			
1994-95	40.20			
1995-96	40.84			
1997-98	42.70			
1998-99	45.46			
1999-00	48.06			
2000-01	50.31			
2001-02	53.96			
2002-03	57.43			

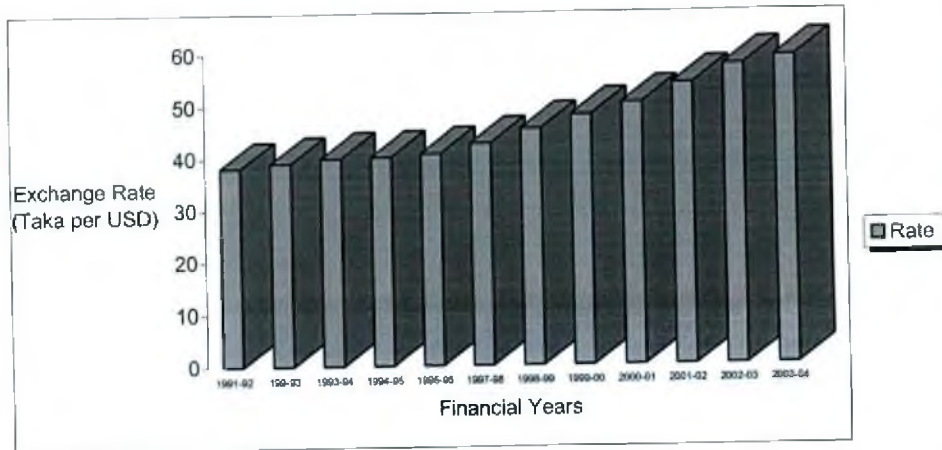
Source; Bangladesh Bank and BAFEDA

Table 8.6: Average Monthly Exchange Rate (Taka per USD)

2003-04	58.98
July	58.40
August	58.42
September	58.43
October	58.42
November	58.45
December	58.55
January	58.91
February	59.88
March	59.01
April	59.04
May	59.65
June	60.57

Source; Bangladesh Bank and BAFEDA

Graph 8(c): Average Yearly Exchange Rate: Taka per USD



Graph 7(d): Monthly Average Exchange Rate (Taka per USD)

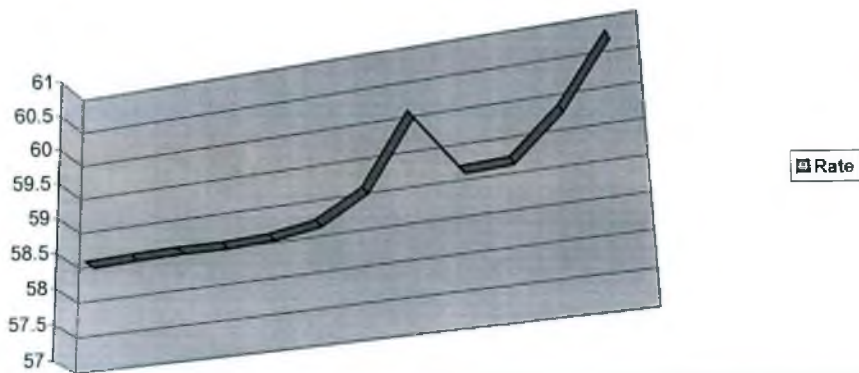


Table 8.5 and graph 8(c) expose that yearly average exchange rates of Taka against US Dollar moved up reflecting the Taka's weaker position during 1991-2004. The difference between the mean and median and the standard deviation exhibit their random increases without indicating linear predictability or causality relationship. This situation is seemingly opposite to Granger causality theory⁵⁰. The average monthly exchange rates that are shown

⁵⁰ Granger causality is a technique for determining whether one time series is useful in forecasting another. Ordinarily, regressions reflect "mere" correlations, but Clive Granger, who won a Nobel Prize in Economics, argued that there is an interpretation of a set of tests as revealing something about causality. A time series *X* is said to Granger-cause *Y* if it can be shown, usually through a series of *F*-tests on lagged values of *X* (and with lagged values of *Y* also known), that those *X* values provide statistically significant information on future values of *Y*. This study, however, didn't look for testing the Granger-causes.

in table 8.6 and graph 8(d) reflect that Taka was slightly stronger against US Dollar in February, March and April of the financial year 2003-04. But the exchange rate of Taka again deteriorated in June 2004, at an average of Tk.60.57 per US Dollar.

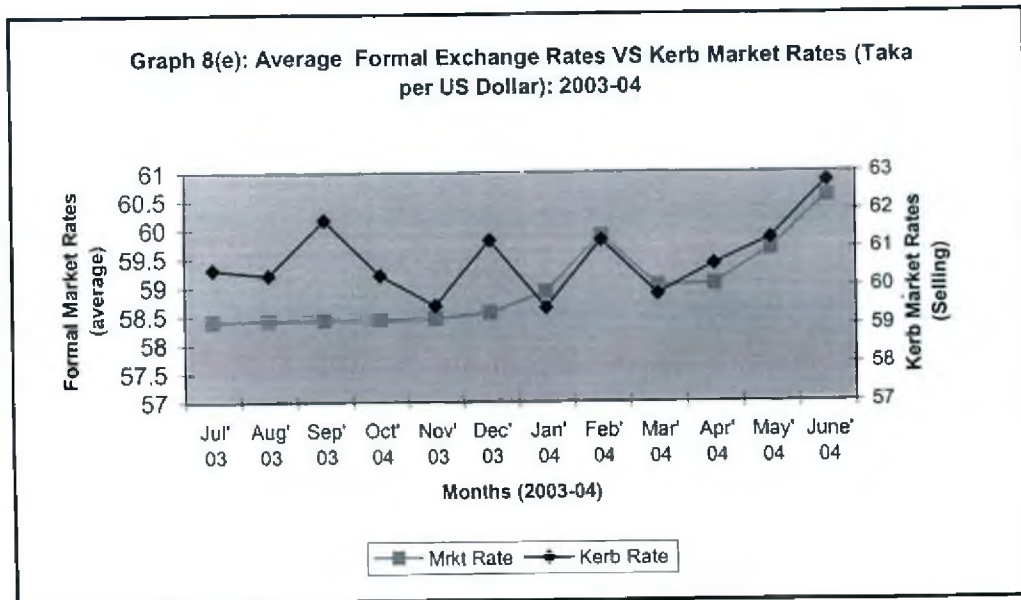
8.4.3 Formal versus Informal Kerb Market Exchange Rates in Bangladesh

Table 8.6 and the corresponding graph 8(e) demonstrate the presence of informal kerb market in Bangladesh with huge exchange rate differentials. The kerb market selling rates of US Dollar against Taka widely varied during July-December 2003 except the month of November. Thereafter, the kerb market rates were almost eliminated during January-March, 2004. However, the rate differentials revived since April 2004 and continued to move up parallel to the uprising movement of formal market exchange rates. The kerb market exchange rates were found still remarkably higher than the formal forex market rates up to June 2004 (see table 8.7 and graph 8(e)).

Table 8.7: Average Exchange Rate (Taka per USD) VS Kerb Market Selling Rates

	FX Market Rates	Kerb Market Rates (Sell)
2003-04	58.98 (Year Average)	60.71 (Year Average)
July	58.40	60.45 (60.00-60.90)
August	58.42	60.30 (59.50-61.10)
September	58.43	61.75 (61.50-62.00)
October	58.42	60.30 (60.00-60.60)
November	58.45	59.50 (59.00-60.00)
December	58.55	61.20 (61.00-61.40)
January	58.91	59.45 (59.00-59.90)
February	59.88	61.20 (61.00-61.40)
March	59.01	59.80 (59.50-60.10)
April	59.04	60.58 (59.95-61.20)
May	59.65	61.25 (60.50-62.00)
June	60.57	62.75 (62.00-63.50)

Note: Kerb market-selling rates have been collected from 5 selected marketers in the city of Dhaka by direct monthly interviews and observations on condition that they be kept anonymous.



Informal value transfers through Hundi and other means are non-documented transactions and as such do not register on the radars of the financial markets, leading to anomalies and distortions which in turn can cause instability in the national and global financial markets. This is all the more important because of the sheer size of these non-documented transactions, with estimates in the range of several billions of dollars.

8.4.4 Exchange Rate Spread and the Market Competitiveness

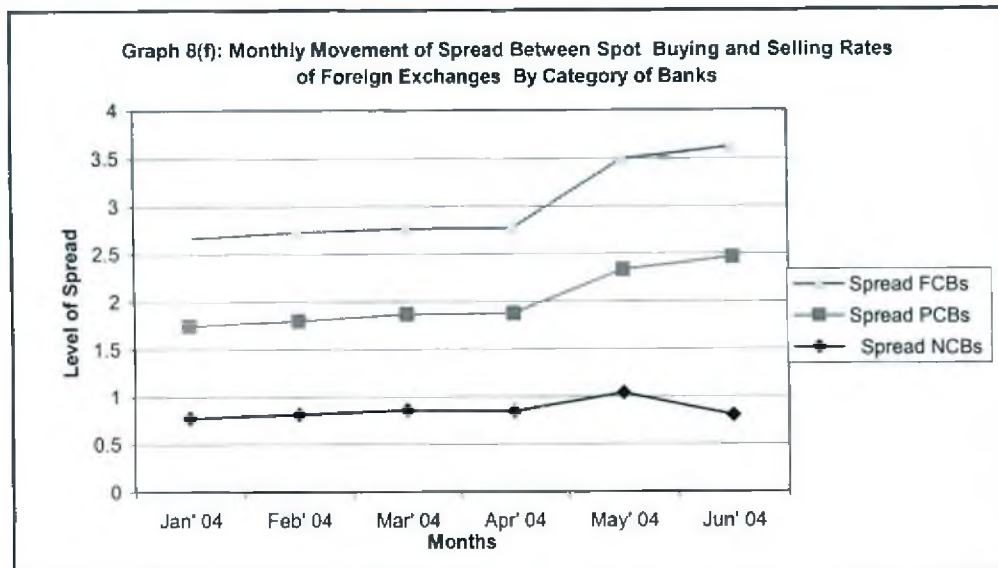
One of the major objectives of introducing free-floating exchange rate system was to enhance the competition in the domestic foreign exchange market. However, analysis of average monthly and weekly spread between spot buying and selling rates for the last six months of the Financial Year 2003-04 reflect their wide fluctuations and higher spread differentials (see table 8.8).

Table 8.8: Monthly Movement of Spread on Spot Buying and Selling of Foreign Currencies

Months	Spread	Spread	Spread
	NCBs	PCBs	FCBs
Jan 04	0.7734	0.9722	0.9184
Feb 04	0.8159	0.9825	0.9305
Mar 04	0.8560	1.0090	0.9007
Apr 04	0.8440	1.0254	0.9035
May 04	1.0360	1.2936	1.1599
Jun 04	0.8015	1.6613	1.1552

Source: Bangladesh Bank

Tables 8.8 above and 8.9 in annex 5), and graph 8(f) show that since May 2004, spread on spot buying and selling of foreign currency (USD) by NCBs followed a downward trend, while in the cases of domestic private commercial banks (DPCBs) and the foreign private commercial banks (FCBs) working in Bangladesh, the spread continued to go up.



The large spread and variations in exchange rate movements demonstrate that the foreign exchange market of Bangladesh is a volatile and price-inefficient one. The monthly and weekly average spread (see tables 8.9 in annex 5 and graph 8(f)] moved between as high as

Tk.0.72 and Tk.1.62, which is quite abnormal compared to matured and efficient markets where the spreads are so small calculated on “pips⁵¹” basis. Hence, the lower the spread, the greater is the competitiveness in the market. The divergence in the exchange rate movements and unusually large spread in spot transactions indicate that the forex market suffers from indiscipline and inefficient operating system and does not satisfy the strongly desired exchange rate competitiveness in the country’s foreign exchange market. .

8.4.5 Holding of Foreign Exchange by Banks

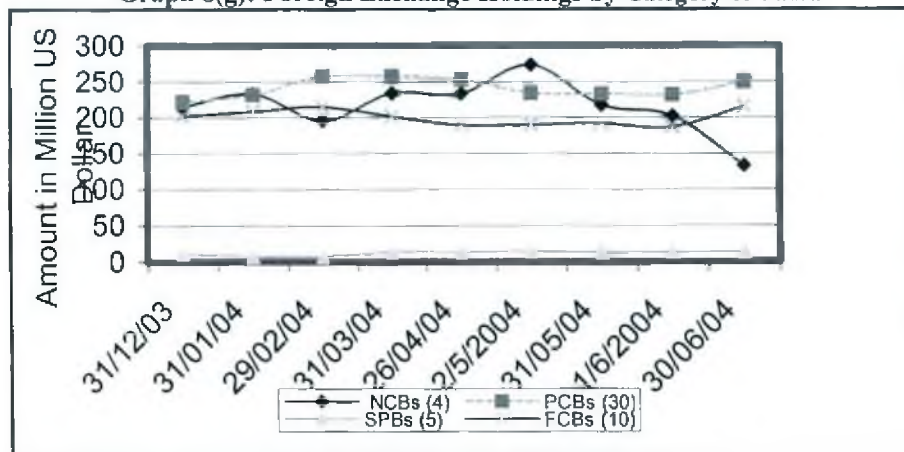
Aggregate holding of foreign exchange by the banking system and the individual banks in Bangladesh is not very large. Table 8.10 and graph 8(g) shows a declining trend in monthly holdings of foreign currency by NCBs, the major players and suppliers of funds in the foreign exchange market, while there had been a slight increase in the forex holdings by domestic private commercial (PCBs) and foreign private commercial banks (FCBs) in June 2004. As the share of specialized banks (SPBs) in commercial banking is very small, their forex holdings remained insignificant compared to other categories of banks. During the months prior to June 2004, the forex holding level of all categories of banks experienced fluctuations accompanied by declines.

Table 8.10: Foreign Exchange Holdings of Banks in Bangladesh by Category
(Million US Dollar)

Dates	NCBs	PCBs	SPBs	FCBs
31/12/03	214.6	221.766	11.37	201.568
31/01/04	232.654	231.559	7.619	208.307
29/02/04	195.556	257.268	7.619	214.604
31/03/04	233.53	256.763	13.248	201.185
26/04/04	233.209	252.573	13.583	188.997
2/5/04	273.298	234.028	14.502	190.067
31/05/04	217.224	232.623	13.113	191.628
1/6/04	201.551	231.398	13.512	186.426
30/06/04	132.443	248.809	13.971	214.988
Total	1934.065	2166.787	108.537	1797.77

Source: BAFEDA and Bangladesh Bank

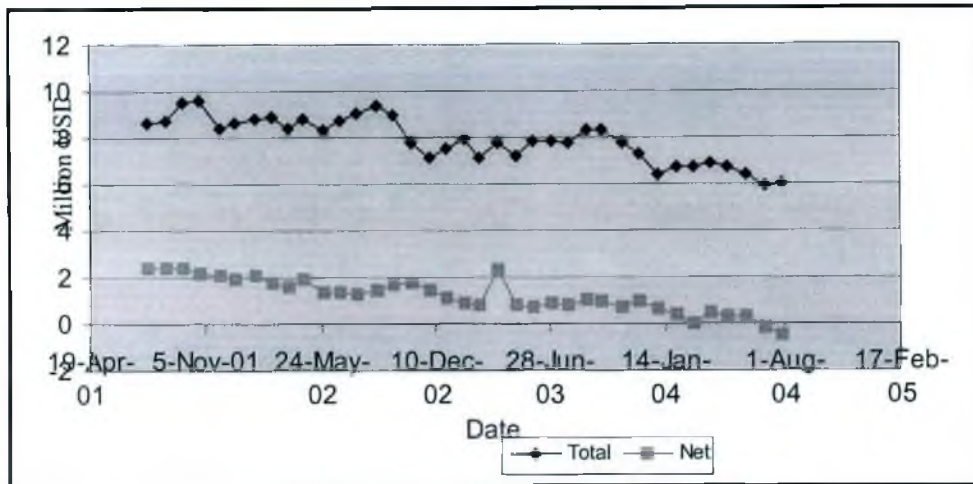
Graph 8(g): Foreign Exchange Holdings by Category of Banks



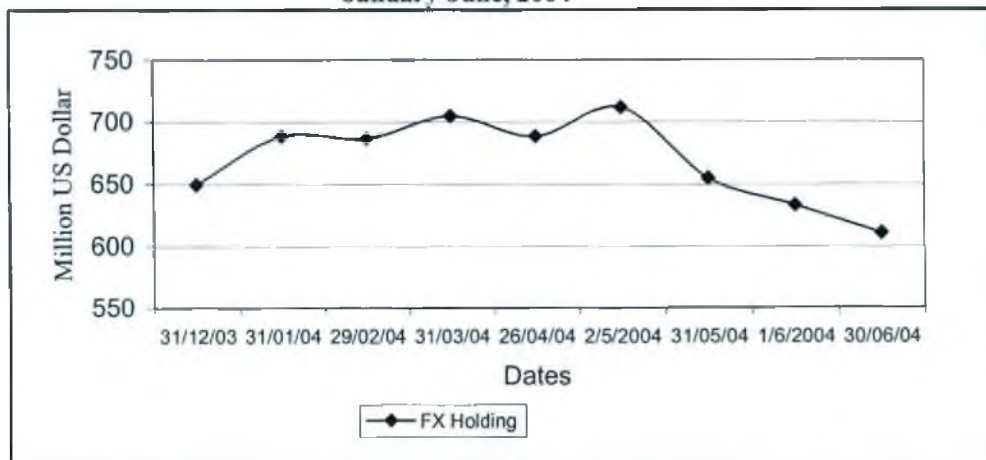
⁵¹ Pip refers to the smallest price movement available in an instrument. For example, USD/JPY 118.48/53 shows a 5-pip spread, and EUR/USD at 0.9517/22 also shows a 5 pip spread. For most currency pair quotes 1 pip is equivalent to 1 basis point (0.01%).

Table 8.11 in annex 5 shows monthly volumes of total credit (column D), total debit (column G) and net balances (column H) of foreign exchange holdings of all banks during the period between July 2001 and July 2004. The net credit balance had varied largely and continued to decline over time. The situation started to deteriorate since December 2003 and became negative in June 2004. Table 8.11 in annex 5), and graphs 8(h) and 8(i) exhibits the individual bank's possession of foreign exchanges at end of March, April and June 2004. This picture exposes the limited and weak position of banks in the country to meet large-scale customer demands for foreign exchange and to deal in competitive cross-boarder markets.

Graph 8(b): Total and Net Foreign Currency Holdings of all Banks during 2001-2004



Graph 8(i): Daily Foreign Currency Holdings of all Banks: January-June, 2004



8.4.6 Sources of Foreign Exchange Inflows

Major sources of inflow of foreign currency into Bangladesh include the export-earnings, foreign aid (loans and grants) and migrant workers' remittance. Other sources include foreign direct investment, portfolio investments, capital brought by foreign entities working/operating in Bangladesh, interest earnings on the central bank's reserve funds kept and invested abroad, interest received by banks from their foreign counterparts and investment in foreign markets, and service charges and exchange commissions received in foreign currencies.

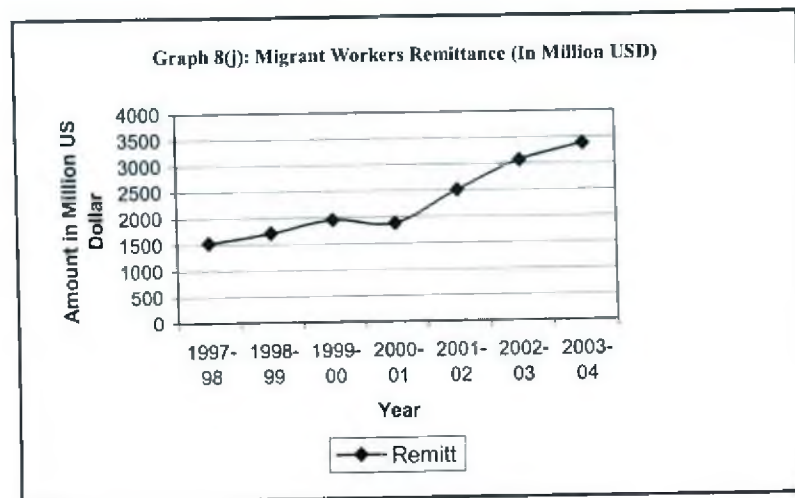
8.4.6.1 Migrant Workers' Remittances

Inflow of migrant workers' remittance to Bangladesh is a growing and regular source of funds in the country's foreign exchange market. The commercial banks have their drawing/remittance transfer arrangements with foreign exchange houses to channel the homebound remittances of Bangladeshi expatriates working in foreign destinations. These remittances greatly contribute to the individual bank's holding of foreign exchange, and ultimately to the country's international reserve position accounted at and managed by Bangladesh Bank. Inward flow of migrant workers' remittances is demonstrated in table 8.13 and graph 8(j) and their contributions to the country's international reserves in table 8.14 in annex 5) and graph 8(k). The flow of migrants' remittance recorded upward trends and continued to hold the second largest position as a stable and regular source of foreign currency receipts of the country.

Table 8.13: Migrant Workers' Remittance (Million USD)

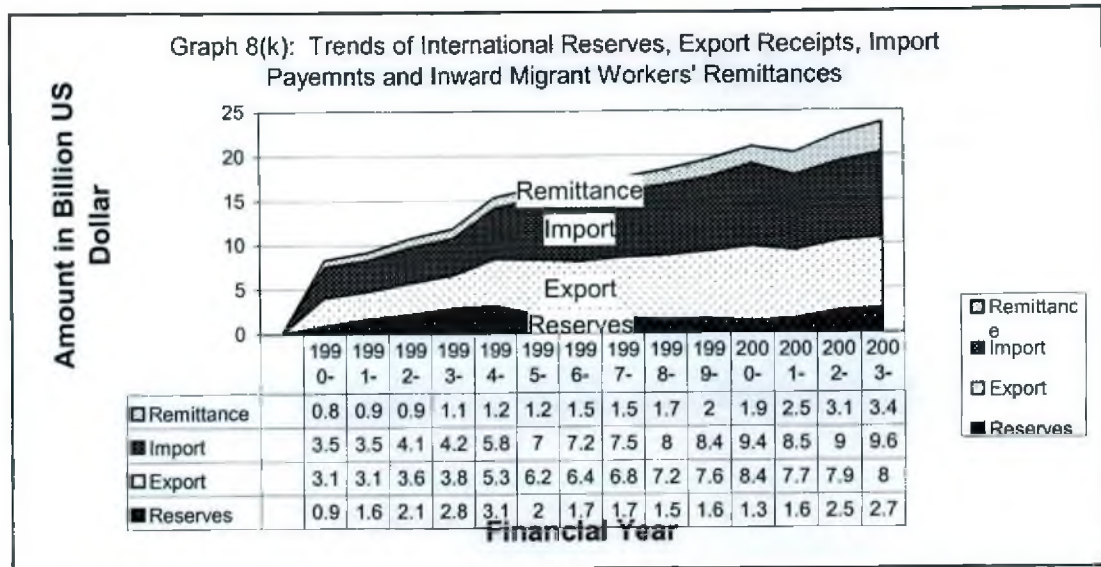
Year	Remittance Received
1997-98	1525.43
1998-99	1705.74
1999-00	1949.32
2000-01	1882.10
2001-02	2501.13
2002-03	3061.97
2003-04	3371.97

Source: Bangladesh Bank



It can be viewed in tables 8.13 above and 8.14 in annex 5), and graph 8(k) that during the review period, the remittance contributed substantially to the country's foreign exchange

reserves. Remittances were higher than the country's foreign exchange reserves in each year since 1997-98.



Further, table 8.14 in annex 5 and graph 8(k) presents the gross and percentile share of migrant remittances in the country's export earnings and import payments. In 2003-04, receipt of migrants' remittance was 124.35% of international reserves, 44.34% of export earnings and 35.03% of import payments. The migrants' remittances, therefore, deserved greater attention of the government and the central bank for facilitating their increased inflows. It needs to be mentioned here that simultaneous outflow of foreign exchanges from the economy do occur against the same sources as and when the foreign payments are made and liabilities/payables are settled. However, major outflows are concerned with import payments and foreign debt repayments and servicing.

8.4.6.2 Foreign Aid

Foreign aid⁵² (loans and grants) comprises a major component of foreign exchange reserve of Bangladesh. But the inflow of loans and grants often depends on the outcome of

⁵² In simple terms foreign aid is the flow of official resources from the rich countries to the poor nations. Aid is defined as "Any action by a government or citizen of one country, which helps to promote economic development in another country". Aid to developing nations has not been always or primarily for helping economic development. Official Development Finance (ODF) covers all grants and loans that are undertaken by the official sector with promotion of economic development and welfare as the main objective, including loans from IMF and other international financial institutions, SAPs, as well as technical assistance grants.

Aid normally includes all grants and loans in cash or kind, made by the government of one country to the government of another country. Official government aid excludes "private aid" in the form of donations by private foundations. In general aid takes the form of grants, concessional loans that have at least a 25% grant component, commodities, and technical assistance from governments (bilateral or intergovernmental aid) and multilateral institutions or International agencies (multilateral aid).

In recent times much of the increase in non-project aid has come in the form finance for developing countries to undertake programs of "Structural adjustment", (i.e. adjusting the structure/mechanisms of the economy to try to make it/them more efficient). Aid to developing nations is presumed to be an instrument of development support or development assistance. This is to say that the assumed purpose of foreign Aid is that of assisting poor nations to graduate from poverty and vulnerability to prosperity and security. However as the Reality of Aid reports noted in a 1998/1999 issue "If policies were programs and promises well dollars, The Reality of Aid could report great progress on the road to eradicating global poverty." "The fact is that more than a billion people are living or dying in poverty is not a tragic twist of fate, but a deliberate turning of heads.

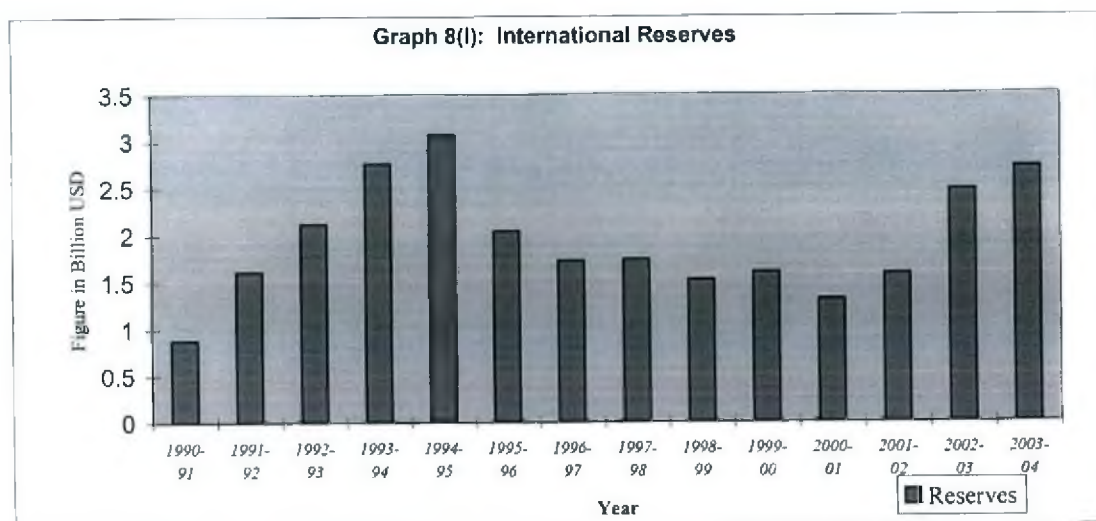
negotiations of the government with the donor agencies and the development partner countries; more importantly on the mode of receiving that money. Donor funds are conditional and the conditionality in most cases includes stringent procurement procedure. Some donor funds are given in the form of machinery and equipment. This means that all loans and grants are not received in cash form. Only that portion of the loans and grants received as direct transfer of foreign currency contribute to the foreign exchange reserve of the government.

Table 8.15 shows the annual receipts and payments of foreign loans and grants during 2001-2003, when total receipts showed a moderate increase in total, but if the components are considered, the food and project aid inflows declined remarkably in 2003 as against a sharp increase in commodity aid.

Table 8.15: Foreign Loans and Grants (Million USD)

Particulars	Years			
	FY 01	FY 02	FY 03	FY 04
1. Receipts	1,369	1,441	1,553	1,034
(i) Food Aid	51	36	29	32
(ii) Commodity Aid	184	155	484	-
(iii) Project Aid	1,134	1,250	1,040	1002
2 Repayments	570	570	584	562
(i) Principal	418	421	431	397
(ii) interest	154	148	153	165
3. Outstanding External Debt	14,902	18,157	18,930	17,953
4. Outstanding External Debt as Percentage of GDP	31.71	23.98	32.84	31.80
5. External Debt Services (MLT) as Percentage of Exports	8.50	9.52	8.92	7.50

Source: Bangladesh Bank



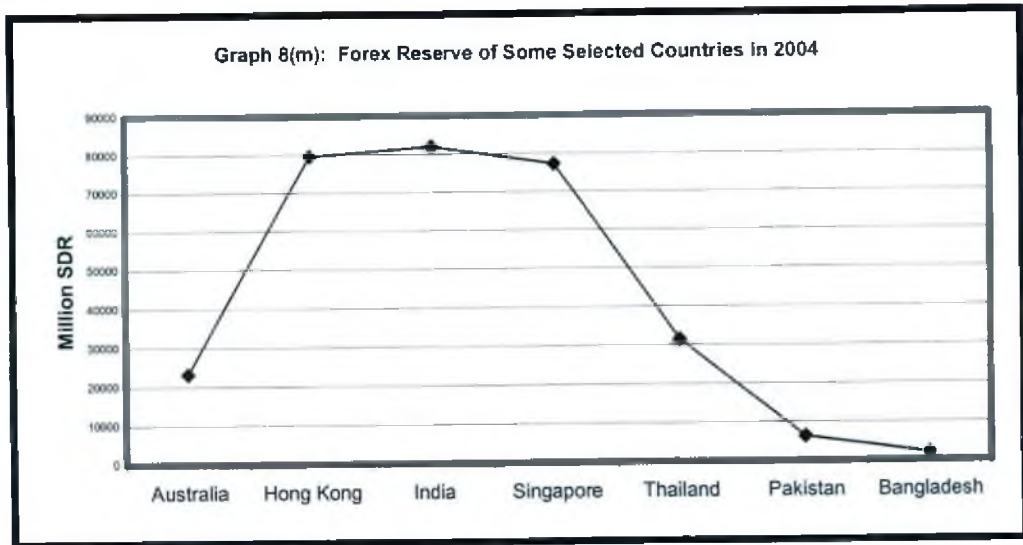
Forex earnings of Bangladesh from various sources other than the remittances of expatriates had not been stable during 1991-2004 causing volatility in the supply of

liquidity in the country's forex market and also fluctuations in the international reserve position of the country, which may be seen in graph 8(1).

Table 8.16: Forex Reserve of Some Selected Countries

Year	USA	Canada	Australia	China	Hong Kong	India	Singapore	Thailand	Pakistan	Korea	Bangladesh
2001	55,030	27061	14377	172124	88450	36902	59972	25832	2970	81778	1018
2002	59,160	27225	15307	214815	82308	50174	60351	28673	6015	89272	1702
2003	59,555	24380	21751	275345	79554	66984	64433	27734	7436	104516	1739
2004	58022	22173	23143	396358	79551	81917	77267	31430	6383	128157	2047

Source: IMF



A comparative state of official foreign exchange reserve of Bangladesh in 2003 with some other selected countries is drawn in table 8.16 and graph 8(m) and both reveal the country's weaker liquidity condition to settle current external transactions. Since the country's independence in 1971 to date (30 June 2004), average annual holdings of forex reserve by the central bank (BB) did not cross the level of US Dollar 3.0 billion, only except the financial year 1994-95, when it was US Dollar 3.07 billion.

8.5 Offshore Banking in Bangladesh

The size of the offshore banking market in Bangladesh is quite limited. In March 1996, Bangladesh Bank for the first time accorded permission to 6 banks to commence offshore banking in two main cities of the country - Dhaka and Chittagong (see table 8.17).

Table 8.17: Banks Obtained Permission from Bangladesh Bank to Operate Offshore Banking units

Name of Banks	Number of Offshore Units	Location
Agrani Bank	1	Chittagong
Standard Chartered Bank	1	Dhaka - Savar
Hanvit Bank (Renamed as Woori Bank)	1	Dhaka - Savar
HSBC	1	Dhaka - Savar
American Express Bank	1	Chittagong
Prime Bank	2	Dhaka - Savar- Chittagong

Source: Bangladesh Bank

Of these banks, Standard Chartered, Hong Kong Shanghai Banking Corporation (HSBC) and Woori Bank have started offshore banking operations, while Agrani Bank and Prime Bank are yet to do so even approximately after one decade of receiving permission. The principal objective of allowing offshore banking was to enhance the foreign currency credit facilities in Bangladesh from foreign sources. Nevertheless, no bank in Bangladesh can undertake offshore banking without having permission from the Bangladesh Bank. Moreover, such permission is not unconditional and following are the most important among the conditions.

8.5.1 Deposit Taking

Offshore banking units (OBUs) are free to accept deposits or borrow from persons or institutions not resident in Bangladesh, including Bangladeshi nationals working abroad type - B entities (joint venture) and type-C entities (fully local owned units) in the EPZ. They can accept deposits or borrow from type-A entities of Export Processing Zones (EPZs) in the country.

8.5.2 Maintaining Correspondent Account

Banks functioning in Bangladesh may also maintain correspondent relation with the OBUs in the manner they maintain such accounts with their foreign correspondents.

8.5.3 Advances

OBUs are free to make loans/advances to persons/institutions not resident in Bangladesh and also to make loans/advances to type A entities (fully foreign owned units) in Bangladesh. All OBUs may extend term loans in foreign currencies to industrial units outside the EPZs and to type B and type C industrial units within the EPZ subject to compliance with the guidelines issued by the Board of Investment (BOI) for borrowing by industrial units in Bangladesh.

In addition to the above, there are some regulatory requirements for the OBUs, which however, are given some facilities by Bangladesh Bank such as unrestricted taking of insurance abroad, legal coverage under the EPZ Act 1980, exemptions from the purview of

provisions of the Banking Companies Act 1991 except those of the sections⁵³ 31, 32, 36(2), 37, 44, 45, 49, 109(2), 109(4), 109(7), 113, 121 and 122, which are concerned respectively to issuance of banking license, restrictions on opening new business centers or shifting of existing business from one place to another, submission of half-yearly reports, inspection by Bangladesh Bank, discretionary power of Bangladesh Bank, imposition of penalty, utilization of realized money, Bangladesh Bank's power to exempt in some cases/fields, etc. OBUs are also exempted from Article 36(1) of Bangladesh Bank Order 1972, which requires that every scheduled bank shall maintain with the Bangladesh Bank a balance, which shall not be less than such portion of its total demand and time liabilities as may be prescribed by the Bank pursuant to its monetary policy objectives by notification in the official Gazettes.

The information regarding the offshore operations of OBUs are not publicly available and so far no study/research has been conducted on the offshore banking market in Bangladesh. Table 8.18 shows the performance of OBUs in Bangladesh as of 31 December 1999.

Table 8.18: Performance of Offshore Banking Units (OBUs) in Bangladesh
As of 31-12-1999 (In Crore Taka)

Particulars	Standard Chartered	HSBC	Woori Bank (Previously Hanil/Hanvit Bank)	Total
Total Assets	366.47	50.54	60.59	477.60
Total Deposit	304.53	48.63	29.42	382.59
Total Loans/Advances	29.47	0.00	34.41	63.88
Ratio of Loans and Advances to Total Deposit	9.68%	0.00%	116.96%	16.70%
Assets invested Abroad	336.10	48.69	8.75	393.54
Ratio of Foreign Investment to Total Deposits	110.37%	100.12%	29.74%	102.86%

Source: Bangladesh Bank

Table 8.19: Structure and Sources of Deposits Received by OBUs: 31-12-1999
(In Crore Taka)

Bank	Deposit Received from Bangladesh	Deposits Received from Type A industries in the EPZs	Deposits Received from Overseas	Total Deposits
Standard Chartered	304.53	0.00	0.00	304.53
HSBC	48.62	0.0048	0.00	48.63
Woori	0.00	10.02	19.40	29.42
Total	353.15 (92.30%)	10.03 (2.62%)	19.40 (5.07%)	382.58

Source: Bangladesh Bank

⁵³ See Bank Company Act 1991 for full explanations and provisions of the following sections referred: Section 31: 32, 36(2), 37, 44, 45, 49, 109(2), 109(4), 109(7), 113, 121 and 122.

Table 8.20: Loan and Advances Made to EPZ Units and Investments Made Abroad
(In Crore Taka)

Bank	Type A Units in EPZ	Type B Units in EPZ	Type C Units in EPZ	Total Loans and Advances	Overseas Investments
Standard Chartered	29.47	0.00	0.00	29.47	336.10
HSBC	0.00	0.00	0.00	0.00	48.69
Woori	34.41	0.00	0.00	34.41	8.75
Total	63.88	0.00	0.00	63.88	393.54

Source: Bangladesh Bank

Table 8.18 shows that 92.30% of total OBU deposits were received from the domestic sources and deposits received from external sources and type A units in EPZs comprised 5.07% and 2.62% respectively. No loans and advances have been extended to type B (joint venture) and type C (wholly local owned) units (see table 8.20). This means that locally procured funds have been channeled to foreign markets, contrarily to the objective of establishing offshore banking in the country to promote the inflow of forex into the economy. Thus the objective of accumulation of funds into Bangladesh from foreign sources through the OBUs remained unattained and instead of contributing to expansion of the forex market in the country, offshore banking is draining out the forex and adversely affecting the domestic economy.

8.6 Off-balance sheet Activities/Contingent Liabilities of Banks in Bangladesh

Commercial banks throughout the globe are now extensively involved in off-balance-sheet financing and non-financing activities, including the issue of guarantees (letters of credit), loan commitments, loan syndication or structured loans⁵⁴ and derivative transactions (futures, forwards, options and swaps). Banks earn fee income through off-balance-sheet activities to complement declining margins or spreads on traditional lending activities. Off-balance-sheet activities (see table 8.21) are conventionally not shown on the current balance sheet but are maintained as off-balance-sheet asset or liabilities. Derivative instruments enable a bank to hedge against liquidity, credit and insolvency risk without

⁵⁴ Structured loan or finance describes any "non-standard" way of raising money. These tailor-made securities go beyond "standard" securities like conventional loans, debentures, debt, and equity. The reason to structure a more advanced security may be that conventional securities may be unattractive, unavailable or too expensive.

Structured finance often refers to using loopholes in a country's tax law to obtain some unintended tax benefit which is used to provide a cash flow benefit to a borrower. Generally these structures result in the following:

- create tax deductions where there has been no economic expense; or
- convert taxable income into tax exempt income; or
- convert non-tax deductible expenses into tax deductible expenses.

The structured finance industry has flourished as tax laws have become more and more complex, and as cash flow modeling techniques have become more sophisticated. The globalization of finance has also pushed growth in this area.

making extensive changes on the balance sheet. However, dealing in off-balance sheet instruments bring changes in a bank's or a company's risk profile.

Table 8.21: The Typical Off-balance Sheet Activity and Instruments.

Typical Off-balance sheet financial instruments, contingent liabilities and commitments in foreign exchange	
1	Foreign exchange derivatives Forward foreign exchange
2	Currency swaps
3	OTC ⁵⁵ Options bought and sold
4	Other foreign exchange contracts
5	OTC derivatives
6	Exchange traded futures—bought and sold
7	Exchange traded options—bought and sold

Authorized dealer banks in Bangladesh are restricted, but not prohibited to deal in forex in international markets. As a result, these banks have limited scope of involvement in foreign currency off-balance sheet activities. These banks undertake off-balance sheet exposures on a limited scale by issuing and accepting guarantees, and extending commitments. These activities of Bangladeshi banks facilitate the performance of the country's international trade activities and through shouldering off-balance sheet liabilities; the banks can increase the external viability and credibility of the economy.

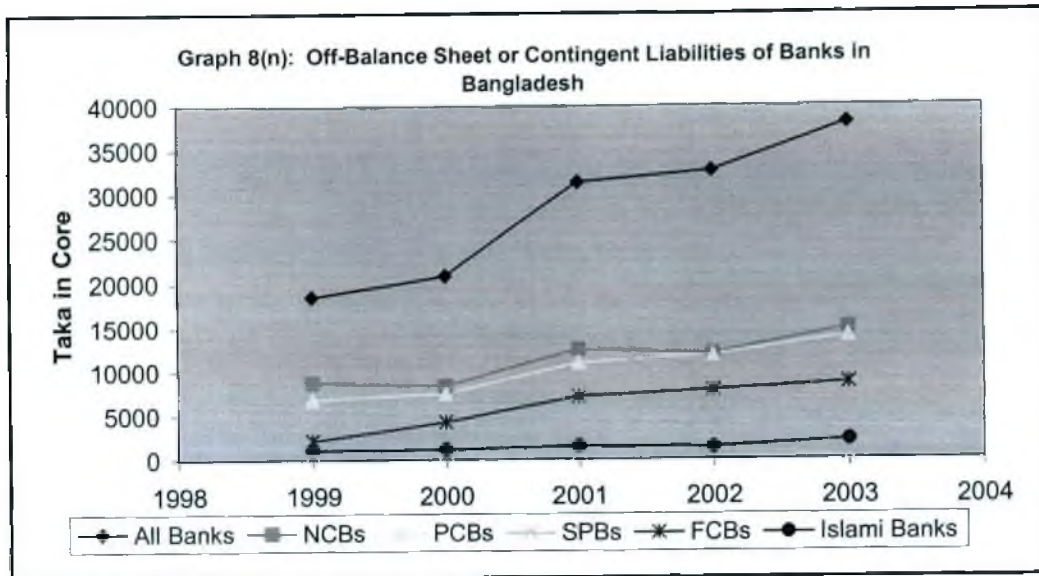
Table 8.22 summarizes the off-balance sheet activity of commercial banks of Bangladesh. The graph 8(n) shows an increasing trend of participation of all categories of banks of the country, except the specialized banks (SPBs) in off-balance sheet activities during the period 1999 to 2003.

Table 8.22: Off-Balance Sheet Performance of Banks in International Markets
(Tk. in Crore)

Year	All Banks	NCBs	PCBs	SPBs	FCBs	Islami Banks
1999	18515.38	8764.33	6868.34	710.66	2172.05	1072.69
2000	20882.89	8366.00	7513.59	761.71	4241.59	1139.00
2001	31317.10	12497.07	10959.85	747.78	7112.40	1493.57
2002	32672.86	11993.74	11820.63	1205.65	7832.84	1372.43
2003	38030.70	14939.70	14004.85	407.10	8679.05	2159.61

Source: Annual Reports of banks

⁵⁵ OTC—Over-the-counter—a market in which securities or other financial products are traded by direct dealer-to-dealer communications as opposed to formal markets such as LIFFE or stock exchanges.



It is a received wisdom that when the banks of a country operate in the international financial arena with diversified investment portfolios and well-structured foreign currency-mix, this helps in increasing the nation's international financial integrity. Although the banks in Bangladesh have now increasingly participating in off-balance sheet activities, growth rate is very slow as all categories of banks are not going forward with same extent, may be due their shortcomings in foreign currency denominated asset holdings.

8.7 Moneychangers in Bangladesh

Licensed moneychangers form a small niche of the domestic foreign exchange market in Bangladesh. At present, there are about 260 approved moneychangers working throughout the country. With the objective of helping the tourists and native travelers with foreign exchange related services, Bangladesh Bank opened a new window of the country's foreign exchange market in 1993 and issued license to more than 600 moneychangers during the 1990s. However, the moneychangers thought them as part of the informal korb market. Most of them engaged in unauthorized dealings of foreign exchange violating the business norms prescribed by Bangladesh Bank. In addition to conducting unapproved transactions in foreign exchange, they have been found to submit false/manipulated statements of their forex transactions. Most of the funds they bought at premium rates were channeled to smugglers and to finance import expenses of restricted and/or prohibited items from foreign sources. Under such a circumstance, Bangladesh Bank brought them under its intensive monitoring. Bangladesh Bank cancelled license of about 400 of them during the past five years. In spite of stringent supervision, the activities of moneychangers continued to remain highly suspicious, which forces further intensification of Bangladesh Bank's supervision on them.

The activities of moneychangers are limited largely with personal level transactions and their real business performance remained unearthed due submission of falsified and fabricated statement/returns. Table 8.23 shows the region-wise forex transaction of moneychangers prepared on the basis of statements they submitted to Bangladesh Bank upto 2002. The miserable state of performance of the moneychangers do not justified their presence any longer.

Table 8.23: Volume of Forex Transactions by Money Changers

Region	Amount in Million US Dollar
Dhaka	\$49.06
Chittagong	\$12.71
Khulna	\$3.73
Sylhet	\$7.10
Rajshahi	\$2.15
Barisal	\$1.30
Bogra	\$3.17

Source: Bangladesh Bank

8.8 Findings and Policy Implications

8.8.1 Findings

The foreign exchange market of Bangladesh, especially the inter-bank market is still at its rudimentary stage. The market is dominated by a few relatively large banks, which have remained only as dealers instead of developing themselves into buyers or sellers. The forex market also holds inefficiency. The pricing method in the market could not bring down the spread between buying and selling of foreign currencies. The introduction of free-floating exchange rate regime could not wipe out the existence of informal kerb market, where currency racketeers transact in foreign currencies at premium rates well above the market rates through a chain of middlemen and create distortions in the market and in the macroeconomic indicators. Although the kerb market emerged in the restricted regime of foreign exchange, it continued to operate in growing scales in the alleys or lanes and by-lanes of Dhaka and other cities around the foreign exchange branches of authorized banks (ADs). Dealers of hundi also form part of this market. A sizeable amount of foreign currencies is channelled through this market every year. Dealing of authorized dealer banks in international foreign exchange markets is restricted to buying and selling of foreign currencies to settle import and export bills and other customer liabilities. ADs are not capable of participating in hedging and forward, swap, options and other derivative transactions and their ability is constrained by smaller holdings of forex, as well as by regulatory impositions. Only forward transactions in limited scale are allowed to meet the specific customer needs, which offer protection to banks against their foreign exchange risks in the international markets. Spot transactions, the most widely used practice, covers 90 percent of total market transactions. But the spot market is found volatile and discrepant in terms of pricing efficiency, small holding of forex (both gross and net) and irregular supply chain, etc.

Activities in the forex market of Bangladesh experienced shrinks in volume during late 1990s. Both spot and forward transactions were the main source of this decline throughout the period. The decline may also be prompted by factors such as absence of consolidation in the banking industry, low level of electronic trading and the shortage of liquidity in the market. Restrictions on banks portfolio diversification through cross-border investments and corporate trade bodies, inadequate understanding in forex market and forex risks of domestic users and institutional investors have reduced the volume of foreign exchange

market activity in Bangladesh. Also lower turnover in the spot market reflects the lower level of public participation in the domestic market and the market's lower absorptive capacity.

Banks have primarily sought to make outright gains from foreign exchange dealings without standardizing their relevant human resources who could be aggressive in taking positions even with taking risk in international forex trading in the face of supply-side weaknesses and liquidity conditions of their own and shortage of the overall liquidity in hard currencies.

The structure of foreign exchange market of Bangladesh is different from those in developed countries. A perfect and efficient forex market has four major components: (1) foreign exchange, (2) offshore markets, (3) derivative securities, and (4) the market for international asset portfolios. All these market components are systematically and causally inter-linked and they supplement one another. But in Bangladesh, these components are not distinctly visible. Neither do they have any revealed relationship. How do the competitive pressures and the use of markets by private firms affect the foreign exchange market, and how the efficiency in forex trading help the market to function well – these issues are not well focused in the foreign exchange market of Bangladesh.

There had been no systematic efforts to make the forex market move gradually towards an exchange model. One major feature in today's international forex market is the ever-growing role of electronic trading systems, which brings dynamism in inter-bank spot trading. Electronic trading system as well as online bank-to-customer platforms has yet to be developed in Bangladesh to meet customer needs of foreign exchanges. One structural element for the matured and developed forex market is continuous linked settlement (CLS) system, which eliminates forex settlement risks. But the system requires timed payments and intra-day liquidity management, which are lacking in the foreign exchange market of Bangladesh.

Forex transactions in Bangladesh take place mainly in the inter-bank market. Nearly two-third of daily foreign exchange transactions are made amongst authorized dealer banks (ADs). Approximately 13 percent of transactions involve non-financial customers, comprising primarily those who execute transactions related to international trade. It hardly includes international investors, speculators, and other new players. On the other hand, the retail customer base is narrow and not very diversified. This situation is evident from the data presented earlier. The small and instable inflow of foreign currency into the economy compared to increasing external payments shows the liquidity mismatches in the country's forex market.

Foreign exchange market of Bangladesh is vulnerable to international settlement risks. In the international financial centers, forex transactions take place at all hours of the day and night and, more often than not, involve institutions under different national jurisdictions. The cross-border, cross-time-zone nature of the transactions poses the greatest challenge for efficient daily settlement of exchanges of currencies. But since the holidays in Bangladesh are inconsistent with the time zones of the source markets and financial centers, settlement of receivables take place in delayed manner and keep the country's foreign exchange market off from the international market. This also slows down the inward flow of foreign remittances to the country. Banks are exposed to large amounts of cross-border settlement risk because irrevocable settlement of separate legs of a foreign exchange transaction may be made at different times. For example, delivery of yen to a

Bangladeshi bank's Japanese correspondent bank in Tokyo takes place during Tokyo business hours, while the corresponding delivery of dollars by a New York bank to its correspondent American bank of a Bangladeshi counterpart in New York occurs during New York business hours. Since the two national payment systems are never open at the same time, there is the risk that after the first counterpart has delivered one side of the transaction, the other counterpart may go bankrupt and fail to deliver the offsetting currency. Moreover, such delayed receipts cause interest rate and exchange losses as the exchange and interest rates vary in almost every minute, 24 hours round the clock.

The factors explained above have adversely impacted the liquidity position in the short-term money market and on management of liquidity by the central bank, and perhaps, on monetary policy objectives. As the country more frequently requires paying large sums of money to foreign counterparts, it drains liquidity from domestic money markets. Implications of these situations are that the participants in the foreign exchange market in Bangladesh cannot devise some techniques that can be used to predict future movements of an exchange rate from its past values. In addition to these shortcomings, the foreign exchange market in Bangladesh is seemingly weaker in respect of skilled human resources, technological backwardness and international fund management expertise.

The foreign exchange market in Bangladesh is still largely regulated and buying and selling foreign currencies is yet to be considered the exercise of an express banking power. Thus, a commercial bank in Bangladesh needs authorization to trade or deal in foreign exchange. There are official rules or restrictions governing the conditions of trading. Market participants have not developed the trading conventions. There is no prudent official code prescribing what constitutes good market practice.

The linkage between exchange rate and interest rate is direct, the exchange rate policy did not always operate in synchronization with the interest rate policy in Bangladesh, leading to imbalance in balance of trade and balance of payments, and ultimately disequilibrium in the economy. This is because these two related policies impact different segments of the population differently. Thus various conflicting, especially the political dynamics pushed them in conflicting directions in the country during the past couple of decades. This has adversely impacted the flow of foreign capital into the economy and made the funds costly. Suppliers of foreign capital generally prefer a strong currency since it reflects financial strength of the recipient country capable of paying back principal and high interest rates for better returns.

8.8.2 Policy Implications

The exchange rate between domestic and foreign currency is a major economic policy variable. Therefore, the efficiency or otherwise of a foreign exchange market is very important for policy makers of any country. An efficient foreign exchange market indicates that a government cannot influence the movement of exchange rates as the exchange rates are not predictable. The results of this analysis have important policy implications as they indicate that the foreign exchange market of Bangladesh is not efficient. The government can make informed decisions on exchange rates, take actions to reduce exchange rate volatility and evaluate the consequences of various economic policies for exchange rates. Participants in the foreign exchange market can devise various trading rules or techniques to make abnormal profits from transactions in the foreign exchange market. However, they should consider the costs involved in such activities to determine their profitability. Future researchers can corroborate the results of this study by employing other econometric techniques such as asymmetric and nonlinear models and high-frequency data.

Exchange rate modelling is a fundamental need for attaining market efficiency and exchange rate forecasting. This requires market awareness amongst the market makers and stakeholders, regulators, private individuals and institutions, public officials and the corporate users. It is necessary to upgrade central bank's supervision and monitoring system consistently with the changing trends in global forex market operations. Side by side, streamlining the structure of both domestic money market and forex market and upgrading their operational procedures are inevitable for the development of forex market in the country. Expanding market for new financial derivative products encompassing futures, options, and swaps and consolidating institutional features and pricing relationships is also necessary for this development. Central bank's market intervention may be applied to efficiently manage the behaviour of exchange rates.

As the domestic payment system is structurally weak and the participating banks are not efficient to trade in foreign exchange internationally, one way to reduce settlement risk would be altering or augmenting bank risk-management techniques. Improved front, middle and back office processing, correspondent banking arrangements, and bilateral netting capabilities may improve the banks' efficiency to engage in trade in foreign exchange and also reduce settlement risks. Altering the timing of payments and identifying final or failed receipts as soon as possible can also help banks shorten the duration of settlement risks. These solutions require no public sector involvement and can substantially reduce settlement exposures.

Appropriate rules, opportunities and instruments are to be introduced so that the participants in the foreign exchange market can engage in profitable transactions in the short run. The central bank can make informed decisions on exchange rates, take actions to reduce exchange rate volatility and evaluate the consequences of various economic policies for exchange rates. Participants in the foreign exchange market may be allowed to devise various trading rules or techniques to make profits from transactions in the foreign exchange market under the flexible but prudent regulatory provisions.

Common market practices with respect to trading activities, relationships, and other matters are absent in Bangladesh. Bank examiners look at paper-evidences of transactions, and not at the trading systems, activities and exposure. Examiners do not focus on the safety and soundness of the banks especially in regard to foreign exchange. It is also important to correlate the foreign exchange activities of authorized dealer banks (ADs) with their capital adequacy, control systems, disclosure, sound banking practice, legal compliance, and other factors while examining the foreign exchange performance of banks for the sake of safety and soundness of the banks, as well as of the market users. Concrete steps are essential for improvement of the risk management practices of dealers in the foreign exchange market, and ensuring greater transparency and disclosures. Bangladesh Bank is to monitor the activities of moneychangers more closely so that they do not carry out illegal transactions in foreign exchange. A large portion of migrant workers remittances is coming to the country through informal channels. Taping these informal value transfers might help the economy in building its foreign currency denominated assets in general and the receiving banks in particular.

The size and number of transactions and the increased concentration of transactions in a handful of international banks place the foreign exchange market at the nexus of the global network of inter-bank payments. Any disruption in the settlement of foreign exchange transactions could have serious consequences for global trade and finance and for the domestic and international banking system. One of the main difficulties in settling foreign

exchange payments is that it is not always possible to make final payments simultaneously. This creates a window in which one of the counterparties could fail to deliver, with possible repercussions for the international banking system. Both the private and the public sectors in Bangladesh should be aware of this difficulty and pursue cause-effective initiatives that can enable the dealers, market makers, users and other stakeholders to reduce and better manage foreign exchange settlement exposures. The forex dealer banks and related service providers should come forward to develop their ability to extend forex risk management services to the users/customers.

As the exchange rate policy has greater impact on the strength of the domestic economy through the domestic interest rates, the issue of their causal dependence might be considered while making policy interventions in the interest rate policy in the country. There are a number of instances that interest rates have been changed on the basis of prescriptions of the donor agencies without considering the question of flow of foreign funds into the economy and the dynamics of domestic investment in the real sector.

Chapter 9

Capital Market in Bangladesh

9.1 Introduction

The capital market of Bangladesh comprises both securities and non-securities segments. The securities segment combines two stock exchanges - Dhaka Stock Exchange Limited (DSE) and Chittagong Stock Exchange Limited (CSE). The securities market instruments include shares and debentures of companies, mutual funds and unit certificates of the state-owned investment company- the Investment Corporation of Bangladesh (ICB), government bonds, and specialized bonds such as industrial development bonds issued by two commercial banks. A few other specialized bonds such as wage earners development bond, U.S. Dollar investment bond and U.S. Dollar premium bond introduced as investment vehicles for the expatriate Bangladeshis. These special bonds are not tradable on the secondary market but the holders enjoy easy conversion facility. Fixed deposit receipts and a number of other fixed income term-deposit certificates and accounts sold by the banks and non-bank financial institutions, which helped in accumulation and intermediation of small savings from the individual and household savers. The government sponsored saving certificates of various denominations and maturities (5-years Bangladesh Sanchaya Patra, 3-years saving certificate, 3-years National Investment Bond, 5-years family saving certificate, 8-years pratirakkha sanchaya patra) and 100 Taka prize bonds are sold under the national savings schemes, which also contribute to the movement of capital funds in the financial system. The market for the later instruments is blocked to only issuance by the government or its designated agencies, having no secondary or after market trading, i.e., these instruments are non-tradable on the secondary markets. The bond market was also entirely blocked until 28 December 2003, when the government introduced bi-monthly auction-based trading of its 5-year and 10-year maturity treasury bonds through the stock exchanges that bear half yearly interest coupons.

Analyzing and measuring capital market performance involves a wide range of activities, including analysis of institutional and instrumental depth, level of adopted information communication technology (ICT), sophistication in instruments and market mechanisms, and strength and enforcement level of legal and regulatory measures, in addition to price behaviour of traded securities and capital channeling performances. A sound and efficient capital market is equipped with a broad range of tools including debt instruments, guarantees, advisory and technical assistance work, equity and quasi-equity by virtue of which it can pave the environment for fair and consistent price behaviour and capital movements and liquidity enhancement.

This chapter is divided into five sections and the current section presents the introduction as already made above. Section 9.2 encompasses the discussion on and analysis of performance of the primary market. The performance of secondary or securities market is evaluated in section 9.3. The second hypothesis of the dissertation is tested in section 9.4 to examine empirically the impact of macroeconomic factors on the development of stock market in Bangladesh. Lastly, the non-securities segment of the country's capital market is critically examined in section 9.5.

9.2 The Primary Market

9.2.1 Overview

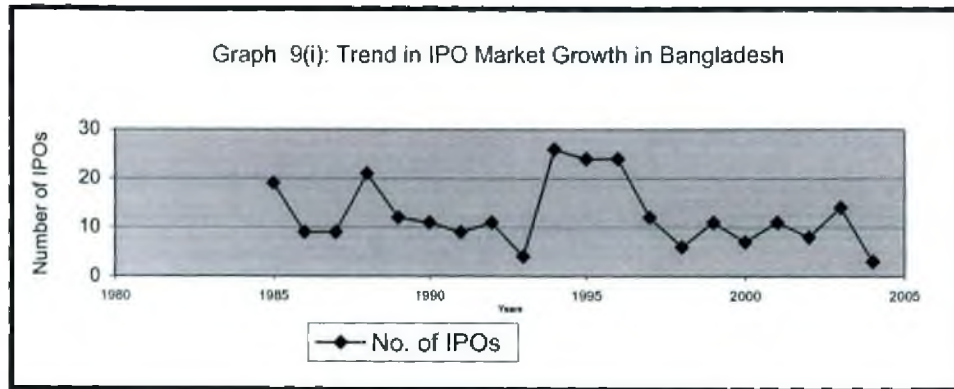
As elsewhere on the globe, the securities market in Bangladesh functions with two sets of markets: primary and secondary. The first set is the primary market where the owners sell shares, diversify personal wealth and liquidity by initial public offerings (IPOs) of new and seasoned equity offerings (SEOs). In the primary market, seller of a financial instrument represents the borrower and the buyer of that instrument represents the lender. In the primary market, all new borrowing and lending take place via direct finance. In other words, the securities market involve in both initial public offerings (IPOs) of shares and securities through the primary market and their re-sell on the after or secondary market through the stock exchanges.

The primary markets that deal with IPOs is said to be the entry gate of securities market. The IPO issues are traded in the secondary market after making listings necessitates by the concerned laws. The myth is that the lower the number of IPOs, the lower the rate of listings of shares and number of outstanding securities in the after or secondary market. The primary or IPO market in Bangladesh recorded extremely slow growth during the period in question ranged between 1985 and 2004 (see table 9.1). As the IPOs were very small in number and volume, listing of new shares on the stock exchanges did not increase much over the total. De-listing continued and new listings were not always sufficient to offset the master IPOs. New listing activity also recorded instable and non-progressive movements. The total number of listed companies and securities has also increased at a sluggish rate [see table 9.1, graphs 9(i) and 9(ii)].

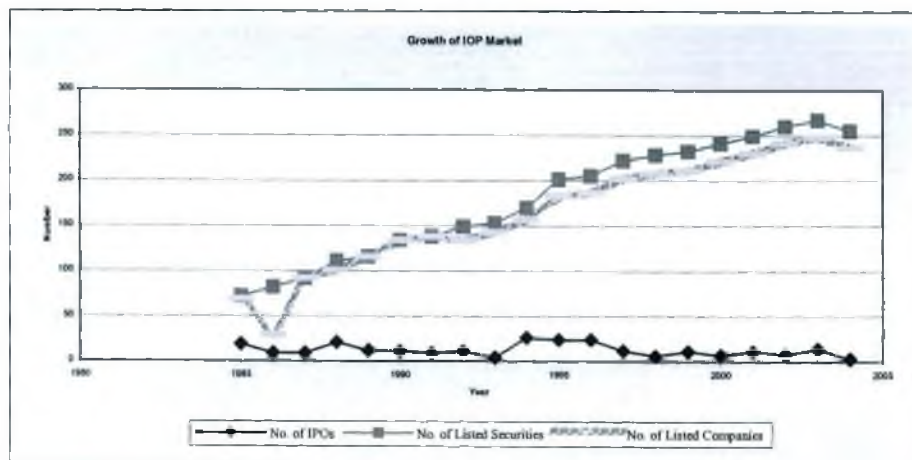
Table 9.1: Performance of the Primary Market in Bangladesh

Year	No. of IPOs	No. of Listed Companies	No. of Listed Securities
1985	19	69	72
1986	9	29	82
1987	9	92	92
1988	21	101	111
1989	12	116	116
1990	11	134	134
1991	9	138	138
1992	11	134	149
1993	4	143	153
1994	26	157	170
1995	24	183	201
1996	24	186	205
1997	12	202	222
1998	6	208	228
1999	11	211	232
2000	7	221	241
2001	11	230	249
2002	8	241	260
2003	14	248	267
2004	3	236	255

Source: DSE



Graph 9(ii): Growth Pattern of IPO Market in Bangladesh



Altogether the number of listed companies stood at 236 and the number of listed securities at 255 inclusive of 11 mutual funds and 8 debentures up to the end of 2004. Of the listed companies, most are ordinary businesses with ordinary shares, having no venture capital businesses.

9.2.2 Institutional and Legal Structure

Companies registered under the Company Act of 1994 (formerly 1913) as a public limited company or set up under a statute with a minimum paid-up capital of Tk.10 million are eligible to apply for listing in the stock markets. The Securities and Exchange Commission (SEC) administers the listing process. A formal procedure in this regard was laid out by the SEC and formalized by the Securities and Exchange Commission, Public Issue Rules, 1998. A consortium of financial institutions, insurance companies, brokerage houses and members of the stock exchange underwrite a typical public issue in Bangladesh on 'pre-determined' ratio. The issuing company contracts underwriters on a 'firm commitment' basis to ensure successful first public offering. The underwriters take up shares in case not subscribed by the public and for that, additional commission is added to the base commission of the underwriters. An independent third party or, often, a member of the underwriting consortium is designated as the 'Manager to the Issue', which typically serves as the go between the issuing company and the SEC and helps the management of the company with the process of determining the number of shares to be issued, the offer price and development of prospectus in conformity with the SEC regulations. The issuing company also designates a number of financial institutions, mostly commercial banks, as 'Banker to the Issue', which handles share applications and collects

money from investors. On average, fifty percent of the total issued capital is retained by the insiders (directors/sponsors) of the company intending to go public and the remaining portion is distributed to three parties - institutional investors [generally, the Investment Corporation of Bangladesh (ICB)], employees of the company going public and the general investors (both foreign and domestic).

9.2.3 Allotment Procedure

When the issuer company invites applications for allotment of shares to the general public (investors) through publishing prospectus in the newspapers, the public makes their applications through the 'Bankers to the Issue' within the stipulated time. After completion of subscription period, the Issue Manager collects all the applications and complete data entry through computerized system. Then the Issue Manager seeks permission from SEC for conducting lottery for selecting successful applicants. The Department of Computer Science of the Bangladesh University of Engineering and Technology (BUET) conducts the electronic lottery in the presence of representatives from DSE, CSE and ICB. The successful applicants are provided with allotment letters. Thereafter, the issuer company needs to comply with all necessary formalities for getting listed at the DSE. The listing procedures are to be completed within 5 weeks of the IPO date. After listing, the trading of the securities starts at stock exchanges - the DSE and/or CSE, where the listing is made.

While allocating IPOs, the issuers in Bangladesh, favor small over large investors. The ICB, however, gets a preferential allocation. The distribution of the allotment to the general public, as estimated from figures for the period between 1985 and 2004 had been as under:

- i) 50% to 55% to the applicants for up to 50 shares;
- ii) 10% to applicants for shares 50 and 500;
- iii) 10% to applicants for shares between 500 and 1000;
- iv) 10% to applicants for shares between 1000 and 5000; and
- v) 15% to 20% to applicants for shares over 5000. This last group comprises only the local institutional investors.

In case of over-subscription, the lottery for allotment is conducted with provision for making the distribution proportionately among the above five categories.

9.2.4 Process of Determining Offer Prices

The issuing company in consultation with the Manager to the Issue determines the offer price of its IPOs and the number of securities to be offered. The SEC has to agree with this process before the offering is announced. Normally the IPO price is determined on the basis of Net Asset Value (NAV) of the company. If the NAV per share is considerably higher, the issuer company likes to do IPOs at premium price. Companies calculate NAV on the basis of types of their business. If a company is a seasoned one, its NAV is calculated as total assets minus total liabilities divided by number of outstanding shares of the company in the market. In case of Greenfield companies (new entities), IPO price may be calculated on the basis of the value of the company determined by the Manager to the Issue by using a method known as 'Project Cost', which is estimated by summing up the value of total fixed assets and initial net working capital. Total fixed assets includes historical cost of all fixed assets like land and land development, building and other construction, machinery and equipment, contingencies, security deposit, preliminary or pre-operating expenses etc. Once the project cost is estimated, the next step is to determine the sources of financing. The Issue Manager and the company decides how much of this cost will be financed by debt and how much through issuance of equity. To estimate the 'par' value of the IPOs of the pre-determined number of common stocks, that number of common stock is divided by that part of the project cost decided to be financed through equity. Companies going public, typically, set the offer price at 'par'.

9.2.5 Offering at 'Par' or 'Premium' – Norms of Determination

In the case of 'premium', the issuing company sets the offer price above the par, calculated according to the process stated in the preceding paragraph. In this case, the issuing company is said to be offering stocks at 'premium'. It is the responsibility of the company and the Issue Manager to convince the SEC that the stock they decided to float at 'premium' deserves the qualities for premium pricing. Historical observations on company policies reveal that the only companies offering further or seasoned IPOs deserve options for premium pricing. Officially, the issuing company (or the Manager to the Issue on its behalf) is supposed to take the average market price per share or net asset value per share or earning based value per share to the SEC to negotiate for approval of the 'premium' on the new issue. The average market price per share is calculated by taking the average of past three month's price of stocks outstanding in the secondary market prior to the new issue. The net asset value per share is calculated by dividing the difference between total assets and total liabilities of the company by the total number of common stocks outstanding prior to the new issue plus the proposed new offering of common stocks. The earning based value per share, on the other hand, is calculated by dividing the estimated net income after taxes in the first year following the earlier issue of common stocks by the total number of shares outstanding including the proposed public offering.

9.2.6 Underpricing and Overpricing - Determination Basics

Underpricing and overpricing of shares have substantial implications on the investors' confidence and inclination and the market operations. Underpricing refers to issuing securities at lower than their market value. Underpricing is estimated as the percentage difference between the price at which the IPO shares are sold to investors (the offer price) and the price at which the shares are subsequently traded in the secondary market. In well-developed capital markets and in the absence of restrictions on how much prices are allowed to fluctuate in day to day trading, the full extent of underpricing is evident fairly quickly, certainly by the end of the first day of trading the first-day closing price is therefore, most commonly used in computing initial underpricing returns. Using prices of a later period, say of the end of the first week of trading, typically makes little difference. In less developed capital markets, or in the presence of 'daily volatility limits' restricting price fluctuations, aftermarket prices may take some time before they equilibrate supply and demand.

When companies go public for the first time, the shares they sell tend to be underpriced and in that case the share price jumps substantially on the first day of trading. Nevertheless, underpricing is costly to a firm's owners: shares sold for personal account are sold at too low a price, while the value of shares retained after the IPO is diluted.

In the U.S. and increasingly in Europe, the IPO price is set just days (or even more typically, hours) before trading on the stock market begins. This means that market movements between pricing and trading are negligible and so usually ignored. But in some countries (for instance, Taiwan and Finland), there are substantial delays between pricing and trading, and so it makes sense to adjust the estimate of underpricing for interim market movements. This is the case also in Bangladesh, where first day trading of already offered stocks starts after long time of their IPO dates. The maximum time limit of placing the shares for trading on the stock exchanges is five weeks from the date of IPOs in Bangladesh. So the differences of offer price and the first day trading have been apparently wider. The evidences of underpricing of IPOs in Bangladesh are presented in table 9.2 in annex 6.

The difference of IPO price and after market/secondary market trading price is calculated by multiplying their difference by the number of shares sold at the IPO. The implicit assumption in this calculation is that the shares sold at the offer price could have been sold at the aftermarket trading price implying that the aftermarket demand is price-inelastic.

Explanations to underpricing can be grouped under four broad headings: asymmetric information, institutional reasons, control considerations, and behavioral approaches. The most established one of these is the asymmetric information based models. Asymmetric information models assume that one or a group of investors know more than the others. Baron (1982) assumes that the bank is better informed about demand conditions than the issuer, leading to a principal-agent problem in which underpricing is used to induce optimal selling effort.

9.2.7 Underpricing and Spinning of Shares; Harm to the Investors in Bangladesh

Underwriters always allocate shares in initial public offerings. Allocation is a common part of management of underpricing by the underwriters (most commonly investment banks), and most allocated shares go to institutional investors, but not all (Griffith, 2004). When the underwriter offers particular individuals the right to buy unrestricted shares in popular initial public offerings, the underwriter is engaged in the practice of spinning. Unlike the shares bought by other retail purchasers of IPO stock, spinning shares bear no resale restriction. Influential purchasers receive this preferential treatment because they are in a position to provide future business to the underwriter-investment bank. Spinning and underpricing are directly connected. Since IPOs are often significantly underpriced, the price of the shares may rise dramatically when the offering comes to market for trading. The individuals who receive spinning shares are free (and likely) to flip or resell their holdings on the day of the public offering, reaping a tremendous profit. Spinning also acts as a form of insurance to the underwriter that has made a firm commitment to buy the shares, should an issue prove difficult to sell.

Most retail investors feel that spinning is unfair because they do not have access to these underpriced shares. It is argued that the executives who accept underpriced shares before their own IPO are usurping a corporate opportunity, which should have been made available to the company. In determining whether usurpation has occurred, the regulators focus on the company's line of business and consider whether it could have taken advantage of the opportunity to purchase the shares. As the shares in spinning transactions are offered to influential individuals in the hope that they will provide future business to the underwriters and accept underpricing at that time, spinning may also create a conflict of interest for the managers who are allocated the shares. It could be considered an undisclosed compensation arrangement.

Table 9.3: Performance of the IPO Market in Bangladesh (In Million Tk.)

Year	No. of IPOs	Issued Capital (Million Tk.)	Public Offer (Million Tk.)	Pre-IPO Placement (Million Tk.)	Public Subscription (Million Tk.)	Over Subscription	
						%	Times
1994	26	2870.55	744.33	-	3829.90	415	5.15
1995	21	2933.60	1158.90	-	5725.89	340	4.96
1996	22	4390.98	1914.59	-	16805.87	778	8.78
1997	12	1393.00	586.90	-	2741.88	367	4.67
1998	6	869.200	352.10	-	593.45	68.55	1.69
1999	11	2006.48	345.00	650.00	752.71	118.18	2.18
2000	7	980.00	122.50	290.25	492.03	301.66	4.02
2001	11	1,389.64	220.00	309.64	1,276.78	480.04	5.80
2002	8	881.00	198.00	252.19	938.19	373.83	4.74
2003	14	9776.70	1351.17	1626.50	25823.61	1811.20	19.11
2004	3	877.75	473.88	20.00	6,233.36	1215.39	13.15

Source: SEC, DSE and Bangladesh Bank

Note: '-' refers no figure

In Bangladesh, spinning is in practice. This phenomenon is established by preferential allocation of IPOs to ICB and company employees, and to some extent by 10 percent reserved quota for non-resident Bangladeshis (see table 9.3 at previous page).

9.2.7 Inducements for Underpricing of IPOs

Underpricing in IPOs is a significant cost of raising capital that arises mainly from information asymmetry at the IPO date. Underpricing harms the issuer financially to a far greater extent than it does to the underwriter: the issuer loses capital while the underwriter gains future business, goodwill, and firm-commitment insurance. There are several explanations for why issuers agree to this practice. For example, management may see underpricing as a success signal, reasoning that the issuer will look successful to investors and customers when the stock price skyrockets immediately after the IPO even though there are more cost-effective methods to obtain positive publicity. Perhaps they agree to the underpricing because they lack adequate information on the market demand for the offering. Underpricing is helpful to attract the institutional investors in buying the IPO (see table 9.3). The inherent benefits and costs of underpricing of IPOs are reported on table 9.4.

Table 9.4: Stylized Facts of IPO Underpricing

Benefits of Going Public	Cost of Going Public	Winner's Curse
<ul style="list-style-type: none"> •Overcoming Borrowing Constraints •Greater Bargaining Power with Banks •Liquidity and Portfolio Diversification •Monitoring •Investor Recognition •Change of Control •Windows of Opportunity <p>Methods of going public</p> <ul style="list-style-type: none"> •Offer for Sale at Fixed Price •Offer for Sale by Tender •Placing •Intermediaries Offer •Introduction •Offer by Subscription •Firm Commitment •Best Effort (US) •Book Building •Bought Deal 	<ul style="list-style-type: none"> •Going public is a costly undertaking •Significant Positive First Day Returns •Possible explanations to short run under-pricing •Long run market underperformance •Long run operating underperformance <p>Why under pricing?</p> <ul style="list-style-type: none"> •Winner's Curse •Signalling •Banker's Protection •Legal Liability •Market Overreaction •Misvaluation 	<ul style="list-style-type: none"> •Highest bidder in an auction has mostly overestimated the value of the object! •If one apply for every new issue <ul style="list-style-type: none"> -he will receive as much as he wants if the issue is not attractive! -He will not receive as much as he wants if the issue is oversubscribed! •So, he will play the game if there is substantial underpricing on average! •But the good companies tolerate underpricing of their shares for attracting uninformed investors to other issues.

Source: Compiled by the author from various literature

9.2.9 IPOs, Asymmetric Information and the Winner's Curse: Impact on Market

The key parties to an IPO transaction are the issuing firm, the bank underwriting and marketing the deal, and the investors buying the stock. Asymmetric information models of underpricing assume that one of these parties knows more than the others. Rock (1986) assumes that some investors are better informed about the true value of the shares on offer than are investors in general, the issuing firm, or its underwriting bank. Informed investors bid only for attractively priced IPOs, whereas the uninformed bid indiscriminately. This imposes a 'winner's curse' on uninformed investors. In an unattractive offering, uninformed investors receive all the shares they have bid for, while in attractive offerings, their demand is partly crowded out by the informed. Thus, the return the uninformed investors earn conditional on receiving an allocation

is below the simple average underpricing return. In the extreme cases, the uninformed are rationed completely in underpriced IPOs and receive 100 percent allocations in overpriced IPOs, resulting in average returns that are negative. When conditional expected returns are negative, uninformed investors will be unwilling to bid for IPO allocations, so the IPO market will be populated only with (equally) informed investors.

Rock (1986) notes that the primary market is dependent on continuous participation of uninformed investors in the sense that informed demand is insufficient to take up all shares on offer even in attractive offerings. This requires that conditional expected returns are non-negative. There are counter arguments that such ad hoc assumption is actually unnecessary, because a situation where everyone is informed is not in fact equilibrium. When all remaining investors are informed, only attractively priced IPOs will succeed and all others will fail for lack of buyers. But becoming informed is costly, which creates an incentive to stay uninformed and to free-ride on the information of the other investors instead. The investor would simply bid for IPO shares indiscriminately, receiving shares in the attractive IPOs but not in the unattractive ones (which will still fail) – clearly a profitable strategy. Since every investor faces the same incentive, no one would choose to become informed, so unattractive offerings would no longer fail. But if no one is informed, there is incentives to become uninformed at least break even.

The concept and impact of asymmetric information and inefficiency-cost of it in Bangladesh is not well understood by investors, particularly by the general members of the public who form the major investors group, but generally remain uninformed. As a result, IPO issues always grasped huge over subscriptions. For example, of the total IPOs of 141 made during 1994 - 2004, all were oversubscribed (see table 9.3).

9.2.10 IPO Market in Bangladesh - Movement Analysis

As shown in table 9.1, the IPO market in Bangladesh did not reflect rigorous progress in terms of number of IPOs, instead experienced instability throughout the period of 1985-2004. The financial sector reform measures implemented in the early 1990s helped in bringing some positive changes in the market's micro structure and market operations, which, however, turned out to be short lived as the number of IPOs during the subsequent years declined remarkably since 1994 after a surge compared to previous years. The most significant event of the reforms was opening up of the country's securities markets to non-resident Bangladeshis/foreign investors in 1991-1992. Foreign investors/institutions were allowed participation in the primary (IPO) market only in the financial year (FY) 1992-1993 subject to some ceilings, which were, however, withdrawn in the later years. Allowing foreigners' access to the stock market enormously influenced the performance of the domestic capital market.

The primary capital market in Bangladesh has also been confronting the problem of lack of adequate good scripts. More than 4000 limited-liability companies, only 267 are on issue. A large number of companies kept themselves off from the securities market. The governance structure of these companies is also liable for the weak condition in that these companies prefer to keep the ownership holdings within the 'family connections' (i.e. closely-held companies). Moreover, the ICB disbursed huge loans to the members of the public for investing in the IPO market with the view to increasing market liquidity and the demand for those shares going public for the first time.

Table 9.5: Loan Disbursed to Public by the ICB for Investment in IPO

Period	Tk. in Million
1992 – 93	19.40
1993 – 94	42.60
1994 – 95	418.50
1995 – 96	374.00
1996 – 97	1561.60

Source: ICB annual reports

As shown in table 9.5 above, the total amount of loans disbursed by the ICB for this purpose during the FY 1992-1993 amounted to Tk.19.40 million which was increased to Tk.1561.60 million by the end of the FY 1996-1997.

Table 9.6: Performance of the IPO Market in Bangladesh

Year	No. of IPOs	Pre-IPO Placement (Million Tk.)	Public Subscription (Million Tk.)
1994	26	-	3829.90
1995	24	-	5725.89
1996	24	-	16805.87
1997	12	-	2741.88
1998	6	-	593.45
1999	11	650.00	752.71
2000	7	290.25	492.03
2001	11	309.64	1,276.78
2002	8	252.19	938.19
2003	14	1626.50	25823.61
2004	3	20.00	6,233.36

Source: SEC

Table 9.7: Initial Public Offering during 2000-2004 at DSE

Particulars	2000	2001	2002	2003	2004
No. of Public Issues	7	11	8	14	3
Size of the Public Offer					
Tk. Million	122.50	220.00	198.00	1351.17	473.88
US\$ Million	2.27	3.86	3.41	23.30	8.10
% of annual growth	-	79.59	(10.00)	582.41	(64.99)
Size of Pre-IPO Placement					
Tk. Million	290.25	309.64	252.19	1626.50	20.00
US\$ Million	5.38	5.43	4.35	27.85	0.34
% of annual growth	(55.35)	6.68	(18.55)	544.95	(98.77)
Public Subscription					
Tk. Million	492.03	1276.78	938.10	26,305.70	6233.36
US\$ Million	9.11	22.40	16.18	453.55	105.83
% of annual growth	(34.69)	159.49	(26.52)	2700.56	(76.30)
Over Subscription Times					
Value (Tk. Million)	4.02	5.80	4.74	19.47	13.15
% of annual growth	84.10	44.49	(18.36)	310.88	(32.44)

Source: DSE

On the other front, progress in the IPO market has been slow due to slow process of privatization of public sector enterprises as well as nominal or non-issuance of shares of stock of already privatized parastatals to the public. Money raised through the primary market by

IPOs during 1994-2004 is reported in tables 9.6 and 9.7. These tables further show that the amount of money raised through public offerings also fluctuated during the entire period under review.

9.3 Secondary Markets

The two functional wings of securities market in Bangladesh: DSE and CSE are non-profit-making membership institutions directly governed by their own rules and also by the Securities and Exchange Commission [the Securities and Exchange Commission, 1969, the Companies Act, 1994 and the Securities and Exchange Commission Act, 1993 (DSE, 1999)]. The DSE has the status of a public limited company and has its Articles of Association. Both CSE and DSE have started automatic trading services in July and August of 1998 respectively.

The securities market activities remained dormant in 1971 due to the War of Liberation, which continued in some post-liberation years. The market resumed its first formal trading in the middle of 1976 through the DSE, which initiated its operations with only 9 listed companies having a total paid up capital of Tk.137.52 million. On 30 June 2004, total number of listed companies and listed securities at the DSE stood at 248 and 267 respectively with a total market capitalization of Tk.14.24 billion.

At present, the trading at the DSE is run through automated on-line system every day except Friday and other government holidays. Trading at the exchange goes through four different types of markets: (a) Public Market, in which trading of only market lot shares is done through automatic matching. This market niche is for general trading of shares and securities. (b) Spot Market, where spot transactions are done through automatic matching and compulsory settlement within 24 hours. (c) Block Market, where bulk quantities of shares are traded through pick and fill basis, and (d) The Odd Lot market that deals with the trading of lot scripts based on pick and fill basis. After netting, all transactions in public market of a day need to be settled and cleared through the DSE Clearing House. Members of the stock exchanges are also allowed to carry out transactions for foreign buyers and/or sellers through a custodian bank.

Table 9.8: Growth in No. of Listed Companies at the DSE

Year	Number of Listed Companies	Paid up Capital (Million Tk.)
December 1976	9	137.52
June 1977	9	137.95
June 1978	14	210.90
June 1979	17	276.00
June 1980	18	282.60
June 1981	18	285.00
June 1982	29	437.32
June 1983	33	530.50
June 1984	49	1190.00
June 1985	69	2017.50
June 1986	78	2098.50

Source: Annual Reports of Bangladesh

During the initial years of its operation since reopening in mid-1976, the DSE recorded some improvements in listing of companies (see table 9.8 at previous page). The stock exchange performed mainly with the trading of equity shares of listed companies. Besides, Advance Import Permits (AIP) in terms of US Dollar and Pound Sterling had been regularly quoted in the DSE during the period between 1976 and 1981.

The trading activities at the DSE did not expand due to small number of new issues, closely held shares of multinational corporations, lack of interest of members of the Exchange in new issues, inadequate knowledge of investors in shares as investment vehicle and very small number of transactions in the Exchange. With an insignificant number of investors, the daily average transactions were confined to the range of 5-10 a day up to June 1980.

As a part of the country's capital market development, the government took initiatives to motivate foreign private investments into the economy. In line with that policy objective, the government promulgated the "Foreign Private Investment (Promotion & Protection) Act, 1980", which provided the foreigners' investments in Bangladesh with legal guarantee against nationalization and expropriation. The Act also guarantees repatriation of capital and dividend, and equitable treatment with local investors.

Since the FY 1984-85, the investment climate in the market had improved to some extent mainly due to government's placement of heavy emphasis on faster growth of the private sector expressed through its new Industrial Policy. With the declaration of the Industrial Policy, the investors' response to the public offering of new shares encouraged and enhanced. The number of listed companies at the DSE rose to 78 in 1985-86 than 49 in 1983-84 and 69 in 1984-85 (see table 9.8). The total paid up capital of the listed companies at the DSE also rose to 2098.00 million in 1985-86 significantly over the previous years registering growth rates of 69.54 and 4.01 percents respectively. Trading on the floor of the DSE also took upward trend. Of the 19 companies that offered new public issues of Tk.338.50 million in 1984-85, 16 were oversubscribed. In some cases, the premium on shares ranged from 50 percent to 400 percent of their offered values. Against the offer value of Tk.338.50 million in this year, the application for public subscription was of the amount of Tk.517.10 million i.e., the oversubscription was 52.76 percent (see table 9.9).

Table 9.9: State of Public Interest in IPOs during 1984-87

Year	No. of IPOs	Issued Capital	Subscription received	(Million Taka)	
				Over Subscription	Over Subscription (%)
1984-85	19	338.50	517.10	178.60	52.76
1985-86	9	49.00	83.10	34.10	69.60
1986-87	9	220.90	411.40	190.50	86.30

Source: Annual Reports of Bangladesh Bank

In 1985-86, non-residents, a new class of investors was allowed participation in the stock market. Besides, the disinvestment policy of the government and subsequent privatization of some public sector enterprises helped the investment climate to improve and encouraged more companies to enlist their shares at the DSE. Further, a total of 40 listed companies declared dividends in 1985-86 ranging from 8-60 percent, which had greatly motivated the investors to play in the stock market. However, the overall securities market performance followed a sluggish development trend during 1987-1991 (see table 9.10 in annex 6). The DSE share price indices moved between 193.93 and 334.53 points without abnormal fluctuations and up surges during 1987-1991. However, since the beginning of 1992, the market performance showed an

upward turn and went consistently up to the end of June 1996. These developments in the stock market performance have been reflected in all of its indicators as assembled in tables 9.10 and 9.11 in annex 6.

One of the major factors that influenced these developments was the increased participation of foreign investors in the market. The government continued its efforts to make the market attractive to the investors by improving the investment environment and market regulation. In the financial year (1993-94), the government for the first time introduced 'National Award' for remarkable contribution to the capital market. Accordingly, 10 organizations including, a private commercial bank have been adorned with the National Award. The Securities and Exchange Commission (SEC) was founded as the regulator and watchdog of the capital market. The SEC commenced working on 14 November 1993. It has been assigned with the important responsibilities of ensuring proper issuance of securities and protection of investors' interest in the securities market. With the objective of strengthening market performance along with increased number of securities and enhanced amount of liquidity, the SEC in 1994-95, imposed some restrictions on handling of shares and securities by the foreigners in the stock market. The restrictions included one-year lock-in and non-issuance of more than one-third of IPOs to the foreign investors.

During the period of 1991-96, a number of measures have been implemented to develop the market in line with the broader economic policy liberalization in the country. A number of incentives has been offered to attract foreign direct (FDI) and portfolio investments in Bangladesh. Accordingly, the stock market was opened up for foreigners in April 1992. By government declarations, foreign private investments have been welcomed in all areas except five-reserve industries for public sector investments. Restriction on the amount of investment in equity shares by foreigners has been withdrawn. As a result, 100 percent foreign investment and joint ventures with local private partners or with the public sector were allowed and still in force. The government offered special incentives for Non-resident Bangladeshis (NRBs) to encourage their remittance and investments in the country. The NRBs were allowed buying shares in both primary and secondary markets including the debentures of Bangladeshi companies. A 10 percent reserve quota has been fixed for foreigners including the NRBs in IPOs of shares of local companies. The foreigners were also permitted to buy debentures of local companies. Under the liberalized and extended banking facilities, NRBs were also allowed opening and maintaining interest bearing non-resident foreign currency deposit accounts (NFCDA) with authorized dealer banks (in foreign exchange) in Bangladesh and unrestricted transfer of foreign currencies from those accounts. In addition, the NRBs were accorded permission to invest in 'Industrial Development Bond' scheme of the Agrani Bank, a nationalized commercial banks (NCBs) in Bangladesh.

Side by side with offering of the aforesaid incentives, the government adopted more security measures for foreign investment in Bangladesh under the Multilateral Investment Guarantee Agency (MIGA) agreements. The MIGA agreements insured non-commercial risks of foreigners' investments in Bangladesh. Foreign exchange regulations in the country have been relaxed by introducing free convertibility of Taka. The process of repatriation of foreign capital invested in Bangladesh along with profits/dividends earned from stock market transaction made easier under which no prior permission is required for such transfers. Because of these developments, the securities market in Bangladesh received huge attention of foreign investors, despite its small size.

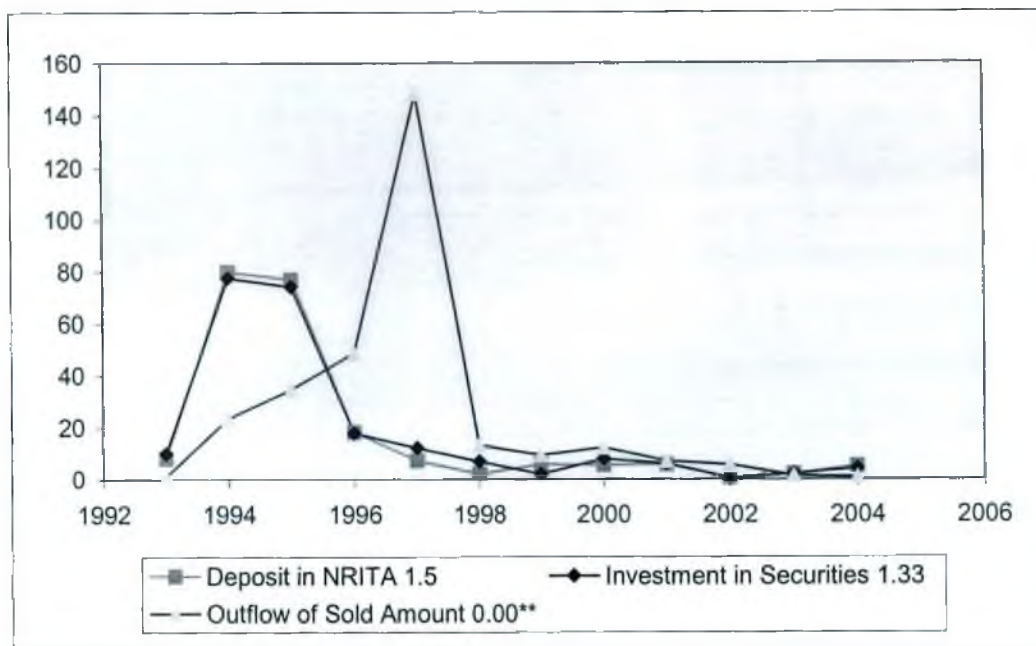
A number of other factors had also been contributed to the upward trend in market performance up to November 1996. The 'bank rate' of the central bank was reduced from 6

percent to 5.5 percent in March 1994. This reduction in bank rate influenced the interest rates on bank deposits to go down, which in turn, encouraged the surplus units/individuals to play in the securities market even with borrowed money from the banking system. Reduction of prize money on prize bonds, especially the first prize of Tk.10.00 lakhs to Tk.6.00 lakhs substantially helped in diverting the small investors' concentration to the share market for quick gains. Access of foreign investors to the market and the subsequent inflow of capital, and loans disbursed by the ICB for investment in securities market flashed the market with huge investors and funds (see table 9.12 in annex 6).

The average investing population in Bangladesh, being unaware of investment basics, started to pour their money into the stock markets thinking market as a one-way ladder (it can only go up). Many companies used the opportunity and went public during 1995-1996 for raising a record amount of money from the stock market through IPOs (see table 9.2 in annex 6).

As demonstrated in tables 9.13 (column 3 and 8) and 9.14 in annex 6 and graph 9(a), the amount of investment by non-residents in the stock market stood at Tk.387.50 million at the end of the financial year (FY) 1992-1993, shot up to a record amount of Tk.3101.80 million at the end of financial year 1993-94. Further ease has been offered to the foreign investors in FY 1993-1994 by abolishing the provision of previously imposed capital gain tax on their earnings originated from securities market transactions.

Graph 9(a): Trends in Non-resident Portfolio Investment in Bangladesh



Establishment of the country's second stock exchange, the Chittagong Stock Exchange (CSE) on April 1, 1995 and commencement of its operations on October 10, 1995 has made a record in the development process of the country's capital market. Performance of the CSE has been reported in table 9.15 and 9.16 in annex 6.

Up to June 1996, the stock market performed more or less consistently and registered a significant development with tolerable level of volatility. The stock market of Bangladesh became the top performer in the world in 1996. By September 1996, the International Finance

Corporation (IFC) recognized the capital market of Bangladesh as one of the fourteen frontier markets of the world. The market capitalization increased by 244% in 1996 compared to the previous year and stood at US\$ 4.6 billion.

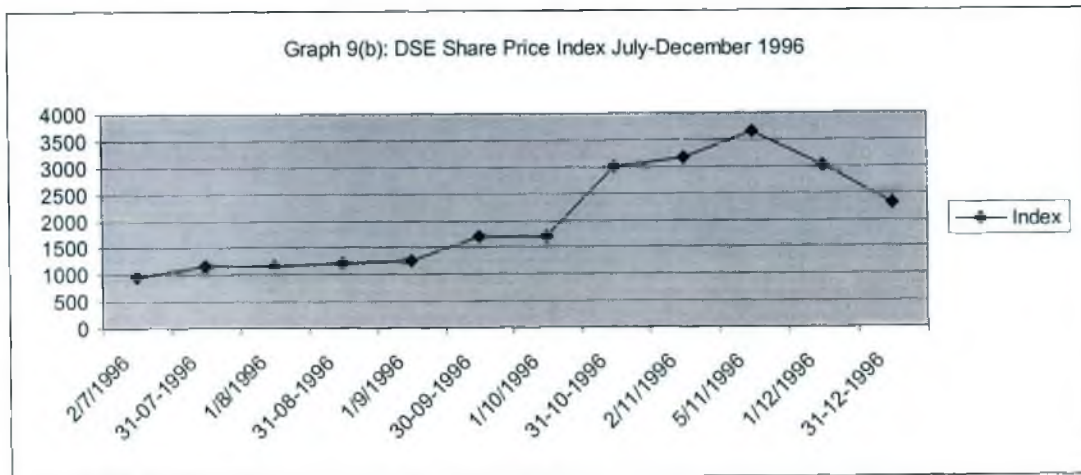
9.3.1 Market Bubbles

The stock market took an irrational turn since July 1996, which continued till November of that year. The share price index at both stock exchanges increased sharply during July-November, 1996. Tables 9.17 and 9.18, and graphs 9(b), 9(c) and 9(d) present the trends in the share price index at DSE and CSE during July-December, 1996. The three-digit index of 956.70 at DSE on July 2, 1996 jumped up to all time record high of 3684.75 on November 5, 1996 and showed an increase by 2692.05 points or 281.39%. The share price index at the CSE also went high from 410.85 in the first week of July to 1730.53 points in December 1996. As a result, the market experienced an unprecedented price bubbles.

Table 9.17: DSE Share Price Index during July-December' 1996

Months	Dates	Index
July	02-07-1996	956.70
	31-07-1996	1156.18
August	01-08-1996	1145.54
	31-08-1996	1217.74
September	01-09-1996	1249.91
	30-09-1996	1690.25
October	01-10-1996	1688.88
	31-10-1996	2986.29
November	02-11-1996	3157.46
	05-11-1996	3648.75
December	01-12-1996	3012.97
	31-12-1996	2300.15

Source: DSE



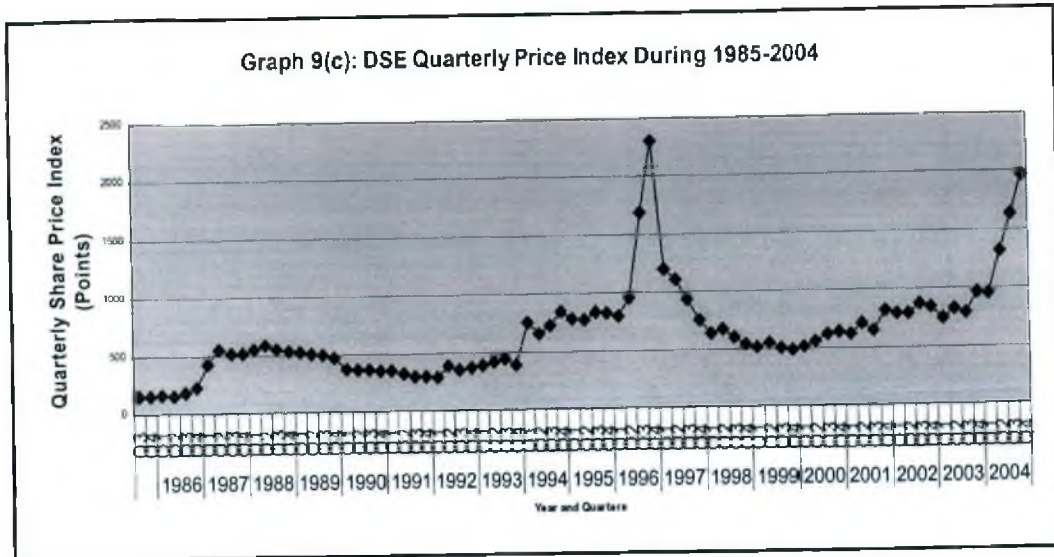
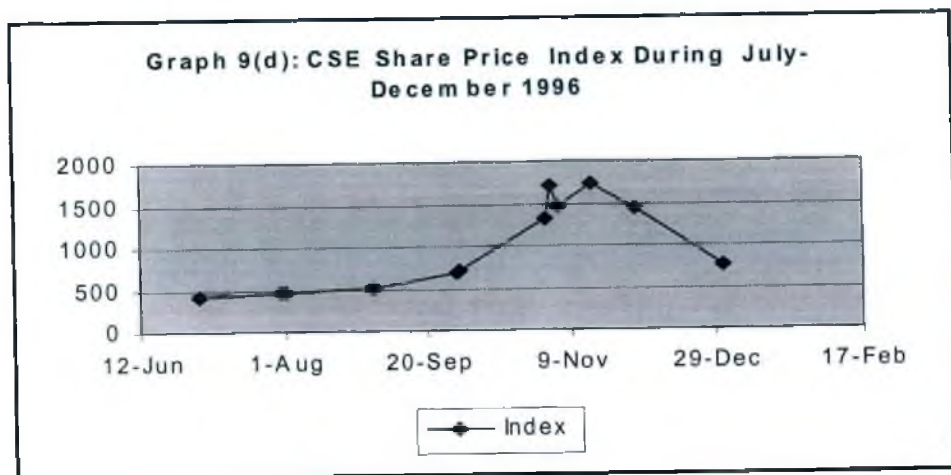


Table 9.18: CSE all Share Price Index: July-December' 1996

Months	Dates	Index
July	02-07-1996	410.85
	31-07-1996	467.94
August	01-08-1996	469.25
	31-08-1996	506.38
September	01-09-1996	514.75
	30.09-1996	694.99
October	01-10-1996	699.73
	31-10-1996	1315.90
November	02-11-1996	1708.01
	05-11-1996	1472.68
	16-11-1996	1730.53
December	01-12-1996	1428.23
	31-12-1996	751.39

Source: SEC



This rise in DSE and CSE all share price index was accompanied by very strong increases in market turnovers (see table tables 9.19 and 9.20; also see tables 9.15 and 9.10). Total turnover in the month of October and November was all time record high, as both DSE and CSE experienced steeper growth in stock prices in a similar manner.

Table 9.19: DSE Turnover: July-December' 1996

Month	No. of Days Market Traded	Value in Million Tk.		Volume in Millions	
		Monthly Total	Daily Average	Monthly Total	Daily Average
July	24	2560.18	106.67	11.43	0.476
August	25	2762.75	110.51	13.70	0.548
September	25	4490.68	179.63	19.77	0.790
October	26	7075.77	272.14	21.58	0.830
November	26	8058.84	350.38	13.63	0.593
December	23	974.28	46.39	2.36	0.113

Source: DSE

Table 9.20: CSE Turnover: July-December' 1996

Month	No. of Days Market Traded	Value in Million Tk.		Volume in Millions	
		Monthly Total	Daily Average	Monthly Total	Daily Average
July	25	1177.20	7.00	0.60	0.02
August	25	227.61	9.10	1.03	0.041
September	25	7679.84	27.19	3.60	0.14
October	26	2063.23	79.35	8.45	0.32
November	22	2730.44	124.11	4.93	0.22
December	23	94.08	4.090	0.27	0.01

Source: CSE

The bullish run in both stock exchanges during July-December'1996 recorded growth in market capitalization by 265 percent, average daily turnover by 1000 percent, and jump in share price index over 260 percent (see table 9.21 and 9.22). Table 9.21 reports the DSE market capitalization during July-December 1996.

**Table 9.21:
DSE Market Capitalization during July December 1996**

Months	Market Capitalization (Million Tk.)
July	69763.00
August	759683.40
September	102566.90
October	139631.20
November	226630.70
December	173052.20
January'97	141564.70

Source: Bangladesh Bank, Economic Trends and DSE

Movements in the share prices of most advanced companies were not uniform but followed upward trends throughout August-November, 1996. The trends reveal that share prices of some companies' increased 4 to 5 times up to October and 6 to 8 times during October-November, 1996.

Of these companies, the remarkable increases were apparent in the share price of Shine Pukur Holdings, Beximco Limited, Quasem Dry Cells, Quasem Silk Mills, Ambee Pharmaceuticals and Chittagong Cement as shown in table 9.22.

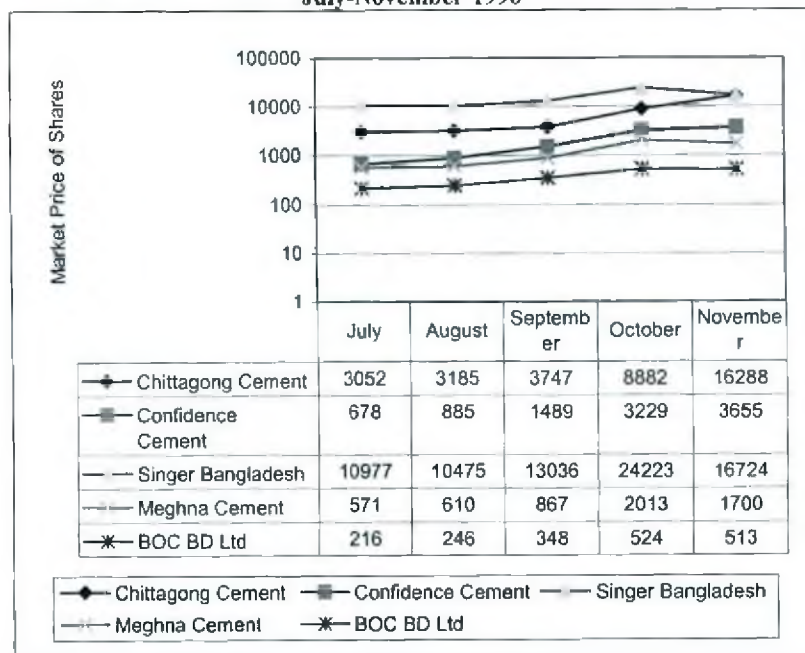
Table 9.22: Most Advanced Issue during July-November'1996

Companies	Price Changes (%)
Shine Pukur Holdings	701.06
Beximco Ltd	690.46
Quasem Dry Cells	671.66
Quasem Silk Mills	502.61
Ambee Pharmaceuticals	440.50
Chittagong Cement	433.69

Source: DSE

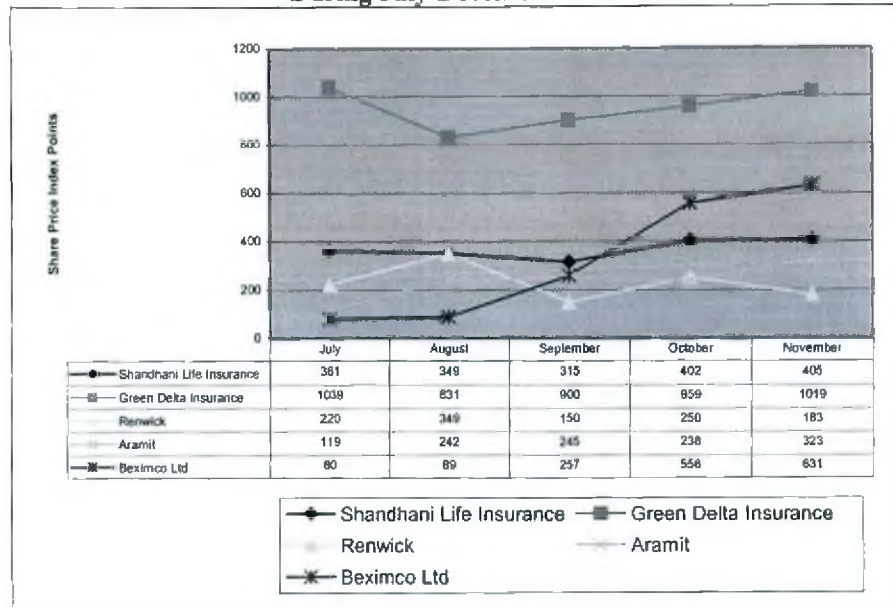
The increases were very sharp in the prices of most actively traded companies, which are shown in graph 9(e). These companies were Chittagong Cement, Confidence Cement, Singer Bangladesh, Meghna Cement and BOC BD Ltd.

Graph 9(e): Price Movement of Five Most Actively Traded Companies: July-November'1996



The differences between highest and the lowest price of the issues of most advanced companies are found exceptionally wide and conspicuous. Graph 9(f) demonstrates these critical conditions in the movement of share prices of most advanced traded companies.

Graph 9(f)
Movement in Shares Prices of 5 Most Advanced Companies
During July-December'1996



The shares of those companies that under performed before July 1996 have also outperformed in their prices during July-November of the year by taking the advantages of bubbles in the stock market. Tables 9.23 and 9.24, and graph 9(g) show the price trends of most sluggishly weak-traded companies.

Table 9.23: Most Actively Traded Weak Issues During July-November'1996

Companies	Price Changes (%)
Olympic Industries Ltd	403.98
Beximco Pharma	348.27
Bata Shoes	149.70
Meghna Cement	197.70
Square Pharmaceuticals	174.85
Zeal Bangla	603.22
Ambee Pharma	440.50
Rupon Oil	287.60
Paper Processing	197.07
Swan Textile	137.50

Source: SEC

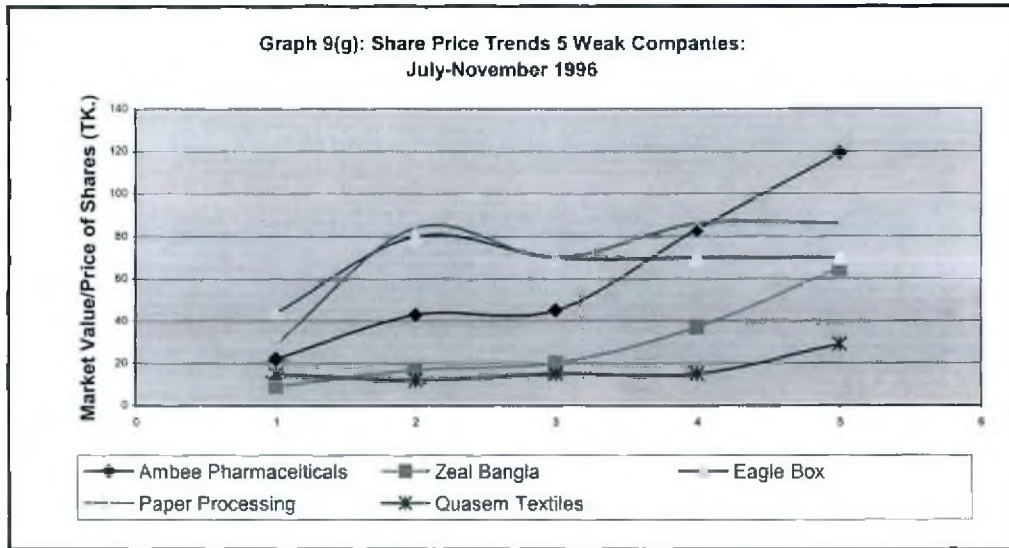
Whereas, these weak companies had discontinued their operations before the market surge due to sufferance from perennial losses with negative net worth.

Table 9.24: Trends in Share Price of 5 Weak Companies: July-November 1996

Name of Companies	July	August	September	October	November
Ambee Pharmaceuticals	22	43	45	83	119
Zeal Bangla	9	17	20	37	65
Eagle Box	44	80	70	70	70
Paper Processing	29	84	70	86	86
Quasem Textiles	15	12	15	15	29

Source: SEC and DSE

The price trend of the weak companies shows that they also reaped the benefit of price hike both at the DSE and CSE during July-November 1996 almost similar to the actively traded companies.

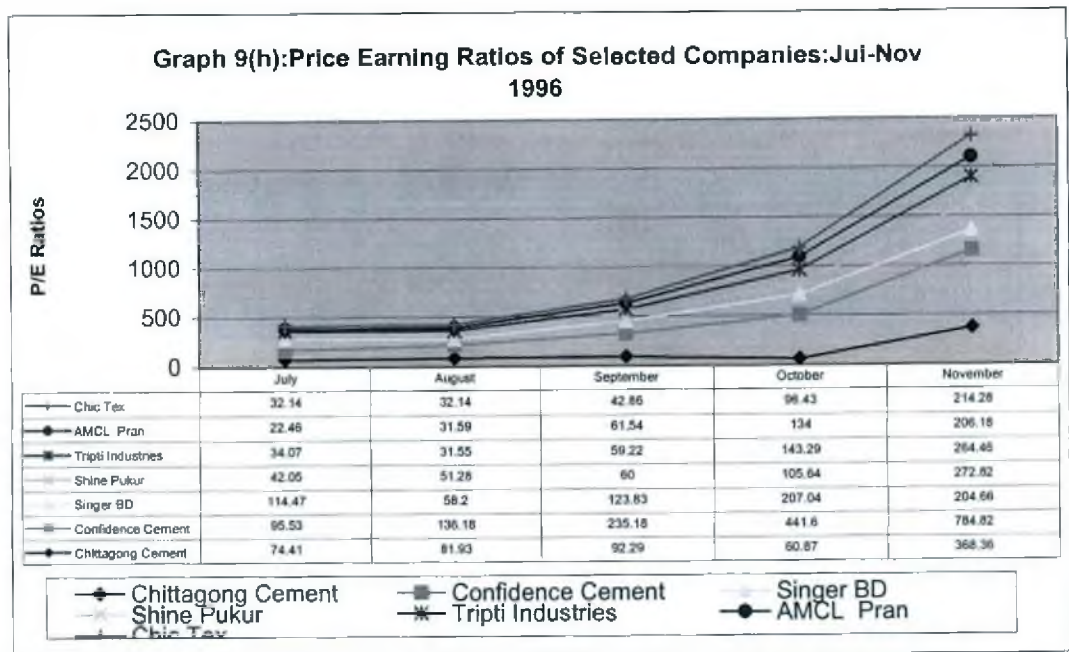


The issues of the companies belonging to these categories were not expected to be traded and command high prices in the market. It is, however, observed that the price of some of the issues of this category also increased substantially, namely Zeal Bangla Sugar increased by 603%, Ambee Pharma by 440%, Rupon Oil 287.60% Paper Processing by 197% and Swan Textile by 137.50%. This phenomenon of share price increase reflects the craze and erratic behaviour of the stock market. It has been evident from the above tables and graphs that during July-November 1996, prices of the issues, strong or weak, increase indiscriminately without any relevance to the price earning and payout ratios.

Table 9.25: Price-Earning Ratios of Selected Companies: July-November'1996

Name of the Companies	July (%)	August (%)	September (%)	October (%)	November (%)
Chittagong Cement	74.41	81.93	92.29	60.87	368.36
Confidence Cement	95.53	136.18	235.18	441.60	784.82
Singer BD	114.47	58.20	123.83	207.04	204.66
Shine Pukur	42.05	51.28	60.00	105.64	272.82
Tripti Industries	34.07	31.55	59.22	143.29	264.46
AMCL Pran	22.46	31.59	61.54	134	206.18
Chic Tex	32.14	32.14	42.86	96.43	214.28

Source: DSE



During this period, the stock market recorded high price-earning (P/E) ratio along with increased share price index (see table 9.25 and graph 9(h)]. But the dividend payout ratios were abnormally lower. The price-earning ratios and the payout ratios of out-performed shares during July-November 1996 are drawn in table 9.25 and 9.26 respectively.

Table 9.26: Payout (Dividend/Earning) Ratios

Name of Companies	Payout (Dividend/Earning) Ratios
Shine Pukur Holdings	12.82
Delta Millers	7.32
Apex Tanneries	1.14
Eastern Housing	0.88
Meghna Shrimp	0.87
Singer BD	0.85
Chittagong Cement	0.79
Prime Textile	0.79

Source: SEC Inquiry Committee Report 1997

It appears from the above placed data tables and graphs that the price hike during July-November 1996 did not follow the fundamental market rules: when the price earning ratios are higher, the dividend payout ratios are greater. In reality, the price-earning ratios of these actively and advanced traded companies appear to be unusually high and suffered exceptional distortions. If the standard P/E ratio is 10, then the market P/E ratio has been found abnormally higher (see table 9.26).

It is the received wisdom that in an ideal situation, the higher the payout ratio, the greater is the demand for shares of those companies. But it was a fact that before and during the market surges, the pay-out ratios of sponsor companies of advanced and actively traded shares were remarkably low as reported in table 9.26. In spite of this, share prices of these companies soared up exorbitantly during July-November 1996. This situation clearly justifies share price manipulation in the capital market of Bangladesh in 1996.

9.3.2 Market Crash

The stock market, however, could not withstand the rising trends in share prices; rather declined sharply and encountered a severe crash in December 1996. The share price indices at DSE and CSE rapidly took downward turns and dropped to ever lowest of 757.82 points at DSE and 332.98 in CSE in the last week of December 1996. (see tables 9.17 and 9.18; also see table 9.10 and graphs 9(b), 9(c) and 9(d). Many factors have been made liable for this severe and unprecedented debacle in the country's stock market.

First of all, it was alleged that a number of big trading houses arranged trades among themselves and thereby created an illusion of strong demand for certain stocks. A number of dealers bought and sold shares in the unauthorized/illegal 'kerb' market. Share prices in the 'kerb' market were about 20% higher on an average compared to the prices on the exchange floors during the later part of 1996. Reputed brokerage houses of the country were said to have been involved in buying shares from the trading floor of the DSE and selling them illegally in the 'kerb' market for skyrocketing profits.

The SEC has been charged for turning its eyes blind to several irregularities, which has facilitated massive price manipulations⁵⁶ in the market. Trading of fictitious shares and fake bulk trading went unhindered during the mid-1990s. There were serious drawbacks in the area of enforcement of contracts, settlement procedures, laws related to insider trading, transparency, accounting standards and ethical standards of accounting firms that audited and certified the financial affairs of the listed companies.

Withdrawal of 'lock-in' period of one year in 1996 helped the speculation activity and eased the process of off-loading/disinvestments by foreigners. Foreign and some local investors took profit and closed out their positions in the market apparently sensing instability. The non-resident investors, as reported in tables 9.13 and 9.14 took out Tk.6332.10 million (USD 148.29 million) from the stock markets during the FY 1996-1997. By January 25, 1997 the All Share Price Index of DSE moved down to 1874 from the record highest of 3648.75 points on November 5, 1996, demonstrating the burst situation in speculative bubbles in the market. All share price index of the CSE also declined from 1730.53 in mid-November to 751.39 points at end December 1996. Another major policy decision of the government promulgated in 1997 allowing the investment of money in the market without disclosing the sources of earnings, but on conditions of paying tax @ 7.5% and retaining the invested amount in the securities markets for one year furthered the aggressive injection of funds in the market. This option extended for whitening black money impacted the market performance in two ways. It facilitated vast amount of liquidity into the market, which boosted the bubbles. The holders of such illegal monies immediately availed of the government's policy declaration as opportunity-option and poured the stock market with 'black money', 'laundered or white washed' their corrupt funds and then withdrawn from the market after the expiry of the retention period of one year by making further profits in the eve of excessive hike of share price index. The phenomenon also contributed further to the downslide of the share market.

9.3.3 Lock-in and Circuit Breaker: Impact on the DSE Returns

In order to curb speculation in the equity market, the Government introduced a system of lock-in for primary securities on February 11, 1995. Under this lock-in provision, no investors, either local or foreign, were allowed to sell/transfer their holding of shares received through IPO's for a year. However, this lock-in system was abolished on July 11, 1996 to encourage foreign investment in the equity market. Under post-lock in rule, foreign investors were allowed to sale/transfer primary shares of their holdings and to deal in secondary market activities. However, unlike the foreign investors, native investors had to face a 3-year lock-in period in sponsor's equity. For secondary shares, an investor had to register to the Securities and Exchange Commission (SEC) if he/she acquires at least 10% of any publicly listed company's equity.

The circuit breaker system was introduced within three months during the stock market bubble in 1996. As per market theory, price limit may represent a barrier to market clearing, and prevent market growth, rather than enhance the share price level. Price limits may also create liquidity problems, to the extent that buyers (sellers) are unwilling to enter the market as a result of further anticipated price decreases (increases). The distortions may also make price

⁵⁶ Manipulation: Stock manipulation, which essentially is an attempt to rig the market, is absolutely banned by law. In other words, it is illegal. Surprisingly, the domestic media talk about such activities in an open manner.

limits self-fulfilling. For instance, the fears of illiquidity or of remaining locked into an investment position may increase early trading, as participants recognize the risk of being unable to trade when prices move closer to the limit.

Trading on the other hand may be impaired if market participants act to prevent the limit from being hit, for instance as they recognize that their ability to trade or modify their positions could then be adversely affected. On the other hand, however, price limits may provide markets with a cooling off period preventing investors from panicking, and favoring a substantial reduction in volatility, particularly in periods of significant uncertainty that may lead to market overreaction to news. (Cox, 1998, Ma, Rao and Sears, 1989; Lauterbach and Ben-Zion, 1993; Chowdhury and Nanda, 1993 and Koders, 1993).

Nevertheless, the lock-in system in Bangladesh surpassed the fundamental rules of the market by putting a positive impact on stock return variability. However (Kabir, H. et al, 2000) finds that the lock-in period helped stabilize the volatility of the DSE market during February 11, 1995 through July 8, 1996. The run-up of IPO share prices was, to some degree, contained during this time period by the imposition of the lock-in period. (Kabir, H. et al, 2000) notes that, the overall coefficient value becomes positive, suggesting that a loose circuit breaker help the process of price discovery and establish a positive liquidity premium in the market. However, all share price index, the imposition and the subsequent repeal of circuit breaker did not have any impact on the Dhaka stock market volatility, so far we see.

Following the crash, the foreigners have withdrawn their capital, making the market responsible for its attribution to the lack of quality securities, absence of sound handling of the bourse, a dearth of efficient market players such as merchant banks, inadequate dissemination of sensitive information, lower participation of institutional investors and the like. As a result, foreign portfolio investments have virtually disappeared from the market. Consequently, stock investors in Bangladesh lost money. The nation's stock investors have suffered more family tragedies, social conflicts and crimes than the workers did in other occupations due to crash. In all, the crash tremendously affected the demand and supply sides of the securities market in the country.

An inquiry report of the SEC (1997) unveiled that the worst stock market crash in the history of Bangladesh has been the result of market manipulation by a section of stockbrokers in collaboration with some other market participants. Ahmed (1998) notes that the stock market crash in 1996 may be interpreted as a disastrous bubble, caused by unchecked investors euphoria and unawareness to the relation between stock price and economic, and/or company fundamentals. In addition, Osman (1999) notes that the collusion between promoters/directors of the listed companies and a handful of unscrupulous broker-members may be responsible to be at work for manipulating share prices.

The concerned regulatory and administrative agencies could not react in time with effective measures against unusual development of share prices; instead felt comfort seeing the sharp growth trends in the price index along with increased number of investors in the market without looking at the market fundamentals and deviations therefrom. Osman, I. (1999) argues that the SEC at that time was not fully equipped with expertise and organizational strength to cope with the situation. More importantly, the absence of a legal framework for securities markets rendered the watchdog (SEC) helpless against a disastrous situation.

During the post-crisis years, a number of new strategies have been adopted to bring the market into motion. The list of which includes (i) enhancement of advances by scheduled banks

against the collateral security of shares and debentures from 50 percent to 60 percent to common investors (1997-98), (ii) advances to members of the stock exchanges from Tk.50 lakhs to Tk.75 lakhs each (1997-98), (iii) enhancement of non-resident quota in IPOs from 5 to 10 percent (iv) re-fixation of circuit breaker from 10 to 6 steps (v) introduction of automated trading system., (vi) exemption of tax on income from mutual funds accruing to the issuing companies, (vii) establishment of central depository system (CDS) in the stock market, (viii) permission to float private sector mutual funds, (ix) imposition of 1-year lock-in on transferring IPO shares, (x) formation of Investors Protection Fund, (xi) declaration of 10 percent tax rebate (xii) classification of issuing companies into 3 groups (A, B and Z), and a number of legitimate enactments and regulatory surveillances.

**Table 9.27: Development of Non-equity Securities:
Mutual Funds and Debentures**

Year	No. of Securities	No. of Listed Companies	No. of Mutual Funds	No. of Debentures
1992	149	134	6	5
1993	153	143	6	4
1994	170	157	6	7
1995	201	183	7	11
1996	205	186	8	11
1997	222	202	9	11
1998	228	208	9	11
1999	232	211	9	12
2000	241	221	10	10
2001	249	230	10	9
2002	260	241	10	9
2003	267	248	11	8
2004	267	248	11	8

Source: DSE and SEC

But the eroded confidence of the investors is yet to be restored. The market still could not have been able to attract foreign portfolio investments (FPIs). The bearish situation in the market performance has continued up until 2004. Presences of hidden manipulating syndicates that crowd out the real retail investors from the equity market in 1996 are still apparent. Poor performance of shares of majority listed firms stand in the way of restoring investors' confidence. Besides, the stock market has still been suffering from the short supply of both equity and non-equity instruments/securities. Table 9.27 exhibits the stagnancy in growth of mutual funds and corporate debenture.

Findings and Policy Implications

The weaknesses in the listing procedures of securities, lacks in the regulatory mechanism, unusual behaviour of market players, lower level of investors' market awareness, short-supply of good securities, presence of informal market for securities trading, management inefficiency of the stock exchanges, tendency to exploit the uninformed investors, etc clearly express the serious weaknesses in the securities segment of capital market in Bangladesh. These flaws and problems had distorted the market performance, and will continue to destabilize the functioning of the market if necessary measures are not taken immediately. The market crash had been possible due mainly to the market's extremely lower information efficiency. Immediate actions are required to establish market norms and discipline to restore the investors' confidence in the market. Build up professional ethical

standards and guides for all members may ensure the trustworthiness of securities trading activities. However, matters relating to ethical standards are sometimes difficult to be regulated by laws. If the professional guides are agreed upon among the members with their own inputs, greater compliance will be attained. For effective functioning of the market, issues mentioned in the following paragraphs also carry huge development implications.

Initially, it is highly important to widen investor base through broad banding of pension/provident fund and insurance industries. An increase in the number of well-capitalized players will help increase trading and also result in decreasing spread and efficient pricing in the secondary market

Liberalizing investment norms and encouraging active management in contractual funds might help stimulate market activities in the country. In addition to helping funds generate higher returns, increased activity by long-term players will help increase trading and narrowing spreads and improve pricing efficiency. Initiating steps to retail government securities through primary dealers, NBFIs and bank networks will significantly enhance the investors' interest in trading in these securities. It will, on the other hand, permit the government to borrow more efficiently, mainly at lower cost from the market rather than directly from the banking system. Providing hedging opportunities to primary dealers will put acute positive impact on the market activity. Introduction of hedging instruments will enable market makers giving two way quotes with lower spreads and impart meaningful liquidity to the securities market. Presence of derivatives, such as interest rate swaps and bond futures will help classify exposures and efficient management of liability mismatches. The ultimate results are increase in activity in the debt market and attaining efficiency in pricing of securities.

Trading and settlement processes to be made more efficient through setting up of depository for fixed income securities. Currently, this facility is available only on government treasury bills. A separate depository or providing such facility under the existing depository would help establish an efficient clearing and settlement system and reduce cost on transactions, which in turn, will lead to an increase in activity and market liquidity. Lower trading costs and increased number of players in the market would bring in efficiency in the pricing process. Debt securitization is another facility, which can be effected through reduction in stamp duties, simplification of legal procedures, allowing investment of pension/provident funds in these instruments. This requires widening in the range of assets for securitization. Debt securitization provides liquidity to otherwise illiquid assets and would also provide new instruments with different risk and maturity profiles to the market. However, necessary supervisory control would need to be instituted to oversee this.

Introduction of tax incentives like indexation benefits on long term capital gains in fixed income securities (currently only available through income schemes of mutual funds) will help rectify anomalies in the tax structure for the same class of securities and lead to increase in trading in the secondary market. Attracting foreign institutional investors (FIIs) in debt market with reduced rate of withholding tax and other incentives may encourage participation of such players in the market. Debt instruments being traded by similar entities are subject to different regulations. The lack of clear regulatory jurisdiction and responsibility negatively impact the development of the debt market. The role of Bangladesh Bank and the SEC on debt market regulation should be distinct. For the sake of development of the country's securities market, rationalization of the stamp duty structure

is an essential. Moreover, rationalization of the tax structure would help rectify anomalies in the yield structure among the same class of securities and also help develop a standard issue and transfer system.

An informal and unorganized secondary debt market exists in the country. It is necessary to encourage informal debt market participants to become participants in the mainstream of the market. It should be mandated by the SEC that all market intermediaries be registered and be governed by uniform set of registration, capital adequacy and accounting and disclosure norms. A uniform compliance and valuation procedure is also necessary to make performance comparison of individual securities on a common platform, which will expand credibility of and investors' confidence to the market system.

Standard disclosure and reporting norms will help compare secondary market yields enabling the players to trade and take positions in the market. The SEC should work with DSE and CSE to reform the existing code of conduct for the market players. Making mandatory the listing requirements and credit rating for private placement and introduce guidelines for making and issuance of documents, post-issue reporting and disclosure are immediate needs in the securities market of Bangladesh. This will provide transparency and help information flow in the market. Transparency and disclosures are necessary conditions for achieving the efficiency in the securities markets. Encouraging book building (through close dialogue with prospective institutional investors) and auctions (which can be done over computer systems to thousands of market participants) whereby the IPO does not come to the market with a stated offer price will help development of the securities market. In this mechanism, the price would come out of the fixed supply of shares coupled with the demand from informed investors who participate in the IPO. These methods can also be used for pricing the share of public sector enterprises under the government's disinvestment programs.

Government divestment program can provide multiple benefits to the equity markets as it sends signals of reform in the market and such signals encourage the enhanced supply of good quality equity and other security papers into the market. The negative impacts of this method of increasing market instruments are – flood of paper and their liquidation at low prices. This negative phenomenon can be countered by combining the public sale of shares with a thrust towards large strategic sales. Sale of Government's equity in public sector units should be made to strategic investors in addition to portfolio investors. The sale of controlling interests to strategic investors can be made at significant premiums to market price and hence will improve the secondary market demand and prices of the stocks. These will have positive impact on the market because they will reduce supply overhang of stocks and also add to the list of stocks that are investible. Stocks owned by the government in private sector entities should be offered at attractive valuations to retail investors. This will allow retail investors to acquire quality stocks at bargain prices and revive the dying equity cult in the country, since this is an offer of sale of government shares.

9.4 Stock Market Development in Bangladesh: An Empirical Analysis

9.4.1 Introduction

Financial markets, particularly the stock markets, have grown remarkably in developed and developing countries during the past few decades. A number of factors have assisted in their growth, mostly improved macroeconomic fundamentals including monetary stability and higher rate of economic growth. Broader economic, particularly capital market reforms along with privatization of public sector enterprises, financial liberalization, and a forward looking institutional framework for investors' have furthered the pace of capital market development throughout the globe.

The relationship between stock market returns and fundamental economic activities in developed countries are well documented in Fama (1970 and 1991). A number of studies [Fama (1991), Huang and Kracaw (1984), Chen, Roll, and Ross (1986), Pearce and Roley (1988), Fung and Lie (1990), Chen (1991), and Wei and Wong (1992)] have modelled the relation between asset prices and the real economic activities in terms of production rates, productivity, growth rate of GNP, level of unemployment, yield spread, interest rates, inflation, dividend yields, etc. However, the impact measurement of these issues on the stock markets in relatively less developed Asian countries including Bangladesh is yet to receive sufficient attention. So a question arises: how do these less developed markets can respond to changes in their fundamental economic variables, when compared to the well developed, well organized, and more efficient markets? Similar askings may be equally timely for the case of Bangladesh - how do the macroeconomic factors impacted the development of the country's stock market? Finding out answers to this question is the thrust of this section

Many papers have explored that the economic factors influence the domestic stock market development process. Available literatures show that better institutional and macroeconomic environments spur more developed domestic stock markets and therefore, reduce the need and desire to use international markets. According to this view, poor domestic environments and stock markets with sub-optimal services and weak institutions prompt firms and investors to escape domestic market, but to use international markets more intensively. A poor domestic environment has long been considered one of the main reasons for capital flight. Levine (1997 and 2003) documents the foundations of financial markets and the relationship of financial market development with macroeconomic variables, financial reform, and other country factors. The general finding of these studies is that financial markets tend to develop as income per capita grows, financial reform progresses, and institutional environment improves. By using the similar framework, this study attempts to explore the impact of macroeconomic factors on the domestic stock market development in Bangladesh.

The specific objective and purpose of this section is to analyze and find empirically how a set of macroeconomic factors drives domestic stock market promotion in Bangladesh. Accordingly, 10 indicators: market capitalization, market turnover, number of listed companies, number of listed securities, number of initial public offerings (IPOs), DSE index, GDP at current market price, inflation, index of industrial production (IIP) and deposit rates on bank savings are included in the data set. The study takes 'market capitalization' as the indicator of stock market development (the dependent variable-DV), which in turn depends on other factors (independent variable-InVs) in the selected data set.

9.4.2 Determinants of Stock Market Development

Many literature have used 'market capitalization' as the more transparent and effective indicator of stock market development [see Levine (2003), Beck, Demirguc-Kunt, and Levine (2003), Beck et al.(2001); La Porta et al (1997, 1998, 2000) and Pistor, Raiser, and Gelfer (2000)]. This study thus used 'market capitalization' as a measure of stock market development in Bangladesh (the dependent variable-DV). Other macroeconomic factors as mentioned in earlier paragraph are used as predictors or independent variables (IVs). Bencivenga and Smith (1992), Boyd, Levine, and Smith (2001) and Huybens and Smith (1999) note that inflation, per capita GDP and fiscal deficit are better indicators of macroeconomic soundness and given that a better macroeconomic environment help promote the financial markets. Bekaert and Harvey (2000, 2003) Edison and Warnock (2003a), Hargis (1998) Henry (2000), Kaminsky and Schmukler (2003), Kim and Singal (2000) and Levine and Zervos (1998) argue that level of stock market activities and real sector productivity along with financial openness and liberalization affect local stock market development. Stock market activities are reflected through listings, capital raising, trading, market price indices, turnover, market capitalization, etc and the productivity of industrial manufacturing is indicated by index of industrial production (IIP). All of these arguments rationalize the use of above stated factors as independent variables in the study to predict the dependent variable (market capitalization) as an indicator of stock market development in Bangladesh.

9.4.3 Empirical Models, Data Descriptions and Interpretation of Regression Results

The regression model tested in this part of the dissertation took market capitalization as dependent variable (DV) and market turnover, number of listed securities, number of listed companies, number of initial public offerings (IPOs), DSE Index, GDP at current market price, inflation, index of industrial production (IIP) and deposit rates as independent variables (IndVs). It is assumed that the abovementioned macroeconomic factors, hereinafter designated as independent variables (IndVs) impacted the growth and development of market capitalization (the DV) in the stock market of Bangladesh. This model is primarily chosen irrespective of interrelationship structure of all independent macroeconomic variables and the issue of relevant data non-stationarity.

Model -1

$$\begin{aligned} MarCap_t = & \alpha + \beta_1 Turnover_t + \beta_2 NoTotalSec_t + \beta_3 NoCom_t + \beta_4 NoIPOs_t + \beta_5 DSEIndex_t \\ & + \beta_6 GDP_t + \beta_7 Infl_t + \beta_8 IIP_t + \beta_9 DepRates_t \end{aligned} \quad (i)$$

The research hypothesis adopted is that the selected macroeconomic factors (IndVs) influence the value of dependent variable (DV) in the stock market of Bangladesh. The research hypothesis is tested through testing the null hypothesis that market capitalization is not affected by any or all of the independent variables.

The test is conducted by analyzing twenty years data decomposed into quarterly ranging between 1985 and 2004, which are compiled from relevant publications of Securities and Exchange Commission, Dhaka Stock Exchange Limited and Bangladesh Bank. The test pursued multiple regression analysis by using Statistical Package for the Social Sciences (SPSS). The number of observations in the data panel is 80, which provide the larger degrees of freedom to vary the values in the probability distributions.

The Model and the Descriptive Statistics

The descriptive statistics on the dependent and all selected independent variables produced by the linear regression are shown in table 9.28. The stock market has a market capitalization of Tk.45.9 billion on an average in the sample period of 1985-2004 with a high standard deviation of Tk.43.6 billion. This shows the high dispersion of the market capitalization around the sample period with a minimum of Tk.0.31 billion and maximum of Tk.224.9 billion. Similar wide scale dispersions are also apparent in the statistical values of other variables in the model (see table 9.28). The wide dispersions amongst the standard deviations and the maximum and minimum values of other variables clearly reveal that the stock market activity in Bangladesh experienced a scattered path, i.e., registered a fluctuating behaviour in performance.

Table 9.28: Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles		
						25th	50th (Median)	75th
MarCap	80	45881.0558	43577.18624	305.44	224923.00	12054.0175	45041.2350	65339.2500
TurnOver	80	4011.7061	5449.29213	5.41	23000.66	40.5950	1157.0900	6759.6375
NTotal_Securities	80	174.1500	65.67201	56.00	268.00	113.7500	174.5000	233.5000
No_Comp	80	159.1500	60.43033	58.00	249.00	103.7500	152.5000	214.0000
No_IPOs	80	3.1250	2.38335	.00	11.00	1.0000	3.0000	4.7500
DSE_Index	80	643.6896	387.71499	140.72	2300.15	387.7450	550.9700	794.4275
GDP_CRMP	80	1688536.1875	912717.7506	446956.00	3679576.00	1009429.000	1541881.000	2400950.000
Inflation	80	5.3742	2.98530	-1.35	12.85	3.2500	5.2550	7.3275
IIP	80	205.4250	48.83912	118.00	295.00	168.0000	202.5000	252.2500
DepositRate	80	7.7315	1.60372	4.50	9.74	6.0000	8.5000	9.0000

Table 9.29, 9.30, 9.31 and 9.32, each separately shows the results of correlations, co-efficient correlations and co-efficient values respectively.

Correlation Matrix (see table 9.29) shows that number of IPOs, inflation and deposit rates are negatively correlated with the market capitalization (DV). Number of IPOs also has negative correlation with other variables in the regression equation except DSE Index (0.073), inflation (0.056), index of industrial production (0.023), which is very insignificant. In addition to dependent variable (market capitalization), inflation is negatively correlated to other variables except number of IPOs (0.056) and deposit rates (0.326); but none is significant. Deposit rate is also negatively correlated with all other independent variables except market turnover (0.078) and inflation (0.326), which is again insignificant. Most other variables are moderately correlated with market capitalization (the DV), but DSE index is highly correlated with the DV where it is 0.929 at 1 point significance level. The levels of correlation of independent variables/predictors with dependent variable are rearranged and shown in table 9.30 in descending order, which suggest the extent of relative and comparative influence of each of them in the development of securities market in Bangladesh.

Table 9.29: Correlations

Pearson Correlation	Variables	Mar_Cap	TurnOver	Total Secur	Total Com	No_IPOs	DSE Indx	GDP_CMRP	Inflation	IIP	Dep_Rate
		Mar_Cap	1.000	.747	.752	.721	-.054	.929	.784	-.169	.623
	TurnOver	.747	1.000	.718	.696	-.169	.621	.734	-.102	.462	.078
	TotalSecur	.752	.718	1.000	.988	-.140	.603	.965	-.319	.780	-.117
	Total_Com	.721	.696	.988	1.000	-.164	.554	.965	-.304	.794	-.106
	No_IPOs	-.054	-.169	-.140	-.164	1.000	.073	-.208	.056	.023	-.202
	DSE_Indx	.929	.621	.603	.554	.073	1.000	.604	-.169	.538	-.341
	GDP_MRP	.784	.734	.965	.965	-.208	.604	1.000	-.272	.774	-.141
	Inflation	-.169	-.102	-.319	-.304	.056	-.169	-.272	1.000	-.449	.326
	IIP	.623	.462	.780	.794	.023	.538	.774	-.449	1.000	-.528
	Dep_Rate	-.261	.078	-.117	-.106	-.202	-.341	-.141	.326	-.528	1.000
Sig. (1-tailed)	Mar_Cap		.000	.000	.000	.317	.000	.000	.067	.000	.010
	TurnOver	.000		.000	.000	.067	.000	.000	.183	.000	.246
	TotalSecur	.000	.000		.000	.108	.000	.000	.002	.000	.151
	Total_Com	.000	.000	.000		.074	.000	.000	.003	.000	.174
	No_IPOs	.317	.067	.108	.074		.260	.032	.310	.420	.036
	DSE_Indx	.000	.000	.000	.000	.260		.000	.067	.000	.001
	GDP_MRP	.000	.000	.000	.000	.032	.000		.007	.000	.106
	Inflation	.067	.183	.002	.003	.310	.067	.007		.000	.002
	IIP	.000	.000	.000	.000	.420	.000	.000	.000		.000
	Dep_Rate	.010	.246	.151	.174	.036	.001	.106	.002	.000	
	No. of Observation (N)	80	80	80	80	80	80	80	80	80	80

Table 9.30: Levels of Correlation of IN DVs with Dependent Variable
(in ascending order)

Pearson Correlations	Mar_Cap	
	Mar_Cap	1.000
	DSE_Indx	0.929
	GDP_MRP	0.784
	TotalSecur	0.752
	TurnOver	0.747
	Total Com	0.721
	IIP	0.623
	No_IPOs	-.054
	Inflation	-.169
	Dep_Rate	-.261

Nevertheless, the regression results show that some independent variables in the model are fully or partially co-dependent with equal or near-equal inter-correlation values and thus afflicted the model with multi-collinearity⁵⁷ problem. Neither multi-collinearity, nor

⁵⁷ Multi-collinearity- Multi-collinearity is when independent variables are highly correlated (0.90 and above), and singularity is when the variables are perfectly correlated (cent percent). Multi-collinearity and singularity expose the redundancy of variables and the need to remove variables from the analysis. Multi-collinearity and singularity can cause both logical and statistical problems. The higher the multi-collinearity is, the greater the difficulty in partitioning out the effects of individual independent variables. When two independent variables are highly correlated, they both convey essentially the same information. In this case, neither may contribute significantly to the model after the other one is included. But together they contribute a lot. If removed both variables from the model, the fit would be much worse. So the overall model fits the

singularity is expected. Because once they exist, then the IndVs are redundant with one another. In such a case, one IndV doesn't add any predictive value over another IndV, but lose a degree of freedom. As such, having multi-collinearity or singularity can weaken the analysis. In general, researchers do not want to include two IndVs that correlate with one another at 0.70 or greater.

Thus, Model-1 has been found suffering from multi-collinearity problem. Regression results, particularly the colinearity diagnosis shows the co-dependence of several variables namely, market turnover, number of listed securities, number of listed companies, number of IPOs, inflation, deposit rates and GDP (see table 9.29)

The co-movement of market turnover and total securities with same inter-correlation value of 0.718 and total companies with 0.721 indicate their higher degree of collinearity. The first pair is fully collinear at 0.718 and the number of total companies is close to that of the pair at correlation value of 0.721, clearly indicates their co-dependence and thus the multi-collinear relationship. Co-dependence of total securities and number of IPOs at same correlation value of -0.140, and GDP-deposit rates at -0.141 further reveal the multi-collinear behaviour of these variables. Same value driven inter-correlation and co-movement of inflation and DSE Index with -0.169, and very close value-run inter-relationship of total securities and total companies with a 0.718 and 0.721 respectively describe their higher co-dependence and thus affected the model with multi-collinearity problem. The co-efficient correlation matrix (see table 9.31) also confirms the affliction of the model with multi-collinearity.

Table 9.31: Co-efficient of Correlations

Model		Dep_Rat	TurnOve	No_IPOs	Inflation	Total Cor	DSE_Ind	IIP	GDP_MRF	TotalSecu	
1	Correlations	Dep_Rate	1.000	-.288	.035	-.101	-.213	.329	.626	.157	-.010
		Turnover	-.288	1.000	.051	-.035	.069	-.405	.001	-.230	-.060
		No_IPOs	.035	.051	1.000	-.178	.091	-.140	-.189	.306	-.194
		Inflation	-.101	-.035	-.178	1.000	-.159	-.104	.243	-.174	.259
		Total_Com	-.213	.069	.091	-.159	1.000	.287	-.378	-.269	-.827
		DSE_Indx	.329	-.405	-.140	-.104	.287	1.000	.010	-.084	-.309
		IIP	.626	.001	-.189	.243	-.378	.010	1.000	-.050	.176
		GDP_MRF	.157	-.230	.306	-.174	-.269	-.084	-.050	1.000	-.229
		TotalSecu	-.010	-.060	-.194	.259	-.827	-.309	.176	-.229	1.000
	1	Covariances	Dep_Rate	132399	-118.57	21573.72	-52543.3	-36075.52	1779.69	42448.77	1.003
		TurnOver	-118.57	.128	9.945	-5.684	3.669	-.681	.017	.000	-2.807
		No_IPOs	21573.72	9.945	291288.1	-43140.1	7242.66	-354.73	-6023.90	.917	-13800.57
		Inflation	-52543.3	-5.684	-43140.1	202704.1	-10539.99	-219.82	6447.96	-.434	15352.25
		Total_Cor	-36075.5	3.669	7242.66	-10540.1	21756.11	198.76	-3291.95	-.220	-16063.76
		DSE_Indx	1779.69	-.681	-354.73	-219.82	198.76	22.086	2.696	-.002	-190.96
		IIP	42448.77	.017	-6023.90	6447.96	-3291.95	2.696	3477.45	-.016	1366.93
		GDP_MRF	1.003	.000	.917	-.434	-.220	-.002	-.016	.000	-.167
		TotalSecu	-1443.91	-2.807	-13800.57	15352.25	-16063.76	-190.96	1366.93	-.167	17337.47

a. Dependent Variable: Mar_Cap

data well, but neither the particular variable makes a significant contribution when it is added to the model. When this happens, the independent variables are collinear and the results reflect multi-collinearity, when makes the partial regression coefficients unstable and unreliable. Statistically, singularity or multi-collinearity is not wanted because calculation of the regression coefficients is done through matrix inversion. Consequently, if singularity exists, the inversion is impossible, and if multi-collinearity exists the inversion is unstable.

The common tools used for determining⁵⁸ the multi-collinearity in regression models are tolerance, variance inflation factor (VIF), Eigenvalues and condition index. If the values of any two of these indicate co-movement of a pair of the independent variables (Indvs), then the model suffered from multi-collinearity. The results of collinearity diagnosis are reflected in table 9.32, which tell that tolerance values of number of total securities, total listed companies and GDP are close to zero characterized the model's affliction of multi-collinearity, i.e., these variables can not move independently. The VIF in case of all variables are larger than the critical value 1, the condition indices in case of inflation, IIP and deposit rates have crossed the acceptance level of 30 and the multiple Eigenvalues in case of the abovementioned variables are very close to 0 (zero) indicate an ill-conditioned cross-product matrix, meaning there may be a problem of multi-collinearity.

Table 9.32: Coefficients(a)

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Colinearity Diagnosis				
	B	Std. Error	Beta			Tolerance	VIF	Eigen value	Condition	
Model 1	(Constant)	17963.910	15596.386		-1.152	.253			8.388	1.000
	TurnOver	.778	.358	.097	2.172	.033	.335	2.983	.815	3.208
	TotalSecur	-225.027	131.672	-.339	-1.709	.092	.017	58.610	.325	5.079
	Total_Co.	91.319	147.500	.127	.619	.538	.016	62.276	.244	5.868
	No_IPOs	-177.820	539.711	-.010	-.329	.743	.771	1.297	.122	8.282
	DSE_Indx	79.934	4.700	.711	17.009	.000	.384	2.602	.072	10.809
	GDP_MRP	.025	.006	.521	4.487	.000	.050	20.078	.024	18.629
	Inflation	270.755	450.227	.019	.601	.550	.706	1.416	.006	37.062
	IIP	-35.597	58.970	-.040	-.604	.548	.154	6.502	.003	51.176
	Dep_Rate	-215.529	1150.649	-.008	-.187	.852	.375	2.669	.001	87.987

Dependent Variable: Mar_Cap

⁵⁸ Determinants of Multi-collinearity and effects: At pair-wise relationships between independent variables, if r values are greater than |0.80| the variables are strongly inter-correlated and affected by multi-collinearity. To identify multi-collinearity, following parametric results are checked:

- (i) **Tolerance of variable:** tolerance is $1 - R^2$, a value of near one indicates independence. If the tolerance value is close to zero, the variables are multicollinear;
- (ii) **VIF, variance inflation factor,** if highly collinear a high value is calculated. When a high VIF, larger than one, the variable may be affected by multicollinearity. The VIF has a range 1 to infinity;
- (iii) **Eigenvalues:** High eigenvalues indicate dimensions (factors) which account for a lot of the variance in the cross-product matrix. Eigenvalues close to 0 indicate dimensions, which explain little variance. Multiple eigenvalues close to 0 indicate an ill-conditioned cross-product matrix, meaning there may be a problem with multicollinearity, which requires examining condition indices;
- (iv) **Condition indices.** It is possible for the rule of thumb for condition indices (number of index over 30) may indicate multicollinearity, even when the rules of thumb for tolerance or $VIF \leq 10$ ($>= 4$) are met. Condition indices are used to flag excessive collinearity in the data. A condition index over 30 suggests serious collinearity problems and an index over 15 indicates possible collinearity problems. If a factor (component) has a high condition index, one looks in the variance proportions column to see if that factor accounts for a sizable proportion of variance in two or more variables (that is, if two or more variables are most heavily loaded on that factor). If this is the case, these variables have high linear dependence and multicollinearity is a problem, with the effect that small data changes or arithmetic errors may translate into very large changes or errors in the regression analysis.

Testing the Null Hypothesis

Table 9.32 demonstrates the values of b coefficients and their respective standard error both unstandardized and standardized forms, and the t values⁵⁹ of coefficients with level of significance. The computed t values of the estimated coefficients are: market turnover (2.172), number of total listed securities (-1.709), number of total listed companies (0.619), number of total IPOs (-.329), DSE Index (17.009), GDP (4.487), Inflation (0.601), IIP (-.604), and Deposit rates (-.187). If the computed t value exceeds the critical 't' value at the chosen level of significance, we may reject the null hypothesis; otherwise we may not reject it. Here, the critical t-value is 0.10 (1-tailed). In table 9.32, we see that the highly correlated coefficients have crossed the critical level of 0.10 at 1-tailed Pearson Correlation rejecting the null hypothesis. In other words, model-1 satisfies the research hypothesis that selected macroeconomic factors/variables positively impacted the stock market development in Bangladesh.

Testing Model Fitness and Significance

The regression results summarized in tables 9.33 shows that $R^2 = 0.953$ and adjusted $R^2 = 0.947$, which are individually near to 1 and thus highly significant.

Table 9.33: Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.976 (a)	.953	.947	10039.20409	.953	157.610	9	70	.000

a Predictors: (Constant), Dep_Rate, TurnOver, No_IPOs, Inflation, Total_Com, DSE_Indx, IIP, GDP_MRP, TotalSecur

b Dependent Variable: Mar_Cap

Multiple regression results with significant R^2 value of 0.953 and adjusted R^2 values 0.947 explains the collective association (or conversely the variance) of all of the independent variables. To state differently, collective regression values of independent variables are highly associated with the dependent variable (market capitalization) with small variances. When the $Pro(F) < 0.05$ at 0.05% level of significance, then it is significant and justifies the overall fitness and significance of the model. $F = 0.000$ (sig) appeared in table 9.33 is thus statistically significant and clearly expresses the model's goodness-of-fit at significant level of $R^2 = 0.953$ and adjusted $R^2 = 0.947$. Table 9.34 consolidated the summary of regression values of coefficients, Rule of thumbs for acceptance and made inferences in the right-hand column.

⁵⁹ *T-values and t-test:* t-test is used to assess the significance of individual b coefficients specifically, testing the null hypothesis that the regression coefficient is zero. To say differently, the t-test is a test only of the unique variance an independent variable accounts for, not of shared variance. Because, shared variance while incorporated in R^2 , is not reflected in the b coefficient.

t test in SPSS is two-tailed which means they test the hypothesis that the b coefficient is either significantly higher or lower than zero. The t-values shown in table 8.4.5 are 2-tailed in Pearson correlation. We want 1-tailed t-values. So we can rule out one direction (exclude negative coefficients) and test only if the b coefficient is more than zero. The one-tailed significance level will be twice the two-tailed probability level: If SPSS reports 0.05 for 2-tailed, then the one-tailed equivalent significance level is 0.10. If we exclude the negative coefficients to get 1-tailed t-value, the t-values now exceeds the significant level of 0.10 in our test. That is, it gives the "direct" or "net" effect. Here, the 'sig' column (see table 8.4.5 shows the highly correlated coefficients crossed the critical level of 0.10 at 1-tailed Pearson Correlation rejecting the null hypothesis. Thus the research hypothesis is true and valid.

Table 9.34: Test Results, Level of Significance/Rule of Thumbs and Inferences

Tests	Regression Values	Rule of Thumbs	Inferences
R ²	0.953	The value of R ² lies between 0 and 1. If the value of R ² close to 1, then it is significant	Highly Significant
Adjusted R ²	0.947	An adjusted R-square, takes the size of the sample into effect. Used when need to compare the results of models which had a differing number of observations or independent variables, or to temper the results of an analysis with suspect results due to a small number of observations. adjusted R ² = R ² - (k - 1) / (n - k) * (1 - R ²) Where: n = # of observations, k = # of independent variables, Accordingly: smaller n, decreases R ² value, larger n, increases R ² value, smaller k, increases R ² value, larger k, decreases R ² value.	Highly Significant
F Sig(a)	0.00	If Prob (F) < 0.05, then the model is considered a better-fit one.	Significant
t (1-tailed)	t > 0.10	If the resulted t values are > 0.10 for 1-tailed and 0.05 for 2-tailed Pearson Correlation, then it is considered significant to reject the null hypothesis and vice versa.	Significant to reject the null hypothesis
t (2-tailed)	t > 0.05		

Despite severe multi-collinearity, it can be seen on table 9.34 that all parametric values resulted in multiple regression are found to be statistically significant referring the model as a goodness of fit one. Hence, this model explains that combined growth in the positive value predictors directly but moderately impacted the growth of securities market performance. Three other variables of the sample-the number of initial public offerings (IPOs), inflation rates and the retail saving deposit rates of banks marginally impact the stock market development in the country.

Despite the model's goodness-of-fit is established, it is found to be problematic with high multicollinearity and autocorrelation at Durbin-Watson statistics. To address these issues, model -2 has been run.

Model -2

Model-2 is derived from model-1. While building model-2, the DV (market capitalization) and two IndVs (GDP and IIP) are logged and four original IndVs, namely number of listed securities, DSE Index, market turnover and number of IPOs are dropped, given the number of total companies, inflation and deposit rates. The three dropped IndVs were found perfectly collinear in model-1. One new variable 'time' has been included in the model-2. Reasons for inclusion of 'time' as a new variable in model-2 is that, time impacts the macro economic conditions both in short and long-runs as the economic development process is not straight forward. It goes in a cyclical manner rather than fully equally throughout the years. Equation (ii) presents Model-2 as below. It is expected that model-2 would be a multi-collinearity or singularity and autocorrelation free one.

$$\ln(Mcap)_t = \alpha + \beta_1 \ln(GDP)_t + \beta_2(NCom)_t + \beta_3(Inflation)_t + \beta_4 \ln(IIP)_t + \beta_5(Drate)_t + \beta_6(time)_t, \dots(ii)$$

Table 9.35: Descriptive Statistics

	Mean	Std. Deviation	N
lnmkcap	10.0796	1.47570	80
lnGDP	14.1710	.61559	80
No,of Com	159.15	60.430	80
lnIIP	5.2957	.24770	80
Dcp Rates	7.731	1.6037	80
Inflation	5.3743	2.98530	80
Time	40.5000	23.23790	80

Explanation of Regression Results (Model-2)

Second regression has been run to test the fitness and significance of model-2.

Table 9.36: Correlations

		lnmkcap	lnGDP	No. of Com	lnIIP	Dep Rates	Inflation	Time
Pearson Correlation	lnmkcap	1.000	.872	.832	.781	-.228	-.330	.849
	lnGDP	.872	1.000	.976	.829	-.199	-.349	.987
	No,of Com	.832	.976	1.000	.811	-.106	-.304	.985
	lnIIP	.781	.829	.811	1.000	-.507	-.487	.819
	Dep Rates	-.228	-.199	-.106	-.507	1.000	.326	-.162
	Inflation	-.330	-.349	-.304	-.487	.326	1.000	-.329
	Time	.849	.987	.985	.819	-.162	-.329	1.000
	Sig. (1-tailed)	lnmkcap		.000	.000	.000	.021	.001
lnGDP		.000		.000	.000	.038	.001	.000
No,of Com		.000	.000		.000	.174	.003	.000
lnIIP		.000	.000	.000		.000	.000	.000
Dep Rates		.021	.038	.174	.000		.002	.076
Inflation		.001	.001	.003	.000	.002		.001
Time		.000	.000	.000	.000	.076	.001	
Observations		80	80	80	80	80	80	80

It is observable from descriptive statistics (see table 9.35) that standard deviations and mean differences of logged variables in model-2 have been reduced substantially. This has provided the model with little improvement by reducing the degree of dispersion and collinearity compared to model-1. Nonetheless, the multi-collinearity (see table 9.36) and autocorrelation (see table 9.37) still persist as number of listed companies and IIP are perfectly collinear.

The R² (0.786) and adjusted R² values (0.769) for model - 2 are still significant (see table 9.37) with significant F changes. But R values have reduced in model-2 compared to the same in model - 1, showing the increases in variance level.

Table 9.37: Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.887(a)	.786	.769	.70960	.786	44.777	6	73	.000	.346

a Predictors: (Constant), Time, Dep Rates, Inflation, lnIIP, lnGDP, No.of Com
 b Dependent Variable: lnmkcap

The collinearity statistics shown in coefficient matrix (see table 9.38 and 9.39) also reveal the presence of multi-collinearity in terms of tolerance value, VIF and condition index. Hence, if at least two collinearity parameters show the presence of collinearity, the model is then suffers from multi-collinearity problem. The tolerance in cases of most of the variables is closer to zero instead of closer to 1, only except deposit rates and inflation. The VIF for all variables are greater than the critical value of 1, indicating the model's affliction with multi-collinearity. A condition index over 30 suggests serious collinearity problems and an index over 15 indicates possible collinearity problems (also see table 9.39). The Durbin-Watson again shows the presence of autocorrelation (see table 9.37).

Table 9.38: Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics			
		B	Std. Error	Beta			Tolerance	VIF	Eigenvalue	Condition Index
	(Constant)	-44.052	12.118		-3.635	.001			6.462	1.000
	lnGDP	3.187	.844	1.330	3.775	.000	.024	42.381	.393	4.054
	No.of Com	-.015	.009	-.604	-1.642	.105	.022	46.182	.113	7.559
	lnIIP	2.019	.847	.339	2.383	.020	.145	6.912	.029	14.934
	Dep Rates	.104	.078	.113	1.336	.186	.412	2.427	.002	54.621
	Inflation	.020	.032	.041	.647	.519	.720	1.389	.000	175.501
	Time	-.007	.027	-.114	-.267	.790	.016	62.224	.000	537.698

a Dependent Variable: lnmkcap

The t values in cases of LnGDP, LnIIP, Deposit rates and inflation are still above the critical value of 0.10 (1-tailed) in Pearson correlation (see table 9.38), rejects the null hypothesis.

Table 9.39: Coefficient Correlations(a)

		Time	Dep Rates	Inflation	lnIIP	lnGDP	No,of Com
Correlations	Time	1.000	.082	.025	.061	-.616	-.584
	Dep Rates	.082	1.000	.060	.674	.219	-.483
	Inflation	.025	.060	1.000	.327	.106	-.176
	lnIIP	.061	.674	.327	1.000	.028	-.377
	lnGDP	-.616	.219	.106	.028	1.000	-.229
	No,of Com	-.584	-.483	-.176	-.377	-.229	1.000
Covariances	Time	.001	.000	.000	.001	-.014	.000
	Dep Rates	.000	.006	.000	.044	.014	.000
	Inflation	.000	.000	.001	.009	.003	.000
	lnIIP	.001	.044	.009	.718	.020	-.003
	lnGDP	-.014	.014	.003	.020	.713	-.002
	No,of Com	.000	.000	.000	-.003	-.002	.000

a Dependent Variable: lnmkcap

Model-3

With the view to finding an ideal as well as a robust model free from multi-collinearity and autocorrelation, the third model has been developed through changing, dropping and inclusion of some independent variables, and regressed.

Equation (iii):

$$\Delta(Mcap)_t = \alpha + \beta_1 \Delta(GDP)_t + \beta_2 \Delta(Com)_t + \beta_3 \Delta(IIP)_t + \beta_4 \Delta(Drate)_t + \beta_5 \Delta(Infl)_t + \beta_6 \Delta(Dindex)_t, \dots$$

(iii)

This model took changed values of both dependent variable (DV) and all independent variables included in it. Changed market capitalization is DV and changed IndVs included in Model-3 are GDP, number of total listed companies, index of industrial production (IIP), interest rates on bank deposit, inflation and DSE Index (see table 9.40).

Table 9.40: Descriptive Statistics

	Mean	Std. Deviation	N
chgmcap	2843.2603	17463.57609	79
chgdp	40919.2405	23996.07152	79
chgnlcom	2.1266	12.88048	79
chgiip	2.1772	20.62968	79
chgdrate	-.0390	.54068	79
chginf	-.0167	2.37312	79
cgmSDindex	23.1720	193.06482	79

The regression results show that model-3 is more robust with more significant R, R square and adjusted R square values (see table 9.41) than model 1 and 2 as run earlier.

Table 9.41: Model Summary(b)

Model 1	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
	.910(a)	.828	.814	7532.25610	.828	57.881	6	72	.000	2.268

a Predictors: (Constant), cgmindex, chginf, cgnlcom, chgdp, chgdrate, chgiip
 b Dependent Variable: chgmcap

The correlation and coefficient matrix (see table 9.42 and 9.43), however, exhibit the presence of multi-collinearity and autocorrelation in model -3, but with more significant R² (0.828) and adjusted R² (0.814) as shown in table 9.41. The collinear IndVs are Δ GDP and Δ number of listed companies and ΔIIP. The third regression run for model-3 also resulted in autocorrelation in Durbin Watson statistics (table 9.41).

Table 9.42: Correlations

Pearson Correlation		chgmcap	chgdp	chgnlcom	chgiip	chgdrate	chginf	chgDindex
	chgmcap	1.000	.175	-.080	-.052	-.307	-.011	.892
	chgdp	.175	1.000	-.030	-.079	-.027	.198	.071
	chgnlcom	-.080	-.030	1.000	.444	.101	.096	-.103
	chgiip	-.052	-.079	.444	1.000	.005	-.235	-.191
	chgdrate	-.307	-.027	.101	.005	1.000	-.013	-.359
	chginf	-.011	.198	.096	-.235	-.013	1.000	-.014
	ChgDindex	.892	.071	-.103	-.191	-.359	-.014	1.000
Sig. (1-tailed)	chgmcap	.	.061	.242	.324	.003	.462	.000
	chgdp	.061	.	.397	.245	.408	.040	.266
	chgnlcom	.242	.397	.	.000	.189	.201	.183
	chgiip	.324	.245	.000	.	.481	.018	.046
	chgdrate	.003	.408	.189	.481	.	.453	.001
	chginf	.462	.040	.201	.018	.453	.	.451
	chgDindex	.000	.266	.183	.046	.001	.451	.
N		79	79	79	79	79	79	79

Table 9.43: Coefficients(a)

Model 1		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics			
		B	Std. Error	Beta			Tolerance	VIF	Eigenvalue	Condition Index
		(Constant)	-2647.548	1724.455		-1.535	.129			1.993
chgdp	.085	.036	.117	2.332	.023	.954	1.049	1.600	1.116	
cgnlcom	-81.650	76.543	-.060	-1.067	.290	.748	1.336	1.193	1.293	
chgiip	140.110	49.681	.166	2.820	.006	.692	1.444	1.018	1.399	
chgdrate	1058.998	1708.092	.033	.620	.537	.853	1.173	.661	1.736	
chginf	178.285	388.697	.024	.459	.648	.855	1.170	.408	2.211	
chgDindex	83.345	4.861	.921	17.145	.000	.826	1.211	.129	3.936	

a Dependent Variable: chgmcap

Model - 4

To address the problems, second change or transformation has been made in GDP, and model-4 is run.

$$\Delta(Mcap)_t = \alpha + \beta_1\Delta(\Delta GDP)_t + \beta_2\Delta(Com)_t + \beta_3\Delta(IIP)_t + \beta_4\Delta(Drate)_t + \beta_5\Delta(Infl)_t + \beta_6\Delta(Dindex)_t$$

(iv)

The correlation matrix (table 9.44) and coefficient correlation matrix (table 9.45) do not reflect co-movement of any pair of independent variable in model-4.

Table 9.44: Correlations

		chgmcap	Schgdp	chgnlcom	chgiip	chgdrate	chginf	chgDindex
	Pearson Correlation	chgmcap	1.000	.031	-.082	-.053	-.307	-.011
Schgdp		.031	1.000	-.015	-.270	.142	.460	.011
chgnlcom		-.082	-.015	1.000	.443	.102	.093	-.104
chgiip		-.053	-.270	.443	1.000	.006	-.237	-.192
chgdrate		-.307	.142	.102	.006	1.000	-.013	-.359
chginf		-.011	.460	.093	-.237	-.013	1.000	-.014
chgDindex		.892	.011	-.104	-.192	-.359	-.014	1.000
Sig. (1-tailed)	chgmcap		.395	.239	.323	.003	.461	.000
	Schgdp	.395		.450	.008	.108	.000	.462
	chgnlcom	.239	.450		.000	.188	.208	.182
	chgiip	.323	.008	.000		.480	.018	.046
	chgdrate	.003	.108	.188	.480		.455	.001
	chginf	.461	.000	.208	.018	.455		.451
	cgmindex	.000	.462	.182	.046	.001	.451	
No. of Observations	chgmcap	78	78	78	78	78	78	78
	Schgdp	78	78	78	78	78	78	78
	cgmlcom	78	78	78	78	78	78	78
	chgiip	78	78	78	78	78	78	78
	chgdrate	78	78	78	78	78	78	78
	chginf	78	78	78	78	78	78	78
	chgDindex	78	78	78	78	78	78	78

Table 9.45: Coefficient Correlations(a)

Model		cgmindex	Schgdp	cgmlcom	chgdrate	chginf	chgiip	
1	Correlations	cgmindex	1.000	-.047	-.037	.370	.091	.196
		Schgdp	-.047	1.000	-.007	-.173	-.422	.158
		cgmlcom	-.037	-.007	1.000	-.119	-.208	-.475
		chgdrate	.370	-.173	-.119	1.000	.131	.094
		chginf	.091	-.422	-.208	.131	1.000	.221
		chgiip	.196	.158	-.475	.094	.221	1.000
		Covariances	cgmindex	25.430	-.021	-14.962	3361.966	200.928
Schgdp	-.021		.008	-.049	-27.998	-16.534	.740	
cgmlcom	-14.962		-.049	6347.717	17085.021	-7232.352	-1977.150	
chgdrate	3361.966		-27.998	17085.021	3244447.725	102886.629	8851.075	
chginf	200.928		-16.534	-7232.352	102886.629	190899.862	5052.224	
chgiip	51.522		.740	-1977.150	8851.075	5052.224	2730.176	

a Dependent Variable: chgmcap

Collinearity checking in terms of critical values of both 'tolerance' and 'variance inflation factor (VIF)' in table 9.45 and 9.46 does not show co-movement or inter-correlation of any pair or more of independent variables in the model. The Durbin-Watson test also shows that values of all independent variables are significant (see table 9.47). Both multi-collinearity and autocorrelation are addressed in model-4 and thus this model. The adjusted R Squared is a highly significant in this model that fully satisfies the research hypothesis.

Table 9.46: Coefficients(a)

Model 1		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
		(Constant)	743.191	918.393				.809
	Schgdg	.078	.090	.051	.864	.391	.737	1.357
	cgnlcom	-90.363	79.673	-.066	-1.134	.261	.751	1.332
	chgiiip	147.436	52.251	.174	2.822	.006	.676	1.479
	chgdrate	819.284	1801.235	.025	.455	.651	.827	1.209
	chginf	191.963	436.921	.026	.439	.662	.730	1.369
	cgmindex	83.893	5.043	.928	16.636	.000	.828	1.208

a Dependent Variable: chgmcap

Table 9.47: Collinearity Diagnostics(a)

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions						
				(Constant)	Schgdg	cgnlcom	chgiiip	chgdrate	chginf	cgmindex
1	1	1.728	1.000	.00	.10	.06	.14	.00	.09	.02
	2	1.494	1.076	.00	.08	.08	.01	.15	.07	.13
	3	1.340	1.135	.23	.02	.10	.02	.10	.03	.11
	4	.871	1.409	.57	.01	.07	.03	.16	.14	.00
	5	.656	1.623	.14	.02	.12	.00	.33	.07	.57
	6	.514	1.833	.05	.69	.11	.29	.06	.21	.00
	7	.398	2.083	.01	.08	.47	.50	.20	.39	.17

a Dependent Variable: chgmcap

Table 9.48: Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
	1	.904 (a)	.817	.802	7822.63818	.817	52.936	6	71	

a Predictors: (Constant), cgmindex, Schgdg, cgnlcom, chgdrate, chginf, chgiiip

b Dependent Variable: chgmcap

Moreover, the Unit root test done under ADF method confirms the non-stationarity in the panel data used in the regression (see table 9.49) and therefore, establishes the model's robustness to explain the positive but substantial impact of highly significant macroeconomic factors on the development process of stock market in Bangladesh.

Table 9.49: Test for Stationarity of Variables - Order of Co-integration

Variables	Test for Unit Root in	ADF Test Statistics	Null Hypothesis (H0)	Inference	Order of Co-integration	Variables Chosen
IIP	Level (4) 1 st Difference (4)	- 1.304 - 4.337**	Accepted Rejected	Non-stationary Stationary	1 (1)	Δ (iip)
Inflation	Level (4) 1 st Difference (4)	- 2.220 - 5.887***	Accepted Rejected	Non-stationary Stationary	1 (1)	Δ (Infl)
Deposit Rates	Level (4) 1 st Difference (4)	- 1.774 - 2.956 **	Accepted Rejected	Non-stationary Stationary	1 (1)	Δ (DeRate)
No. of Listed Companies	Level (4) 1 st Difference (4)	- 0.862 - 5.718***	Accepted Rejected	Non-stationary Stationary	1 (1)	Δ (NLcom)
DSE Index	Level (4) 1 st Difference (4)	- 1.189 - 3.804***	Accepted Rejected	Non-stationary Stationary	1 (1)	Δ (DIndex)
GDP	Level (4) 1 st Difference (4) 2 nd Difference	3.03 - 1.101 - 4.975***	Accepted Accepted Rejected	Non-stationary Non-stationary Stationary	1(2)	Δ (Δ GDP)

Notes: *** and ** indicate significant at 1% and 5% level of McKinnon critical value.

First bracket of the second column represents the lag length that is considered to this analysis.

9.4.5 Findings and Policy Implications

Capital market in Bangladesh achieved some institutional depth at the non-securities segment; but there had been little instrumental growth even after three decades of its operations. The securities segment, although going with a moderately developed legal framework, is yet to achieve efficiency and soundness. In its early stage, the securities market in Bangladesh was indeed irregular with only one stock exchange- the DSE, the premier bourse in the country that has started functioning without standardized operational methods. It suffered much by prevalent fraud and illegal trading that kept investors from harvesting returns, but turned into a paradise for profiteers. There are still so many underhanded dealings, cheating and swindling, some people's wrongdoings, including stock manipulation, speculation, and the market rigging. The capital market of Bangladesh experienced bubbles in its securities segment in 1996. The speculative bubbles harmed the interests of investors with small and medium-sized investments and brought the price/earning ratio (P/E ratio) of the stock market higher boosting by internal instability, weak structure, lack of appropriate governance and lower profitability of listed companies.

The stock market of Bangladesh has become a subject of serious debate in academic circles in recent times. The post-debacle situation of trading on Dhaka and Chittagong stock

exchanges indicates conflicts in theories putting an enormous impact on the development process and performance of the whole market. The debacle of 1996 has obstructed the development of the country's stock market. The market could not perform as an important way of increasing social wealth and paying bonafide investors. However, the painstaking efforts of the few years have made some headway in the development process; but the capital market continues to suffer at the securities segment.

The empirical analysis made above in this sub-chapter confirms us about the positive contribution of macroeconomic factors on the stock market development in Bangladesh as also found in studies of Fama (1970, 1990, 1991), Huang and Kracaw (1984), Chen, Roll, and Ross (1986), Pearce and Roley (1988), Fung and Lie (1990), Chen (1991), and Wei and Wong (1992), Levine (2003), Beck, Demirguc-Kunt, and Levine (2003) and Beck et al.(2001). Most importantly, the analysis found positive relationship of GDP with the development of market capitalization.

Although some analysts viewed the stock markets in developing countries as "casinos" and argued that they are hardly able to put positive impact on economic growth, there are, however, more strong views that stock markets affect overall economic development. Stock markets may affect economic activity through the creation of liquidity. Many profitable investments require a long-term commitment of capital, but investors are often reluctant to relinquish control of their savings for long periods. Liquid equity markets make investment less risky-and more attractive-because they allow savers to acquire an asset-equity-and to sell it quickly and cheaply if they need access to their savings or want to alter their portfolios. At the same time, companies enjoy permanent access to capital raised through equity issues. By facilitating longer-term, more profitable investments, liquid markets improve the allocation of capital and enhance prospects for long-term economic growth. Further, by making investment less risky and more profitable, stock market liquidity can also lead to more investment. Put succinctly, investors will come if they can leave.

There are alternative views about the effect of liquidity on long-term economic growth. Some analysts argue that very liquid markets encourage investor myopia. Because they make it easy for dis-satisfied investors to sell quickly, liquid markets may weaken investors' commitment and reduce investors' incentives to exert corporate control by overseeing managers and monitoring firm performance and potential. According to this view, enhanced stock market liquidity may actually hurt economic growth. The empirical evidence, however, strongly supports the belief that greater stock market liquidity boosts-or at least precedes economic growth.

The empirical analysis made above reveals among other things the significant correlation of GDP with market capitalization and other variables. Many studies argue for the positive impact of stock market on economic growth. But the impact of GDP growth on the stock market development may be a new finding that requires further investigation to prove it empirically. The thesis leaves it for future research.

9.4.6 Limitations of the Analysis

Changes in structural factors impact the market performance and market structure along with development potentials. We observed a number of such changes in the entire financial, particularly in the stock market of Bangladesh during the 1990s. Nevertheless, this study didn't make any investigation to see the degree of impact of structural changes.

9.5 Capital Market in Bangladesh – Non-Securities Segment

The financial system of Bangladesh is bank-based and the commercial and specialized banks play dominant role both in deposit and credit markets. With the bank-led financial market, the country has been following a gradual move towards private sector orientation since early 1980s. Pursuant to this, promoting a multitude of banking and non-bank financial institutions (NBFIs) has become an important item of the country's financial market development agenda since the early 1990s. The government has implemented a financial sector reform project in 1990-96 with special concentration on the development of the country's banking system. However, reforms in the financial sector development have still been going on. Side by side with the banking reforms, the government enacted the Financial Institutions Act, 1993 as a part of series of overall capital market development initiatives. This Act allowed entry of new non-bank financial institutions in the country's financial market. With the same objective, the government adopted and implemented a project named Financial Institutions Development Project in 2001-04 with financial assistance of the World Bank. Moreover, a \$57 million ADB-funded capital market development project (CMDP) was implemented in 1997. The objectives of the project were to develop domestic capital market, strengthen and building capacity of the Securities and Exchange Commission (SEC), and pave the way for greater private sector participation in merchant banking and mutual fund operations. The Project aimed at strengthening SEC's market regulation and supervision capacity, developing capital market infrastructure, modernizing capital market support facilities, increasing the supply of securities in the capital market, and developing institutional sources of medium and long-term funds to raise the demand for financial securities.

As a result of these efforts, the non-securities segment of capital market in Bangladesh has been strengthened to some extent with the establishment of a mentionable number of non-bank financial institutions (NBFIs), especially leasing companies during 1980-2002. There are now 28 non-bank financial institutions in Bangladesh whose ownership pattern is shown in table 9.5.1.

**Table 9.5.1: Ownership Structure of
Non-bank Financial Institutions in Bangladesh**

Government Owned	1
Domestic Private Sector	15
Joint Venture (Local – Foreign)	12
Total	28

Of the 28 licensed non-bank financial institutions, 20 work as Merchant bankers & portfolio managers, 7 as Issue Managers and 1(one) as both Issue Manager and Underwriters, in addition to their traditional activities. These institutions, in general, are engaged in the following areas:

- a) Industrial development financing
- b) House mortgage financing
- c) Lease financing
- d) Project financing
- e) Investment financing

The NBFIs are also allowed to undertake the business of investment advisory services, asset management services (open-end and closed-end mutual funds) including housing finance within the broader purview of the country's financial system.

The scheduled banks in Bangladesh greatly contribute to the country's non-securities segment of capital market. The commercial banks and specialized banks (SPBs/DFIs) are heavily involved in long-term lending and their share is still quite larger compare to capital raised through the stock markets and institutional investors. The commercial banks are also involved in investment banking. Apart from the aforementioned 28 non-bank financial institutions and 49 scheduled banks, the non-securities segment encompasses a state-owned investment company-the Investment Corporation of Bangladesh (ICB) and 27 merchant bankers. The largest part of private sector credit for industry, trade and other economic purposes is extended by the banking system in Bangladesh; while in market-based financial systems, corporate financing is mostly done through the securities market. Table 9.5.2 shows the structural depth of banking system in Bangladesh.

Table 9.5.2: Structural Depth of Banking Industry in Bangladesh (as on 30 June 2004)

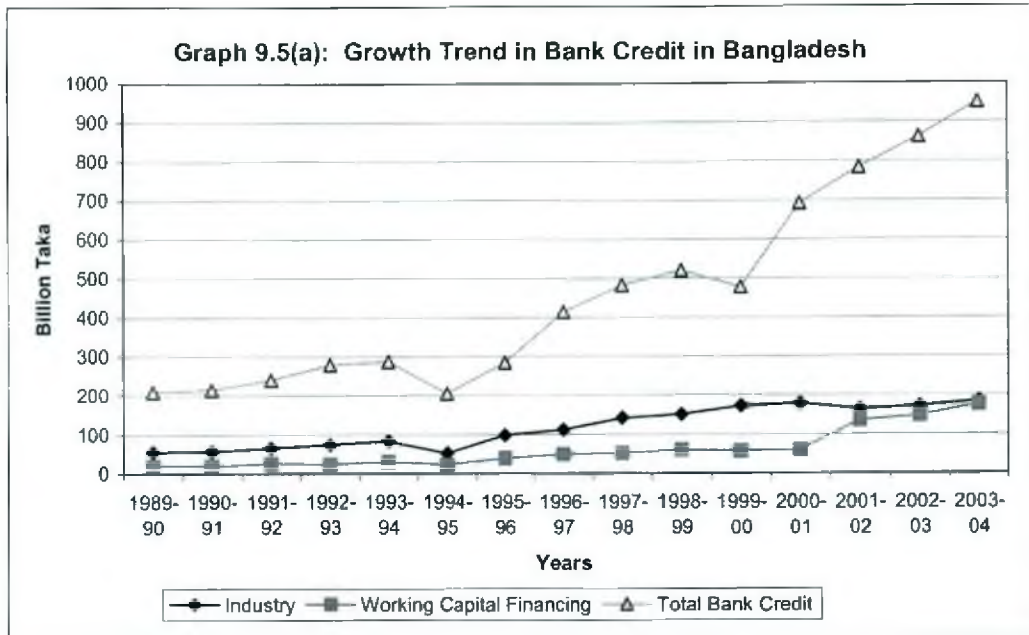
Types of Banks	Number	Number of Branches	Total Assets		Total Deposits		Total Credits		Credit - Deposit Ratio
			Billion Tk.	%	Billion Tk.	%	Billion Tk.	%	%
Nationalized Commercial Banks (NCBs)	4	3388	684	40	568	42	377	40	66.37
Domestic Private Commercial Banks (DPCBs)*	30	1550	168	10	510	44	508	42	99.60
Specialized Banks (SPBs/DFIs)	5	1328	125	7	75	7	105	11	140
Foreign Commercial Banks (FCBs)	10	37	749	43	84	7	66	7	79
Total	49	6303	1725	100	1237	100	1056	100	96.24

* DPCBs- Domestic Private Commercial Banks includes Islamic Banks

9.5.1 Performance of Banks in the Capital Market of Bangladesh

Banks play a key role in the monetary and credit system, as their lending now accounts for more than 96% of the total credit market in Bangladesh. Table 9.5.2 reveals the dominance of nationalized commercial banks in the financial market of Bangladesh. As on 30 June 2004, credit market in the country is structured as: private commercial banks 42%, the NCBs (40%) and other financial institutions 18%. Of the total assets of banking industry in the country, 40 percent belong to 4 NCBs and the rest is lying with other categories of banks: domestic private commercial banks 10 percent, foreign private commercial banks 43% and the specialized banks 7%. In the structure of deposit-holdings, the foreign banks also shared greater percentage compare to the domestic private commercial banks.

At the non-securities segment of the country's capital market, the commercial and specialized banks are major providers of long-term finance, in addition to their general commercial lending activities. Tables 9.5.3 and 9.5.4, annex 6 record and graph 9.5(a) shows the credit structure of scheduled banks for the period of 1990-2004.



Tables 9.5.3 and 9.5.4, annex 6 show that a large volume of industrial credit is provided by the banking system. Graph 9.5(a) draws the growth trend of total, and short and long-term industrial credit extended by the banking system. The trend indicates the growth of demand for such credit in the economy. Besides the direct disbursement of industrial and other economic purpose-led short and long-term financing, scheduled banks in Bangladesh also extended advances to the members of the public against collateral security of their holdings of corporate equity shares and debt securities (see table 9.5.5, annex 6). Such advances rendered remarkable help in increasing the stock market liquidity and overall market performance. Graph 9.5(b) shows the growth characteristics of such advances of banks in Bangladesh.

Table 9.5.6, annex 6 and the corresponding graph 9.5(b) shows the significant contribution of banking system in financing the securities market through providing advances against stock market securities. Such advances given by the banking system during the period 1989-2004 were equivalent to significant percentages of total market capitalization, as shown in table 9.5.6, annex 6.

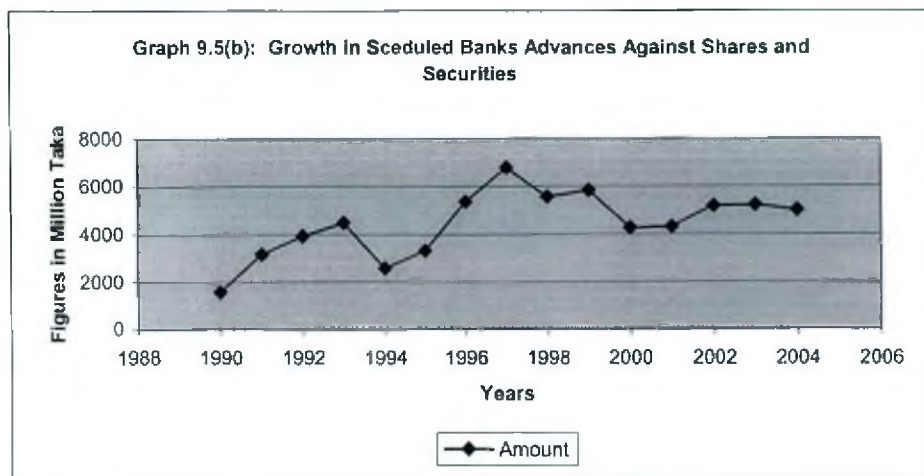


Table 9.5.7 also shows that the capital raised through initial public offering of shares (IPOs) and securities during 1990-2004 is very insignificant compared to industrial credit and the total credit provided by the banking system.

Table 9.5.7(1) reveals a miserable contribution of the country's securities market in providing capital to the corporate real and service sectors compared to both industrial and total credit financing provided by the banking system in Bangladesh.

Table 9.5.7: Comparison of Capital Raised through Stock Market and Bank Credits
(In Billion Tk.)

Financial Year	Total Capital Raised via IPOs	Total Industrial Credit by Banks	IPO Capital as % of Banks' Total Industrial Credit
1993-94	8	113	7.08
1994-95	12	74	16.22
1995-96	19	137	13.87
1996-97	6	161	3.73
1997-98	4	193	2.07
1998-99	11	210	5.24
1999-00	4	229	1.75
2000-01	5	238	2.10
2001-02	5	298	1.68
2002-03	29	318	9.12
2003-04	6	359	1.67
11 Years Average	5.702479	69.61983	4.149917

Source: SEC, DSE and Scheduled Bank Statistics, Bangladesh Bank

Table 9.5.7(1): Capital Raised through IPO as Percentage of Total Bank Credit to Industry

Years	Total Capital Raised via IPOs	Total Bank Credit	Total Capital Raised Through IPOs as % Total Bank Credit
1993-94	8	287	2.79
1994-95	12	205	5.85
1995-96	19	284	6.69
1996-97	6	414	1.45
1997-98	4	482	0.83
1998-99	11	520	2.12
1999-00	4	477	0.83
2000-01	5	692	0.72
2001-02	5	783	0.64
2002-03	29	862	3.36
2003-04	6	951	0.63
11 Years Average	5.702479	203.9669	1.685124

Investments of Scheduled Banks in Capital Market Securities

Direct investment of banks in shares and other securities as shown in table 9.5.8, annex 6 is significant in terms of percentile share of market capitalization. Outstanding advances of scheduled banks against shares and securities amounted to Taka 7.29 billion at the end of June 04 compared to Taka 6.87 billion of end June 2003. Graph 9.5(c) reflects the trends in the overall loans and advances by banks to various sectors of the economy.

Graph 9.5(c): Growth of Domestic Bank Credit Market in Bangladesh

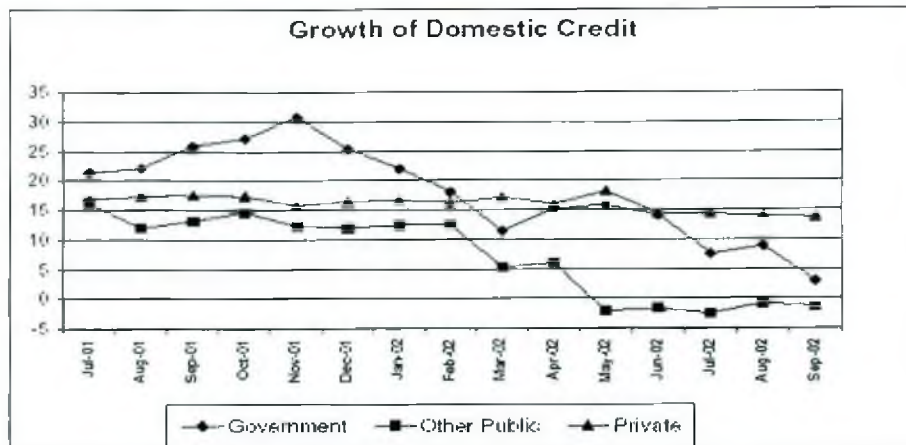


Table 9.5.9, annex 6 presents the performance of shares of scheduled banks in stock market during the period 1989-2004. Prices of shares of those banks and financial institutions that are enlisted and offered shares to the public performed well above the shares and securities of other companies in the secondary market both at DSE and CSE during the reference period under review. The percentiles of shares and securities of banks and other financial institutions in the total market capitalization at DSE during 1990-2004 were appealing and influencing. This situation again reflects the dominance of contributions of banking system in the capital market development of Bangladesh.

9.5.2 Performance of Institutional Investors and Non-Bank Financial Institutions

The Investment Corporation of Bangladesh (ICB), and leasing and the insurance companies mainly form the institutional investors' niche of financial market in Bangladesh. Although the pension system in the country provides substantial financial supports to the pensioners, the pension and provident funds are yet to be institutionalised and allowed to perform in the capital market. Housing finance market in Bangladesh also plays a crucial role in the development of house-building and real estate sub-sectors. An evaluation on the performance of these institutions has been made in the following sub-sections.

9.5.2.1 Investment Corporation of Bangladesh (ICB)

ICB is the pioneer institutional investor in Bangladesh owned by the government. It commenced business in 1976. The purpose and objectives of setting up the ICB were to encourage and broaden the base of industrial investment in the country. Over time, it has diversified its activities and now underwrites issues of securities, provides bridge-financing, maintains investment accounts, floats and manages closed-end & open-end mutual funds, and closed-end unit funds. It also operates in the DSE and CSE as dealer. The activities of the ICB greatly help the development of the country's capital market.

With the view to diversifying its role and expanding the coverage of operations, the ICB has been restructured in 2003 with establishment of three subsidiaries, namely (i) ICB Capital Management Ltd (ICML), (ii) ICB Asset Management Company Ltd. (IAMCL) and (iii) the ICB Securities Trading Company Ltd. (ISTCL). The capital management subsidiary ICML acts as underwriter, issue manager and provides placement services, with net investment of Tk.10.90 million in 2003-04. The asset management subsidiary IAMCL is particularly involved in managing mutual funds. It has floated a closed-ended and an

open-ended mutual fund with net investment of Tk.30.80 million in 2003-04, whose market value stood at Tk.36.40 million in the same year. The securities trading subsidiary ISTCL occupies the position of largest stockbroker in the country and handled a total amount of Tk.1, 045.50 million in 2003-04, which is 1.97 percent of total market turnover of Tk 53181.79 million at DSE and 0.03 percent of GDP in 2003-04. The parent company, ICB itself transacted in unit certificates worth Tk.186.6 million and Tk.207.8 million respectively during the financial year 2003-04. The deposits received by the ICB in the same year amounted to Tk.263.1 million and the loans approved in investors' accounts amounted to Tk.287.8 million. The volume of securities traded by the ICB in 2003-04 increased to Tk.12, 346.60 million from Tk.10, 443.10 million in 2002-03. ICB's commitment of investment for the financial year 2003-04 was Tk.455.1 million in the form of: (a) direct investment (pre-IPO placement) in shares Tk.5.0 million, (b) debentures Tk.207.5 million and (c) preference share Tk.30.0 million as against Tk.154.0 million, Tk.25.0 million and Tk.7.5 million in 2002-03 respectively. Performance of ICB in both securities and non-securities segments of the country's capital market are shown in table 9.5). Critical analysis and evaluation show that ICB played a key role in the country's capital market development, in addition to mobilize and re-channeling of funds to industrial sector development.

9.5.2.2 Performance of Leasing Companies

Non-bank financial institutions (NBFIs), commonly known as leasing companies, constitute an important part of the financial system of Bangladesh. It has mentioned above that starting from the Industrial Promotion and Development Company (IPDC) in 1981, the NBFIs are now numbered 28, who's paid up capital and reserves stood at Tk.11, 800.00 million as on 30 June 2004.

Businesses of NBFIs are mostly centred in specific activities of leasing and mortgaging of various items mainly capital machinery, heavy construction equipment, marine transport, generator and boiler, air-conditioning and ice-plants, elevators/lifts, vehicles like luxury and mini buses, trucks, cars, pick-up vans, medical equipment, tractors/power tillers/trailers and various types of consumer durables. Tables 9.5.10 and 9.5.11, annex 6 shows the growth pattern of leasing industry in Bangladesh. Values of statistical parameters derived from table 9.5.10 and shown in table 9.5.11(annex 6) reveal the poor average growth rate of 6.73 percent in paid up capital and reserves, and 0.065 percent in outstanding term loans and lease business in 19 years ranging from 1985-86 to 2003-04. The slow growth trends in paid up capital expresses the weaknesses in the capital structure of leasing companies; while the extremely lower growth trends in outstanding term loans and lease balances reflect insignificant presence and contribution of the leasing companies in the market.

Table 9.5.12 and 9.5.13, annex 6 jointly reflect the growth trend in total lease business of leasing companies in Bangladesh. Table 9.5.12 exhibits the annual development in total lease business. On the hand, table 9.5.13 presents the statistical parametric values of lease in nominal and real figure for the entire period between 1985-86 and 2003-04.

Both absolute and component wise parametric values support a substantial growth in leasing business in the country. But the weak capitalization and market outstanding of long-term loans and leases do not justify the real growth of the country's leasing industry. The developments in the business must be reflected in the development of capital structure. More outstanding of loans and leases in the market carry the signal that both supply and demand sides are interactive in the finance market with huge liquidity at competitive

prices. Continuous rollover of funds ensures the robustness in market activities. The analysis made above does not satisfy the condition that the leasing market in Bangladesh is a vibrant one and inefficient in fund management and price determination.

Table 9.5.14, annex 6 apparently demonstrates the smaller size and thin business performance of the leasing industry in Bangladesh in comparison to other developing and higher income countries in South America and Southeast Asia.

9.5.2.3 Performance of Merchant Bankers

The state of merchant banking in the country is quite unsatisfactory because of the banks' reluctance to involve in this activity. The SEC has started issuing authorization to the commercial banks in the country to undertake merchant banking activity since January 1998 and up to the end of 2004, forty two banks have received authorization. Of these banks, 18 received full-fledged merchant banking license and the rests were authorized to work as Issue Managers and Underwriters. The merchant banks were allowed by the government as an intermediary group to develop the capital market. But their performance has been found very depressing. They are yet to establish and follow professional standards. In a bid to make them interested and streamline their activities, the SEC has recently enhanced their annual fees from Taka ten thousand to Taka fifty thousand.

Securities and Exchange Commission (SEC) has allowed the listed private commercial banks to conduct merchant banking through a separate wing in each bank instead of establishing subsidiaries. They are now allowed to make investment in their own accounts and permitted to invest client's accounts with prior consent of respective client. As a further step towards capital market development, the Securities and Exchange Commission (SEC) has invited the foreign banks operating in the country to do merchant banking without creating a separate entity for same activity as allowed to domestic private banks.

All efforts, however, failed to bring the banks into merchant banking. Only 3 banks sought and received permission from the SEC to undertake merchant banking. Of them, only the Arab Bangladesh Bank Ltd (AB Bank) commenced business in early 2003 by establishing a separate merchant banking wing. It gradually expanded its merchant banking operations both in primary and secondary markets. The Merchant Banking Wing (MBW) of AB Bank has been operating in the following areas:

- Portfolio management;
- Underwriting;
- Advisory services, and
- Banker to the issue.

Under the portfolio management, AB Bank's merchant banking wing offers two years Portfolio Management Schemes namely (a) Investors' Discretionary Accounts (IDA), and (b) Bank's Discretionary Account (BDA). In the case of IDA, the account holders themselves build up their portfolio through choosing from the basket of shares having strong fundamentals, while in case of BDA, the AB Bank manages the portfolio for and on behalf of the portfolio account holders. Table 9.5.15 and 9.5.16 present the merchant banking performance of the AB Bank Ltd.

Table 9.5.15: Portfolio Management Operations by AB Bank Merchant Banking Wing

Year	No. of Accounts		Deposits (Million Taka)	
	BDA	IDA	BDA	IDA
2003	108	248	147	110
2004	295	875	221	783
Source: Arab Bangladesh Bank Ltd, Merchant Banking Wing				

Table 9.5.16: Portfolio Size

(Million Taka)

Types of Accounts	Cost Price in 2003	Cost Price in 2004	Total Market Price in 2004
BDA	175	338	689
IDA	272	2213	2551
Total	447	2551	3234
Source: Arab Bangladesh Bank Ltd, Merchant Banking Wing			

The underwriting services provided by AB Bank's merchant banking wing (MBW) seem to be significant as shown in table 9.5.17.

Table 8.5.17: Underwriting Performance of AB Bank's Merchant Banking Wing

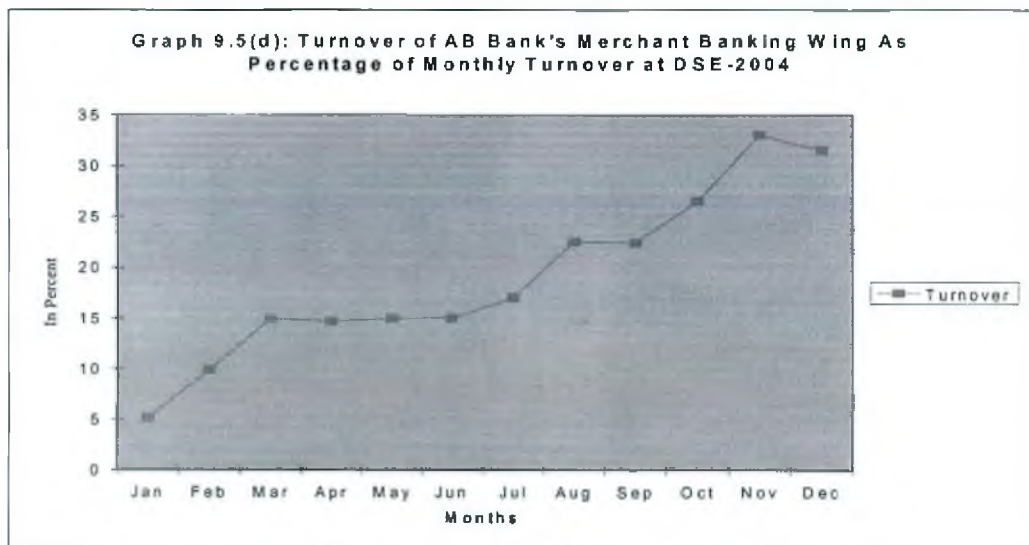
(Million Taka)

Year of Service	Underwriting Amount	Underwriting Commission Received
2003	112.80	1.420
2004	16.83	0.034
Source: Arab Bangladesh Bank Ltd, Merchant Banking Wing		

The merchant banking performance of the AB Bank Ltd covers around 30 percent of total market turnover at DSE in 2004. Table 9.5.18 shows the share of AB Bank in DSE monthly turnover during the year 2004 and graph 9.5(d) draws the trend.

Feb	9.9
Mar	14.95
Apr	14.7
May	14.98
Jun	15
Jul	17
Aug	22.5
Sep	22.4
Oct	26.5
Nov	33
Dec	31.5

Source: Merchant Banking Wing, AB Bank



The gradual improvement in merchant banking performance of Arab Bangladesh Bank Ltd indicates the prospects for other banks in this business. Hence, banks larger participation in merchant banking might stimulate the on going development process capital market in Bangladesh, particularly the securities segment.

9.5.2.4 Pension Funds

Pension systems are the pillars of old-age finance. Although the principal objective of pension funds is to ensure income security in old age at a less costly manner, it has some macroeconomic benefits both in quantitative and qualitative terms: positive effects on personal savings, capital building, enhanced productivity and ultimately, promotion in economic growth rate. Through building capital, pension funds put powerful effects on financial market development. On the other hand, growth in pension funds tends to shift the financial markets toward a "capital market-based" stage of financial development, where the functions of the financial system may be fulfilled more efficiently than in an economy dominated by banks. Pension schemes promote a rapid accumulation of long-term funds through a switch to funding, which increase the supply of long-term funds to capital markets and notably improve the resource transfer and allocation performance of financial markets. Such shifts to long-term assets tend to reduce the cost and increase the availability

of equity and long-term debt financing to the companies, and hence prompts the formation of productive capital.

Funded pension systems in developed countries, with large amounts of assets, are the key institutional investors in the capital markets. Sanchez (1998) states that after the establishment of a funded pension system, social precautionary savings, as well as national savings will increase substantially. So much more money will be available for investment in capital markets. Wang (2001) notes that the pension system and capital market development are so closely connected that it is hard to answer the question: which comes first?

Moreover, pension systems accelerate financial innovation in the economies and increasingly play important role in corporate governance development. The development of mortgage bonds, corporate bonds, and public agency bond markets in many countries have been largely attributed to pension system development. In recent times, the emergence and growth of venture capital and infrastructure funds in developed and many developing countries have attracted more and more pension investment. Furthermore, pension investment has been the driving force behind the evolution of financial derivatives. In Germany and Hong Kong, pension funds are allowed to make alternative investments for the purpose of arbitrage⁶⁰. Thus the growing role the pension funds play in corporate governance may be a big plus in the improvement of listed companies and the healthy development of a securities market.

Wang (2001) further notes that in recent years, pension systems in China, Eastern Europe and some Latin American countries went intensive reforms from pay-as-you-go to funded systems, where the retirees' pension benefits come mainly from their individual accounts, not from the contributions of the next generations. As a result, pension assets have increased dramatically, accounting for an increasing percentage of GDP. Because of the immediate impact of the investment performance of the pension funds on the retirees' pension benefits via their investment in the capital markets, many countries are paying close attention to the diversification of pension investments, resulting in the development of domestic capital markets.

A funded pension system, however, requires such preconditions as market stability, institutional infrastructure, sound commercial banking and commercial insurance systems, and effective financial regulation, where the investors can make greater and diversified investment choices with safety and sophisticated instruments. Without such preconditions, it would be hard to imagine a deepening of the pension reform.(Vittas, 1998).

⁶⁰ Arbitrage - The purchase of securities on one market for immediate resale on another market in order to profit from a price discrepancy. It is a kind of hedged investment meant to capture slight differences in price; when there is a difference in the price of something on two different markets the arbitrageur simultaneously buys at the lower price and sells at the higher price. Arbitrage houses do engage in such activities, which are financial institutions. Such firms look for market inefficiencies and securities, which they feel, are mispriced, and then undertake trades, which allow them to make riskless profits. Arbitrage opportunities are often very difficult to detect, since mispricings can be very small. Further, arbitrage opportunities tend to disappear almost immediately since market forces act to reverse the opportunity. Given these characteristics of arbitrage, many arbitrage houses are equipped with very sophisticated computer software and hardware to help them identify potential opportunities and act on them very quickly. Many arbitrage houses also develop complex software-driven mathematical models to identify mispricings and market inefficiencies.

9.5.2.4.1 Pension System in Bangladesh

The pension system in Bangladesh is mostly government-run. The different sources of pension finance are typically divided into three in Bangladesh: (i) a government budget-financed mandatory public pillar; (ii) a mandatory, fully funded, publicly regulated and supervised, yet privately managed pillar; and (iii) a voluntary, privately managed, fully funded pillar.

The Government pension system in Bangladesh is generous relative to in-service compensation, while formal private sector employees suffer from inadequate coverage. Many old people slip into poverty when they lose their earning ability. Private sector companies have no pension obligations to employees. Available private sector pension funds are typically small and largely unregulated. Companies establish, administer, and maintain their own funds.

In Bangladesh, the present pension and provident fund system provides comparatively high benefits (on the basis of low wages) for only 2.6 percent of the working age population, mainly the civil service (ADB, 2002). Bangladesh Railway, and power and water development boards are other government bodies with large pension schemes. In the civil service, pension benefits are over 95 percent of the last drawn salary. The pension system now chiefly consists of a one-pillar system for Government employees. The system operates on an un-funded pay-as-you-go basis and it imposes an increasing burden on the Government's budget. In 1998, actual pension payments were Tk7.14 billion (about \$140 million out of a \$2.5 billion budget) against the budgeted figure of Tk6.00 billion. ADB (2002) estimates that cash flow projections made under the budget outlay for pensions and commutation of pensions will increase to about Tk22.00 billion (\$440 million equivalent) in the fiscal year 2007.

Like major South Asian countries, Bangladesh will experience an increasing percentage and number of people over the age of 60. In Bangladesh, 5.1 percent or about 6.5 million people were in this age bracket in the year 2000, and the percentage is estimated to rise to 7.4 in 2020 and 12.1 percent to 2040 (ADB, 2000). An increasing number of nearing-retirement people will need to protect their capacity to secure their earning capacity to provide for life after work. The traditional informal methods for income and old age security, such as the extended family system in Bangladesh, are increasingly unable to cope. So the institutionalization of pension funds and their investment in capital market will generate incomes for the retired population in the first hand, while the huge inflow of resources due to such investment will certainly increase the capital marker liquidity, particularly in the securities market.

Unlike the developed countries as explained above, the Government of Bangladesh mandates the placement of pension funds in Government Savings Certificates, Government Defense Savings Certificates, or fixed-term bank deposits. More profitable placement, for example in capital markets, is prohibited. On the other hand, pension system in Bangladesh is yet to be institutionalized so that the funds can be channeled to the capital market. A conducive and effective pension management and regulatory infrastructure is absent in Bangladesh. The central characteristic of development of growth oriented pension system is to provide the system with a stable transition to financially sound, operationally efficient, and more inclusive pension structure side by side with a legal and regulatory framework, sound financial market with accompanying multi-modal investment avenues for individuals, which are short supplied in Bangladesh.

9.5.3 Capital Market Performance of Insurance Sector

The insurance sector is another emerging niche of institutional investors' market in Bangladesh, which is regulated by the Department of Insurance of the Ministry of Commerce under the Insurance Act, 1938. After the opening up of the market for private sector entrepreneurs in 1984, the insurance industry has grown rapidly with the number of companies nearly doubling to 64. Two state-owned companies, the general insurer Sadharan Bima Corporation (SBC) and the life insurer Jiban Bima Corporation (JBC), products of the 1973 nationalization, still play an important role in the industry. Including the state-run Shadharan Bima Corporation, 46 companies provide general insurance and including the state-owned Jiban Bima Corporation, 18 companies provide life insurance services. The two large state-owned companies dominate the insurance with about 66 percent of assets of the industry (ADB, 2003).

Pursuant to the provisions of Section 88 of the Insurance Act 1938, insurance companies in Bangladesh upon compliance of certain rules as laid in Section 95 and other relevant sections of the same Act may go for investment in the following manner:

- 50% in government securities
- 30% in government or other approved securities, and
- 20% in other approved investments

Approved areas of investment for the insurance companies are both preference and ordinary shares and debentures of companies, immovable property in certain town and cities, mortgage loan for immovable property, and current, short and long-term deposits with banks. Although the insurance companies are allowed to play directly in the inter-bank money market particularly by transacting in government treasury bills, their participation in that market is still very insignificant.

An analysis has been conducted on the capital market performance of insurance sector in Bangladesh by applying variables mainly the investment, investment and premium incomes, underwriting profit and total assets. However, the emphasis has been put on the investment performance that directly impacts the flow of funds to the capital market. As the private sector-owned general and life insurance companies are heterogeneous in size and structure, and financial wealth, the evaluation is made on the performance of some selected first generation companies-11 from general including the SBC and 5 from life including the JBC (see table 9.5.19), which have withstood for long in the market and thought to be representative of the whole insurance sector. The evaluation covers the period 1996-2004.

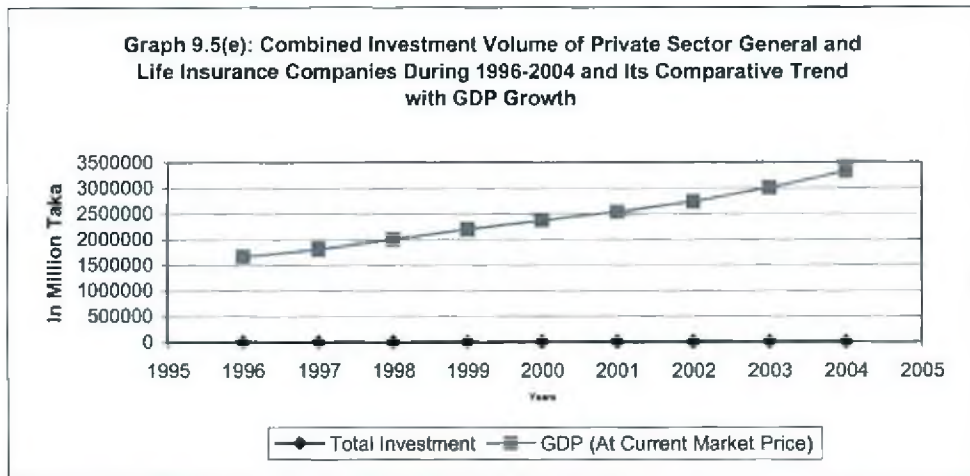
Table 9.5.19: Selected General and Life Insurance Companies reviewed

A -General Insurance Companies		Established on	B -Life Insurance Companies		Established on
1.	Sadharan Bima Corporation	14-05-1973	Jiban Bima Corporation		14-04-1973
2.	Bangladesh General Insurance	29-07-1985	National Life Insurance		23-04-1985
3.	Peoples Insurance	15-10-1985	Delta Life Insurance		27-11-1986
4.	United Insurance.	24-10-1985	Meghna Life Insurance		01-06-1996
5.	Green Delta Insurance	15-07-1986	Homeland Life Insurance		15-09-1996
6.	Pragati Insurance	22-11-1986			
7.	Eastern Insurance	25-11-1986			
8.	Eastland Insurance.	30-11-1986			
9.	Karnaphuly Insurance	01-12-1986			
10.	Janata Insurance	17-11-1987			
11.	Phoenix Insurance	30-11-1987			

Source: Compiled from annual reports of the companies

Tables 9.5.19(a) and (b), annex 6 respectively reveal the changes and developments in all of the aforementioned variables of selected private general insurance companies and the SBC in a combined manner. Table 9.5.19(c), annex 6 exclusively presents the similar performance of the private-owned general insurance companies (10) during 1996-2004.

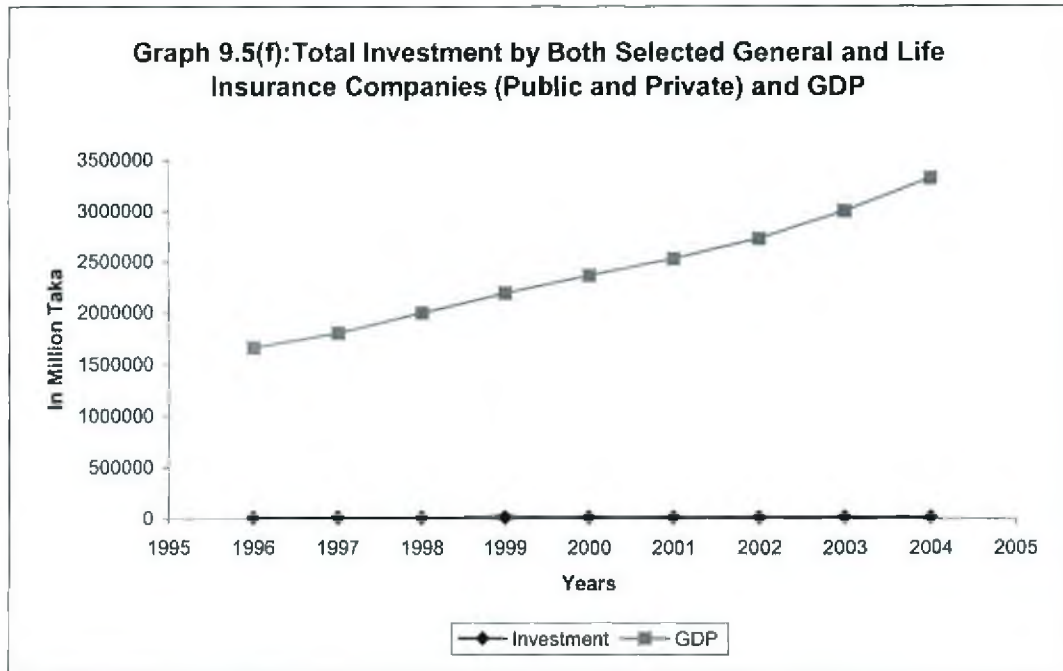
On the other hand, the same changing situations in the performance of selected private sector-run life insurance companies (4) and the state-run JBC have been reflected in table 9.5.19(d), annex 6, while the exclusive performance of JBC has been drawn in table 8.5.19(e), annex 6. Table 9.5.19(f), annex 6 separately shows the performance of the selected private life insurance companies. Table 9.5.19(g), annex 6 and graph 9.5(e) expose the percentile equivalence of combined investment performance of selected private general and life insurance, and table 9.5.19(h), annex 6 and graph 9.5(f) demonstrate the same of the selected private and public general and life insurance companies (both public and private) to GDP.



The total investments and investment in shares and debentures of Shadharan Bima Corporation and 10 selected private sector-owned general insurance companies have increased during 1996-2004, the period under review with only a slight variations in 1999 and 2004 [see table 9.5.19(a), annex 6]. It can be seen in the table that investment income of this group of insurance companies was greater than their underwriting profit, but below the premium income. Development of total assets of the general insurance companies has also continued to grow during the entire period. Shadharan Bima Corporation, the leading state-owned general insurer, has also recorded growth in its asset accumulation, investment and premium income and underwriting profit despite its market share in business has been reduced due to intervention of private insurance companies [see 9.5.19(b), annex 6]. As shown in table 9.5.19(c), annex 6, private-owned general insurance companies registered improvements in all respect, e.g., total investment, investment and premium income, underwriting profit and total assets. The performance of private sector owned insurance companies may be more if they are allowed free access to the business, which is now constrained by partial reservation of market share for Shadharan Bima Corporation.

Similar situation has also been prevailed in case of life insurance companies as shown in tables 9.5.19(d) and 9.5.19(e), annex 6. The life insurers have continued to grow in the context of increased assets, investment and investment incomes, building life fund and premium incomes. But the share of state-run Jiban Bima Corporation was much greater over the private sector-run life insurers [see table 9.5.19(f), annex 6].

Table 9.5.19(g), annex 6 demonstrates the overall investment performance of the selected private general and life insurers in comparison to the GDP at current market price during 1996-2004. Although the insurance sector has recorded a remarkable growth pattern, its contribution to capital market strengthening is yet to be significant as shown in table 9.5.19(g) as percentile share of GDP. Table 9.5.19(h), annex 6 and graph 9.5(f) expose the overall investment performance of the selected general and life insurance companies. The volume of investment of these firms did not reach even ½ percent of GDP, which reflects the sector’s poor contribution to the development of the country’s capital market.



9.5.4 Equity Entrepreneurship Fund (EEF): Contributions to Capital Flow

The Equity and Entrepreneurship Fund (EEF), launched in 2001 by the Bangladesh Bank to finance innovative agro-based and information technology (IT) projects, has disbursed Tk1.68 billion as equity fund. A total of 179 projects Worthing Tk.6.73 billion were approved where total investment was Tk17.26 billion. During the first half of FY2004-05 some 64 projects (58 agro-based and 6 IT) received financing of Tk.7.00 billion. The list of EEF’s targeted projects include various sub-sectors like poultry, fish feed, milk processing, potato flex, fruit processing, meat processing and ostrich bird hatchery. During the initial phase, agro-based food processing and IT was targeted, but the strict regulations, cumbersome approval and disbursement procedures could not make its way out. Table 8.5.20 shows the activity scenario of the EEF.

Table 9.5.20: Fund Disbursed by EEF (In billion Taka)

Year	No of Project	Project size	Allocated	Disbursed
2001-02	2	0.22	NA	NA
2002-03	81	2.51	0.97	0.41
2003-04	12	10.07	3.76	510

In spite of smaller in amount, the EEF added some extra pulse to the institutional investors market in Bangladesh.

9.5.5 Housing Finance in Bangladesh: Performance, Problems and Prospects

9.5.5.1 An Overview

Housing finance sector in Bangladesh has been facing major problems since long. With a very low GNP per capita per year (\$250), very high population densities (over 750 persons per square kilometer in urban areas), and a high percentile growth in population, living condition of the people is not very satisfactory. Approximately 77 percent of urban dwellings and over 98 percent of the rural ones are temporary. Overcrowding and minimal or no infrastructural support services have aggravated the problems. The situation has not improved significantly over the past decades.

The residential housing sector of Bangladesh is characterized by a three-tier market. Households with the highest disposable income are able to afford high quality housing in fully serviced neighbourhoods to utilize bank financing or specialized housing finance institutions. This group represents less than 3 percent of the housing market (ADB, 2000). The second tier is the relatively narrow stratum of middle-income households that are the main users of specialized housing financial institutions such as the Bangladesh House Building Finance Corporation (BHBFC). This group is the major beneficiary of available public subsidies and is composed predominantly of public servants and wage/salary earners of large private companies and public sector corporations. It represents 12-15 percent of the housing market. The third and largest of the tiers is the low-income households, for which housing is provided largely by the private sector, often under illegal and unsatisfactory site conditions. Their access to loan market is limited. Table 9.5.21 reflects the comparative profile of urban population with some neighbouring countries.

Table 9.5.21: Urban Population Profile

Country	Urban Population	*Annual Growth Rate of Urban Population	Urban Population in Poverty
Bangladesh	25%	3.7%	37%
India	28%	2.7%	31%
Nepal	12%	4.9%	23%
Sri Lanka	24%	3.1%	25%
*Estimates for the period 2000-2015 Source: Urban Fact Sheets, USAID			

It is estimated that close to half of all housing units in Bangladesh are made of temporary materials. ADB (2003) estimates the requirements for housing in urban areas from 300,000 to 550,000 units annually for the fifteen-year period between 2000 and 2015. The main constraint to housing production is the high cost of land in relation to incomes, particularly in urban areas. The gap between income and housing prices has some major consequences: i) developments of moderate income households in urban areas since most employment opportunities are still located in inner city areas. ii) a small proportion of all required houses is built only in the formal sector, iii) high land prices in urban areas cause multi-family units to become the predominant house-type.

In rural and informal urban areas, incremental single-family house-construction is the prevalent way of house building. The lack of housing finance and limited access to available financing opportunities sharpened throughout the country. The private real estate sector has shown interest in building houses for middle-income households, which have

been under-served until now mostly because of high costs of construction materials in addition to higher land prices. NGOs are implementing plans for the development of new lower income housing projects for low-income group population of rural and peri-urban areas. But without access to finance, their move to a down-market in the formal housing sector is virtually difficult.

Inefficiencies in the public sector housing in Bangladesh have been compounded by a number of reasons: (i) a multitude of authorities involved in both land and housing, leading to uncoordinated and disjointed approaches; (ii) the uncertain title to lands; (iii) limited and restricted access to housing finance from formal lending institutions; (iv) very low rate of loan recovery in the public sector; and (v) constraints in maintenance of infrastructure to service the housing stock.

Centre for Policy Dialogue (2003) notes that financial intermediation in the housing sector is not found adequate because of high interest rates and limited sources of funds, which is applicable both for financing of the developers and the purchasers. The state-owned Bangladesh House Building Finance Corporation (BHBFC) is burdened with bad loans, and loan disbursement tends to become lower in recent years and thereby constrained by lower recovery and lack of fresh funds. The BHBFC finances its loanable funds through government allocations and borrowing from the Bangladesh Bank, thus constrained with shortage of own resources. Delta-BRAC Housing came into this market as private-NGO collaboration, but their interest rates are as high as 16 per cent, which is higher than even that of the HBFC by one per cent.

CPD (2003) further notes that the most critical issue is financing the purchase of houses. The interest rate is so high that it is extremely difficult for a purchaser to pay the installments of the loan from the rental income. In many cases their projections go wrong because there are instances when the apartments remain vacant for months. Unless they have some additional capacity to repay the loan, they become defaulter and it becomes difficult for the financing organizations to manage the loan. The specialized organizations which finance the housing sector have nothing to do with it, as they are borrowing from the banking sector at a 13 to 13.5 per cent rate of interest on an average. As per the banking laws of the country, they cannot secure any deposit fund if its maturity is less than one year. Thus these institutions are dependent mostly on borrowed funds from the banking system.

On the other hand, both demand and supply sides of housing market in Bangladesh are heavily constrained by a number of market failures such as (i) ineffective private property rights and expensive rights transfers, (ii) ineffective systems of recording ownership, (iii) under-investment in key service infrastructure, (iv) government monopolies in the availability of land and building materials, and (v) inability of public agencies to provide local services such as waste disposal and security. The development of building industry is further constrained by limited entry of small firms because of regulatory restrictions, restrictions on the import of building materials, and limited access to latest building technology and appropriate techniques for low-cost construction.

Due to afore-explained constraints, trends in the output of housing business were also not impressive compared to the trends of investment in this sector. During the peak years of the early 1990s, developers built over 3,000 apartment units every year. In 2002-03, around 2000 units were built, which indicates a decline in output by more than 30 per cent. Besides the general consequences, this slump leads to delayed delivery of apartments by an average

of six months. The sluggish state of housing is also a consequence of the global economic downslide and recession, and the poor law and order-prone adverse situation in Bangladesh. In addition to these, the uncertainty created by the incidence of 9/11 of 2001 (bombing on the Twin-Tower in America) seriously affected the international migrant workers including the Bangladeshi expatriates, specially due to restrictions and unprecedented but close monitoring by the host country authorities on sending their hard-earned foreign exchange to the home country.

Unlike other Asian countries, the overall size of the capital market in Bangladesh in particular and the financial market in general remains smaller relative to GDP. There are also critical weaknesses related to poor economic and financial management practices. The housing sector in the country, which is highly financing dependent, is acutely affected by such market weaknesses and inefficiencies.

Along with the sub-optimal performance of the capital market, the housing finance system in Bangladesh is underdeveloped and highly segmented. The formal mortgage finance system is smaller compared to new housing constructions, which only serves the highest income groups - households with incomes above Tk.25, 000 per month. Formal financing is restricted to selected high-income housing sub-markets in major cities. The formal housing system again suffers from weak underwriting and inefficient loan administration and risk management practices and a segregated structure that provide advantages to the government owned BHBFC, which operates in the same higher income market. The emerging specialized private housing finance institutions (HFIs) shed some hopes for a more healthy development of the mortgage market. However, these HFI are facing difficulty in mobilizing adequate resources because of slow motion in financial market development, weak banking system and sharp competition with government savings schemes. The banking system is heavily troubled by bad and non-performing debts and is hardly able to provide wholesale or individual long-term funds at an efficient rate for housing purposes. The interest rates for fixed rate mortgages vary from 13 to 16.5 percent for periods of 10 to 15 years, which is the outcome of weak structure and performance of the domestic financial markets.

At the informal front, non-collateral-based credits for house construction are providing by three of the four large micro-finance institutions in Bangladesh (Grameen Bank, BRAC and Proshika). The recipients get loans from these institutions on the basis of membership in the lending programs of those institutions and a track record of repayments of previous loans. Housing loans form only a small part of the total loan portfolio of MFIs (approximately 2-3 percent) and are available to only the rural landless borrowers, mostly women. A total number of 700,000 housing loans have been extended by the MFIs since the inception of the programs in two phases in the 1970s and 1980s. Such housing loans carry flat interest rates ranging from 5 to 10 percent. The term varies from 6 years for Proshika to 15 years with the Grameen Bank. Simple application and approval procedures are followed and assistances are provided with the design and purchase of cheap and appropriate building materials.

An important, but less exposed source of housing finance in Bangladesh is staff housing loans. Many government and semi-government institutions provide housing advances to their staff-members for building residential houses. The public and domestic private sector banks also provide such housing loans. Of the one million approximated number of government employees in the country, about 60 percent has availed the staff house-building loan facilities from their employers (Marja, 1998).

9.5.5.2 State of Housing Finance Market in Bangladesh

The major financing organizations for housing in Bangladesh are the HBFC and the commercial banks while financing by other organizations like Delta-BRAC, National Housing and micro credit lenders are insignificant. The trend in housing finance extended by the country's banking system is presented in table 9.5.21(a), annex 6, and graphs 9.5(g) and 9.5(h). The figures and graph expresses that the situations of housing finance made by banks in terms of GDP were insignificant except the year 1996 when such financing was over Tk.90 billion or 5.42 per cent of GDP.

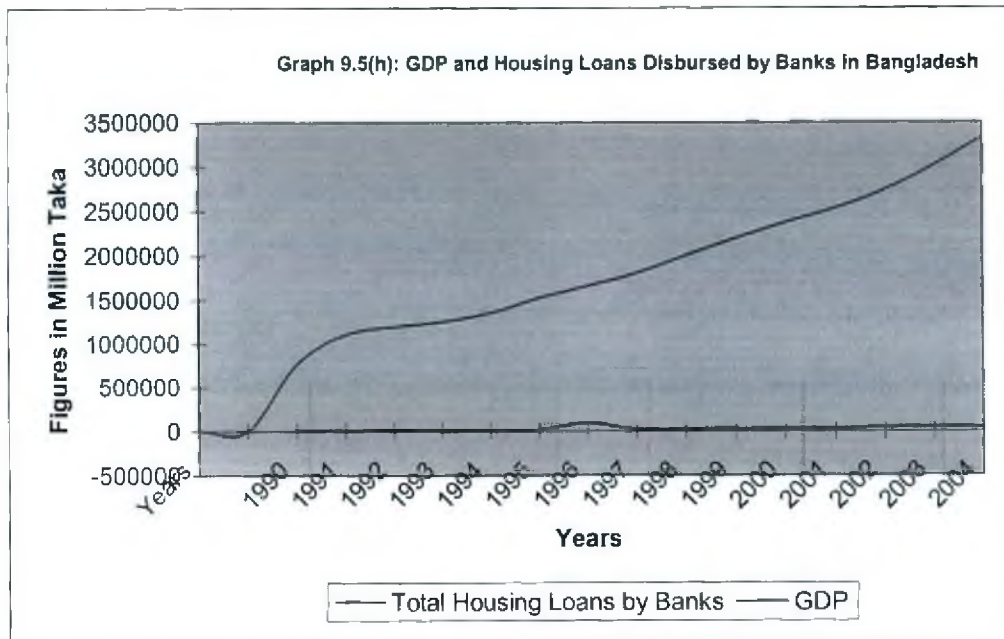
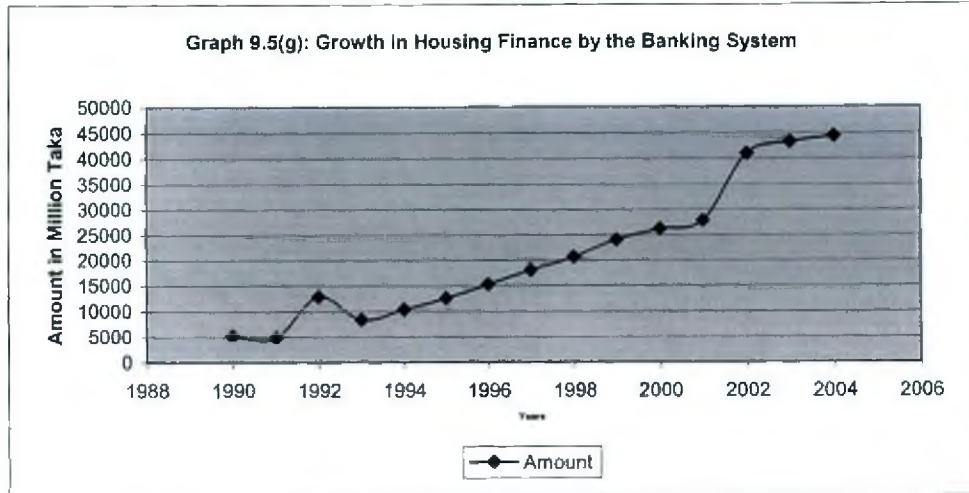


Table 9.5.21(b) shows the comparative position of volumes of housing loans provided by the BHBFC and other financial institutions with banks during 1990-2004. It is again important to observe that banks are still the major financiers of housing sector in the country.

Table 9.5.21(b): Outstanding Housing Finance of BHBFC and Other Financial Institutions during 1990-2004 (Billion Taka)

Years Institutions	2002	2003	2004
HBFC	28.90	29.20	28.80
Delta-Brac Housing	2.20	3.00	3.40
National Housing	0.80	1.00	1.30
Other Financial Institutions	0.50	0.70	1.00
Sub-total	32.40	33.90	34.50
Housing Finance by Banks	40.95	43.24	44.36
Grand Total	73.35	77.14	78.86

Source: Bangladesh Bank and BHBFC, Annual Reports of the years concerned

The government has been pursuing a funded rural housing program titled 'Grihayan Tahbil' through NGOs since 1998. The NGOs receive low rate funds from "Grihayan Tahbil" (housing fund) and make onward lending to the rural poor for building kancha and semi-pacca residential houses. Financing the program has been suspended several times due to non-release or non-availability of funds. However, the Tahbil has disbursed a total of Tk.890.00 million during the period of its beginning in 2001 to end June 2004 (see table 9.5.21(c)).

Table 9.5.21(c): Housing Finance Disbursed through Grihayan Tahabil

Year	Amount Disbursed (Million Taka)
2001-02	340
2002-03	350
2003-04	200
Total	890

Source: Bangladesh Bank

9.5.5.3 Policy Implications

(a) Industry Development

The state of housing finance examined above necessitates strengthening of the institutional and financial capabilities of the various housing sector agencies and development of housing finance market. This could be done through (i) restructuring the existing housing finance institutions, (ii) mobilizing and channeling the resources of the private sector, and (iii) designing and implementing effective low-income housing programs. To determine the financial requirements for the country's housing development, realistic attempts to be made to (i) assess the size of housing sector, including the estimation of shelter requirements and housing demand/supply characteristics, (ii) identify and measure the depth of existing housing constraints; (iii) assess the strength and capability of the various sectoral institutions involved with housing and identify ways to improve their performance; (iv) assess the financial strength of the institutions involved in housing finance; (v) detail

review of land tenure, land use planning and building laws for making standards and service planning, (vi) plan for urban land management; and (vii) development of sector strategy and program proposals, including new measures for mobilizing resources.

One of the challenges that the housing finance sector in Bangladesh is now facing is the narrowing of the excessive gap in access to housing credit by minimizing the shortages of financial resources. A number of strategies may be effective. First, increasing the number of households that have access to formal construction and mortgage finance to build or purchase a home in the formal urban housing sector. Second, extending credit to lower-income urban households that already own a house in the informal sector or could, with special assistance, acquire an apartment or plot but would not qualify for formal mortgage programs. Thirdly, enhancing and expanding rural housing lending programs by government sponsored institutions.

For a down-market expansion of formal mortgage lending for housing, following reforms seems to be supportive:

- (iv) changing the Trust laws and Insurance Act in order to allow long-term investors to participate more freely in the housing finance sector;
- (v) assisting the development of a debt market that would facilitate the link between housing finance institutions and long-term investors;
- (vi) encouraging the larger and professionally run MFIs to enhance their low cost housing programs in order to support the emerging housing finance sector and its move towards middle-income lending with a rationalized rate of interest;
- (vii) stimulating foreign investment in, and foreign lending and guarantees to the new housing finance institutions (HFIs) by carefully selected parties;
- (viii) declaring the housing as a thrust sector and adopting a national housing policy pragmatically adherent to the problems of the sector;
- (ix) introducing government backed housing bonds through the securities market with the qualification of secondary or after-market trading in order to stimulate the inflow of funds in the housing finance market, which in turn, will contribute to the development of the country's capital market;
- (x) enhancing the financial strength and management capability of the BHBFC to change to an efficient and innovative middle and lower-income mortgage lender;
- (xi) adjusting the BHBFC's borrowing/debt raising privileges in order to discourage its competition with the newly developing private HFIs for the same customers;
- (xii) patronizing the development of housing mortgage market and increasing access to formal mortgage finance by middle-income households;
- (xiii) introducing alternative subsidiary instruments for the under-served lower and middle-income households in specific housing markets;
- (xiv) decreasing the administrative costs related to mortgage lending;
- (xv) improving the efficiency of the primary mortgage market;
- (xvi) adopting in state-of-the-art mortgage lending and servicing operations and technologies and imparting training to those actively involved in changing the mortgage industry in the country;
- (xvii) improving the regulatory system for new HFIs which is now divided among various agencies, none of which have experience with mortgage lending operations and risks management;
- (xviii) expanding and improving the sustainability of micro-finance housing programs;
- (xix) assessing housing quality and location for disaster vulnerability;
- (xx) analyzing lending options with joint land ownership forms for low-income urban housing projects;
- (xxi) establishing more professional micro-finance and mortgage lending conditions, procedures and instruments for urban housing; and

- (xxii) creating an apex funding and monitoring window for housing finance. Such a fund should have the capacity to carefully monitor the housing loan programs implemented by participating HFIs and MFIs and provide technical assistance in the specialized field of housing lending where necessary.

The weak formal financial sector in the country is meeting only 5 percent of the market's large demand for housing finance. The government can make the housing sector more capable and efficiently functioning by establishing a new set of home mortgage banks. It will originate new mortgages and, over time, issue local currency mortgage-backed securities that will make new and existing homes more affordable to lower income families. Increased role of non-bank financial institutions in housing finance can be a catalyst for much needed capital market development in the country.

(b) Exploring Economic Benefits of Housing Industry

It is important to have a developed housing sector that will have significant contribution to the economy in terms of employment generation, accrual of investment, contribution to exchequer, output trends and linkage. By proper state-policy patronization, it is possible to reap even the direct benefits of housing market for economic development of the country in addition to its contributions in capital market development.

The housing sector is at present creating employment for about 10 lakh people who are directly or indirectly involved in the sector. According to the LFS, 2.1 per cent of the labour force was engaged in construction in 1999-2000, whereas the figure was 1.8 per cent for 1995-1996. These figures include workers engaged in brick chipping and working in delivery trucks to architects, engineers and entrepreneurs. Some 5,000 engineers and 6,000 management staff are engaged in this sector.

Recent information concerning investment in the housing sector shows steady growth both in absolute terms and as a percentage of total private investment and GDP. Private investment in housing and construction has more than doubled from Tk.7 billion to Tk.15.9 billion during the Fourth Five Year Plan period (1994-1999). The proportion of investment in housing and construction in GDP increased from 3.4 percent in FY 1997 to 4.1 percent in 1999. During the first three years of the Fifth Five Year Plan period the average annual investment in housing and construction was Tk.7.6420 billions. Private investment in housing and construction in total private investment in the economy in the period between 1997 and 1999 was 47.3 per cent, while the planned target figure for the share was 16.35 per cent for this period.

The contribution of the real estate sector to the exchequer is substantial revenues of various forms, such as VAT, registration fees and utility connection fees generated in the real estate sector amount to about Tk.360 millions per year. The real estate sector has also made substantial contributions to the growth of a host of backward and forward linkage sectors, which include paints, ceramics, aluminium, furniture, consultancy and many others.

However, the housing finance and the housing industry related problems are to be addressed more effectively. Housing policies must consider the causes rather than the symptoms of policy failures. Stronger and more effective enabling strategies must be developed by the public sector to allow housing markets for the various tiers to leverage the activities of the private sector.

9.5.6 Findings and Policy Implications

a) Findings

The institutional investors market in Bangladesh is very thin in structure and small in size, featured with small real investment activities. Except the state-owned ICB, investment performance of leasing, insurance and pension funds is very negligible. In addition to small asset-holdings, these institutions are constrained to invest in the capital market by regulatory impositions. The merchant banking did not flourish due to non-inclination of banks to involve in such activities.

As mentioned in sub-section 9.5.2 earlier, the NBFIs and other institutional investors in developed, even in many developing countries are largely involved in industrial development financing, house mortgage financing, lease financing, project financing, investment financing and many more. Compared to those, NBFIs in Bangladesh are far behind and going on with some selected traditional activities.

The activities of non-bank financial institutions in Bangladesh in reality are not pro-capital generation. These institutions are financial intermediaries having no scope of creating credit money in the economy unlike the deposit money banks (DMBs); their activities only provide the financial markets with expansion of market size and help expediting allocation of investible funds. These institutions fund them mostly by borrowing from the banking system.

Insurance sector in Bangladesh is often dominated by state-owned entities. There is only one foreign company, whose investment in local capital market is extremely little. The private sector-run general and life insurance companies are characterized by inadequate capital, high operating costs, limited product innovation, lower investment returns, lose control over brokers, high levels of receivables, extensive fraud and many other mis-dealings.

Regulation and supervision of pension and insurance in Bangladesh are extremely weak, putting participants in uncertainty and retarding the mobilization of long-term savings. The Ministry of Commerce oversees the insurance industry through its Department of Insurance (DOI), where the staff members hardly possess an industry background or formal training in insurance or actuarial matters. DOI also suffers from deficiencies in organization, policies and procedures, and lack of computerization. Consequently, it is unable to effectively enforce existing insurance laws and regulations.

Bangladesh's rudimentary pension system and insurance sector offer a constrained set of interventions. The present pension and insurance schemes cover only a small percentage of the population without paying due justice to the increasing need for old-age and income security. Ultimately, a mandatory second-pillar scheme requires a trustworthy legal, regulatory, and supervisory environment. Such legal and institutional environment does not exist at present in Bangladesh. Pension funds are prohibited to invest in securities market, while the securities market investment by insurance companies are constrained by ceilings imposed by regulator and the concerned legislation.

(b) Policy Implications

The government should prepare for legal and institutional strengthening of pension and insurance in the country. Transition to a mandatory, supervised, and regulated second pillar will lead to new opportunities for long-term domestic debt markets. Deepened long-term markets will benefit from well-managed and regulated institutional investors in the insurance and pension sectors. Professionally managed private pension funds will enable companies to attract and retain better employees.

To establish an efficient pension fund and an insurance system in the country, rigorous reforms need to be done. For the development of the country's insurance sector, several issues need to be placed at the top of the reform agenda: (1) To strengthen their capital bases by listing initially, at least, domestically so that they are more capable of withstanding the risks; (2) To allow and facilitate the insurance companies to invest in a wide range of financial instruments and to build up their own asset management teams, and. (3) To encourage insurance companies to expand a market-oriented basis so that their competitiveness is quickly increased and their services cover larger population.

For strengthening of the structure of pension and insurance systems and increasing liquidity in the capital market, following measures may be considered:

- (i) Establishing and strengthening of the legal framework and building institutional capacity to regulate and supervise the insurance and pension sectors;
- (ii) Setting in place the necessary components leading to the development of a multi-pillar pension system;
- (iii) Reviewing and modernizing all insurance and pension legislation and regulations, and draft model acts, amendments, and regulation necessary to create a full-fledged regulator/supervisor;
- (iv) Appointing a competent regulator/supervisor with ample oversight and enforcement authority and capacity;
- (v) Allowing entry to responsible fund and investment management companies in the pension fund system;
- (vi) Ensuring employee pension rights and considering the establishment of a single regulator/supervisor for the insurance and pension sectors;
- (vii) Developing options for partial or full migration to such schemes by the private sector, public enterprise, public authority, and Government employees;
- (viii) Formulating and providing the basis for fund investment guidelines, gauge additional net returns and risks under the investment guidelines, and estimate funds available to domestic equity and long-term debt markets;
- (ix) Reviewing the Insurance Act (1938), identifying constraints or weaknesses in the act, which hinder the functioning and sustainability of an effective regulatory system or the effective operation of the insurance market; and propose appropriate amendments;
- (x) Considering the above findings, setting a suitable governance structure and prepare the corporate plan for the insurance regulator, with the view to having one combined insurance and pension regulator;
- (xi) Detailing the condition for foreign direct investment in the insurance sector, and related transfer of know-how;
- (xii) Analyzing the possibility of extending insurance schemes to larger groups of regular and even casual workers. This may involve collecting data on employment, income, and expenditure situation of non-covered groups; and
- (xiii) Detailing possible solutions for up-scaling micro-insurance schemes or similar schemes. Prepare an investment plan; this will relate among others to monitoring and regulation, risk diversification, and re-insurance.

It is to mention further that banks and other financial institutions are the drivers of the financial industry; they provide the real sector industries and other sub-sectors of the services industry including the financial sector itself with financing facility and other allied services. Nevertheless, their role should be properly defined and well directed. It is observed that non-bank financial institutions have been creating unbalanced growth because their business has been overly concentrated to a few areas like housing finance, car leasing, consumer financing, etc. They should throw focus on the lending in small and medium enterprises (SMEs) for short and medium terms. Investment banks should focus on

the equity and debt financing for long-term ventures. More importantly, investment advisory and asset management companies need to be established to increase the supply of above stated services. Instead of providing direct lease financing, the leasing companies should promote the operating lease, which would have positive impact in the process of capital market development in Bangladesh.

It is an established wisdom that the institutional investors greatly bring dynamism in the financial markets. To patronize the promotion of the institutional investors' market in Bangladesh, three preconditions need to be fulfilled, which would allow even a country lacking all the essential elements of a well-developed financial system. These include: a strong, long-term and persistent government commitment to implement a successful pension reform; introduction of effective arrangements for the safe custody of pension fund assets (to prevent theft and misuse of assets) and free access to foreign expertise. These preconditions are not easy to fulfill. The first implies a holistic approach to economic reforms and a willingness to proceed with banking, insurance and capital market as well as macroeconomic and fiscal reforms. It also implies that successive governments even if they come from different political parties should be committed to the success of pension reforms. Such reforms can be accompanied by undertaking of systemic pension reforms with a compulsory fully funded pillar in the absence of well-developed securities markets. The second option may be tax incentives for the voluntary creation of funded pension schemes.

A country that lacks all the fundamental elements of a well functioning financial system: no solvent banks and insurance companies; no mutual funds and securities market for bonds and equities; no long-term financial instruments and annuity products; no experienced regulators and supervisors; no bankers and actuaries; no accountants and lawyers; and no rating agencies should not reform its pension system, rather better to introduce a mandatory retirement savings scheme. Even if there is no existence of a traditional un-funded social security system, the financial system of that country will be malfunctioning due to suffering from evasion, incomplete records, administrative inefficiencies and strategic manipulation. Although weak, Bangladesh has a financial infrastructure where all of the above stated market elements are present. So pension and insurance reforms in Bangladesh certainly be feasible and viable. As a part of development of financial markets and instruments, an enabling legal and legal enforcement system is essential for the development of the financial market in general and the pension system in specific.

Mutual funds are significant instrument, which rigorously help the capital market activity to go robustly. So, Bangladesh should encourage the origination and trading of more private sector mutual funds. However, passing mutual fund legislation and creating an enabling environment for their establishment is an integral part of development measures of capital market development and therefore, should receive due attention. In many developing countries, the mutual fund industry is dominated by funds investing in government bonds or bank deposits, with only a small part accounted for by equity funds. This situation, in most cases, created high level of real interest rates on debt instruments and lack of confidence in equity markets. Literature and experience suggest that mutual funds follow the development of securities markets, unlike pension funds, which often predate them, and insurance companies.

It is to note that the efficiency gains from the development of institutional investors are not automatic at all times. It is less likely to materialize if institutional investors are required to invest only in non-marketable government securities, which has long been the case with the

national provident funds in Bangladesh. The pension and provident funds must be allowed to diversify their investment-mix in all legitimate and marketable securities.

More importantly, the promotion of private pension funds and insurance companies should be pursued for their own sake and their potential economic, fiscal and financial benefits and should not be dependent on the prior development of securities markets. The limited supply of suitable financial instruments should not be a major obstacle for the creation of pension funds and insurance companies. These institutions will accumulate their long-term financial resources on a gradual but steady basis. A far more important factor than the state of development of securities markets would normally be the existence of strong political commitment to a holistic reform program that would need to cover not only pension and insurance reform but also broader macroeconomic, fiscal, banking and capital market liberalization. Given this commitment, institutional investors can provide a strong stimulus to the development of securities market in Bangladesh. They can act as a countervailing force to the dominant position of commercial banks, stimulate financial innovation, modernize capital markets, enhance transparency and information disclosure, and strengthen corporate governance. In order to attract the desperately needed management skills and capital, the financial opening and cooperation related to pension funds, mutual funds, and commercial companies should be accelerated. A greater number of specialized and objective oriented funds such as EEF would certainly add value to the development of resource bases in the capital market. The so-called institutionalization of savings - that is, choice of pooled funds held by pension funds, insurance companies, mutual funds and investment trusts as repositories for the majority of savings - can increase the share of funds invested in securities and enhance the role of institutional investors.

Chapter 10

Financial Sector Reforms in Bangladesh: A Post-Event Impact Analysis

10.1 Introduction

Financial reform with conditions in formal financial markets and macroeconomic aggregates (the interest rates, savings and investment) generally refers to opening up of the economy to free flow of international finance and removal of government control and restrictions on the functioning of banks and other financial institutions. Financial reforms complement the financial liberalization and include a broad range of measures aiming at improving regulatory and supervisory environment in the financial sector and restructuring and developing financial institutions. Interest in financial reform increased in the early 1980s as a consequence of reduction in international lending by commercial banks and the desire of governments to promote mobilization and more efficient use of domestic resources. The main objective of financial sector reforms is to enhance the efficiency level of the financial system in order to enable it to function rationally and efficiently to ensure the safety of the public money, increase the investors' returns and accelerate the productivity of the real sectors.

Financial sector reforms in Bangladesh are still underway since 1984. But the first systematic effort towards financial liberalization in the country's history was reform initiated in the early 1990s under the Financial Sector Reform Project (FSRP). Before the FSRP, a number of scattered piece-meal initiatives have been made, but the outcome has not been evaluated.

This chapter of the dissertation will try to identify the emerging issues and explore the prospects for future reforms in the country's financial sector. It also has an objective of making policy recommendations for improving the efficiency of financial sector in order for enabling it to play more conducive role to the upliftment of the country's financial and economic performance and with this and in view, it will test the hypothesis that the post-FSRP financial sector in Bangladesh has achieved the envisioned financial development, and eventually, contributed to economic growth of the country.

The indicators of financial development that have been evaluated in this study are deposit mobilization and lending performance of banks, their branch expansion, capital adequacy, asset quality, non-performing loans (NPL) and loan loss provisioning, institutional deepening, and profitability and productivity of banks. The macro-economic factors that have been applied are interest and inflation rates, GDP growth, and per capita income level. Trends of domestic savings and investment in relation to GDP have also been analyzed. The study has applied the data for a period of 15 years ranging between 1987 and 2004. The study period is divided into three sub-periods: pre-FSRP (1987–1990), FSRP (1990–96) and post-FSRP (1997–2004). The yearly data applied in the analysis have been

collected directly from central bank records and its other official publications, which are secondary in nature and source.

10.2 Pre-FSRP Situation and the Background of the FSRP

It has been discussed in chapter 4 earlier that independent Bangladesh inherited a thin financial system with only 1130 branches of 12 commercial banks in 1971. By re-distributing those branches, the government had formed six nationalized commercial banks (NCBs) in 1972 keeping the branches of the foreign banks working in this region untouched (see table 6.1, chapter 6).

During the early years of independence, the bank-based financial sector of Bangladesh suffered from the absence of effective legal, administrative, operational and institutional settings. The financial sector was characterized by a weak structure of financial markets. The real sectors of the country were also very fragile with lower productivity due to lack of sufficient financing facilities, technological backwardness, political instability, labour unrest and sub-optimal level of national savings and investments. The country had to import huge amount of food grains and other consumer items, raw materials and capital goods. But its exports were limited and the export receipts were far less than what was required to offset the trade imbalances. Moreover, the government had to make huge capital expenditures on the re-building of the war-shattered country

Nevertheless, the network of the country's banking system that comprised of NCBs and a few branches of foreign banks had expanded remarkably during the 1970s. The total number of bank branches increased by 13.36 percent during 1973-83. This has resulted in a sizeable reduction in the population per branch from 50,946 in 1973 to 20,716 in 1986 due mainly to little increases in bankable population with income surpluses. The proportion of branches of banks and the volume of credit allocation had been expanded substantially to the rural areas during 1973-83. The principal objective was to help rural poor in undertaking income generating activities on self-employment basis. The NCBs had pursued a policy of rapid credit expansion to priority areas in response to governments' directives for facilitating social welfare and socio-economic development, but without or with little regard to the quality of loanees and the inherent risk elements. Lending rates for priority sectors were kept low, which could not cover the risk, and even the cost. Further, the rural credit system had gone ahead without stringent supervision and monitoring. The asset profiles of the NCBs remained highly unpaid and became overdue. The financial institutions used to operate under a regime of rigid government control and central bank regulations. The Nationalised Commercial Banks (NCBs) continued to suffer from declines in their profitability⁶¹ and faced severe operational difficulties. The profitability of the NCBs has gradually declined from 0.35 percent in 1973-74 to 0.001 percent in 2001-02 (see table 10.1 in annex 7). Thereafter, it shows slight improvements but not remarkably.

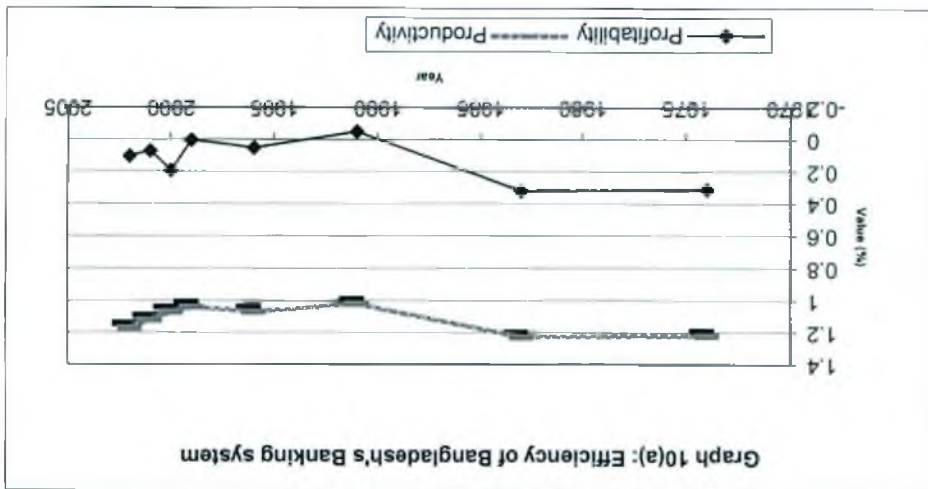
The above stated situation had prompted the government to re-think on the performance of existing financial and economic development strategies. Accordingly, the government of Bangladesh (GOB) started to make gradual policy shifts since mid-1980s and promote private entrepreneurship. At the initial stage, 2 NCBs (Uttara and Pubali Bank) had been denationalised in 1982 and the government accorded permission for opening private commercial banks, the number of which was 12 by December 1986.

It was expected that denationalization and privatization initiatives would promote

⁶¹ Profitability is defined as net profit deflated by total of balance sheet.

62 Competition in the financial system can be defined as the extent to which financial markets are contestable and the extent to which consumers can choose a wide range of financial services from a variety of providers. Competition is often a desirable feature because it normally leads to increased institutional efficiency, lower costs for clients, and improvements in the quality and range of financial services provided. There are numerous measures of competition, including the total number of financial institutions, changes in market share, ease of entry, price of services, and so forth. In addition, the degree of diversity of the financial system could be an indicator of competition or the lack thereof because the emergence of vibrant non-bank intermediaries and capital markets often have been a source of effective competition for banking systems in many countries. All things remaining equal, an increase in the number of financial institutions or an expansion in available financial market instruments will increase competition by expanding the available sources of financial services that consumers can access. Ease of entry into the system could be judged by looking at the regulatory and policy requirements for licensing, for example, the required minimum paid-up capital.

One major problem of the country's banking system was inability of banks to avoid or resist pressure by the vested interest groups in credit decision making-process. This led the credit flows to undeserving, as well as undesired sectors, which have been failed to repay bank loans, but laid the seed of a phenomenon later established as the 'default culture.' About 30 percent of lending assets of the NCBs became overdue and non-performing by 1986. Following this adverse situation, the Government in that year (1986) formed 'The National Commission on Money, Banking and Credit'. On the basis of a set of recommendations made by the Commission, the Government took a major policy decision to liberalize the country's financial sector in line with the ongoing economic reform programs. The World Bank was invited to make an in-depth assessment on the requirements of the intended reforms. The Bank conducted a comprehensive study and recommended reforms in the interest rate structures for both savings and loans, classification of overdue loans and provisioning, restructuring of NCBs and establishment of prudential regulatory and supervisory system in conjunction with the legal, administrative, accounting and human resource development. The World Bank extended a Financial Sector Adjustment Credit (FSAC) to the GOB and designed the Structural Adjustment Program (SAP) titled "Financial Sector Reform Project (FSRP)" as a medium term liberalization measure in the early 1990s. The USAID provided a complementary US\$ 16.3 million as technical assistance for FSRP.



62 competition and improve the level of operational efficiency of the banking sector. Most private banks, however, experienced declines in operational efficiency. The profitability of the banking institutions went down from 0.23 percent in 1982-83 to (-) 0.05 percent in 1990-91 on an average [see graph 10(a) and also see table 10.1 in annex 7].

The five years-long multi-facet FSRP was adopted in 1990 and its implementation took place during 1991-96 under the direct supervision of four foreign experts placed in the four NCBs. A team of experts was stationed in the Bangladesh Bank to assist the later in reforming its supervisory system and strengthening human resource management.

The main objectives of the planned financial sector reform project were liberalization of interest rates, improvement of monetary policy, abolition of priority sector lending, strengthen the central bank's regulatory and supervisory capacity, improvement of the scheduled banks' debt recovery capability and deepening the capital market.

The FSRP under the FSAC was designed with several tranche conditions covering the following areas:

- i) Introducing a new interest rate policy, with the firm intention to establish market determined rates and reimbursement of interest rate subsidies to the banks by GOB during the period of implementation of the project;
- ii) Strengthening the central bank's supervisory capacity and development of effective bank reporting system together with revised prudential standards;
- iii) Rationalizing and reclassifying the loan portfolios of the NCBs with appropriate provisioning;
- iv) Recapitalizing the NCBs through issuance of government bonds of various maturity in order to enhance the capital adequacy ratio to the extent of 5 percent of deposits received;
- v) Attaining loan recovery and collection targets by the NCBs from the 100 big defaulters;
- vi) Establishing a credit information bureau in the central bank, with the regulation that banks would not be allowed to lend to defaulters identified by this Bureau and without letters of no objection from the lender who holds the defaulted loan; and
- vii) Implementing the Financial Loan Court Act.

In line with the above, following broad policy objectives were set out for FSRP:

- Liberalize interest rates;
- Improve banking supervision;
- Improve loan recovery;
- Adopt international standards of loan classification and realize
- Ensure adequate capital reserves
- Improve the operation of money and capital markets
- Institute management reforms across the sector
- Eliminate directed loans and forced lending
- Privatize state-owned banks
- Remove requirements on banks to lend to specific sectors
- Allow easier entry for private sector banks including foreign banks
- Allow entry to non-bank financial institutions (NBFIs)
- promote sound banking and help protect bank depositors
- Strengthen the prudential regulation
- Supervision of banks by improving banking laws and expanding supervisory capacities
- Strengthen the country's central bank (Bangladesh Bank).

The reform agenda also had included some specific issues, namely introduction of rediscounting facility instead of subsidized re-financing to NCBs and special purpose banks, restructuring the capital structure of NCBs and imposing capital adequacy standard, legal reforms and enactment of new laws conducive to financial infrastructure development, formulation and implementation of new rules for loan classification and

provisioning, reforms in the foreign exchange and capital markets, development of management information system (MIS) and human capital.

10.3 Implementation of the FSRP (1991-96)

The FSRP was implemented in two major streams of the country's financial sector: banking reforms and the reforms of the domestic foreign exchange market. The project also intended to develop capital market and encourage the growth of non-bank financial institutions (NBFIs) such as leasing and finance companies in the later years.

Banking Reforms

The reform program was both "Anti-repressionist" and "Structuralist" in approach. Reforms initiated in 1983 got momentum in 1990, when Bangladesh Bank introduced a flexible market oriented interest rate policy abolishing the previous system of pursuing centrally determined interest rate structure. The central bank started to prescribe band rates for different categories of loans, advances and deposits within which banks were free to fix their own rates. The bands were initially prescribed on six monthly basis. Afterwards, the bands were widened and banks had been allowed to charge interest rates on monthly basis. Later, through a series of relaxation steps at different times, band rates for loans and advances were totally dropped on 26 July 1999 except for export financing. The floor rates for all types of deposits were also dropped on 2 February 1997. On the other hand, all the refinance facilities offered to some priority sectors were abolished and a single Discounting Window was introduced to accommodate the genuine credit needs of the scheduled banks from the Bangladesh Bank. Prior to this policy relaxation, a new system of loan classification was introduced through the Banking Control Department (BCD) Circular No.34 of 1989, which was further tightened through BCD Circular No.20 of 1994 with the intention to move to international standard in phased manner over a period of five years. Under specific definitions, loans started to have been classified as (a) Sub-standard, (b) Doubtful, and (c) Bad. The compulsory provision requirements (as % of the classified loan) for each of these classes, to be maintained from profit was fixed at 20%, 50% and 100% respectively.

In line with the international standard, uniform rule of capital adequacy requirement for the banks has been established under which banks were initially required to keep 5% of total deposit as capital. This rate was later raised to 6% of total liabilities and in January 1993, to 8% of total risk weighted assets of a bank. The government recapitulated the capital-deficit of NCBs by issuing bonds under its own guarantee. The capital adequacy rules have restored the confidence of the depositors and also in undertaking international business. For improving the operational efficiency of NCBs and domestic private banks, major policy changes have been made, and strategic plans, such as Performance Planning System (PPS), New Loan Ledger (NLL), New MIS, computerization, Credit Improvement Actions, Lending Risk Analysis (LRA), and Large Loan Review System (LLRS) had been introduced (see table 10.2).

Table 10.2: New Loan Regulations

Screening	Monitoring	Transparency	Lenders recourse
i) LRA ii) CIB iii) Loans to Insiders and Connected Parties iv) Interest Rate Deregulation	i) NLLC ii) LLRS iii) PPS iv) Off-site Supervision	i) Loan Classification and Provisioning ii) Risk based Capital Adequacy	i) Money Loan Court Act, 1990 ii) Bankruptcy Act, 1997

Source: Adopted from Chowdhury and Moral, 1997.

Further, foreign banks were given greater access to the domestic market, both as subsidiaries and branches, subject to the maintenance of a minimum assigned capital and the observance of the same rules that applied to domestic banks. The pace of liberalization has been accelerated with the strengthening of the central bank. With a view to pursuing dynamic credit policy and improving prudential supervision of banks and financial institutions, the institutional capacity of Bangladesh Bank has been strengthened. Monetary Management and Technical Unit (MMTU), a newly established full-fledged department in the Bangladesh Bank, has been assigned with the responsibility of formulating and suggesting appropriate policy measures on monetary and credit policy reforms, and other aspects of money and banking in the country. Inspection and supervision departments of Bangladesh Bank have been strengthened in terms of strategy and human resources.

The Financial Institution Act has been enacted and enforced in 1993 and a separate department was set up to oversee the activities of the non-bank financial institutions. A Credit Information Bureau (CIB) has been set up in the Bangladesh Bank in order to provide ready information on default borrowers to the banks. Under the Bank Companies Act 1991, Bangladesh Bank has been made empowered to remove directors and chief executive officers (CEOs) of private banks when deemed necessary. Appointment of CEOs of banks has been made subject to the approval of the central bank. Approval of Bangladesh Bank is also compulsory in case of large loan exposures of the banks under section 27 of the Bank Companies Act 1991. By virtue of enhanced power, Bangladesh Bank can impose penalty on the regulated banks without resorting to court proceedings. Banking supervision capacity of Bangladesh Bank has been strengthened through improving techniques in both off-site and on-site supervision. On the basis of the experience of developed countries, the "CAMEL" rating (Capital Adequacy, Asset Quality, Management, Earnings and Liquidity) system has been introduced to evaluate the performance of the scheduled banks. Money Loan Courts have been established under the Money Loan Court Act 1999 to accelerate the recovery of default loans through the legal proceedings. The insolvency law has been modernized through enactment of Bankruptcy Act 1997 that replaced the former Insolvency Act 1920. One of the main objectives of enactment of this Act is to prevent bankruptcy in banking as a part of liberalization of entry and exit barriers for banks and financial institutions. With the increasing emphasis on strengthening of supervision of banks, improvement has been made in their accounting standards. Bangladesh Bank has recently introduced the practice of IAS-30 (International Accounting Standard) for banks in order to evaluate the financial position banks through maximum disclosure of information. Other fields of reform include decontrol of foreign exchange regime and credit policy, opening up of current account and making Taka convertible.

Foreign Exchange Reforms

Declaration of making Bangladesh Taka convertible for current account transactions in terms of Article VIII of the IMF Articles of Agreement on 24 March 1994 was a turning

point in the country's foreign exchange management and exchange rate systems. The period preceding this declaration saw an intensification of reforms undertaken by Bangladesh Bank to ease controls on foreign payments and exchange rate arrangements. The changes include withdrawal of requirements of prior approval from Bangladesh Bank for sale of foreign currency by commercial banks, accord permission to exporters to retain a portion of their export earnings in foreign exchange for spending on business development and related activities, withdrawal of restriction on the borrowing capacity of foreign firms from domestic banks, and withdrawal of restrictions on non-residents' portfolio investments. On the exchange control front, the second round of liberalization abandoned most restrictions and allowed more freedom to outward travel expenditures, and additional channels of cross-border payments. Legal and regulatory requirements have been liberalized to attract foreign capital into Bangladesh. Major laws that regulate and promote foreign investment in Bangladesh are: (a) The Foreign Private Investment Act of 1980, (b) The Industrial Policy, 1999, (c) The Bangladesh Export Processing Zones Authority Act, 1980, and (d) The Companies Act, 1994. Bangladesh has signed bilateral investment treaties with 11 countries, including the United States and tax treaties with some of these and several other countries. Support services to the foreign investors are extended the Board of Investment (BOI) established under the direct supervision of the Prime Minister's Office. In line with the objectives of easing procedures for foreign investment in Bangladesh, attractive packages of incentives have been offered.

Bangladesh Bank undertook steps to stimulate and activate the inter-bank foreign exchange market. Accordingly, it has stopped selling and purchasing foreign exchange to and from authorized dealers in foreign exchange (ADs) other than the US Dollar with the view to encouraging inter-bank cross currency transactions. To encourage inter-bank deals and to dissuade frequent recourse to transactions with the central bank, Bangladesh Bank has raised its transaction threshold to US\$ 50000 with values in multiples of US\$ 10000, for its deals with ADs. Bangladesh Bank's purchases and sales of US Dollar from and to the ADs take place within a rate-band of width of Tk.1.00 (currently, between Tk.56.50 and Tk.57.50). Bangladesh Bank did not undertake any forward transaction with the ADs. The ADs are free to quote their own spot and forward exchange rates for inter-bank transactions and for transactions with non-bank customers. To provide greater flexibility in the foreign exchange transactions of ADs, Bangladesh Bank has abolished their foreign exchange holding limits. Bangladesh Foreign Exchange Dealers Association (BAFEDA) has been set up and a "Code of Conduct" for treasury operations and inter-bank foreign exchange market has been formulated. ADs have been allowed to maintain their Foreign Currency Clearing Accounts (FC Accounts) with Bangladesh Bank in US Dollar, Euro, Deutsche Marks, Japanese Yen and Pound Sterling. On 29 May 2003, Bangladesh declared its currency (Taka) free floating and fully convertible against US Dollar for current account transactions. However, the country being a capital importing one is far from declaring its currency convertible for capital account. The evolutionary process and the post-FSRP developments in the domestic foreign exchange market of the country have been analyzed in chapter 8 earlier.

10.4 The FSRP: A Post Implementation Impact Analysis

A solid and well-functioning financial sector is a powerful engine behind economic growth. It generates local savings, which in turn lead to productive investments in local business. Furthermore, effective banks can channel international streams of private remittances. The financial sector therefore provides the rudiments for employment creation and income-growth. Financial sector development is a part of the private sector-led growth

strategy, and reforms in this sector are expected to stimulate the functioning of financial markets, which in turn, would contribute to the promotion of real sector productivity and economic growth. It has mentioned earlier that most financial reforms had been taken place in banking and foreign exchange markets of the country. Following pages cover the analyses on the impact of the FSRP on these markets and the economic growth process of Bangladesh.

10.4.1 Financial Development

The projections behind the financial reform programs in Bangladesh were that gradual removal of distortions in the interest rate structure would improve the allocation efficiency⁶³ of resources by banks and other financial institutions; the system of payment of subsidies to the priority sectors would be more transparent and enable the authority to apply appropriate monetary policy tools for inflation control. It was also expected that adoption of appropriate accounting policies, recapitalization of NCBs, development of banking regulation and supervision, establishment of effective management and improvement of debt recovery environment would put the country's financial system, more specifically the banking sector on a sound financial basis. But the analysis on the post-implementation impact of the FSRP shows that only a very little improvement has been there in both financial deepening and economic growth process, the net effect of which is very insignificant. The increases in the rate of classified loans, shortfall in NPL-provisioning and deficit in capital adequacy of NCBs, domestic PCBs and specialized banks (SPBs) had continued even after the post-reform days (see tables 10.3, 10.4, 10.5 and 10.6 in annex 7).

Table 10.3 (annex 7) expresses the bank-wise percentile share of classified loans and the same of the entire banking system in Bangladesh. Amongst the commercial banks, the largest portion of classified loans is with the NCBs and the domestic private commercial banks as a group is carrying the curse of second largest share of the same. The greater part of lending assets of the specialized banks has become non-performing, which is the main constraint in performing their basic function of expansion of medium and long-term industrial development financing in the country. Although there were some improvements in the situation of classified loans, the overall position is still alarming. The aggregate rate of classified loans had increased from 27.00 percent in 1990 to 27.87 percent in 1992, the second year of FSRP. This rate also continued to increase in the subsequent years of the FSRP period with little fluctuations between 35.01 percent in 1993 and 36.86 percent in 1996. But sharply rose to 37.48 percent in 1997 to 41.07 and 43.07 percent in 1998 and 1999 respectively. Thereafter, it reduced to a little extent in the subsequent years and continued up to 2004, but still remains higher than the pre-FSRP period.

Table 10.4 in annex 7 demonstrates the comparative position of growth pattern of bank loans and loan classification. In many cases, the growth rates of classified loans exceeded the growth rates of bank loans during and after the implementation of the FSRP in contrast to the main objective of the reform program. Table 10.5 in annex 7 shows the deficits of banks in maintaining provisions against classified loans. Shortfalls in provisioning requirement against the non-performing classified loans increased rapidly from Tk.1059.99

⁶³ *Allocation Efficiency: Allocation efficiency entails two components: (a) improved credit allocation (i.e., credit allocated to borrowers with higher expected returns for given levels of risk) and high quality financial services for a given level of inputs (e.g., bank staff) and (b) increased competition resulting from liberalized entry and/or removal of regulations that restrict competition, such as interest rate controls. Improved credit allocation could be derived from reduced government intervention in directing credit or setting interest rates so that banks would have more freedom to allocate credit according to commercial criteria.*

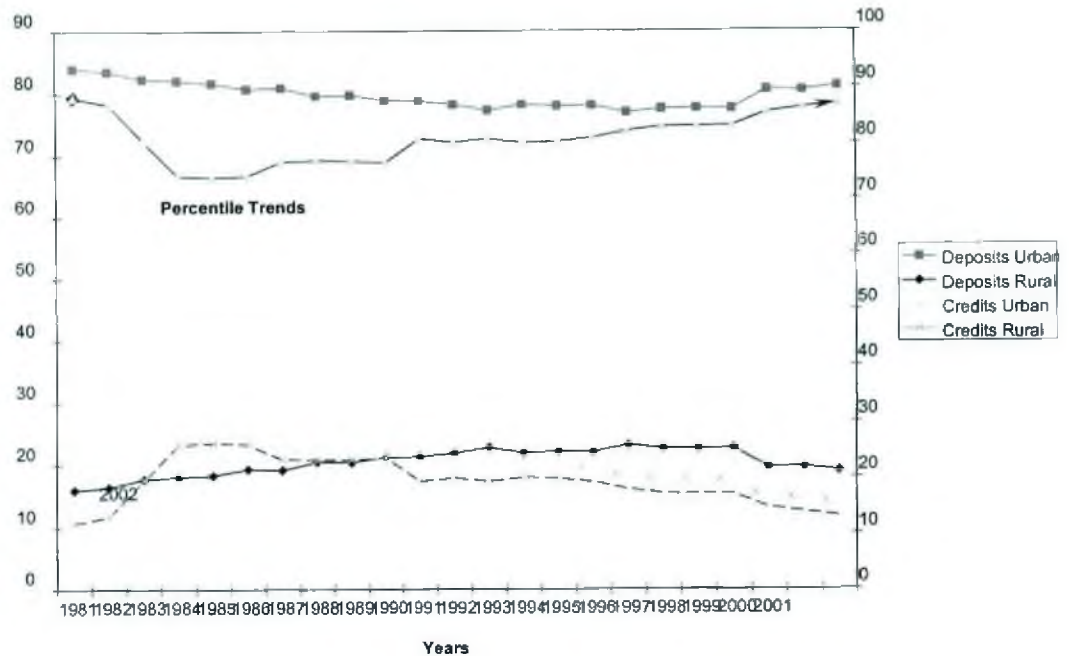
crore in 1992 to Tk.2721.12 crore in 1996, Tk.4347.97 in 1998 and Tk.4866.72 crore in 1999. After showing a little decrease in 2000 and 2001, the provision shortfall sharply rose to Tk.4707.10 crore in 2002 and Tk.5660.29 in 2004. The share of NCBs in the total provision shortfall is many times greater than that of the private commercial banks in an aggregate.

Total capital shortfall of the country's banking system rose from Tk.632.58 crore in 1996 to Tk.1438.13 crore in 2000, even after recapitalization of the NCBs by the government under the FSRP. Thereafter, it reduced to Tk.1225.18 crore in 2001, Tk.887.28 crore in 2002 and Tk.615.32 crore in 2003. But later on increased to Tk. -1018.77 in 2004 and Tk.3157.32 in 2005 (see table 10.6 in annex 7). The banking system of the country still remains far from being apital-solvent. The growth rates in the financial system during the period under review were almost static with narrow or no changes (see table 10.7 in annex 7).

Table 10.8 in annex 7 exhibits rapid development in number of banks and expansion of bank branches in Bangladesh. The number of population per branch, however, has declined with the increases in braches. Branch expansion also has declined sharply from 202% in 1982-83 to 22.94% in 1990-91 and 0.57% in 1998-99. Since 1999-00, the growth rate in branch expansion was very slow: 1.14% in 2002 to 1.65% in 2003 and 2.23% in 2004, and (see table 10.8, annex 7). Increases in total deposit of banks are apparent. The growth rates, however, were sluggish and drastically reduced since the financial year 1995-96 and continued throughout the post-reform years up to the end of the sample period. Deposit per branch has also increased, but the growth of branch-wise deposits also recorded sharp declines alike the growth rate of total deposits. There was no significant improvement in the average deposit per account.

Table 10.9 in annex 7) records the position of bank advances, its growth rates, advance per account and advance-deposit ratios. The total advance increased in volume, but rate of increases were declining during and after the FSRP. There were also fluctuations in average advance per account with slow growth rates. The advance-deposit ratios of bank lendings were higher than the generally followed rule of 80 percent in most cases. In spite of that, there was no shortfall in the aggregate liquidity of the banking system under the ongoing fractional reserve system. The banking industry of the country rather held huge surplus liquid assets (see table 7.24 in annex 4). The liquidity accumulation in banks reflects their inefficiency in cash management.

Graph 10(b): Urban and Rural Banking



Operational efficiency of both NCBs and PCBs in terms of their profitability and productivity have shown mixed conditions without any significant improvement during and after the FSRP (see tables 10.1 and 10.10 in annex 7) and graph 10(a). Table 10.11 (annex 7) and graph 10(b) simultaneously demonstrate the share of urban and rural banking in terms of increase in bank branches, deposit collection and credit expansion. Branches of banks have increased slightly both in urban and rural areas in the later years of the sample period, where rural branches remained greater in number. There was a modest increase in urban deposits, but the rural deposits have been declined. The share of urban credit continued to grow contrary to rural credit, where the later was declining.

Data in table 10.11 in annex 7 also indicate that there had been no effective development in the rural banking in Bangladesh. The rate of branch expansion of banks in the rural areas had declined during and after the implementation of the FSRP. There had been a somewhat consistent growth of deposits in the rural areas till 1999 and later, the rural deposits declined. The share of rural credit in total bank credit fell from 23.06 percent in 1989 to 17.01 percent 2001, 14.62 percent in 2002, 13.79 in 2003 and 13.03 percent in 2004. On an average, the changes and developments in the rural and urban banking can hardly be said as significant and meaningful.

Table 10.12 in annex 7 reveals that the share of the private sector banks lagged behind NCBs in terms of branch expansion, deposit mobilization and lending activity. However, there were slight improvements in branch expansion, deposit collection and credit giving by the domestic private banks during the post FSRP period. Overall, the FSRP did not bring any significant changes in the share of private sector banking in Bangladesh as the NCBs are still dominating deposit and credit market both in urban and rural areas with a large network of branches.

Table 10.13 in annex 7) and graph 10(c) shows the growth pattern of bank credit to the country's private sector in volume and percentile term and the private sector to GDP ratios. Bank credit to the private sector has increased in amount, but started to decline from the third year of implementation of the FSRP. Later on, the trend was fluctuating and declined in the post-FSRP periods. On the other hand, the private sector credit to GDP ratios has shown gradual but slight increases, which were quite insignificant: ranging 0.15 to 0.27 between 1993 and 2004.

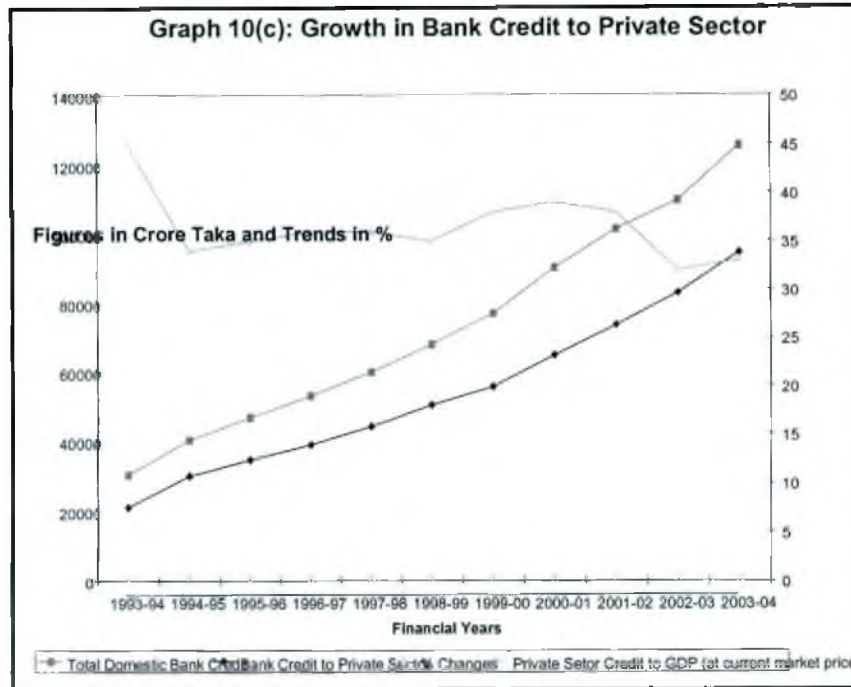


Table 10.14 in annex 7 produces the performance of the country's Loan Courts, which has been found extremely poor. Over fifty thousand cases are pending with Money Loan Courts for a long time, and hence, the country's banking system continued to fail in getting back its lending assets. Among the cases, about 22,000 remained pending for over five years, 5700 for four years, 4600 for three years and 4300 for two years. In 2004, hearing of 3400 cases did not take place. Borrowers who default often take the advantages of the fact that they manage loans without proper security and documentation, and sometimes they show collaterals, which are also over-valued in papers.

Table 4.4 (chapter 4) in annex-1 summarizes the indicators of development of the banking system, which reflect the weak capital base, unsatisfactory asset portfolio, sluggish earning capacity and profitability growth, and excessive surplus liquidity of banks. The overall situation states the poor performance of the banking system in Bangladesh before, during and after the implementation of the financial sector reform project (FSRP).

Thus the analysis only suggests that the banking sector of Bangladesh could not attain the desired level of financial development even after eight years of implementation of the FSRP. Financial discipline of a desired level is still lacking largely due to slow growth rate of the financial system, inadequate and inconsistent competition among public, private and foreign commercial banks, and predominance of weak market forces. All of these have restrained the financial markets to work in an intervention-free environment. Another important reason for poor performance of the country's banking system is the backwardness and lack of initiatives in re-engineering in the banking system.

10.4.2 Economic Growth in Bangladesh

Economic growth usually refers to the growth of one or all of three inter-related macroeconomic variables: aggregate output/income (GDP), GDP per capita, and productivity on GDP produced from each hour (or year) of a worker's time. As we have seen in the earlier sections that the overall growth pattern of banking sector in Bangladesh is quite insignificant and inconsistent with the objectives and costs of the reforms. The situation also shows a failure of the FSRP in achieving the macro-economic growth objective.

The progresses achieved on most macroeconomic indicators were quite insignificant. GDP growth for the period 1984-2004 averaged 4.52% p.a. moved without any sustainable trend (see table 10.15, Column 1 in annex 7). Although some increase in the per capita income in the period of implementation of FSRP and later have been observed, it was US\$470.00 at its highest in 2004. This is much lower than the per capita income of neighbouring countries of South and Southeast Asia. As the import payments in percentile terms of GDP always remained above the export-GDP ratio in the post-FSRP period, the trade imbalances have continued to rise during the post-FSRP period (see table 10.15, Column 5 and 6 in annex 7). Growth rates in index of industrial production (IIP) do not reflect a stable and progressive trend in the productivity of the real sector manufacturings in the country. Table 10.15(a), annex 7 reveals more or less satisfactory groths in gross national savings and investments. But the insignificant or no growth in the index of industrial production indicates that the increased savings were invested other than productive purposes. Because manufacturing sector is the engine of economic growth.

Table 10.16 in annex 7) expresses the wide differentials between interest rates on deposit and lending during the entire sample period in both market and real terms. The weighted average market interest rates on lending were quite larger than the rates on deposit. The similar situations have prevailed in case of real interest rates. When the real interest rates on deposits were negative, the real lending rates still remain remarkably greater. This implies that the wide range of reforms in the financial sector of Bangladesh could not rationalize the interest rate structure in the country. Wide divergences or differentials between bank deposit and lending rates clearly reveal that the financial market of Bangladesh has been operating in a non-competitive environment, which prompted reductions in the productivity of the real sector due to high cost of funds. An inference may be made that high funding cost has discourage the investments in productive sectors in the economy of the country.

Table 10.17 in annex 7) portrays that the share of the country's financial sector to GDP compared to some other major sectors during 1996-2004 remained static and there had been no expansionary movements in the productivity of major real sectors during the same period, except the trade and construction sectors.

10.5 Findings and Policy Implications

The analyses made above shows that only a very little improvement in the financial growth and financial deepening, as well as in financial intermediation process had taken place during and after the implementation of the FSRP. Many factors have contributed to the unsatisfactory outcomes of the FSRP. The implementation of the FSRP had undergone through models that largely ignored the country's specific socio-economic milieu and therefore, the achievements failed to reach expectations. The reform agenda did not pay adequate attention to the role of banks and financial institutions in the future growth of the

economy. Financial developments do not only mean ATMs, computerization of treasury operations, credit cards, and dealing in derivatives. They also involve lending to the productive sectors, including especially the priority areas and small and medium scale enterprises. The reasons for failures in FSRP also include the wrong sequencing and piecemeal approach, and the inadequate attention to strengthening of the regulatory and supervisory framework. The segmentation of financial markets between formal and informal sectors impedes the efficacy of reforms towards enhancement of competition and efficiency. The inter-play and inter-actions of the segments were also not taken into proper consideration in designing and implementing the FSRP.

Financial discipline of a desired level in the financial system of Bangladesh is still lacking largely due to underlying features of the financial system, such as inadequate and inconsistent competition among public, private and foreign commercial banks, and predominance of weak market forces. All these have restrained the financial markets to work in an intervention-free environment. Other reasons for poor performance in the banking system are lack of financial innovations in the country.

The operating system of the country's financial sector as a whole and efficiency level of its banking system leaves much room for improvements. This study therefore, strongly suggests further reforms in the issues as identified and mentioned in the following pages.

If the banking system is to continue to serve as a locomotive of economic growth, banking reforms must be sustained. Bangladesh Bank should take an activist stance in pursuing a multi-pronged banking reform agenda: (i) continuous strengthening and upgrading of the supervisory framework; (ii) restructuring the local banking system for greater safety, efficiency, and competitiveness in scheduled banks; and (iii) promoting good corporate governance. The legal basis for many of these reforms is now in place through the Bank Company Act, 1991 and other related laws. Moreover, although the country has already issued the critical mass of its implementation rules and regulations, the real challenge lies in their effective enforcement.

On the restructuring of the domestic financial markets, the main agenda should be promoting stronger banking organizations and a vibrant capital market with due importance on the development of stock markets so that the banking system can share a healthy and balanced partnership with a more developed domestic capital market.

Further reforms in the country's financial sector must address several key issues, including rationalization of bank-licensing policy, development of NBFIs and overall application of financial regulations. New entry by NBFIs should be encouraged but licensing policy should be cautious to ensure both probity and expertise of new entrants. The entry of local private sector NBFIs can widen the range of financial services and access to credit, especially of SMEs, and stimulate more competition, particularly in retail banking markets. But their vulnerability to financial distress means that strong prudential regulation and close supervision is essential. Leasing should be commercially viable, but the legal framework needs to be conducive to the fair development of the capital market as a whole and leasing in particular.

The government will have to decide either to sell NCBs to private entrepreneurs or to consolidate them by merger. Because the NCBs have failed to demonstrate that they can be commercially viable on a sustainable basis. In spite of huge recapitalization and implementation of costly and lengthy restructuring programs, the future of the NCBs remains unresolved. Some of these banks have made little progress in reducing the volume of overdue

loans by rescheduling and waving substantial amount of principal and interest without or with very small real recovery. This has put heavy pressure on the overall financial strength of the NCBs and forced their net worth to become negative. The NCBs are surviving in the market only under the shadow of sovereign guarantee. They have not been able to build a viable base of creditworthy borrowers. So question of their future should be resolved soon.

It is very revealing that the cost-to-income ratio of the country's commercial banking system is around 77 percent, which stands out as among the highest compared to peer countries. This is a sad reflection of complacent governance. This problem must be addressed properly in order to rationalize the expenditure pattern of banks, especially in the private-owned banks.

It will be important to continue strengthening competition in the financial markets, which should cut interest rate spreads and other forms of service costs, such as commissions and charges on foreign exchange dealing and other services provided to customers. Many new banks lack adequate resources and experience of the markets, and some are found to be engaged in fraud and illegitimate lending and other unusual banking. Liberalised interest rates and foreign exchange regime expose the banks to new sources of risk, but they have little experience for coping with. A set of appropriate and effective strategy needs to be adopted to increase the banks' skill and experience in risk management.

Reforms of the prudential system should be a process instead of an event. Some aspects of the prudential legislation may need to be revised to take account of the particular circumstances of financial markets in the country, for example, it may be appropriate to impose higher capital adequacy requirements. The regulations should include provisions for incentives separately and distinctly for prudent development and management efficiency on the part of bank owners and management executives. Close supervision, particularly of lending policies and of recent entrants, is highly needed to detect problems at an early stage.

The central bank of the country must redesign its market intervention policy and make the policy options flexible and bank specific on the basis of individual bank's exposure to risks and management efficiency to be calculated under CAMELS Ratings. Central bank's market monitoring and interventioning capacity should be increased and modernize on a continuous basis. The current system of CAMEL Rating is slow and indeed, wastage of time and improper use of workforce, as it is based on statements submitted by banks traditionally very lately and slowly. While the central bank prepares the rating sheets, it becomes too late to warn the concerned bank with its risk exposures because time has already elapsed and banks enter into next supervisory time horizon with huge risk elements. The central bank should immediately increase and strengthen both its on-site and off-site supervision capability.

Further reform agenda must include the review of insurance industry in the country to determine areas where amendments in existing laws or new legislations can be more stakeholder/member-friendly. Undertaking a review program for legal framework of other institutions, such as the savings and micro-finance institutions and the payments system might help bringing soundness and dynamism in the performance of the financial sector and enable the financial institutions to reduce business costs. The review may cover different forms of payments, clearing-house, currency banknotes and coin distribution and withdrawal methods.

Reforms are inevitable in the country's stock market. Because absence of a well developed stock market is a serious constraint to the development of financial market, which is disadvantageous for an economy.

Increasing the number of various types of money market instruments is highly important. At present, the monetary and debt management policies are underlined by excessive monetization of the government's fiscal deficit in Bangladesh. Money and government securities markets are yet to display any vibrancy due to short-supply of public debt instruments and have limited significance in the indirect conduct of monetary policy. This situation needs to be improved by giving proper concentration and due diligence. Improving the liquidity of government securities by issuing more instruments and developing an active secondary market with more public borrowing instruments will make the government securities market vibrant, broad-based and efficient.

Rationalizing the public borrowing system is another immediate issue to be restructured. Government borrowings are done at rates far below the market rates. Such an interest rate policy leads to distortions in the banking system with high lending rates on certain segments combined with relatively low interest rates on deposits. This situation needs further review and restructuring.

Participation of the NBFIs in the call money market must be made only as lenders. At present, these institutions are only borrowing from the inter-bank money market at above the normal market rates, which are sometimes 3 to 5 times greater than the normal rates. This has been destabilizing the market activity and driving out the liquidity from the money market to long-term usage. Steps should be taken to phase out non-bank participants from the market by granting them permission to operate in the repo market. Decision should be taken to restrict the call, notice, term money market as a pure inter-bank market.

The big corporate entities may be allowed to float low interest bonds (to which banks subscribe) or access overseas funds to finance expansions and acquisitions. Till today, the banking system has been averse to finance farmers or the small and medium sectors. Some of the new private banks cannot think rural as they have little torque. Funding poor farmers or the SME sector through a warren of rural branches should be made mandatory for domestic and foreign private banks.

The whole set of regulations for measuring the performance of credit institutions and the report submission procedure are to be redesigned in part or full to conform to the disclosure standards at international levels.

Financial development has been shown to depend on: (i) good property rights and laws combined with a judicial system that enforce those; (ii) access to credible information on borrowers and consumers and on financial intermediaries; (iii) proper regulation and supervision of financial intermediaries and markets; and (iv) a competitive/contestable market structure. Designing further reform package for the financial sector of Bangladesh must concentrate on these issues with enhanced importance. Moreover, the reform agenda must include the following:

- (a) establishing an effective legal system for financial market development, external financing, dividend patterns, growth, firm valuation, etc;
- (b) ensuring a proper legal base for equity and creditor rights, including a well functioning judicial system;

- (c) developing an effective MIS with reforming with Bangladesh Bank data base;
- (d) reducing dependence of government for funds on the banking system, rather shifting it to market borrowings;
- (e) deepening corporate debt market with enhanced issuance of derivative securities under stringent regulatory environment;
- (f) enhancing the stability and integrity of the financial market, especially the securities market to minimize the (potentially large) adverse knock-on effects that an unstable financial sector can have on the rest of the economy;
- (g) re-establishing investor confidence in the securities market;
- (h) alleviating macro-economic imbalances by improving performance in inflation and savings in particular, the removal of restrictions on balance-sheet structures that is, restrictions on assets and liabilities, lending controls and so on;
- (i) removing those inconsistencies and overlapping in the legal and regulatory framework for banking that have ambiguity regarding the enforcement authority of Bangladesh Bank, which prevents from effectively enforcing legislation and regulation; and
- (j) eliminating the remaining gaps in banking sector regulations and supervision.

A significant risk confronting the financial system is that, while many banks have started to enter into new business areas and credit is growing, most banks have neither adequate understanding nor capacity to manage credit risks associated with lending. On the other hand, BB has yet to establish regulatory guidelines for banks in the area of managing market risk, and country and transfer risk. BB also has yet to be equipped it to assess, evaluate, and monitor risk management in banks.

Serious weaknesses in the current laws on securities markets are commonly acknowledged among market participants. The laws do not give the regulatory body sufficient authority to effectively supervise the market and enforce securities market regulations. Further, the laws do not establish clear accounting and auditing principles for the issuer of securities, which could enable investors to make informed investment decisions. The laws also do not distinguish between private placements and public issues. Public issues should be subject to stricter corporate governance and disclosure standards to protect investors.

The current taxation of income (in the form of interest, dividends, and capital gains) from investment in corporate securities discriminates against particular types of investors and investments, leads to market distortions, and prevents investments.

Sell of NCBs and other public sector enterprises through the stock market will be treated as a rationale decision by the government. The planned privatization of SOEs has been taking place outside the stock market, which maximises privatization revenues. The sale of blocks of SOE shares to the public through stock market can increase the transparency of privatization, strengthen governance and performance of SOEs, and therefore could maximize the price of the sale of state assets over the medium and long term. Privatization through a stock exchange can also foster capital market development, as it would significantly increase the supply of shares and introduce market discipline to firms previously owned by the government.

Government's commitments for development of financial infrastructure for attaining private sector-led growth targets in the country can be fulfilled through: (i) an increase in capital requirements for banks instead of recapitalization by government; (ii) further development in the legal and regulatory basis for banking; (iii) strengthening corporate governance, risk management and internal control and governance in banks; (iv) facilitating competition between banks and widening the scope of banking products and services; (v) privatization of the remaining state-owned banks; (vi) payment system

reforms; (vii) strong implementation of anti-money laundering and financing terrorism legislation; and (viii) development of SME and micro-enterprises sectors.

A comprehensive reforms in the capital market will call for: (i) increasing securities market transparency; (ii) stronger regulatory requirements for public offers, compared with private placements; (iii) establishment of a market segment for high-quality shares; (iv) unified standards for securities trading; (v) introduction of new types of securities; (vi) development of institutional investors; (vii) building regulatory capacity of the SEC; (viii) integration of the securities market with markets of other South and South East Asian countries; (ix) enforcement of banking legislation and regulation to remove banking sector regulatory gaps and promote competition; (x) strengthening supervision of securities markets to improve market transparency and protect investors; (xi) elimination of policy distortions that undermine the development of capital markets; (xii) demutualization of stock exchanges; (xiii) effective cross-border banking and financial supervision; (xiv) improved governance in non-bank financial institutions; (xv) rationalized taxation on capital gains, dividends and interest, and (xix) reforms in the legal framework.

The dilemma in the rural banking sector is that it suffers simultaneously from insufficient delivery system and severe non-payment of debts, which deteriorate the financial viability of the institution. Also the rural economic units suffer from shortage of funds. While making further reforms in the country's banking sector, due attention should be placed to correct the anomalies in the system with substantial restructuring in the institutional arrangement for rural credit. The organized or formal financial sector in Bangladesh is either unable or unwilling to finance a range of activities that are of crucial importance both for growth and development. Agriculture, unorganized manufacturing and many types of infrastructure are instances of such sectors.

There are evidences that financial institutions are involved in financial crimes in many ways, such as different types of fraud or abuse and also they can be used by third parties to commit crime. One or all of these have serious implications for financial markets. In recent years, financial institutions are used for channeling funds. The financial regulatory system should be capable of combating such activities, which essentially requires further reforms in the regulatory System in Bangladesh in Bangladesh.

Despite liberalization and market determined exchange rate, forex market in the country remained stable barring a few episodes of volatility. Bangladesh banks' intervention in the foreign exchange market has been relatively small. Further reforms must put emphasis on activation of the country's foreign exchange market, financial stability, increase competition, better risk management in banks and orderly working of financial markets as a whole. Shift towards risk-based supervision, development of prompt corrective actions, deepening of forex market with opening of derivatives, continued emphasis on price stability and technology adoption are immediately needed for attaining greater efficiency in financial market operations.

Implementation of financial sector reforms requires successful reforms in the public sector financial management. The liberalization measures tend to increase financial fragility and susceptibility to exogenous⁶⁴ shocks over which domestic policies have limited control.

⁶⁴ *Exogenous shocks: When economic fluctuations arise simply from unexpected external events (that is, "shocks"). create pressures on vulnerable financial markets and lead to a sudden collapse, with severe*

This means that the country should develop a dynamic risk management system that can identify opportunities, assess risks and act in time to prevent financial sector vulnerabilities created by both exogenous and endogenous factors/shocks. There was no preventive action plan to combat the potential shocks in the whole RSRP in Bangladesh, which is a major policy-weakness.

A period of instability in financial markets appears to be inevitable during the transition to financial deregulation: the relationships between monetary aggregates, economic activity, interest rates and prices change in ways that defy easy prediction and therefore policy prescription. This makes the management of monetary policy during financial sector reforms extremely difficult due to weak institutions and skill shortages. There is the need to corroborate monetary policy with effective regulation and supervision of financial institutions including, improved banking legislation (e.g. stringent capital adequacy requirements), and adequate enforcement of such legislation (e.g. effective bank supervision) alongside the introduction of market-based instruments (open market operations) to attain monetary targets.

Building a more efficient and competitive financial system is necessary for accommodation of domestic and global challenges. Today, it is the real economy that is supposed to become a prisoner of a weak financial system. In other words, proper development of the financial system is no longer regarded as an "ancillary" or an adjunct to the development of the real sector, but as a necessary pre-condition for "growth." Thus, the reforms should be expanded to other components of the financial market in Bangladesh.

There are, however, challenges in implementing reforms in financial markets. Peterson (2005) notes "Reform of finances is very context-specific. It requires an understanding of how government procedures operate. It requires an understanding of the direction of public and private finance in the country. There is a tendency to look for a model or an approach for a country to adopt, and ironically, there are very few models of success. This is a field that is littered with starts and stops." This statement carries huge indications to the potential challenges to the process of financial reforms, which may be kept in mind in designing further reform programs in Bangladesh. Growth economists support that finance is a leading sector in the process of economic development. But the relationship between financial development and economic growth is highly country-specific.

Moreover, a stable macroeconomic environment is a *sine qua non* for the success of financial liberalisation. Further reform initiatives should be accompanied by sound macroeconomic, monetary and fiscal policies in order to attain low and sustainable rates of inflation and should be targeted to enhance the role and use of monetary policy in overall macroeconomic development.

consequences also for non-financial sectors. For example, a shock to the technological efficiency of firms' production of goods and services. A change in the desired distribution or allocation of economic resources across firms, industries, and regions. Like random shocks, the exogenous shocks are relatively unpredictable, but have significant effect on the economy.

Chapter 11

Conclusion

Bangladesh emerged as an independent country following the war of liberation in 1971, when it inherited a financial market with a workable structure of institutional and legal bases. In 1972, the government had nationalized the country's banking and insurance sector and initiated some measures for strengthening the sector and ensuring its operations in a regulatory framework. The financial market of the country worked under stringent regulations for quite a long period up to the early 1980s, when the government has decided to make policy shifts. The first strategic shift in the official policy was the decision of opening up the financial market for private entrepreneurship. Further policy shifts entailed the decisions for fiscal and monetary reforms, particularly restructuring the banking system and privatization of state-owned enterprises (SOEs). A number of other scattered and piece-meal steps have been taken, including the expansion of banking service to rural areas under the policy instructions of the government, development of capital market, divestment from state-owned banks and legislative changes to accommodate the planned policy shifts. Consequently, a good number of banks, insurance and other non-bank financial institutions came into business, deepening the structure of the country's financial market. To liberalize the financial sector, the government has implemented a financial sector reform project (FSRP) during 1990-96, which was the first systematic reform initiative with wide ranging agenda, from interest and exchange rates to policy liberalizations.

In spite of having a progressively developing background, anticipating operations with a basic institutional and legal framework, and a working record of more than thirty years, the financial market in the country continues to remain a low performing one in terms of its contribution to financial and economic development, providing the service of financial intermediation with integrity and at competitive costs, improving self-efficiency and resiliency to vulnerability. Although the changes are taking place in the marketplace in terms of reforms and amendments in banking and securities market laws, entry of private-owned new domestic banks and expansion in their branch network, and opening of branches of some foreign banks and insurance firms, the financial market in Bangladesh is yet to gain a sound ground for making a better contribution.

The existing situation thus necessitates effective initiatives for further development of the country's financial market. The objectives of this important economic agenda would be making the financial markets efficient in both structure and activity and strengthening of the market in assets and capacity.

Pursuant to the development needs and thrust of the financial markets, this dissertation has made an attempt to identify the strengths and weaknesses of the markets and determine effective and need oriented measures for addressing them.

The existing literature covered many aspects of financial markets and emphasized on the role of these markets in economic growth. But literature pays little attention to many real problems of the financial markets of developing and less developed countries such as efficiency of payments system, market imperfections and information asymmetries, causes of liquidity constraints and high cost of funds, peculiarities of securities market and inter-bank money and foreign exchange markets. Development of financial tools and instruments is a

key element of financial market development. The existing literature, in fact, does not give any details of evolution of these tools and instruments in developing countries like Bangladesh. The present dissertation made an attempt to fill in the above gaps.

The dissertation (a) reviewed the financial system of the country including its structure, i.e., markets (money market, foreign exchange market and capital market), institutions (banks, non-bank financial institutions) and tools and instruments (reversible and non-reversible instruments); (b) analyzed operational mechanisms of the various components of the financial market of the country; and (c) looked at the efficiency of operations of these different components.

It pursued a comparative study on the financial system and financial markets from the perspective of both developed and developing countries, in addition to empirical and analytical investigations. The comparative analysis reveals serious drawbacks of the greater financial system in the country and the financial market. The comparison traces remarkable peculiarities in the financial system of the country, which are unlikely to persist in a sound and professionally efficient marketplace. The list of peculiarities of the financial system in Bangladesh includes the followings:

- bank-based financial system with insignificant role of securities market;
- limited ways of raising non-deposit funds by the commercial banks to manage liquidity;
- openness of the economy to foreign direct investment but a heavily restricted capital account;
- lack of profoundness of stock and fixed-income securities markets;
- lack of accurate credit information and similar types of financial ancillaries, such as credit rating agencies or equity analysts;
- serious risk management problems in banks;
- high nonperforming loans in the balance sheets of banks;
- low capital bases in both state and private-owned banks and non-bank financial institutions;
- thin structure of institutional investors' market with a few non-bank and their poor contribution to financial intermediation process;
- limited intra-sector activity and cooperation;
- less focused semi-formal and informal financial mechanism and institutions;
- restrictions on investment of public pension/provident funds in the securities market but use of those funds by the government;
- dual and overlapping regulation of state-owned banks by both central bank and the ministry of finance;
- reluctance of listed corporate entities in holding annual general meeting and declaring dividend;
- reluctance and/or inability of public sector enterprises to repay bank loans or funds provided by the government through budgetary provisions;
- short-supply of instruments and tools in both money, stock and foreign exchange markets;
- lack of provisions to foster the development of human resource/human capital;
- long going deficits in capital adequacy ratio of banks;
- recurrent re-capitalization of NCBs by the government,
- presence of exit barrier for banks;
- unusual and unethical practices in banking and other financial institutions;
- financing government's budgetary deficits directly from the banking system;
- imperfect competition and inadequate access to technology and technical know-how;
- high cost of financial services;
- regulatory overlapping role of the SEC and Bangladesh Bank;
- dominance of NCBs in both deposit and lending, and in the domestic foreign exchange market;

- imperfect information that create asymmetries in information processing and adverse selection and moral hazard problems;
- absence of arbitration institutions;
- shortage of experienced professionals in finance and banking;
- backwardness in 'research and development' (R&D), especially in financial markets;
- short supply of government debt instruments;
- limited scope for secondary market trading of existing government debt instruments;
- inferior interest rate structure with high and increasing inflation rate;
- imprudent regulatory and supervisory system for financial markets;
- traditional and cash-oriented payment system;
- loan exemption/remission culture either by sovereign authority with a mode of helping the poor, or by the board of directors of the banks, in many cases without regard to the interest of the banks concerned and safety of public money;
- culture of getting default willfully by borrowers and seeking loan remission by the large borrowers;
- limited service coverage of foreign banks only to selected corporate elite customers without satisfactory contribution to the rural economy of the country;
- sharp competition amongst domestic commercial banks that prompted aggressive banking;
- overlapping in lending to same customer(s) by more than one bank that expands the size of non-performing loans and loan concentration to few customers;
- weak internal governance in banks and other financial institutions;
- restricted participation of banks in dealing in foreign exchange in international financial markets;
- traditional, inefficient and stereo typed external/commercial auditing system for banks and non-banks; and
- lack of skilled personnel in banks to carry out operations in a competitive environment.

In course of the empirical investigations and evaluations of the current status of financial market in Bangladesh, the dissertation has conducted tests on three hypotheses:

- The changes in the inter-bank money market interest rates pass-through to banks' retail customer lending rates;
- The macroeconomic factors/variables have a positive impact on the development of stock market in Bangladesh; and
- The Financial Sector Reform Project has achieved the envisioned impact and contributed to the country's financial development and economic growth.

Complete shifting of changes (increases or decreases) in interest rates in inter-bank money market to retail customer lending and deposit rates is reflexive of operational efficiency and level of development of money markets. The regression results found under the first hypothesis test show only partial (0.411) pass-through effects of inter-bank borrowing rates to retail customer lending rates, and thus recorded the poor efficiency level of money market in Bangladesh. On the other hand, graphical estimation shows that banks' retail deposit and lending rates didn't comply with the full pass-through rule. Generally, the increase in the retail rates on bank deposit is followed by subsequent enhancement in their lending rates to customer at least to off-set the increased interest and other costs on deposits. The panel data based regression analysis show that, in fact, both rates moved with disparity and larger spread. The larger spread between the inter-bank borrowing and retail lending rates with wider fluctuations, and retail deposit and lending rates clearly reflects the market's inefficiency in pricing and weakness in structure and operations. Thus, hypothesis 1, the changes in the inter-bank money market interest rates pass-through to banks' retail customer lending rates, is thus rejected.

The second hypothesis tested through the multiple regression models constructed with macroeconomic factors (stock market capitalization as dependent variable and the number of listed companies, number of listed securities, number of initial public offerings, stock market turnover, DSE Index, GDP at current market price, inflation, index of industrial production and bank deposit rates as independent variables/predictors) using twenty years quarterly data ranging between 1985 and 2004 shows that macroeconomic factors have a positive impact on the stock market performance in the country. One important finding is the GDP's significant association with market capitalization. Other variables such as DSE Index, number of total securities, market turnover, number of total listed companies and index of industrial production- each one is significantly correlated with market capitalization. The rest independent variables, namely number of IPOs, rate of inflation and bank savings deposit rate are moderate to marginally associated with market capitalization. The highly significant correlation of GDP growth with market capitalization in all four models is a new and interesting finding. However, the dissertation didn't attempt to see the extent, reasons and context of GDPs influence on the stock market development, rather left the issue for future research.

The impact of financial sector reform project (FSRP) has been evaluated by adjudging the hypothesis 3 under the Kar and Pentecost (2000) analytical framework by using a number of factors namely number of banks and bank branches, urban and rural banking, deposits and advances, private and public sector credit, asset quality of banks, classified loans, provision requirements and provision shortfall, capital adequacy ratio, capital shortfall, GDP, gross domestic savings, gross domestic investments, per capita income, exports, imports, trade account imbalances, interest rate, inflation rate, share of public and private sector banks in deposit and lending, total expenditure and total assets of banks, net profits, earning per share, earnings per employee, profitability, productivity of the banking system, performance of money loan courts, liquidity in the banking system and share of contributions of the financial sector to GDP. The evaluation made under analytical approach produced only partial outcomes, which do not indicate causality relationship between the post-FSRP financial development and economic growth. Although some micro-economic developments have been witnessed, there had been little shifts in macro-level growth rates of the country's economy before, during and after the financial sector liberalization.

The study shows that the sluggish expansion and low diversification in the activity of financial markets and their institutions and instruments acted as reasons for why the financial and economic growth rates could not go up. Moreover, implementation of the reform measures were not well-sequenced and not supported by well coordinated policy measures to make the country's financial sector reasonably competitive, efficient, and stable. Concomitantly, effective monetary management has not been achieved to establish price stability and ensure channeling of available credit to support real productive investments, reflected through the sluggish growth in the index of industrial production and thus, the research hypothesis has been rejected.

In addition to testing the above stated hypotheses, the dissertation has critically reviewed and examined the soundness of the country's financial system, including the performance of payments system, money and foreign exchange markets and all components of the country's capital market, including primary and secondary segments and institutional investors' niche, particularly the leasing companies, pension system, insurance and housing finance sub-sectors. Following are the summary of major findings (as detailed in concerned chapters and sections in the text) of the dissertation:

1. *Low productivity, small size and shallowness, weak securities market and low performing institutional investors, inefficient payments system and many other factors have given the country's financial system with peculiarities, which have contributed to reduce the system's resources allocation efficiency.*
2. *Low and incomplete interest rate-pass-through, unorganized inter-bank money market, despair interest rate fluctuations and movements and shortage of instruments characterized the money market of the country as a low performing one.*
3. *Higher exchange rate spread and lack of competition, lower holdings of foreign exchange, shortage of skilled human capital, presence of informal market and unusual activities of off-shore banking units and moneychangers, restricted participation of dealer banks in foreign exchange dealing in international financial markets and absence of standard components of them hindered the development of the country's foreign exchange market.*
4. *Development of primary or IPO market in Bangladesh is obstructed by listing of small number of companies and securities, share spinning, discriminatory allocation system, market entrance of weak companies and insiders' interventions.*
5. *Short-supply of a good number of securities, regulatory inefficacy and market crash, loss of public/investors' confidence, involvement of market makers in price manipulation, traditional and slow clearing system, non-compliance of securities rules by the issuers and breach of fidelity rules by the insiders, inactive merchant bankers, weak market structure, thin institutional investors niche etc., seriously barred the process of flourishing of the country's stock market in particular and the capital market in general.*
6. *The thin structure of institutional investors market only with leasing-centric institutions, restrictions on pension funds and insurance companies in investing their funds in the stocks markets are the hindrance to performance improvement of the non-securities segment of the capital market. Commercial banking sector continues to provide the lion share of industrial and other long-term finance, with only a negligible contribution of the thin institutional investors.*
7. *Regulatory and supervisory weaknesses and gaps and overlaps prompted their non or lower compliance by the financial institutions and lack of stringent monitoring thereon kept the financial market abreast of attaining internationally acceptable standards*

However, the findings of this study in regard to the relationship between financial development and economic growth are similar to those in existing literature:

- (i) supply-led financial development causes economic growth by allocating resources to more productive sectors; the argument under this phenomenon is that the transfer of resources from traditional, low-growth sectors to modern, high-growth sectors stimulates an entrepreneurial response and pushes the traditional ones to modern and developed sectors over time; and
- (ii) demand-led economic growth creates demand for developed financial institutions and services, the creation of modern financial institutions, their financial assets and liabilities and related financial services are a response to the demand for these services by investors and savers in the real economy.

The financial market of Bangladesh suffers at both edges from lower demands and lower supplies. Consequently, the market continues to remain imperfect, inefficient and thus, low performing. The findings summarized above and detailed in specific chapters/sections in the dissertations suggest that the financial market of Bangladesh in its present condition is not able to provide the nation with optimum level of financial services and push the economy to take a sustainable upward shift.

On the basis of the analytical and empirical findings, the dissertation suggests the following policy, functional and operational strategies to be considered for implementation.

Recommendations

The country needs to implement a real need and knowledge-based long-term plan for the development of the financial markets and institutions. This requires establishing effective relationship between the strategy for financial market development and performance-oriented growth strategy for real sectors in the economy.

Following are various measures and actions (in summary forms and explained in relevant chapters/Sections) this dissertation considers important for inclusion in the policy reforms and structural and functional improvement of the financial market and institutions in Bangladesh:

A. For overall development of the financial market:

- introduce financial education in order to assist the general people to improve their understanding and knowledge in financial market activity and investment opportunities in the market, i.e., to create a group of informed investors or users and enrich both supply and demand-sides;
- ensure market liquidity that enables execution of large number of transactions;
- strengthen and support the financial regulatory authorities in discharging their responsibilities for monetary and financial stability;
- identify and assess potential sources of stress in the country's financial environment through a regular and systematic monitoring system;
- pay particular attention to the nexus between monetary and financial stability, linkages between institutions, infrastructures and markets, actual and potential changes in financial intermediation and an incentive structures into markets;
- increase transparency in financial markets by promoting the design, production and publication of statistics and other information and by the adoption of appropriate disclosure standards for all classes of financial institutions;
- take initiatives to cooperate with other national, supranational and international institutions with responsibilities for pursuing related objectives through the central bank;
- identify the factors that influence the growth process of financial markets and institutions and set priorities for necessary reforms;
- improve urgently the legal enforcement environment in which enterprises operate and ensure squarely addressing of policy, institutional, and governance issues;
- take effective initiatives for innovations in finance and step up the rate of technological adoptions in financial sector and initiate and patronize research and development (R&D) in finance;
- develop physical, social, and legal infrastructures, as well as institutional and policy framework adhere to certain standards of global acceptability;

- ensure fiscal stability that leads high rates of savings and re-channeling of savings to productive investments;
- pursue human resource development continuously to ensure an educated and creative workforce;
- establish price stability in all segments of the financial market to encourage investment and provide a sound framework for resource allocation;
- rationalize tax policy as lower tax burdens bring incentives for investors;
- make public borrowings from the market at market rates rather than direct borrowing from the banking system and thus tap private savings;
- rationalize and reform public sector spending to reduce public borrowings from the banking system;
- make the public sector borrowing and public sector spending outcome-oriented to improve the sector's resource allocation and spending efficiency on a sustainable basis;
- rationalize and reform public sector spending to reduce public borrowings from the banking system;
- make the public sector borrowing and public sector spending outcome-oriented to improve the sector's resource allocation and spending efficiency on a sustainable basis;
- make full shift to risk-based financial supervision consistently with international standards, including continuous improvement of supervision and examination capacity of the banking and securities regulators;
- ensure adequate and consistent competition among public, private and foreign commercial banks and establish a competitive/contestable market structure with more institutions and instruments;
- set up financial reporting standards and improve the report submission procedures for banks and other financial institutions that can comply with full disclosure requirements;
- Develop alternative financial institutions, which can fill up the gap between the demand and supply for finance in SMEs.
- reform further the legal and judiciary framework to establish more autonomy for the supervisory authorities and promote good corporate governance;
- ensure access to credible information on borrowers and consumers and on financial intermediaries;
- upgrade MIS and data management system for all financial institutions;
- recast norms and responsibilities on terms of reference for external auditors and internal controls that will lead establishment of good corporate governance and corporate culture in banks and other financial institutions;
- establish good property rights and laws in combination of a judicial enforcement system that enforce those;
- strengthen nation-wide payments and clearing system;
- prevent inappropriate uses and/or re-channeling of borrowed funds;
- reduce market segmentation in the financial sector through increased inter-linkages between various segments of the financial market, including money, stock and forex markets;
- strengthen the peer review of the banks and other financial institutions on a periodic, but regular basis to examine their competitive performance level and contributions to the national economy;
- undertake regulatory and oversight actions on priority basis for valuation of pension fund assets and liabilities, including review of rules to establish discipline and efficiency in the investment process of those funds;
- create necessary conditions that facilitate inflow of financial resources for investment;
- establish collateralized securities or asset management companies for handling NPLs;
- facilitate FDI inflows through: (i) internationally acknowledged legal framework, (ii) macroeconomic and monetary stabilization, and (iii) business friendly environment comparable with international standards with the objectives of accelerating financial market activity and channeling inflow of liquidity;

- facilitate the financial market to play fully its role through all of its components in enterprise development by establishing a favorable investment climate for domestic and international investors in the country through attaining a relatively dynamic economic growth rate, diversified financial instruments and services-mix, creating strong demand for funds in the real sectors and diverting the funds of insurance companies and pension schemes to investment in securities market to meet the capital need of the real sector entities;
- (i) strengthen the legal framework, (ii) remove market distortions, (iii) disengage the Government from commercial activities, (iv) strengthen financial intermediation, and (v) implement accounting and auditing standards; and
- boost fund supply in the market through giving wider access to institutional investors like insurance companies, social security and Trust funds and qualified foreign institutional investors (QFIIs).

B. For the development of banking system and the money market

- fill in the skill and knowledge gaps in critical areas of banking, such as credit evaluation and risk management; financial analysis of enterprises; management and monitoring of credit facilities; and asset and liability management;
- expose the banking system to international standards and procedures in banking regulation and supervision;
- ensure increased supply of instruments to achieve instrumental diversification;
- modify the securities laws that will simplify the authorization process for issuance of money market instruments by commercial banks;
- remove non-performing loans from the balance sheets of banks;
- restructure local banking system for greater efficiency of banks and safety of public money with them;
- rationalize bank-licensing policy and the expenditure pattern of banks;
- improve the risk resilience and risk management capacity of banks;
- ask the overseas banks in business in Bangladesh to expand their service coverage and customer bases from corporate to SMEs and other rural enterprises;
- make stringent provisions for punishment of employees of banking sector for violation of laws and regulations;
- delegate complete authority to central bank for overseeing and regulating the state-owned banks in order to avoid regulatory overlapping and conflicts with the concerned ministry government;
- ensure strong implementation of anti-money laundering legislations;
- make provisions for incentives separately and distinctly for prudent development and management efficiency on the part of bank owners and management executives;
- redesign the central bank's market monitoring and intervention process towards a pragmatic one and make the policy options flexible and bank specific on the basis of individual bank's exposure to risks and their management efficiency;
- avoid excessive monetization of government's fiscal deficits through banking system by making public borrowings through the market at market determined rates;
- allow leasing companies in the call money market to operate only as lenders, not at all as borrowers;
- phase out immediately the non-bank participants from inter-bank market by granting them permission to operate in the 'repo' market;
- ensure central bank's online access to banks' data base for regulatory purpose and make the existing early warning system timely, useful and pragmatic;
- develop standards for performance and risk management capacity of clearing and settlement systems;
- root out the increasing trend of exemption of loans by the boards and emerging culture of seeking loan remission/exemption by the borrowers,

- even out the liquidity imbalances in the banking system to balance the demand with the supply for short-term finance in the money market;
- increase short-term money market instruments and promote secondary market for them;
- establish strong and credible rating agencies in the country and make the rating of banks and other financial institutions mandatory;
- facilitate money market transactions for small and medium sized institutions who are not regular participants in the market;
- establish effective intersection between financial intermediation and remittance transfers to facilitate relationship intensification between remittances and development through enhanced inflow of liquidity;
- strengthen rules on the methods used money markets to provide finance for capital market intermediaries, notably underwriters, brokers, and traders, and investors against their holdings of securities;
- strengthen the capacity of the central bank to apply indirect instruments of monetary policy by developing a liquidity management framework and by designing instruments to supplement the auctions of treasury securities;
- assist and empower the central bank to develop (i) a plan for removal of the remaining exchange controls; (ii) strengthen the prudential framework for banks and non-bank institutions and oversee the proper and full implementation of both on-site and off-site examination system, (iii) undertake a detailed feasibility study for domestic resource mobilization, including an assessment on the possibility for issuance of central bank bills/securities in order to increase market orientation; (iv) enhance the credit appraisal, portfolio management, and debt-recovery capabilities of banks and non-bank institutions; and (v) introduce and develop the investment management capability of those regulated institutions.

C For the development of the Foreign Exchange Market

- develop market micro-structure including information management system;
- transform the market from direct inter-dealer trading to broker-inter-dealer trading;
- encourage real trading in the inter-bank foreign exchange market as a measure for operational and structural shift towards more activation of the market;
- allow access of new participants access to the foreign exchange market, specifically hedge funds and foreign currency denominated proprietary traders who have experience of accessing markets through auto-dealing interfaces;
- develop the foreign exchange market for efficient and effective foreign exchange dealing, instead of mere buying and selling;
- establish structure to begin foreign exchange electronic dealing in the bank-to-bank market;
- improve the overall operational efficiency of the dealer banks in foreign exchange by increasing deal flow, risk management capability and both theoretical knowledge and practical working skills;
- increase transparency of dealer banks in price and pricing methods;
- make the market more competitive by reducing bid-offer spread and rationalizing margins earned by market-making banks;
- remove the time-zone inconsistencies of the country's forex market with international financial centers;
- facilitate introduction of derivatives trading, such as interest rate swaps and bond futures, and other workable instruments and mechanisms;
- intensify competition in the market to provide the users with benefits of competitive exchange rate;
- close down the moneychangers to protect the exchange rate from unusual instability;
- intensify monitoring on the off-shore banking units in the country to prevent them from unlawful and unethical financial transfers and handlings; and
- facilitate further the remittance inflow process into the country to achieve liquidity sufficiency.

D. For the development of the capital market

- implement comprehensive reforms in the capital market to: (a) achieve complete transparency in securities market, (b) strengthen and rationalize regulatory requirements for public offers, compared with private placements; (c) unify standards for securities trading; (d) attract and encourage introduction of new types of securities; (e) develop institutional investors market; (f) ensure investors' protection; (g) eliminate policy distortions that undermine the development of capital markets, and (h) improve good governance in non-bank financial institutions;
- enhance protection for small investors in the securities markets and minority shareholders of issuing companies;
- allow big corporate entities to float low interest bonds and the banks to subscribe them;
- privatize NCBs and SOEs through the stock market;
- develop the SME and micro-enterprise sectors to expand the demand side of the financial markets.
- review and rationalize the existing restrictions on the investment options of the pension and insurance funds in order to enable them to invest more in the stock market;
- improve the liquidity of government securities by issuing more tradable instruments;
- deepen the corporate debt/bond market with enhanced issuance of derivative securities under stringent regulatory environment;
- consider the issue of carrying out on-site prudential inspections of financial condition for firms that are handling client assets in addition to banks and other financial institutions;
- impose insider trade reporting requirements with stringent transparency;
- regulate insider trading and market manipulation;
- create a separate internal process for reporting under the employee code of conduct;
- develop clear and transparent rules related to take-over bids, mergers, changes of control and related party transactions;
- establish a market segment for high-quality shares;
- integrate the securities market with markets of other South and South East Asian countries as a first step towards market internationalization;
- demutualize stock exchanges,
- rationalize taxation provisions on capital gains, dividends and interest conducive to market development;
- widen the investors base through broad banding of pension/provident fund and insurance industries;
- make repos applicable across wider range of securities;
- make the stock market trading and settlement process efficient through setting up depository for fixed income securities;
- establish nationwide access to trading infrastructure at affordable costs;
- enforce compliance with uniform valuation procedures by all players;
- ensure transparency in listing of companies and IPO processes;
- make credit rating of companies compulsory as a condition of listing;
- review existing regulatory provisions for public issuances and strengthen them, and introduce prudent guidelines for issue documentation, post-issue reporting and disclosures;
- encourage book building through close dialogue with prospective institutional investors and auctions whereby the IPO does not come to the market with a stated offer price;
- create conditions for easy and reliable transfer of ownership for the holder of securities, and establish a user-friendly clearing mechanism for securities transactions;
- revise and rationalize the existing code of best practices for stock exchanges and ensure their compliance;
- facilitate foreign participation in the financial market, which is beneficial for better access to capital and know-how from foreign sources;

- strengthen the institutional investors' market for it to play an increasing role in the capital market by funding and providing a strong impetus towards better corporate governance in the companies in which they invest;
- promote venture capital financing companies or venture capital market as a separate niche of the country's capital market to promote risk capital and liquid equity markets for the development of small, high-growth and young, high-risk and often high-technology firms;
- consider targeted tax incentives for venture capital investment and consider phasing out those failing to meet a cost-benefit test;
- ease quantitative restrictions on institutional investors to diversify sources of funds;
- support the development of a private equity culture among institutional investors;
- focus venture funding on knowledge-based clusters of enterprises, educational institutions, support services, etc.;
- introduce and enhance alternative exit routes for losing and low performing companies, such as mergers and acquisitions (M&As);
- create an entrepreneurial and risk-taking culture, which will contribute to both demand and supply sides of the capital market;
- ensure safety of the market for domestic and foreign investors;
- mount a massive effort to promote investor protection in the country;
- initiate financial education for the general public and create a fund for investors' education;
- make consequential amendments in the existing securities-related ordinances and remove inconsistencies; and
- attract more retail investors to financial markets by taking up appropriate measures, especially in improving the level of public confidence on financial markets; and above all, make the country's securities market a choice for investors.

Notes on Implementation of the Recommendations

Implementation of the recommendations listed above requires prioritizing and sequencing on the basis of needs and stages of development process, and the issues are to be addressed under a prudent legal and regulatory framework. Unless some bold steps are taken, financial markets in the country will likely be left far behind, which in turn may hamper the country's economic growth. Financial institutions should be prevented from getting involved in any financial crimes and including financing terrorist activity. Further reform initiatives should be accompanied by sound macroeconomic, monetary and fiscal policies, and follow-suit a set of cost-effective procedures.

Financial development cannot happen in a vacuum. Economic, social, political and financial aspects interact in a number of very complex ways. Government and concerned authorities/organizations must constantly monitor all aspects of the environment in order to develop strategies, set goals and determine objectives that will help achieve the desired results for the development of the country's financial system and markets. Understanding the structure and behaviour of the factor markets is quite vital in finding a solution to the problems of financial markets in Bangladesh. To tap and harness the potential of the informal market for development, there is a need for linking and eventually, integrating the informal financial sector so that it can play a complementary role to the formal sector.

In order for financial regulations to be able to keep up with the rapid developments in the financial markets, it must be continually monitored and optimised. In order to structure regulations as effectively as possible, the market regulators should jointly draw up "Guidelines for Financial Market Regulations". In accordance with these guidelines, regulatory processes should be transparent, those concerned should increasingly be

involved and the economic impact of regulation should be taken into account as early on as possible. Financial market regulations should be forward looking and prudential and pro-development.

Finally, it may be suggested that a forum for permanent financial market dialogue may be created in the country to discuss issues arising in connection with money and capital market development. The forum will suggest recommendations that can generate real benefits for savers and investors through efficient and open money and capital markets. It will discuss whether the technical, financial, regulatory and prudential issues are best handled by the appropriate financial and regulatory authorities. The final objective is to make the country's financial market an efficient and well-regulated one capable of producing leading-edge products and technology, which will facilitate international capital flows and benefit domestic firms and investors and stimulate economic growth in the country.

Suggestions for further research

This dissertation leaves three issues for further research (1) to examine how do the GDP growths influence the stock market development, (2) to explore the dynamics of the informal financial markets and their influence on the development of formal financial markets, and (3) to develop strategies of linking formal and informal financial markets for meaningful financial and economic development.

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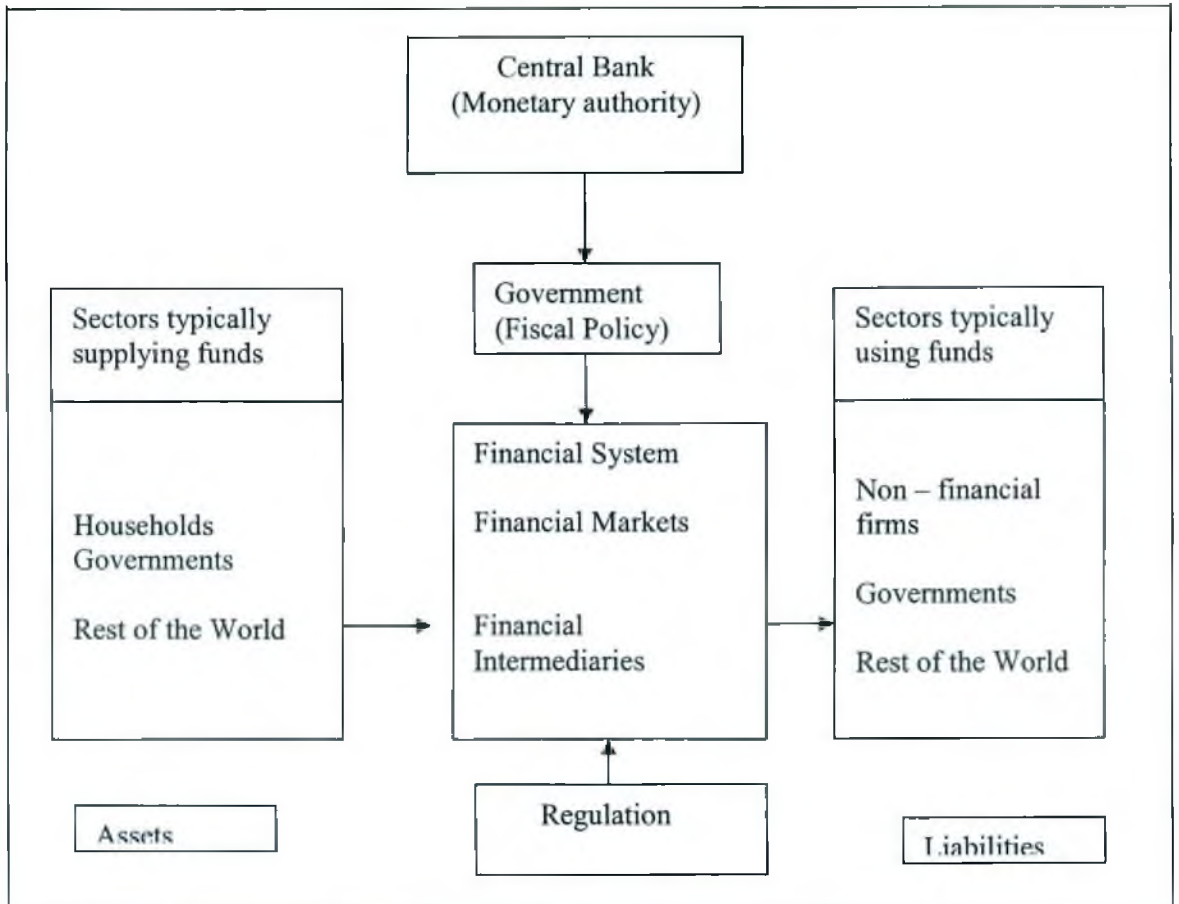
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Annexure

Annex 1

(Chapter 4)

Figure-4(i): Fund Flow Process in the Financial System



Source: Developed by the author

Table 4.3 Summary of IMF's Macroprudential Indicators (MPIs)

Aggregated Microprudential Indicators	Macroprudential Indicators
<p>Capital adequacy: Aggregate capital ratios Frequency distribution of capital ratios</p> <p>Asset quality: Lending institution Sectoral credit concentration Foreign currency-denominated lending Non-performing loans and provisions Loans to loss-making public sector entities Risk profile of assets Connected lending Leverage ratios</p> <p>Borrowing entity: Debt-equity ratios Corporate profitability Other indicators of corporate conditions Household indebtedness</p> <p>Management soundness: Expense ratios Earning per employee Growth in the number of financial institutions</p> <p>Earning and profitability: Return on assets Return on equity Income and expenses ratios Structural profitability indicators</p> <p>Liquidity: Central bank credit to financial institutions Segment of inter-bank rates Deposits in relation to monetary aggregates Loans-to-deposits ratios Maturity structure of assets and liabilities (Liquid assets ratios) Measures of secondary market liquidity</p> <p>Sensitivity to market risk: Foreign exchange risk Interest rate risk Equity price risk Commodity price risk</p> <p>Market-based indicators: Market price of financial instruments, including equity Indicators of excess yields Credit ratings Sovereign yield spreads</p>	<p>Economic growth</p> <p>Aggregate growth rates: Sectoral slumps</p> <p>Balance of payments: Current account deficit Foreign exchange reserve adequacy External debt (including maturity structure) Terms of trade Composition and maturity of capital flows</p> <p>Inflation: Volatility in inflation</p> <p>Interest and exchange rates: Volatility in interest and exchange rates Level of domestic real interest rates Exchange rate sustainability Exchange rate guarantees</p> <p>Lending and asset price booms: Lending booms Asset price booms</p> <p>Contagion effects: Trade spill-overs Financial market correlation</p> <p>Other factors: Directed lending and investment Government recourse to the banking system Arrears in the economy</p>

Source: IMF-Staff Paper No.192, April 2000

Table 4.4: Aggregate Indicators of Financial Soundness for Deposit Money Banks in Bangladesh: 1997 - 2004 (%)

Year	1997	1998	1999	2000	2001	2002	2003	2004	2005
Capital Adequacy:									
Risk-based capital adequacy ratio (CAR)	7.50	7.30	7.40	6.70	6.70	6.91	8.40	8.78	7.08
Tier 1 capital ratio	6.04	5.69	6.06	6.20	6.21	5.88	7.26	7.60	5.88
Leverage ratio (equity/total assets)	4.89	5.13	4.43	4.35	4.37	1.46	4.10	4.41	3.59
Asset Quality									
Non-performing loans (NPL)/gross loans	37.50	40.70	41.10	34.90	31.50	31.08	22.13	17.63	15.34
Provisions Maintained/NPL	25.43	41.07	39.54	33.70	30.23	25.30	18.35	19.15	24.60
Provision Shortfall/Required Provision	40.91	46.50	48.59	40.95	40.25	43.71	59.70	59.13	50.89
Earning and profitability									
ROA (Return on assets)	0.34	0.34	0.23	0.0049	0.82	0.69	1.09	0.70	0.72
(net income/average total assets)					18.76	15.90	23.08	13.04	17.63
ROE	6.98	6.59	5.24	0.11					
(Return on equity=net income/shareholders' equity)									
Net interest income or margin/gross income	12.39	13.05	11.79	12.00	19.54	18.85	23.78	24.68	24.67
Non-interest expenses to gross income	29.84	31.61	30.29	40.42	32.47	31.97	22.76	22.98	23.32
Net Profit per Employee	0.22	0.24	0.21	0.25	1.07	1.39	1.67	0.89	1.332
(Net Profit/ Number of Employees)									
Liquidity									
Deposits to Monetary Assets Ratio	0.89	0.91	0.92	0.93	0.93	0.91	0.92	0.91	0.91
Liquid Assets to Total Assets	17.88	19.82	17.55	17.38	16.52	15.19	14.66	13.94	14.65
Customer Deposits to Total Loans	83.50	81.70	80.58	77.56	78.69	78.38	78.83	78.96	82.30
(Excluding inter-bank loans)									
Total Liquidity (in %)	24.11	25.24	25.41	24.63	23.69	25.50	24.74	23.40	22.97
(Required Liquidity 20%)									
Credit to the GOB by the Banking System (net)	80.17	92.72	112.64	147.90	176.94	202.62	192.60	219.49	256.33
(in billion Tk.)									

Source: Compiled from information in Annual Reports of banks and Bangladesh Bank Publications

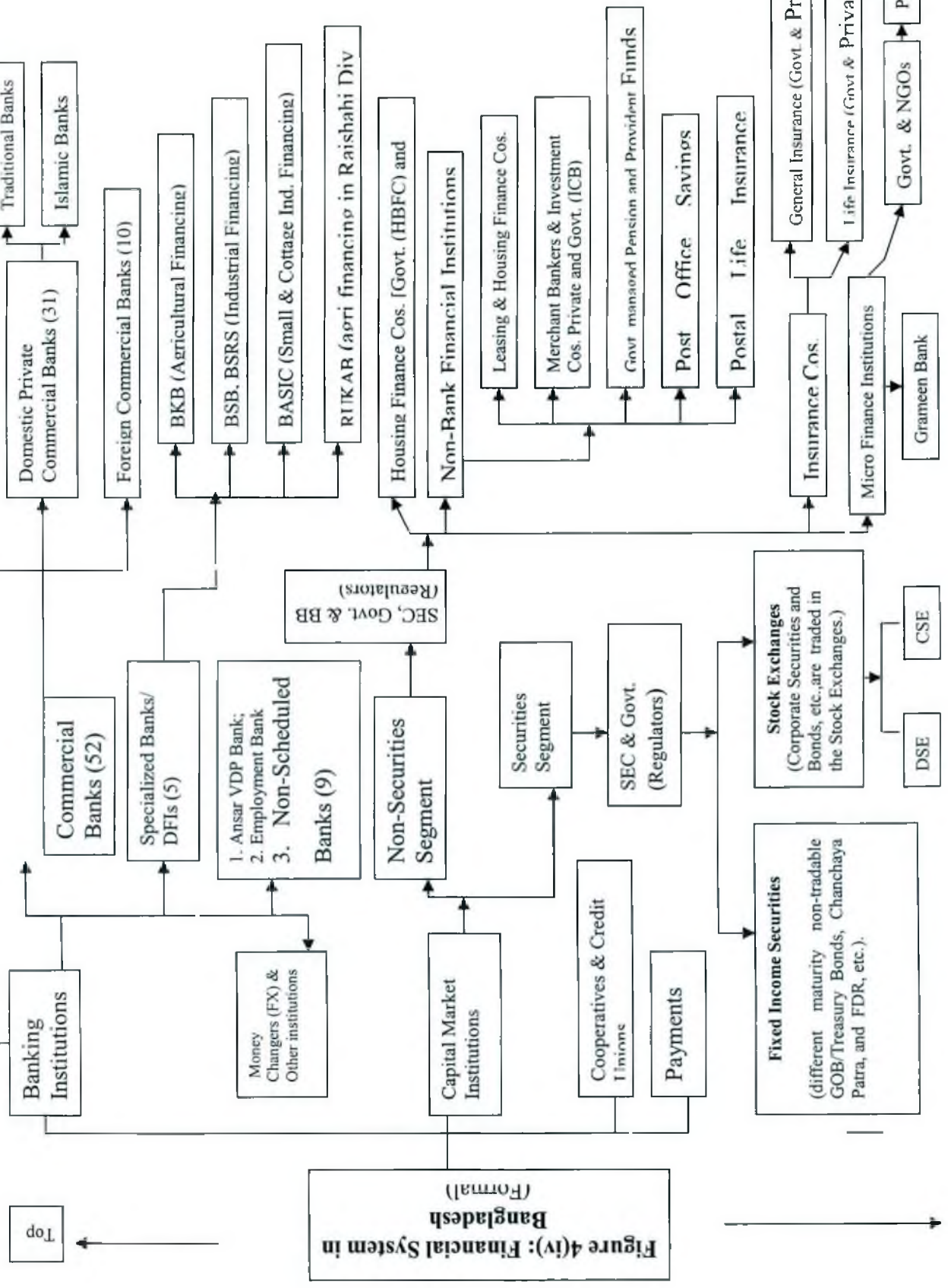


Table 4.7: Micro- Credit Operations of the Grameen Bank and Large NGOs

(In billion Taka)

Institutions	FY 2002	FY 2003	FY 2004	FY 2005
1. Total disbursement	49.2	62.2	76.0	95.3
i) Grameen Bank	14.2	18.8	23.4	31.5
ii) BRAC	15.7	18.6	23.3	29.1
iii) ASA	15.2	20.9	26.1	31.9
iv) Prosaic	4.1	3.8	3.2	2.8
2. Total recovery	48.6	58.4	69.9	85.8
i) Grameen Bank	15.2	16.8	19.8	25.5
ii) BRAC	17.5	18.8	23.2	29.4
iii) ASA	11.9	18.5	23.0	27.7
iv) Proshika	4.0	4.4	3.9	3.2
3. Loans outstanding	34.3	40.7	49.9	60.8
4. Loans overdue	2.1	2.1	2.4	3.1
5. Overdue as percent of outstanding	6.2	5.2	4.8	5.1

Source: Bangladesh Bank and Annual Reports of NGO/MFIs

Annex 2

(Chapter 5)

Table 5.4: Structure of Regulatory Agencies in Selected Countries

Country	Monetary Policy Agency	Bank Supervisory Agency	Status
Australia	Reserve Bank of Australia	Australian Prudential Regulatory Authority (APRA)	Separated
Austria	National Bank of Austria	Ministry of Finance	Separated
Belgium	National Bank of Belgium	Banking and Finance Commission	Separated
Canada	Bank of Canada	Office of the Superintendent of Financial Institutions	Separated
Denmark	Danmarks National bank	Finance Inspectorate	Separated
Finland	Bank of Finland	Bank Inspectorate, Bank of Finland	Separated
France	Banque de France	Banque de France, Commission Bancaire	Combined
Germany	Deutsche Bundesbank	Federal Banking Supervisory Office (FBSO)	Separated
Greece	Bank of Greece	Bank of Greece	Combined
Hong Kong	Hong Kong Monetary Authority	Hong Kong Monetary Authority	Combined
Ireland	Central Bank of Ireland	Central Bank of Ireland	Combined
Italy	Banca d'Italia	Banca d'Italia	Combined
Japan	Bank of Japan	Ministry of Finance, Bank of Japan	Separated
Luxembourg	Luxembourg Monetary Institute	Luxembourg Monetary Institute	Combined
Mexico	Banco de Mexico	National Banking and Securities Commission	Separated
Netherlands	De Nederlandsche Bank	De Nederlandsche Bank	Combined
New Zealand	Reserve Bank of New Zealand	Reserve Bank of New Zealand	Combined
Norway	Norges Bank	Banking, Insurance and Securities Commission	Separated
Portugal	Banco de Portugal	Banco de Portugal	Combined
Spain	Banco de España	Banco de España	Combined
Sweden	Sveriges Riksbank	Swedish Financial Supervisory Authority	Separated
Switzerland	Swiss National Bank	Federal Banking Commission	Separated
United Kingdom	Bank of England	Financial Services Authority (FSA)	Separated
United States	Federal Reserve System	Federal Reserve System, OCC, FDIC, State governments	Separated

Source: Adapted from Charles Goodhart and Dirk Schoenmaker (1995) and updated by the author upto 2005

Annex 3

(Chapter 6)

Table 6.2: Indicators of Capital Market Developments

Items	FY97	FY98	FY99	FY00	FY01	FY02	FY03	FY04
Number of listed securities	214	224	230	239	244	257	260	267
Issued equity and debt (billion Taka)	26.9	28.3	28.7	30.5	32.2	35.0	36.1	49.0
Market capitalization (billion Taka)	107.8	59.0	50.7	54.0	72.2	65.5	69.2	142.4
Turnover (billion Taka)	10.2	12.6	51.9	27.7	49.1	34.9	30.6	24.8
All-share price index	1111.6	676.5	546.8	561.0	716.0	793.0	830.0	1319.0
Growth (in percent)¹								
Number of listed securities	-	4.7	2.7	3.9	2.1	5.3	1.2	2.7
Issued equity and debt (billion Taka)	-	5.2	1.4	6.3	5.6	8.6	3.1	35.7
Market capitalization (billion Taka)	-	-45.3	-14.1	6.5	33.7	-9.2	5.6	105.8
Turnover (billion Taka)	-	23.5	311.9	-46.6	77.3	-28.9	-12.3	-19.0
All-share price index (DSE)	-	-39.1	-19.2	2.6	27.6	10.8	4.7	58.9

Source: Dhaka Stock Exchange

¹ Growth rate refers growth over previous year.

Table 6.3: Group-wise Market Capitalization of Dhaka Stock Exchange

(In billion Taka)

Name of Group	FY96	FY97	FY98	FY99	FY00	FY01	FY02	FY03	FY04
Banks	8.5	10.4	5.7	5.7	8.9	20.1	19.3	20.4	50.8
Investment	0.9	1.4	1.0	0.8	0.8	1.0	1.1	1.0	1.4
Engineering	17.6	17.9	7.8	4.6	4.7	4.9	4.4	5.5	6.9
Food & Allied Products	8.9	10.3	7.5	8.7	6.7	6.9	8.3	8.6	11.6
Fuel and Power	3.6	3.8	2.2	2.6	2.6	2.7	2.5	3.8	4.2
Jute Industries	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1
Textile Industries	8.8	9.5	7.7	6.5	6.1	7.4	6.0	6.2	7.5
Pharmaceuticals and Chemicals	10.4	13.7	9.1	7.4	10.8	11.0	9.4	11.2	24.0
Paper and Printing	0.4	1.9	0.5	0.6	0.3	0.3	0.3	0.3	0.3
Service and Real Estate	3.1	4.5	3.1	2.5	2.3	2.3	1.5	1.6	2.1
Cement Industries	5.9	7.8	3.2	2.6	4.5	6.0	3.8	3.7	19.3
Insurance	5.4	4.2	3.1	2.8	2.7	2.9	3.0	3.8	6.5
Miscellaneous	5.8	20.4	6.4	4.9	5.7	5.7	4.9	5.9	7.1
Total Market Capitalization	79.4	105.8	57.8	49.7	56.3	71.4	64.7	72.2	141.9
Growth Rate		33.3	-45.3	-14.1	13.2	26.9	-9.4	11.6	96.6

Source: Bangladesh Bank and SEC

Annex 4

(Chapter 7)

Table 7.1:
Yearly, Quarterly and Monthly Weighted Average Call Money Market Rates
(%)

PERIOD	Borrowing Rate			Lending Rate		
	Highest	Lowest	Average	Highest	Lowest	Average
1997	23.45	7.08	8.16	22.87	7.38	8.55
1998	20.61	6.90	8.43	21.89	7.02	8.64
1999	12.80	5.05	7.15	13.68	5.03	7.61
2000	14.22	4.82	6.82	10.95	5.20	7.21
2001	18.29	4.53	8.26	19.16	4.79	8.57
Jan-Mar.	16.81	5.93	9.05	18.14	6.10	9.17
Apr-Jun.	14.86	6.06	10.48	15.77	6.17	10.99
July-Sep.	8.12	4.80	6.15	8.43	5.14	6.54
Oct-Dec.	18.29	4.53	7.94	19.16	4.79	8.34
2002	33.53	2.05	9.49	35.39	2.77	9.56
Jan-Mar	33.53	6.02	11.13	35.39	6.98	11.68
April-June	27.33	3.08	11.49	28.21	3.64	11.86
July-Sept	9.04	2.05	4.58	9.72	2.77	4.97
Oct-Dec	13.59	4.19	7.14	14.63	4.98	4.36
2003	14.17	4.28	7.28	15.49	5.18	8.41
January	13.87	6.28	7.60	15.17	6.89	7.77
February	30.33	5.65	12.18	31.47	6.17	15.00
March	14.76	7.04	9.59	15.31	7.53	10.02
April	8.36	7.04	7.86	8.72	7.50	8.20
May	25.78	7.15	13.44	28.59	7.42	14.8
June	33.25	2.64	10.80	34.99	4.25	12.06
July	4.74	2.63	3.68	5.95	4.38	5.09
August	4.33	3.23	4.02	5.66	4.49	5.22
September	8.83	2.37	4.00	9.80	3.92	5.47
October	7.31	1.82	4.19	8.67	2.56	5.23
November	9.81	2.98	5.35	12.53	3.72	6.42
December	8.61	2.50	4.60	8.99	3.35	5.58
2004	14.27	2.9	5.08	15.24	3.57	6.06
January	50.00	3.25	7.87	54.66	3.83	9.66
February	16.33	2.10	5.09	16.97	1.89	5.85
March	7.29	2.68	5.18	9.40	2.50	5.68
April	6.03	3.33	4.32	6.74	4.13	4.95
May	11.17	3.28	5.53	12.39	3.91	6.58
June	5.68	2.54	4.43	6.61	3.74	5.37

Source: Bangladesh Bank

Table 7.2
Spread of Annual, Quarterly and Monthly
Weighted Average Call Money Lending and Borrowing Rates

PERIOD	Borrowing Rates %	Lending Rates %	Spread (%)
1997	8.16	8.55	0.39
1998	8.43	8.64	0.21
1999	7.15	7.61	0.46
2000	6.82	7.21	0.39
2001	8.26	8.57	0.31
Jan-Mar.	9.05	9.17	0.12
Apr-Jun.	10.48	10.99	0.53
July-Sep.	6.15	6.54	0.39
Oct-Dec.	7.94	8.34	0.40
2002	9.49	9.56	0.07
Jan-Mar	11.13	11.68	0.55
April-June	11.49	11.86	0.37
July-Sept	4.58	4.97	0.39
Oct-Dec	7.14	4.36	2.76
2003	8.59	8.22	1.02
January	7.60	7.77	0.17
February	12.18	15.00	2.82
March	9.59	10.02	0.43
April	7.86	8.20	0.34
May	13.44	14.8	1.36
June	10.80	12.06	1.76
July	3.68	5.09	1.40
August	4.02	5.22	1.20
September	4.00	5.47	1.47
October	4.19	5.23	1.04
November	5.35	6.42	1.07
December	4.60	5.58	0.98
2004	7.28	8.41	1.12
January	7.87	9.66	1.79
February	5.09	5.85	0.76
March	5.18	5.68	0.10
April	4.32	4.95	0.63
May	5.53	6.58	1.05
June	4.43	5.37	0.94

Note: Spread shown in this table are differences of inter-bank lending and borrowing rates.

Table 7.3 Comparative State of Monthly Call Money Market Rates and other Money and Capital Market Rates (Weighted Average): 2003-04 [% per Annum]

Month	Call Money Market Rates		Commercial Lending and Deposits Rates of the Banking System (3-6 months)		Yield on T-bills	Yield on the DSE	Bank Rate	Rate of Inflation
	Borrowing Rates	Lending Rates	Commercial Lending Rate	Deposit Rates				
July'03	3.68	5.09	12.04	6.95	11.00	6.09	6.00	4.51
Aug'03	4.02	5.22	12.02	7.09	5.08	5.88	6.00	4.59
Sep'03	4.00	5.47	12.04	7.02	9.23	6.73	6.00	4.71
Oct'03	4.19	5.23	11.94	6.95	6.27	6.68	6.00	4.90
Nov'03	5.35	6.42	11.96	6.59	3.93	5.99	5.00	5.14
Dec'03	4.60	5.58	11.94	6.34	8.60	6.01	5.00	5.36
Jan'04	7.87	9.66	10.74	5.15	3.93	6.50	5.00	5.51
Feb'04	5.09	5.85	10.76	6.12	3.94	6.59	5.00	5.56
Mar'04	5.18	5.68	10.20	5.86	8.00	6.46	5.00	5.66
Apr'04	4.32	4.95	10.12	5.90	3.99	5.90	5.00	5.75
May'04	5.33	6.58	10.12	5.83	7.00	5.54	5.00	5.79
June'04	4.43	5.37	10.09	6.06	5.50	4.83	5.00	5.85

Source: Compiled from various publications of Bangladesh Bank, DSE Monthly Review-various issues and BBS publications.

Table 7.5: Trading Performance of Inter-bank Call Money Market: 1999-2004 (In Crore Taka)

Year	Borrowings	Lending	Total
1999-00	102741.95	170066.20	272808.00
2000-01	457528.25	677762.84	1135291.00
2001-02	338543.30	334545.67	673089.00
2002-03	17087.61	375889.57	392977.00
2003-04	212337.98	441464.41	653802.00
Jul' 03	14423.50	37607.05	52030.60
Aug' 03	16027.70	40551.55	56579.30
Sep' 03	20534.12	41948.62	62482.70
Oct' 03	22007.50	37418.18	59425.70
Nov' 03	17012.26	31110.89	48123.20
Dec' 03	22959.50	35509.80	58469.30
Jan' 04	21421.70	35357.77	56779.50
Feb' 04	13119.60	28435.10	41554.70
Mar' 04	16930.70	39460.41	56391.10
Apr' 04	14727.40	36033.03	50760.40
May' 04	13871.00	35439.72	49310.70
Jun' 04	19303.00	42592.19	61895.20

Source: Bangladesh Bank

Table 7.6: Holding of Government Treasury Bills by Banks and interest rate structure

(Taka in million)

Period	Holdings of Treasury Bills by		Total Holdings	Interest rate structure
	Bangladesh Bank	Commercial Banks		
1	2	3	4= (2)+(3)	5
June, 1980	4063	2354	6417	6% up to 15-10-80
June, 1981	2458	3328	12786	8.5% from 16-10-80 to 15-9-85
June, 1982	2307	3623	12930	8.5%
June, 1983	6841	6194	13035	8.5%
June, 1984	6157	8878	15335	8.5%
June, 1985	6207	8510	15419	8.5%
June, 1986	7366	9538	16904	9% from 15-9-85 to 21-1-87
June, 1987	7061	12510	19571	8% from 22-1-87 to 13-5-90
June, 1988	8990	9991	18981	8%
June, 1989	6378	12691	19069	8%
June, 1990	13445	11856	25301	7.5% from 14-5-90 to 21-12-91
June, 1991	14003	15716	29719	7.5%
December, 91	7467	23174	30641	7.5%
January, 92	7884	20728	28612	7% from 22-12-91 to 13-10-92
June, 92	9833	22645	32478	7%
October, 92	1281	22417	23698	7%
Nov, 92	1881	24170	26051	6.25% from 14-10-92 to 8-3-93
January, 93	1195	25455	26650	6.25%
March, 93	3622	18755	22377	6.25%
April, 93	2886	13544	16430	4.75% from 9-3-93 to 30-5-93
June, 1993	12876	5440	18016	4.25% from 31-5-93 to 17-11-93
December, 93	226	11939	12165	4.00% from 18-11-93 to 15-6-94
January, 94	189	10104	10293	4.00%
April, 94	23	423	446	4.00%
June, 94	8673	4067	12740	3.5% from 16-6-94 to 17-10-94

Sources: 1. Bangladesh Bank; 2. Azad, A.K (2002): Behaviour of Treasury Bills Market in Bangladesh

Table 7.8: Average Quarterly Returns on Second-Generation Government Treasury Bills Compared to other Investments (%)

Period	Government Treasury Bills				Deposit Rates	Call Money Rate (Weighted Average)	Inflation
	30-Day	90-Day	180-Day	1-Year			
Oct-Dec, 95	-	5.82	-	-	5.26	N/A	5.79
Jan-Mar, 96	-	6.22	-	-	5.86	N/A	4.98
Apr-June, 96	7.07	7.16	7.31	-	6.11	N/A	4.07
July-Sept, 96	6.70	6.88	-	-	6.34	N/A	2.94
Oct-Dec, 96	6.31	7.20	7.48	-	6.49	N/A	2.71
Jan-Mar, 97	7.56	7.81	-	-	6.68	7.10	3.17
Apr-June, 97	8.51	8.96	9.78	11.08	6.67	10.57	3.89
July-Sept, 97	8.50	8.79	8.69	-	6.97	8.19	5.22
Oct-Dec, 97	8.32	8.76	-	-	6.98	8.81	5.66
Jan-Mar, 98	8.29	8.99	-	10.57	7.02	8.65	6.12
Apr-June, 98	8.34	9.12	-	10.29	7.07	10.42	6.34
July-Sep, 98	8.39	9.07	-	10.27	7.26	7.45	7.27

Source: (1) Bangladesh Bank: Economic Trends-concerned issues

* - * No bid was accepted; N/A= Not Available (N/A = 0, is applied in case of graphs).

Table-7.10: Demand Level of Different Maturity Third Generation Treasury Bills During 1998-2001

(Figures in Billion Taka)

Period	28-Day TB		91-Day TB		182-Day TB	
	Bids Offered	Bids Accepted	Bids Offered	Bids Accepted	Bids Offered	Bids Accepted
1998	114.75	81.49	4.01	1.69	0.30	0
1999	256.65	195.94	18.24	9.27	22.31	7.43
2000	566.42	130.22	1.33	0.13	21.26	10.11
2001	795.13	602.32	27.71	11.87	10.54	3.76

(Cont'd)

Period	364-Day TB		2-Year TB		5-Year TB	
	Bids Offered	Bids Accepted	Bids Offered	Bids Accepted	Bids Offered	Bids Accepted
1998	3.20	0.37	18.64	4.33	1.20	0
1999	48.15	19.19	28.91	6.75	0.39	-
2000	89.05	29.07	29.60	12.70	18.21	1.02
2001	21.40	14.10	31.811	14.30	4.75	0.16

Source: Bangladesh Bank Bulletins, various issues.

Table 7.13: Monthly Average Treasury bill Yields During January, 2001- August 2002
(Per cent)

Period	28-day T-bills	91-day T-bills	182-day T-bills	364-Day T-bills	2 - Years T-bills	5 - Years T-bills	Stock Dividend Yields (DSE)	Bank Deposit Rates	Call Money Rate (Lending)	Inflation (Average)
1	2	3	4	5	6	7	8	9	10	11
2001										
Jan	6.44	6.87	7.33	7.46	8.50	10.65	5.81	7.06	8.67	2.18
Feb	6.53	6.88	7.27	7.46	8.49	10.50	5.92	7.11	10.01	2.04
Mar	6.52	6.97	7.23	7.53	8.49	--	6.10	7.13	13.07	1.90
Apr	6.54	6.91	7.20	7.57	8.48	--	5.98	6.99	11.46	1.78
May	6.53	6.90	7.13	7.59	8.43	--	5.52	7.02	9.79	1.68
Jun	6.61	6.88	--	7.53	8.38	--	5.88	7.08	11.71	1.59
Jul	6.01	6.74	7.02	7.25	8.01	10.48	6.54	7.10	5.87	1.59
Aug	6.03	6.67	7.00	7.18	7.97	--	6.85	7.17	6.65	1.51
Sep	6.06	6.62	6.98	7.18	7.97	--	6.53	7.12	7.20	1.47
Oct	5.89	6.57	6.90	7.13	7.97	--	6.75	6.63	7.55	1.48
Nov	4.42	5.00	5.38	5.83	6.96	--	7.21	6.86	5.66	1.48
Dec	3.38	4.85	4.96	5.54	6.89	--	8.10	6.76	11.95	1.56
2002										
Jan	3.45	--	4.90	5.24	6.79	9.50	9.10	6.79	9.04	1.80
Feb	4.33	4.85	5.00	5.16	6.74	9.45	8.54	6.95	16.75	1.93
Mar	4.50	5.31	--	5.82	6.83	9.24	8.21	6.60	10.16	2.05
Apr	4.08	5.14	--	5.78	6.79	8.88	8.56	6.88	9.90	2.16
May	4.12	5.05	--	5.90	6.75	8.74	8.53	6.79	15.66	2.28
Jun	4.55	5.11	5.50	5.79	6.86	8.62	8.29	6.52	9.13	2.39

Source: (1) Bangladesh Bank: Economic Trends, related issues (2) Dhaka Stock Exchange: Monthly Review, related issues;

Table 7.14: Credit – Deposit Ratios of DMBs Practiced during 1993-2005

Years	Deposit Ratios of Banks (%)
1993-94	87.88
1994-95	95.39
1995-96	101.35
1996-97	101.21
1997-98	102.33
1998-99	101.23
1999-00	96.26
2000-01	96.19
2001-02	102.28
2002-03	101.10
2003-04	93.93
2004-05	98.47

Source: Bangladesh Bank, Economic Trends

Table 7.17: Repo Auctions

(In Billion Taka)

Period	No. of Auctions Held	Bids Offered (Face Value)	Bids Accepted (Face Value)	Weighted Average Rate of Interest (%)
July-Sep'02	65	6.00	3.20	5.25-6.88
Oct-Dec'02	57	22.78	10.66	6.80-8.90
Jan-Mar'03	60	36.44	28.67	9.50-7.50
Apr-Jun'03	63	106.59	38.90	8.01-30.05
Total (2002-03)	245	171.81	81.43	
July-Sep'03	10	21.56	16.33	4.52-5.50
Oct-Dec'03	32	123.48	93.23	4.00-5.50
Jan-Mar'04	37	88.55	58.51	4.50-5.00
Apr-Jun'04	32	104.93	62.96	4.50-5.00
Total (2003-04)	111	338.52	231.03	

Table 7.20: Bank Rate and Interest Rate Structure of Post Office Savings Bank and House Building Finance Corporation (%)

Particulars	With Effect From 22.02.97	With Effect From 01.07.97	With Effect From 24.11.97	With Effect From 29.08.99	With Effect From 24.10.01	With Effect From 08.11.03	With Effect From 17.07.04 and on words
A. Bank Rate	7.00	7.50	8.00	7.00	6.00	5.00	5.00
B Interest Rates on Deposits with Post Office Savings Bank							
a) Ordinary Account	8.50	8.50	8.50	8.50	8.50	8.50	7.50
b) Fixed Deposit Account (Interest After Maturity)							
i) For one year	10.50	10.50	10.50	10.50	10.50	10.50	9.50
ii) For two years	11.50	11.50	11.50	11.50	11.50	11.50	10.50
iii) For three years	12.50	12.50	12.50	12.50	12.50	12.50	11.50
c) Fixed Deposit Account (Interest After 6 months)							
i) For one year	9.50	9.50	9.50	9.50	9.50	9.50	8.50
ii) For two years	10.00	10.00	10.00	10.00	10.00	10.00	9.00
iii) For three years	10.50	10.50	10.50	10.50	10.50	10.50	9.50
d) Interest Rates on Construction Loans Provided by House Building Finance Corporation.							
i) Dhaka and Chittagong Metropolitan Cities							
a) Loan upto TK. 15 lacs	---	13.00	13.00	13.00	13.00	13.00	13.00
b) Loan above TK. 15 lacs	---	15.00	15.00	15.00	15.00	15.00	15.00
ii) Other Divisional/District Head Quarters.	---	10.00	10.00	10.00	10.00	10.00	10.00

Source: Economic Trends, Various issues, Bangladesh Bank

Table 7.24: Weekly Average Liquidity Position of Commercial Banks in Bangladesh

(Taka in Crore)

Name/Category of Banks	As on 31-12-2003			As on 30-06-2004		
	Total Liquidity	Liquidity Ratio (%)	Liquidity Surplus/ Deficits (-)	Total Liquidity	Liquidity Ratio (%)	Liquidity Surplus/ Deficits (-)
<i>NCBs</i>						
Sonali	4927.06	23.89	1627.46	5157.47	24.68	1813.67
Agrani	3412.23	29.66	1571.40	3336.15	29.22	1509.35
Janata	2614.35	29.48	570.71	2899.45	22.71	857.08
Rupali	1498.81	24.59	488.72	1375.89	23.74	448.74
Sub-Total (Required Liquidity)	12358.39	24.41 (16% of which, 4% is CRR)	4257.65	12768.96	25.87 (16% of which, 4% is CRR)	4628.84
<i>PCBs (30) (Required Liquidity)</i>	11949.27	24.41 (16% of which, 4% CRR)	4432.14	11936.84	24.89 (16% of which, 4% CRR)	4956.43
<i>SPBs (5) (Required Liquidity)</i>	741.56	11.99 (4% CRR only)	369.72	883.53	12.94 (4% CRR only)	445.71
<i>FCBs (10) (Required Liquidity)</i>	3188.92	37.89 (16% of which, 4% is CRR)	1846.56	5100.35	35.85 (16% of which, 4% is CRR)	1724.22
Sub- Total	15879.75	24.74	6648.42	17920.72	24.56	7126.36
Grand Total	27337.25	24.74	10897.33	28685.64	25.10	11754.25

Sources: Bangladesh Bank

Table 7.25: Reserve Money Developments in Bangladesh

Financial Years	Reserve Money (in Crore Taka)
1993-94	11307.9
1994-95	10630.0
1995-96	11003.0
1996-97	12394.5
1997-98	13617.6
1998-99	14742.7
1999-00	17064.1
2000-01	18927.4
2001-02	23533.6
2002-03	24313.1
2003-04	26256.4
2004-05	29547.3

Source: Bangladesh Bank

Table 7.26: Bank Rate (%)

From	To	Rate
16 - 12 - 71	20 - 06 - 74	5.00%
21 - 06 - 74	15 - 10 - 80	8.00%
16 - 10 - 80	31 - 12 - 84	10.50%
01 - 01 - 85	15 - 09 - 85	11.00%
16 - 09 - 85	30 - 06 - 86	11.25%
01 - 07 - 86	31 - 12 - 89	10.75%
01 - 01 - 90	16 - 11 - 91	9.75%
17 - 11 - 91	14 - 03 - 92	9.25%
15 - 03 - 92	02 - 06 - 92	9.00%
03 - 06 - 92	23 - 01 - 93	8.50%
24 - 01 - 93	23 - 02 - 93	8.00%
24 - 02 - 93	23 - 04 - 93	7.00%
24 - 04 - 93	17 - 09 - 93	6.50%
18 - 09 - 93	02 - 03 - 94	6.00%
03 - 03 - 94	09 - 09 - 95	5.50%
10 - 09 - 95	06 - 10 - 95	5.75%
07 - 10 - 95	31 - 01 - 96	6.00%
01 - 02 - 96	30 - 10 - 96	6.50%
31 - 10 - 96	18 - 05 - 97	7.00%
19 - 05 - 97	23 - 11 - 97	7.50%
24 - 11 - 97	28 - 08 - 99	8.00%
29 - 08 - 99	24-10-2001	7.00%
25-10-2001	7-11-2003	6.00%
8-11-2003	Ongoing	5.00%

Source: Bangladesh Bank

Table 7.28: Monetary Aggregates and Money Supply in Bangladesh 1999-2004 (Crore Taka)

Components of Money Supply	1999-00	2000-01	2001-02	2002-03	2003-04
Currency outside Banks (Currency in circulation + Currency in Tills of DMBs)	1088.4	1354.5	1348.8	1440.5	1465.5
Demand deposits	9705.3	10869.1	11620.4	12827.9	14612.6
Deposits with Bangladesh Bank other than DMBs	19881.3	22347.4	24161.1	26743.4	30456.9
Narrow Money (M_1) Total	30675.0	34571.0	37130.3	41011.8	46535
Time Deposits	54881.1	64826.8	74454.9	87251.1	99220.9
Broad Money (M_2) Total (M_1 + Time Deposits)	85556.1	99397.8	111585.2	128262.9	145755.9
Post Office Deposits	967.0	1039.2	1385.4	2208.0	3399.5
Monetary Assets (M_2 + Post Office Deposits)	75729.4	88213.3	101001.4	116202.5	133077.3
Monetary Aggregates (M_1 + M_2 + Post Office Deposits + Monetary Assets)	192927.5	223221.3	251102.3	287685.2	328767.7

Source: Economic Trends, various issues, Bangladesh Bank

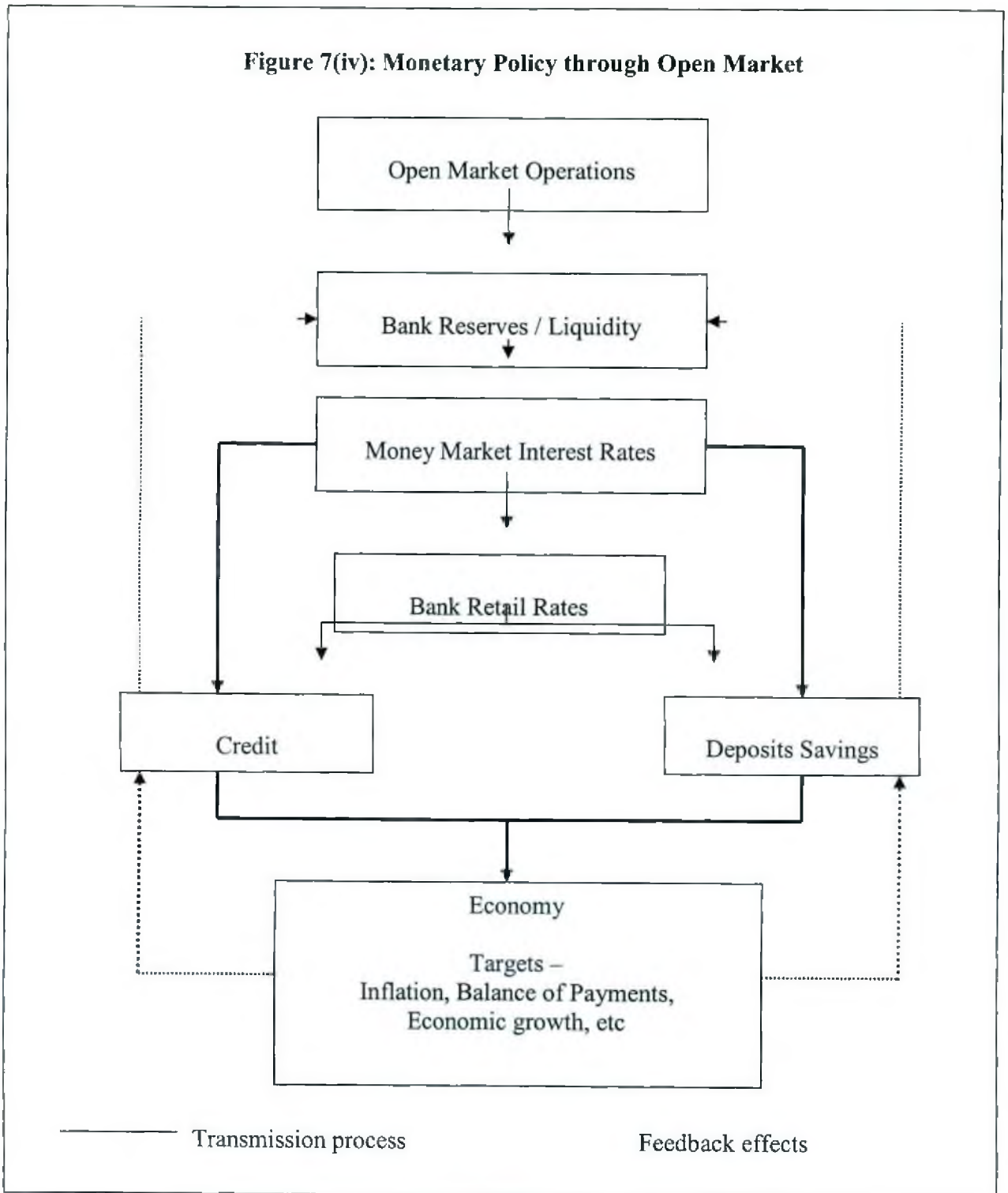
**Table 7.29: Growth of Net Domestic and Net Foreign Assets
And Reserve Money in Bangladesh**

(In Crore Taka)

Period	Net Domestic Assets	Net Foreign Assets	Reserve Money
1993-94	3057.1	8250.8	11307.9
1994-95	1766.8	8864.1	10630.9
1995-96	5614.3	5388.7	11003.0
1995-97	7382.4	5012.1	12394.5
1997-98	8220.8	5396.8	13617.6
1998-99	10033.8	4708.9	14742.7
1999-00	11093.2	5971.3	17064.5
2000-01	13783.4	5144.0	18927.4
2001-02	15943.4	7590.2	23533.6
2002-03	12000.6	12312.5	24313.1
2003-04	12195.4	15961.6	26157.0

Source: Economic Trends, Bangladesh Bank, various issues

Figure 7(iv): Monetary Policy through Open Market



Source: Lynch, 1996

Annex 5

(Chapter 8)

Table 8.1: Distribution of AD branches of Banks in Bangladesh (30 June 2004)

Nationalized Commercial Banks	
Janata Bank	54
Sonali Bank	48
Agrani Bank	41
Rupali Bank	27
Private Commercial Banks	
Uttara Bank Ltd.	38
Islami Bank Bangladesh	33
National Bank	30
Pubali Bank	29
Arab Bangladesh Bank	28
Prime Bank	22
The City Bank	20
IFIC Bank	20
National Credit and Commerce Bank	17
United Commercial Bank Ltd.	17
Eastern Bank	15
Oriental Bank	14
Al-Arafah Islami Bank	14
South East Bank	12
Dhaka Bank Ltd.	12
The Premier Bank Ltd.	11
Mercantile Bank	11
Standard Bank	10
Social Investment Bank	9
Exim Bank	9
Dutch-Bangla Bank	9
Jamuna Bank	8
Bank Asia	8
First Security Bank	7
Mutual Trust Bank	6
One Bank	6
The Trust Bank Ltd.	4
Bangladesh Commerce Bank	4
BRAC Bank	3
Specialized Bank	
BASIC Bank	15
Bangladesh Krishi Bank	14
Rajshahi Krishi Unnayan Bank	1
Bangladesh Shilpa Bank	1
Bangladesh Shilpa Rin Sangstha	1
Foreign Commercial Banks	
Standard Chartered Bank	12
American Express	3
HSBC	3
Citi Bank NA	2
Commercial Bank of Ceylon	2
Habib Bank	2
State Bank of India	2
National Bank of Pakistan	1
Woori Bank	1
Shamil Bank of Bahrain	1
Total Number of ADs	658

Source: Bangladesh Bank

Table 8.2: Taka per Pound Sterling (continuous pages)

Date	Buying	Selling	Mid value
03-Jan-72	18.9677	18.9833	18.9755
03-Jul-72	18.9002	19.0000	18.9501
06-Jul-72	18.7501	18.8501	18.8001
31-Dec-74	18.9521	18.9990	18.9756
17-May-75	29.9844	30.0313	30.0079
26-Apr-76	27.5000	27.6000	27.5500
07-Jun-76	26.6500	26.7500	26.7000
16-Aug-76	27.1500	27.1700	27.1600
10-Sep-76	26.6500	26.7500	26.7000
03-Nov-76	25.4000	25.5000	25.4500
31-Dec-76	25.9500	26.0000	25.9750
18-Jan-77	26.6500	26.7500	26.7000
17-Oct-77	26.9000	26.9500	26.9250
09-Nov-77	27.3500	27.4000	27.3750
09-Dec-77	27.6000	27.6500	27.6250
30-Jan-78	28.7000	28.7500	28.7250
24-Apr-78	28.0000	28.0500	28.0250
22-Aug-78	28.5000	28.5500	28.5250
18-Sep-78	29.5000	29.5500	29.5250
23-Oct-78	30.5000	30.5500	30.5250
15-Jan-79	31.1000	31.1500	31.1250
16-Apr-79	32.0000	32.0500	32.0250
28-May-79	32.9750	33.0250	33.0000
13-Aug-79	34.6865	34.7368	34.7117
29-Jul-80	36.2500	36.3000	36.2750
13-Oct-80	38.4000	38.5000	38.4500
27-Oct-80	38.8700	38.9700	38.9200
17-Nov-01	38.8700	38.9700	38.9200
26-Feb-81	37.1000	37.2000	37.1500
23-Mar-81	37.5220	37.6220	37.5720
24-Apr-81	37.2000	37.3000	37.2500
08-May-81	36.6800	36.7800	36.7300
25-May-81	36.3100	36.4100	36.3600
04-Jun-81	35.9500	36.0500	36.0000
06-Jun-81	34.7800	34.8800	34.8300
19-Jun-81	35.3643	35.4643	35.4143
30-Jun-81	34.8700	34.9700	34.9200
03-Jul-81	34.3125	34.4125	34.3625
23-Jul-81	33.6090	33.7090	33.6590
24-Aug-81	33.9630	34.0630	34.0130
17-Sep-81	34.7300	34.8300	34.7800
12-Oct-81	35.5125	35.6125	35.5625
18-Nov-81	36.2250	36.3250	36.2750

30-Nov-81	37.0345	37.1545	37.0945
30-Dec-81	37.9568	38.0568	38.0068
11-Jan-82	38.3720	38.4720	38.4220
24-Aug-82	38.9500	39.0500	39.0000
Taka per U.S. Dollar			
Date	Buying	Selling	Mid value
11-Jan-83	24.48	24.52	24.50
28-Aug-83	24.53	24.57	24.55
23-Sep-83	24.72	24.78	24.75
12-Oct-83	24.97	25.03	25.00
23-Feb-84	25.17	25.23	25.20
21-Aug-84	25.32	25.38	25.35
22-Sep-84	25.47	25.53	25.50
23-Oct-84	25.72	25.78	25.75
03-Nov-84	25.97	26.03	26.00
12-Feb-85	26.22	26.28	26.25
25-Feb-85	26.47	26.53	26.50
28-Apr-85	26.98	27.02	27.00
20-Jul-85	28.22	28.28	28.25
01-Aug-85	28.47	28.53	28.50
17-Aug-85	28.87	28.93	28.90
31-Aug-85	29.22	29.28	29.25
30-Sep-85	29.72	29.78	29.75
31-Oct-85	29.97	30.05	30.01
25-Nov-85	30.47	30.53	30.50
22-Dec-85	30.97	31.05	31.01
18-Jan-86	30.12	30.78	30.45
28-Jan-86	30.47	30.53	30.50
11-Feb-86	30.27	30.33	30.30
20-Nov-86	30.77	30.83	30.80
13-Apr-87	30.87	30.93	30.90
07-Jun-87	30.97	31.05	31.01
21-Nov-87	31.17	31.23	31.20
02-Jan-88	31.32	31.38	31.35
01-Mar-88	31.47	31.53	31.50
14-Jul-88	31.76	31.84	31.80
01-Aug-88	31.96	32.04	32.00
12-Nov-88	32.23	32.31	32.27
05-Mar-90	33.84	33.92	33.88
29-Apr-90	34.18	34.26	34.22
20-May-90	34.85	34.95	34.90
04-Aug-90	35.54	35.64	35.59
08-Sep-90	35.64	35.74	35.69
24-Nov-90	35.74	35.84	35.79
02-Jul-91	35.94	36.04	35.99
07-Jul-91	36.44	36.54	36.49
20-Aug-91	36.84	36.94	36.89
14-Sep-91	37.64	37.74	37.69

09-Nov-91	38.04	38.14	38.09
01-Dec-91	38.19	38.29	38.24
09-Dec-91	38.35	38.45	38.40
21-Dec-91	38.53	38.63	38.58
01-Jan-92	38.75	38.85	38.80
31-Mar-92	38.95	39.05	39.00
24-Apr-93	39.75	39.85	39.80
17-Jul-93	39.70	39.80	39.75
01-Aug-93	39.80	39.90	39.85
08-Aug-93	39.70	39.90	39.80
12-Aug-93	39.75	39.95	39.85
02-Jan-94	39.97	40.17	40.07
24-Feb-94	40.03	40.23	40.13
27-Mar-94	40.15	40.35	40.25
07-Mar-95	40.00	40.20	40.10
10-Sep-95	40.15	40.35	40.25
01-Oct-95	40.40	40.60	40.50
28-Oct-95	40.65	40.85	40.75
08-Jan-96	40.90	41.10	41.00
08-Apr-96	41.40	41.60	41.50
20-Apr-96	41.65	41.85	41.75
15-Jul-96	41.80	42.00	41.90
01-Aug-96	42.05	42.25	42.15
07-Sep-96	42.20	42.40	42.30
23-Sep-96	42.35	42.55	42.45
08-Feb-97	42.65	42.85	42.75
19-Mar-97	43.10	43.30	43.20
07-Apr-97	43.55	43.75	43.65
21-Jul-97	44.00	44.20	44.10
18-Aug-97	44.45	44.65	44.55
26-Oct-97	44.85	45.15	45.00
24-Nov-97	45.30	45.60	45.45
02-Feb-98	46.15	46.45	46.30
05-Jul-98	46.95	47.25	47.10
18-Oct-98	48.35	48.65	48.50
18-Jul-99	49.35	49.65	49.50
30-Nov-99	50.85	51.15	51.00
13-Aug-00	53.85	54.15	54.00
Taka per U.S. Dollar (Band)			
Date	BB's Spot Buying & Selling		
04-Dec-00	53.85	to	54.15
25-May-01	56.50	to	57.50
06-Jan-02	57.40	to	58.40
31-May-03	Free Floating for current account transactions		

Table 8.9: Average Weekly⁶⁵ Spread of Spot Buying and Selling Price of Foreign Exchange by Category of Banks in Bangladesh During January – June 2004

Months	NCBs	PCBs	FCBs
	Spread	Spread	Spread
January'04			
Week 1	0.7214	0.9644	0.9167
Week 2	0.7692	0.9712	0.9102
Week 3	0.7842	0.9788	0.9325
Week 4	0.8133	0.9838	0.9149
February 04			
Week 1	0.7983	0.9565	0.9319
Week 2	0.8400	0.9860	0.9004
Week 3	0.8100	0.9902	0.9022
Week 4	0.8114	0.9847	0.9757
March 04			
Week 1	0.8470	1.0115	0.8590
Week 2	0.8588	1.0212	0.9020
Week 3	0.8630	1.0226	0.9136
Week 4	0.8550	0.9816	0.9113
April 04			
Week 1	0.8292	1.0240	0.9126
Week 2	0.8253	1.0208	0.9023
Week 3	0.8350	1.0174	0.9025
Week 4	0.8449	1.0254	0.9035
May 04			
Week 1	1.1441	1.1394	0.9223
Week 2	1.0854	1.1139	0.8871
Week 3	1.1130	1.4069	1.2310
Week 4	0.8014	1.3144	1.5993
June 04			
Week 1	0.7836	1.4890	1.5606
Week 2	0.7927	1.7309	1.4597
Week 3	0.7961	1.7638	1.5710
Week 4	0.8300	1.6523	1.6236

Source: BAFEDA (Bangladesh Foreign Exchange Dealers Association)

⁶⁵ Weekly average spreads are calculated from the daily spot buying and selling rates as maintained by BAFEDA-Bangladesh Foreign Exchange Dealers Association.

Table 8.12: Holding of Foreign Currency by Banks in Bangladesh (in Million USD)

As at the Close of Business	Credit balances held abroad	Credit balances held with BB FC Clearing A/C	Total Credit balances	FC held on account Customers i.e. outside Bank's Exchange Position	FC held within Bank's Exchange Position	Total Debit Balances	Net Credit Balances
A	B	C	D = B+C	E	F = D-E	G	H= F-G
26-Jul-01	491.871	374.247	866.118	398.344	467.774	224.563	243.211
30-Aug-01	508.133	363.791	871.924	394.408	477.516	241.182	236.334
27-Sep-01	573.917	375.347	949.264	426.307	522.957	281.473	241.484
25-Oct-01	620.652	340.643	961.295	431.588	529.707	311.915	217.792
29-Nov-01	504.557	335.074	839.631	425.202	414.429	207.686	206.743
27-Dec-01	479.887	381.049	860.936	426.811	434.125	244.585	189.540
31-Jan-02	479.213	400.543	879.756	430.567	449.189	238.465	210.724
28-Feb-02	462.359	426.572	888.931	431.738	457.193	284.034	173.159
28-Mar-02	384.882	458.445	843.327	437.588	405.739	249.310	156.429
24-Apr-02	429.831	449.969	879.800	413.282	466.518	273.261	193.257
30-May-02	409.320	424.692	834.012	410.992	423.020	286.989	136.031
27-Jun-02	409.075	460.771	869.846	414.045	455.801	317.734	138.067
25-Jul-02	433.652	468.432	902.084	404.855	497.229	371.233	125.996
29-Aug-02	469.959	463.998	933.957	400.294	533.663	389.922	143.741
26-Sep-02	462.332	431.993	894.325	397.505	496.820	328.110	168.710
31-Oct-02	323.936	455.412	779.348	366.380	412.968	234.676	178.292
30-Nov-02	361.609	352.335	713.944	363.878	350.066	208.574	141.492
30-Dec-02	390.067	358.360	748.427	352.245	396.182	284.157	112.025
30-Jan-03	330.544	460.036	790.580	425.279	365.301	275.636	89.665
27-Feb-03	304.295	408.525	712.820	383.350	329.470	252.996	76.474
31-Mar-03	351.354	427.011	778.365	391.212	387.153	158.146	229.007
30-Apr-03	318.714	400.949	719.663	382.554	337.109	255.901	81.208
31-May-03	366.875	419.972	786.847	444.508	342.339	272.331	70.008
30-Jun-03	339.768	441.888	781.656	442.090	339.566	249.551	90.015
31-Jul-03	348.874	431.004	779.878	440.147	339.731	262.074	77.657
31-Aug-03	386.373	444.668	831.041	431.343	399.698	295.436	104.262
25-Sep-03	376.248	459.214	835.462	433.203	402.259	309.700	92.559
30-Oct-03	352.595	420.989	773.584	440.585	332.999	262.687	70.312
30-Nov-03	318.971	411.847	730.818	428.214	302.604	209.404	93.200
30-Dec-03	304.403	337.507	641.910	423.599	218.311	153.953	64.358
31-Jan-04	347.090	328.300	675.390	429.433	245.957	207.445	38.512
29-Feb-04	316.888	352.817	669.705	431.461	238.244	240.430	-2.186
31-Mar-04	312.611	375.634	688.245	420.075	268.170	223.592	44.578
29-Apr-04	301.298	372.708	674.006	404.670	269.336	236.614	32.722
31-May-04	331.192	305.415	636.607	430.130	206.477	177.321	29.156
30-Jun-04	295.957	298.782	594.739	408.467	186.272	203.715	-17.443
31-Jul-04	297.111	301.948	599.059	431.847	167.212	216.746	-49.534

Source: Bangladesh Bank

Table 8.12: Individual Bank wise Foreign Currency Holdings
(Million US Dollar)

Banks	31/3/04	6/1/04	30/6/2004
Sonali	117.575	111.601	42.513
Agrani	37.13	30.416	39.108
Janata	57.09	54.443	45.268
Rupali	5.429	5.091	5.554
B S B	0.41	0.41	0.464
B S R S	0.027	0.027	0.027
B K B	6.549	6.638	5.963
BASIC	6.127	6.437	7.517
Islami	29.196	29.45	27.389
Oriental	5.902	6.437	8.369
Al-Arafah	1.844	2.425	1.401
Shahjalal	1.824	1.824	2.689
SIBL	2.555	2.316	2.391
Pubali	10.223	9.172	9.105
Uttara	12	8.873	11.158
A B B L	37.329	37.871	30.356
N B L	15.083	15.119	22.997
City Bank Ltd	3.538	3.57	4.846
U C B L	9.682	9.6	4.354
Eastern	11.952	9.035	10.667
I F I C	29.521	30.183	29.74
Prime	8.584	7.742	14.312
Dhaka Bank	9.774	9.366	11.792
South East Bank	1.862	2.341	1.952

Source: Bangladesh Bank

N C C B L	0.377	0.086	1.729
Standard Bank	0.392	0.964	2.538
Mercantile Bank	0.872	4.161	1.044
One bank	3.778	4.09	5.866
Exim Bank	4.313	4.255	6.383
Mutual Trust Bank	3.017	2.868	2.43
First Security	2.645	2.672	1.763
Bank Asia	4.238	3.899	5.592
Premier Bank	4.77	5.766	7.108
Commerce Bank	1.428	1.441	1.555
Trust Bank	1.004	1.679	1.847
BARC Bank	2.384	2.263	2.511
Jamuna Bank	1.835	1.896	3.144
Dutch Bangla	10.701	10.034	11.781
American Express.	41.647	42.691	43.094
Stand. Chartered	66.211	68.455	70.988
Commercial Bank	19.949	20.232	25.552
State bank of India	4.429	3.69	3.3
Habib Bank	2.716	3.272	5.247
National bank of Pak.	1.975	1.974	3.091
Citi Bank N.A.	42.448	35.574	42.309
Woori Bank	4.109	3.843	5.513
H S B C	7.825	6.376	14.84
Shamil	0.319	0.319	1.054
Total	654.588	632.887	610.211

Table 8.14: Migrant Remittances, International Reserves, Export and Import

(in Billion US Dollar)

Year	Int'l Reserves ⁶⁶	Migrant Remittances	As % of Int'l Reserves	Export Receipts	Migrant Remittances	As % of Exports	Import Payments	Migrant Remittances	As % of Imports
1990-91	0.88	0.76	86.36	3.13	0.76	24.28	3.51	0.76	21.65
1991-92	1.61	0.85	52.80	3.12	0.85	27.24	3.53	0.85	24.08
1992-93	2.12	0.94	44.34	3.57	0.94	26.33	4.07	0.94	23.10
1993-94	2.76	1.09	39.49	3.77	1.09	28.91	4.19	1.09	26.01
1994-95	3.07	1.18	38.44	5.25	1.18	22.48	5.83	1.18	20.24
1995-96	2.04	1.22	59.80	6.19	1.22	19.71	6.95	1.22	17.55
1996-97	1.72	1.48	86.05	6.37	1.48	23.23	7.16	1.48	20.67
1997-98	1.73	1.53	88.44	6.77	1.53	22.60	7.52	1.53	20.35
1998-99	1.52	1.71	112.50	7.22	1.71	23.68	8.02	1.71	21.32
1999-00	1.60	1.95	121.87	7.57	1.95	25.76	8.40	1.95	23.21
2000-01	1.31	1.88	143.51	8.43	1.88	22.30	9.36	1.88	20.09
2001-02	1.58	2.50	158.23	7.69	2.50	32.51	8.54	2.50	29.27
2002-03	2.47	3.06	123.89	7.89	3.06	38.30	8.97	3.06	34.11
2003-04	2.71	3.37	124.35	7.99	3.37	44.34	9.62	3.37	35.03

Source: Bangladesh Bank

⁶⁶ International reserves represent aggregate of Bangladesh Bank's holding of gold, foreign exchange, and SDR and reserve position in the IMF.

Annex 6

(Chapter 9)

Table 9.2: IPO Market in Bangladesh: Evidence of Underpricing in 1993-2004

Year of Listing	No. of IPOs	Average Face Value Per Share Tk.	Average Offer Value Per Share Tk.	Average Premium Per Share Tk.	Average opening or First Day Trading Price Per Share Tk.	Average Under pricing Per Share Tk
1	2	3	4	5 (=4 - 3)	6	7 (= 6 - 4)
1993	4	100.00	125.00	25.00	212.78	87.78
1994	24	92.5	138.96	46.46	205.09	66.13
1995	22	91.82	91.82	0	160.24	68.42
1996	23	96.07	96.07	0	418.12	322.05
1997	12	92.05	92.5	0	121.02	28.52
1998	5	280.00	280.00	0	295.52	15.52
1999	10	55.00	55.00	0	76.00	21.00
2000	7	163.00	163.00	0	190.74	27.74
2001	11	26.36	26.36	0	57.79	31.43
2002	9	18.89	18.89	0	29.61	10.72
2003	14	59.00	59.20	0	89.03	30.03
2004	3	100.00	110.00	10.00	385.50	275.50

Source: DSE and SEC

Table 9.10: DSE Performance: 1985-2004

Year	No. of IPOs	No. of Listed Securities	No. of Listed Companies	No. of Securities Traded (In Million)	Market Capitalization (In Million USD)	Market Turn Over (In Million USD)	DSE Index	DSE Dividend Yield %
1985	19	72	69	86.451	89.28	0.85	193.93	n.a
1986	9	82	78	99.591	146.49	1.26	210.56	n.a
1987	9	92	92	105.28	322.98	4.68	323.31	n.a
1988	21	111	101	123.063	346.55	3.42	329.42	n.a
1989	12	116	116	149.69	392.40	4.57	334.53	n.a
1990	11	134	134	161.37	293.61	5.12	320.64	n.a
1991	9	138	138	167.64	265.78	2.95	317.89	n.a
1992	11	149	134	172.34	314.39	11.17	369.53	n.a
1993	4	153	143	195.06	452.47	14.47	398.97	n.a
1994	26	170	157	241.50	1044.27	107.2	845.7	n.a
1995	24	201	183	291.65	1413.00	267.99	835.83	4.85
1996	24	205	186	397.43	4602.53	717.55	2305.75	3.53
1997	12	222	202	500.99	1099.43	382.94	757.82	5.37
1998	6	228	208	509.16	1036.17	708.63	541.19	7.88
1999	11	232	211	560.21	869.54	756.6	488.01	7.44
2000	7	241	221	713.19	1165.25	745.8	641.92	5.85
2001	11	249	230	850.64	1118.75	699.46	662.4	8.10
2002	8	260	241	1026.72	1228.65	603.18	484.43	7.49
2003	14	267	248	1151.58	1671.01	327.95	967.99	6.23
2004	3	267	248	1187.00	3469.17	628.73	1318.92	4.91

n.a – Not Available; Sources: SEC, DSE, Bangladesh Bank-Economic Trends concerned issues.

Table 9.11: Key Features of DSE during January – December' 2004

Market Indicators	DSE
DSE Central/CSE All Share Index	1971.31331
Changes in the Price Index	103.6738%
Total Turnover (Million Tk.)	53181.79
Change in Turnover (%)	177.65%
Total Turnover (Volume)	681,384,061
Number of Contract	2,241,246
Total Traded Issues	243
No. Of Issue Gain (Average Price Basis)	159
No. of Issue Loss (Average Price Basis)	79
No. of Unchanged Issue (Average Price Basis)	5
Market Capitalization (Million Tk.)	224,159.21
Change in Market Capitalization (%)	130.04%
Market Capitalization (Million US\$)	3,864.81
Total No. of Listed Securities	256
Total No. of Listed Companies	237
Total No. of Listed Mutual Fund	11
Total No. of Listed Debenture	8
Total No. of Shares	525,329,810
Total Issued Capital (Share)	49,845,894,860

Source: SEC

Table 9.12: ICB's Securities Market Performance

(In Million Tk.)

Year	DSE			CSE		
	Total Market Turnover	ICB'S Share		Total Market Turnover	ICB's Share	
	Million Tk.	Million Tk.	%	Million Tk.	Million Tk.	%
1994-95	6380.92	66.75	15.15	7520.50	92.90	1.24
1995-96	30131.10	5104.00	16.94	8100.82	66.13	0.82
1996-97	70827.50	4361.43	6.16	8230.95	89.20	1.08
1997-98	25233.88	1447.67	5.74	8590.70	78.50	0.91
1998-99	103787.55	1542.36	1.49	9195.00	93.40	1.02
1999-00	55391.46	3025.95	5.46	11725.50	95.76	0.82
2000-01	98187.98	3014.47	3.07	14481.70	102.70	0.71
2001-02	34936.00	2258.00	6.46	15841.34	3345.10	21.12
2002-03	30597.00	7289.10	23.82	10912.40	5120.80	46.93
2003-04	24771.00	6312.60	25.48	8377.60	4263.30	50.89

Source: ICB annual reports

Table 9.13:
Portfolio Investment by the Non resident Bangladeshis (yearly statistics, in Million Tk.)

Period	Deposit in NRITA	Investment in Securities	Amount sold	Purchase price of the sold share	Capital gain/loss	Dividend excluding capital gain	Outflow of sold amount
1	2	3	4	5	6	7	8
April - June 92	57.30	50.80	--	--	--	--	--
1992 - 93	316.90	387.50	81.20	35.40	5.80	3.30	38.60
1993 - 94	3196.60	3101.80	965.10	510.50	404.60	17.60	918.40
1994 - 95	3094.40	2982.70	1334.20	928.10	406.10	92.70	1388.90
1995 - 96	738.50	716.80	1877.10	1893.40	(16.30)	146.80	1972.00
1996 - 97	527.80	518.00	6186.80	3443.40	2743.40	122.90	6332.10
1997- 98	309.80	316.00	517.50	693.10	(175.60)	97.10	601.80
1998- 99	95.10	95.60	410.70	531.60	(120.90)	43.40	451.10
1899 - 00	278.90	393.600	584.40	8787.00	(294.30)	54.50	613.43
2000- 01	304.40	323.50	344.30	337.90	6.40	51.80	377.60
2001- 02	29.00	28.70	287.70	400.70	(113.00)	32,945	324.60
2002 - 03	116.6	120.1	51.3	73.00	29.9	30.9	77.1
2003 - 04	298.9	243.10	25.10	16.60	12.70	30.20	55.8

Source: Bangladesh Bank and SEC

Table 9.14: Portfolio Investment by Non-Resident Bangladeshis at DSE
[Equivalent USD in Million]

Year	Deposit in NRITA	Investment in Securities	Outflow of Sold Amount
1992	1.50	1.33	0.00
1993	8.09	9.90	1.01
1994	79.92	77.55	23.46
1995	76.98	74.20	34.55
1996	18.08	17.71	48.72
1997	7.26	12.13	148.29
1998	2.09	6.95	13.24
1999	5.80	1.99	9.39
2000	5.54	7.82	12.18
2001	5.64	5.99	6.99
2002	0.50	0.50	5.66
2003	2.01	2.09	1.33
2004	5.07	4.13	0.95

Source: SEC

Table 9.15: Performance of the CSE: 1995-2004

Year	No. of Listed Securities	Total No. of Securities Traded (in Million)	CSE Share Price Index
1995	61	148.69	409.43
1996	117	307.14	1157.90
1997	141	389.84	332.98
1998	144	424.11	294.72
1999	154	479.14	223.65
2000	163	587.81	1173.89
2001	171	612.53	1502.39
2002	184	805.65	1316.00
2003	185	988.80	1345.00
2004	195	1062.05	2329.46

Note: Number of listed securities includes number of mutual funds and debentures.

Sources: CSE, DSE, Bangladesh Bank-Economic Trends concerned issues.

Table 9.16: Key Features of CSE during January – December' 2004

Market Indicators	CSE
DSE Central/CSE All Share Index	3597.7014
Changes in the Price Index	118.9995%
Total Turnover (Million Tk.)	14807.72
Change in Turnover (%)	120.38%
Total Turnover (Volume)	332,534,606
Number of Contract	550,728
Total Traded Issues	185
No. Of Issue Gain (Average Price Basis)	120
No. of Issue Loss (Average Price Basis)	55
No. of Unchanged Issue (Average Price Basis)	10
Market Capitalization (Million Tk.)	215,202.15
Change in Market Capitalization (%)	151.88%
Market Capitalization (Million US\$)	3710.38
Total No. of Listed Securities	198
Total No. of Listed Companies	185
Total No. of Listed Mutual Fund	11
Total No. of Listed Debenture	2
Total No. of Shares	414,612,267
Total Issued Capital (Share)	45,737,339,090

Source: SEC

Table 9.5.3: Economic Purpose-wise Credit of Scheduled Banks in Bangladesh
(In Billion Tk.)

Financial Year	Agriculture, Forestry And Fishing	Industry	Working Capital Financing	Construction	Transport & Communication	Trade	Others	Total
1989-90	46	55	20	8	15	56	9	209
1990-91	45	57	19	10	5	69	10	215
1991-92	44	65	26	13	4	76	12	240
1992-93	48	74	24	15	14	87	16	278
1993-94	53	83	30	16	5	81	19	287
1994-95	23	52	22	13	29	43	23	205
1995-96	64	98	39	21	25	12	25	284
1996-97	67	112	49	25	8	121	32	414
1997-98	70	142	51	26	18	133	42	482
1998-99	75	150	60	37	8	145	45	520
1999-00	87	172	57	53	33	12	63	477
2000-01	95	178	60	38	12	212	97	692
2001-02	92	163	135	52	11	253	77	783
2002-03	92	171	147	59	12	293	88	862
2003-04	98	184	175	64	12	320	98	951

Source: Scheduled Bank Statistics, Bangladesh Bank

Table 9.5.4: Scheduled Banks Industrial Credit

(In Billion Tk.)

Years	Industry	Working Capital Financing	Total Industrial Credit	Total Bank Credit	% of Total Bank Credit (6÷5)×100	GDP at Current Market Price	Total Bank Credit as % of GDP	Total Industrial Credit as % of GDP
1	2	3	4	5	6	7	8	9
1989-90	55	20	75	209	36	1003.29	20.83	7.48
1990-91	57	19	76	215	35	1105.18	19.45	6.88
1991-92	65	26	91	240	38	1195.42	20.08	7.61
1992-93	74	24	98	278	35	1253.70	22.17	7.82
1993-94	83	30	113	287	39	1354.12	21.19	8.34
1994-95	52	22	74	205	36	1525.18	13.44	4.85
1995-96	98	39	137	284	48	1663.24	17.08	8.24
1996-97	112	49	161	414	35	1807.01	22.91	8.91
1997-98	142	51	193	482	40	2001.77	24.08	9.64
1998-99	150	60	210	520	40	2196.95	23.67	9.56
1999-00	172	57	229	477	48	2370.86	20.12	9.66
2000-01	178	60	238	692	34	2535.46	27.29	9.39
2001-02	163	135	298	783	38	2732.01	28.66	10.91
2002-03	171	147	318	862	37	3005.80	28.68	10.58
2003-04	184	175	359	951	38	3325.67	28.60	10.79

Source: Bangladesh Bank

Table 9.5.5: Scheduled Banks' Advances against Shares and Securities

(In Million Tk.)

Year	Advance	GDP	% of GDP
1990	1555.30	1003290.00	0.14
1991	3164.50	1105180.00	0.29
1992	3912.00	1195420.00	0.33
1993	4468.50	1253700.00	0.36
1994	2570.50	1354120.00	0.19
1995	3293.70	1525180.00	0.22
1996	5347.60	1663240.00	0.32
1997	6769.80	1807010.00	0.37
1998	5544.80	2001770.00	0.28
1999	5824.70	2196950.00	0.27
2000	4263.60	2370860.00	0.18
2001	4292.80	2535460.00	0.17
2002	5174.10	2732010.00	0.19
2003	5204.60	3005800.00	0.17
2004	4995.80	3325670.00	0.15

Source: Economic Trends, Bangladesh Bank

Table 9.5.6: Advances by Scheduled Banks Against Shares and Debentures

(Billion Tk.)

Year	Outstanding Advances of Scheduled Banks Against Shares and Securities	Market Capitalization (DSE)	Advances as % of Market Capitalization
1989-90	7.53	14.20	53.02
1990-91	2.62	11.43	22.92
1991-92	0.06	10.05	0.60
1992-93	2.37	12.82	18.49
1993-94	0.03	21.70	0.14
1994-95	0.55	14.13	3.89
1995-96	5.35	79.36	6.74
1996-97	5.68	105.76	5.37
1997-98	5.54	57.84	9.58
1998-99	5.82	49.68	11.71
1999-00	4.26	56.26	7.57
2000-01	4.57	71.37	6.40
2001-02	4.20	64.69	6.49
2002-03	7.20	72.17	9.98
2003-04	5.60	141.85	3.95

Source: Bangladesh Bank, Scheduled Bank Statistics and SEC

Table 9.5.8: Scheduled Banks Investments in Private Sector Shares and Other Securities in the Capital Market

(In Billion Tk.)

Year	Investments in Equity and Debentures	Market Capitalization at DSE	Share of Market Capitalization %
1989-90	0.22	14.20	1.55
1990-91	0.26	11.43	2.27
1991-92	0.29	10.05	2.89
1992-93	0.48	12.82	3.74
1993-94	0.72	21.70	3.32
1994-95	7.96	14.13	56.33
1995-96	8.44	79.36	10.64
1996-97	8.60	105.76	8.13
1997-98	6.36	57.84	11.00
1998-99	8.06	49.68	16.22
1999-00	5.90	56.26	10.48
2000-01	6.11	71.37	8.56
2001-02	4.03	64.69	6.23
2002-03	6.87	72.17	9.52
2003-04	7.29	141.85	5.14

Source: Bangladesh Bank: Economic Trends

Table 9.5.9: Contributions of Shares of Bank and Other Financial Institutions in Market Capitalization at DSE

(In Billion Tk)

Years	Market Capitalization		
	Banks and Financial Institutions	Total Market Capitalization	Share of Banks in total Market Capitalization %
1989-90	3.12	14.20	21.97
1990-91	2.74	11.43	23.97
1991-92	2.87	10.05	28.55
1992-93	3.13	12.82	24.42
1993-94	4.29	21.70	19.77
1994-95	5.67	14.13	40.13
1995-96	8.51	79.36	10.72
1996-97	10.36	105.76	9.80
1997-98	5.74	57.84	9.92
1998-99	5.69	49.68	11.45
1999-00	8.94	56.26	15.89
2000-01	20.05	71.37	28.09
2001-02	19.32	64.69	29.87
2002-03	20.43	72.17	28.31
2003-04	50.79	141.85	35.81
15 Years Average Development	8.642222	30.87129	7.803467

Source: DSE and Bangladesh: Economic Trends

Table 9.5.10: Growth Pattern of Leasing Industry in Bangladesh

(In Million Tk)

Years	Paid-up Capital and Reserves	GDP	Paid up Capital as % of GDP	Outstanding Term Loans and Leases
1	2	3	4	5
1985-86	150	466227.00	0.032	0.08
1986-87	150	539201.00	0.028	0.10
1987-88	150	597136.00	0.025	0.12
1988-89	378	659598.00	0.057	0.15
1989-90	378	1003290.00	0.038	0.18
1990-91	378	1105180.00	0.034	0.29
1991-92	403	1195420.00	0.034	0.43
1992-93	403	1253700.00	0.032	0.49
1993-94	573	1354120.00	0.042	0.55
1994-95	931	1525180.00	0.061	0.76
1995-96	1522	1663240.00	0.092	2.55
1996-97	1590	1807010.00	0.088	6.55
1997-98	1598	2001770.00	0.080	7.20
1998-99	1844	2196950.00	0.084	9.90
1999-00	1844	2370860.00	0.078	11.87
2000-01	6900	2535460.00	0.272	13.55
2001-02	8100	2732010.00	0.296	15.90
2002-03	9900	3005800.00	0.329	22.50
2003-04	11800	3325670.00	0.355	27.30

Source: Annual Reports of Financial Institutions; GDP compiled from Economic Trends, Bangladesh Bank

Table 9.5.11: Capital Structure of Leasing Companies

1985-86 to 2003-04 (19 Years)	Paid-up Capital and Reserves	GDP	Paid up Capital as % of GDP	Outstanding Term Loans and Leases
Statistical Parameters	1985-86 to 2003-04	1985-86 to 2003-04	1985-86 to 2003-04	1985-86 to 2003-04
Growth	6.730596	551651.3	0.000166	0.055124
STDEV	3654.204	865213.5	0.001114	8.385623
MAX	11800	3325670	0.0035	27.3
MIN	150	466227	0.0002	0.08
Median	931	1525180	0.0006	0.76

Note: Parametric values are calculated in Excel.

Table 9.5.12: Growth trend in Total Lease Business of Leasing Companies
(In Million Tk.)

Years	Amount (Nominal Figure)	Percentage Changes Over Previous Year	Amount (Real Figure)	Percentage Changes Over Previous Year (%)
1985-86	440	-	733	-
1986-87	820	86.36	1261	72.03
1987-88	1160	41.46	1637	29.65
1988-89	1680	44.83	2028	23.76
1989-90	2620	55.95	3157	56.16
1990-91	3650	39.31	4244	34.33
1991-92	4150	13.70	4825	13.64
1992-93	5240	26.27	5887	22.04
1993-94	7410	41.41	7718	31.13
1994-95	12530	69.09	12530	62.29
1995-96	20330	63.16	20223	61.43
1996-97	27440	34.97	25174	24.48
1997-98	27940	1.82	24508	2.56
1998-99	36990	32.39	31887	30.12
1999-00	49250	33.14	41737	30.89
2000-01	62160	26.21	51800	24.09
2001-02	65660	5.56	55300	6.76
2002-03	67330	2.54	58120	5.10
2003-04	69200	2.78	61100	5.13

Sources: Bangladesh Bank, Annual Reports of Leasing Companies

Note: i) Base year of Index 1986

ii) Compound Annual Growth Rate (CAGR) calculated from the trend equation.

Table 9.5.13: Trends in Lease Business in Bangladesh

1985-86 to 2003-04 (19 Years)	Total Lease Business (Nominal Figure)	Annual Percentage Change	Total Lease Business (Real Figure)	Annual Percentage Change
Statistical Parameters	1985-86 to 2003-04	1985-86 to 2003-04	1985-86 to 2003-04	1985-86 to 2003-04
STDEV	25916.9	24.13465	21795.57	20.95956
MAX	69200	86.36	61100	72.03
MIN	440	1.82	733	2.56
MEDIAN	12530	34.055	12530	27.065
MEAN	24526.32	34.49722	21782.58	29.755
Growth	730.5635	79.09979	1060.637	53.1734

Note: Parametric values are calculated in Excel.

Table 9.5.14: Leasing Business: Some Country Comparison

Years	Leasing as a Percentage of Gross Domestic Investment %			Leasing As a Percentage of GDP
	Bangladesh	South Korea	Brazil	Bangladesh
1986	0.77	7.10	NA	0.09
1987	1.21	11.40	NA	0.15
1988	1.61	12.50	4.00	0.19
1989	1.96	10.90	1.00	0.24
1990	1.53	16.10	1.00	0.26
1991	1.96	21.50	4.00	0.33
1992	2.01	20.00	8.00	0.35
1993	2.33	23.00	10.00	0.42
1994	2.97	26.20	20.00	0.55
1995	4.3	30.00	20.50	0.82
1996	6.26	26.50	1.10	1.25
1997	7.33	28.30	20.70	1.52
1998	6.45	13.10	20.70	1.40
1999	7.59	2.80	12.50	1.68
2000	9.02	16.32	NA	2.08
2001	10.62	16.05	NA	2.45
2002	10.96	18.22	22.29	2.65
2003	12.01	22.56	23.90	2.70
2004	13.90	23.72	21.30	3.11

Sources: (i) Computed from Key Indicators – 2003, ADB, World Leasing Year 2004, UK.

(ii) Data on leasing in Bangladesh are compiled from the records/publications of Bangladesh Bank and Annual Reports leasing companies.

NA* Not available, GDI-Gross Domestic Investment

Table 9.5.19(a): Aggregate Investment and Other Performance of SBC and Selected Private General Insurance Companies (1996-2004) (Tk. In Million)

Year	Total Investment	Investment in Shares and Debenture	Other investments	Investment Income	Underwriting Profit	Premium income	Total Assets
1996	4231.31	754.18	3477.13	434.11	245.22	1501.74	9813.53
1997	4572.35	817.92	3754.43	480.84	300.74	1616.71	9915.20
1998	4930.70	905.22	4025.48	445.30	342.20	1569.98	9934.22
1999	5455.83	883.34	4572.49	454.98	327.42	1588.43	9950.43
2000	5727.12	871.38	4855.74	499.39	372.14	1673.72	10246.83
2001	5894.24	940.55	4953.69	516.40	397.15	1785.82	10610.22
2002	5988.50	975.00	5013.50	595.15	445.05	1800.65	10766.00
2003	6092.55	996.00	5096.55	619.00	496.85	1973.80	10852.00
2004	6214.00	1015.00	5199.00	678.25	513.95	2123.00	10967.45

Source: Annual Reports of the companies and Resume of Activities of Banks and Financial Institutions, Various issues, Ministry of Finance.

Table 9.5.19(b): Performance of Sadharan Bima Corporation (1996-2003)
(Tk. In Million)

Year	Total Investment	Investment in Shares and Debenture	Other investments	Investment Income	Underwriting Profit	Premium income	Total Assets
1996	2837.00	206.56	2630.44	231.40	111.86	641.00	5791.20
1997	3130.00	220.59	2909.41	294.28	131.70	645.70	5824.21
1998	3472.00	327.50	3144.50	256.66	192.90	636.38	5518.41
1999	4017.00	317.46	3699.54	274.26	163.86	616.86	5353.19
2000	4325.35	325.90	3999.45	313.69	199.45	615.95	5652.72
2001	4295.60	369.00	3926.60	430.00	211.00	676.00	5880.56
2002	4356.00	320.55	4035.45	405.90	236.97	711.30	5996.00
2003	4425.00	333.40	4091.60	410.30	259.00	745.60	6056.00
2004	4487.09	415.05	4071.98	413.08	301.10	771.50	6162.00

Source: Annual Reports of the companies and Resume of Activities of Banks and Financial Institutions, Various issues, Ministry of Finance.

Table 9.5.19(c): Performance of Selected Private General Insurance Cos. (1996-2000)
(Tk. In million)

Year	Total Investment	Investment in Shares and Debenture	Other investments	Investment Income	Underwriting Profit	Premium income	Total Assets
1996	1394.31	547.62	846.69	202.71	133.36	860.74	4022.33
1997	1442.35	597.33	845.02	186.56	169.04	971.01	4090.99
1998	1458.70	577.72	880.98	188.64	149.30	933.60	4415.81
1999	1438.83	565.88	872.95	180.72	163.56	971.57	4597.24
2000	1401.77	545.48	856.29	185.70	172.69	1057.77	4594.11
2001	1414.33	549.34	864.99	189.24	197.00	1103.88	4729.66
2002	1552.60	687.61	883.82	220.59	215.00	1190.90	4770.00
2003	1667.55	696.55	971.00	256.90	240.60	1230.05	4796.00
2004	1728.00	701.10	1026.90	599.00	285.40	1269.45	4805.15

Source: Annual Reports of the companies and Resume of Activities of Banks and Financial Institutions, Various issues, Ministry of Finance.

Table 9.5.19(d): Combined Performance of JBC and Selected Private Life Insurance Companies during (1996-2000)

(Tk. In Million)

Year	Total Investment	Investment in Shares and Debenture	Other investments	Investment Income	Life Fund	Premium income	Total Assets
1996	2938.78	127.48	2811.20	281.38	3351.15	1902.57	4532.96
1997	3518.75	147.25	3371.50	310.80	4352.91	2627.75	5783.58
1998	4285.33	163.26	4122.07	355.56	5600.38	3199.05	7247.48
1999	4992.60	189.02	4803.58	529.62	7010.08	3601.87	8768.57
2000	4733.03	229.81	4523.22	570.41	8693.23	4249.12	10406.08
2001	4880.30	295.90	4584.40	605.70	8792.00	4419.67	10915.35
2002	4910.00	349.00	4561.00	679.45	8852.35	4595.58	11241.00
2003	4992.90	391.00	4601.90	710.90	8893.32	4669.36	11316.94
2004	5041.69	446.05	4594.60	747.50	9913.69	4826.10	11825.45

Source: Annual Reports of the companies and Resume of Activities of Banks and Financial Institutions, Various issues, Ministry of Finance.

Table 9.5.19(e): Investment by Jiban Bima Corporation (1996-2004)

(Tk. In Million)

Year	Total Investment	Investment in Shares and Debenture	Other investments	Investment Income	Life Fund	Premium income	Total Assets
1996	2514.30	38.00	2476.30	196.70	2620.70	1089.20	3167.47
1997	2853.20	36.70	2816.50	217.30	3099.50	1275.70	3705.17
1998	3328.60	35.70	3292.90	237.50	3568.60	1402.80	4340.49
1999	3697.90	44.60	3653.30	346.60	4166.00	1642.40	4969.19
2000	3106.59	40.48	3066.11	320.59	4877.30 ^P	1864.42	5492.20
2001	3151.59	45.00	3106.59	372.90	4923.97	2054.66	5900.35
2002	3292.39	46.00	3246.39	384.80	5009.80	2300.70	6120.95
2003	3343.00	51.90	3291.10	401.00	5200.35	2495.00	6340.00
2004	3362.30	56.55	3305.75	432.00	542395	2698.05	6523.00

Source: Annual Reports of the companies and Resume of Activities of Banks and Financial Institutions, Various issues, Ministry of Finance.

**Table 9.5.19(f): Performance of Selected Private Life Insurance Companies (1996-2004) Tk.
In Million)**

Year	Total Investment	Investment in Shares and Debenture	Other investments	Investment Income	Life Fund	Premium income	Total Assets
1996	444.48	109.58	334.90	84.68	730.45	813.37	1365.49
1997	684.85	110.65	574.00	93.50	1253.41	1352.05	2078.39
1998	979.83	127.56	829.17	118.06	2031.78	1796.25	2906.99
1999	1294.70	144.42	1150.28	183.02	2844.08	1959.47	3799.38
2000	1672.84	189.33	1457.11	249.82	3815.93	2384.70	4913.88
2001	1668.75	206.90	1462.66	263.50	4490.62	2613.00	5015.00
2002	2318.00	239.15	2078.89	296.15	4723.55	3059.45	5120.05
2003	2339.50	282.94	2056.56	331.45	5103.50	3362.75	5195.99
2004	3024.70	313.55	2711.15	3020.50	5369.15	3601.62	5302.45

Source: Annual Reports of the companies and Resume of Activities of Banks and Financial Institutions, Various issues, Ministry of Finance.

Table-9.5.19(g): Combined investment of selected private sector general and life insurance Companies and share of GDP during 1996-2000

Year	Total Investment	GDP (At Current Market Price)	Percentile share of GDP at current market price
1996	1838.79	1663240.00	0.113%
1997	2141.20	1807010.00	0.123%
1998	2438.53	2001770.00	0.121%
1999	2733.53	2196950.00	0.124%
2000	3074.61	2370860.00	0.129%
2001	3101.55	2535460.00	0.122%
2002	3149.93	2732010.00	0.115%
2003	3184.15	3005800.00	0.106%
2004	3206.56	3325670.00	0.096%

Source: Annual Reports of the companies and Resume of Activities of Banks and Financial Institutions, Various issues, Ministry of Finance.

Table 9.5.19(h): Total Investment by Both Selected General and Life Insurance Companies (Public and Private) and GDP (In Million Taka)

Years	Total Investment	GDP	% of GDP
1996	7170.09	1663240.00	0.43%
1997	8091.10	1807010.00	0.45%
1998	9216.03	2001770.00	0.46%
1999	10448.43	2196950.00	0.48%
2000	10460.15	2370860.00	0.44%
2001	10774.54	2535460.00	0.42%
2002	10898.50	2732010.00	0.40%
2003	11085.45	3005800.00	0.37%
2004	11255.69	3325670.00	0.34%

Source: Annual Reports of the companies and Resume of Activities of Banks and Financial Institutions, Various issues, Ministry of Finance.

Table 9.5.21(a): Housing Loans and Advances Disbursed by Scheduled Banks (In Million Tk.)

Years	Housing Societies and Companies	Urban Housing	Rural Housing	Total	GDP At Current Market Price	% of GDP
1990	1760.4	2440.12	1008.65	5209.17	759837	0.68
1991	704.70	2593.00	1566.00	4863.70	1105180	0.44
1992	1592.95	6695.20	4573.62	12861.80	1195420	1.08
1993	1978.70	4386.20	2002.00	8366.90	1253700	0.67
1994	1978.60	6275.00	2100.00	10353.60	1354120	0.76
1995	2338.20	7015.00	3210.75	12564.00	1525180	0.82
1996	966.80	8316.90	5990.10	15273.80	1663240	0.91
1997	4138.40	9355.20	4583.00	18076.60	1807010	1.00
1998	3496.10	9061.55	8063.75	20621.40	2001770	1.03
1999	4233.60	18720.70	1101.70	24056.00	2196970	1.09
2000	2185.70	22372.20	1627.30	26185.20	2370860	1.10
2001	3262.20	22905.80	1661.10	27829.10	2535460	1.09
2002	8977.80	30178.50	1792.30	40948.60	2732010	1.50
2003	11829.00	29940.90	1471.40	43241.30	3005800	1.44
2004	11968.00	30695.80	1698.10	44361.90	3325670	1.33

Source: Scheduled Bank Statistics, Bangladesh Bank-concerned issues

Annex 7 (Chapter 10)

Table 10.1: Profitability of Banks (%)

Year	1982-83	1990-91	1995-96	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
NCBs	0.26	-0.23	0.16	0.002	0.023	0.003	0.001	0.021	0.085
PCBs	-	-0.02	0.29	0.44	0.551	0.81	0.801	0.513	0.719
SPBs	0.45	0.15	-1.79	-1.32	-1.042	0.27	0.280	-0.007	-0.244
FCBs	0.73	0.35	1.28	1.50	2.168	1.50	1.491	1.112	1.999
All Banks (except BB)	0.32	-0.05	0.05	0.004	0.192	0.01	0.103	0.171	0.178

Source: Bangladesh Bank, Note: Profitability = Net Profit to Total of Balance Sheet (%);

Table 10.3: Bank-wise Classified Loans in Bangladesh (In Percent)

Year	NCBs	PCBs	SPBs	FCBs	All Banks
1989	28.55	25.23	n/a	18.55	27.06
1990	29.00	25.00	n/a	21.00	27.00
1992	27.49	31.10	n/a	12.64	27.87
1993	32.22	44.80	n/a	10.46	35.01
1994	31.93	44.32	64.90	8.82	34.65
1995	31.00	39.21	63.55	5.40	31.98
1996	32.55	34.77	64.49	4.72	36.86
1997	36.57	31.38	67.78	3.58	37.48
1998	40.38	32.96	67.13	4.14	41.07
1999	46.98	28.98	63.56	4.19	43.07
2000	36.46	21.61	60.25	3.30	33.70
2001	34.69	16.65	59.25	3.25	30.23
2002	33.73	16.65	56.19	2.61	28.10
2003	32.71	14.92	49.33	1.98	24.74
2004	28.81	11.36	21.51	1.45	21.61
2005	24.97	7.76	35.20	1.54	15.79

Source: Bangladesh Bank

Table 10.4: Growth Pattern of Bank Loans and Loan Classification (Percent)

Year	NCBs		DPCBs		FCBs		All Banks	
	Growth Rate of Advances	Growth Rate of Classified Loans	Growth Rate of Advances	Growth Rate of Classified Loans	Growth Rate of Advances	Growth Rate of Classified Loans	Growth Rate of Advances	Growth Rate of Classified Loans
1994	15.63	35.51	12.70	62.32	10.21	-8.79	14.45	43.78
1995	4.35	3.42	12.63	11.42	19.88	1.01	7.62	6.51
1997	15.97	12.57	17.46	3.92	40.14	-14.22	17.74	8.67
1998	13.45	19.14	12.05	-0.63	12.12	-2.01	33.82	54.23
1999	11.74	25.54	13.84	2.74	17.96	-10.43	11.17	13.03
2000	9.38	20.78	12.81	18.48	16.30	34.42	13.78	24.68
2001	12.90	19.92	22.20	-3.44	9.70	2.27	14.78	10.50
2002	8.29	-7.94	22.33	-0.37	17.78	0.69	12.43	-4.16
2003	8.28	3.02	28.91	-0.71	10.57	8.99	14.30	2.53
2004	7.45	-0.43	24.50	22.77	15.57	-2.95	14.15	2.13

Source: Bangladesh Bank

Note: NCBs = Nationalized Commercial Banks; DPCBs = Domestic Private Commercial Banks; SPBs = Specialized Banks, FCBs = Foreign Commercial Banks.

Table 10.5: Provision Shortfall of Banks (in Crore Taka)

Year	NCBs	PCBs	SPBs	FCBs	All Banks
1992	-753.00	-308.99	-	2.00	-1059.99
1993	-744.82	-1126.59	-	3.10	-1868.31
1994	-841.88	-776.66	-287.55	2.71	-1903.38
1995	-1581.04	-865.88	162.93	16.07	-2267.92
1996	-1719.49	-783.40	-236.90	18.67	-2721.12
1997	-2222.46	-825.52	-211.82	26.77	-3223.83
1998	-3157.02	-958.08	-261.94	29.07	-4347.97
1999	-3721.09	-857.62	-285.72	-2.29	-4866.72
2000	-3484.26	-565.35	-9.33	29.02	-4029.92
2001	-3749.64	-326.26	-43.56	31.42	-4088.04
2002	-4257.99	-504.58	-21.70	33.76	-4707.10
2003	-5324.68	-421.56	56.99	28.96	-5660.29
2004	-6212.92	437.01	78.20	29.96	-5128.21
2005	-3656.68	-320.28	-314.70	24.77	-4266.89

Source: Bangladesh Bank

Table 10.6: Capital Surplus/Shortfall of Banks (in Crore Taka)

Year	NCBs	PCBs	SPBs	FCBs	All Banks
1992	-299.43	-76.20	263.67	51.82	-60.14
1993	-12.31	-58.37	268.28	70.16	267.76
1994	-180.25	-13.51	339.64	101.98	247.86
1995	-268.55	-200.08	355.75	127.84	14.96
1996	-607.30	-176.44	-56.14	207.29	-632.58
1997	-650.79	-126.99	-199.31	277.60	-699.49
1998	-673.57	2130.78	-127.03	277.29	-392.53
1999	-845.28	273.09	-289.83	271.12	-590.90
2000	-1173.75	463.64	-721.97	-6.05	-1438.13
2001	-1161.19	336.51	-415.76	15.26	-1225.18
2002	-1456.43	478.90	-227.65	317.90	-887.28
2003	-1653.32	379.24	196.96	461.80	-615.32
2004	-1938.97	461.32	-93.81	553.79	-1018.77
2005	-3765.62	-56.42	-54.37	699.08	-3157.32

Source: Bangladesh Bank

Table 10.7: Growth Rate of Financial System (%)

Years	Broad Money*	GDP* at current market price	Growth Rate of the Financial System	Increases in Growth Rates from the previous year (%)
1982-83	5898.3	416231	0.01	
1989-90	22297.6	759837	0.03	200.00
1990-91	25004.4	1105180	0.02	-33.00
1991-92	28525.9	1195420	0.02	00
1992-93	31535.6	1253700	0.03	50.00
1993-94	36403.0	1354120	0.03	00.00
1994-95	42212.3	1525180	0.03	00.00
1995-96	45684.9	1663240	0.03	00.00
1996-97	50711.0	1807010	0.03	00.00
1997-98	55869.0	2001770	0.03	00.00
1998-99	63026.7	2196970	0.03	00.00
1999-00	85556.1	2370860	0.04	33.00
2000-01	99397.8	2535460	0.04	00.00
2001-02	111585.2	2732010	0.04	00.00
2002-03	128262.9	3005800	0.04	00.00
2003-04	145755.9	3325670	0.04	00.00

Note: Growth Rate of Financial System = Broad Money (M2) + GDP at current market price.

* Broad Money and GDP in crore Taka

Table 10.8: Growth Rate in Number of Banks, Bank Branches and Deposits

(Taka in Billion)

Year	1973-74	1982-83	1990-91	1995-96	2000-01	2001-02	2002-03	2003-04
No. Banks	11	21	24	36	48	49	52	50
No. Branches	1486	4572	5621	5866	5988	6056	6156	6293
Growth Rate of Branches (%)	32	202	22.94	1.86	0.57	1.14	1.65	2.23
Population/branch	50946	20035	19302	20814	21392	21499	21280	20978
Total Deposit	9.15	50.98	228.18	419.41	555.79	706.70	816.50	960.63
Growth Rate of Deposits (%)	286	457	348	84	33	27	16	18
Average deposit per branch	62.0	111.5	405.9	714.9	928.2	1167	1326.35	1526.48
Growth Rate of Deposit per Branch (%)	-	80	264	76	30	26	14	15
Average deposit per Account	-	0.05	0.12	0.19	0.21	0.26	0.29	0.32

Source: Bangladesh Bank

Table 10.9: Advance Deployment (Taka in lakhs)

Year →	1973-74	1982-83	1990-91	1995-96	2000-01	2001-02	2002-03	2003-04
Total Advance (Excluding Inter-bank)	554,25	502,099	2138,719	3716,604	6102960	6961590	8457150	9500400
Growth Rate (%)	-	88.96	326.00	31.20	9.32	14.07	21.00	12.00
Average Advance per Account	-	0.12	0.49	0.77	0.84	0.98	1.04	1.34
Advance to Deposits	0.61	0.98	0.98	0.89	0.85	0.82	0.83	0.91

Source: Bangladesh Bank

Table 10.10: Productivity of Banks

Year	1982-83	1990-91	1995-96	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
NCBs	1.18	-0.97	1.12	1.002	1.003	1.01	1.02	1.08	1.09
PCBs	-	1.05	1.13	1.16	1.16	1.38	1.34	1.30	1.38
SPBs	1.24	1.05	-0.45	-0.61	-0.82	1.11	1.20	0.96	0.89
FCBs	1.90	1.33	2.22	1.79	1.60	1.82	1.77	3.06	2.90
All Banks (Except B. Bank)	1.23	1.02	1.07	1.04	1.07	1.12	1.17	1.25	1.32

Sources: Compiled from various issues of Bangladesh Bank's Annual Reports, Economic Trends; Scheduled Bank Statistics and Bangladesh Bank Bulletins.

Note: Productivity = Total Income ÷ Total Expenditure;

Notes: '-' Indicates not available; Deposits include Demand and Time Deposits (excluding Govt. and inter-bank deposits); NCBs = Nationalized Commercial Banks; PCBs = Private Commercial Banks; SPBs = Specialized Banks; FCBs = Foreign Commercial Banks;

Table 10.11: Percentile Share of Urban – Rural Banking in Bangladesh (%)

Year	Branches		Deposits		Credits	
	Urban	Rural	Urban	Rural	Urban	Rural
1982	35.97	64.03	84.01	15.99	88.12	11.88
1983	34.58	65.42	83.55	16.45	86.97	13.03
1984	33.09	66.91	82.34	17.66	80.52	19.48
1985	32.96	67.04	82.02	17.98	74.15	25.85
1986	32.73	67.27	81.68	18.32	73.83	26.17
1987	33.06	66.94	80.74	19.26	74.13	25.87
1988	33.13	66.87	80.89	19.11	76.80	23.20
1989	33.44	66.56	79.58	20.42	76.94	23.06
1990	33.71	66.29	79.68	20.32	76.84	23.16
1991	34.02	65.98	78.83	21.17	76.59	23.41
1992	34.12	65.88	78.72	21.28	80.75	19.25
1993	35.93	64.07	78.15	21.85	80.16	19.84
1994	37.13	62.87	77.26	22.74	80.74	19.26
1995	37.78	62.22	78.11	21.89	80.08	19.92
1996	38.31	61.69	77.90	22.10	80.22	19.78
1997	38.74	61.26	77.93	22.07	80.93	19.07
1998	38.96	61.04	76.86	23.14	82.2	17.80
1999	39.34	60.66	77.38	22.62	82.89	17.11
2000	39.34	60.66	77.48	22.52	82.97	17.03
2001	39.95	60.05	77.35	22.65	82.99	17.01
2002	40.20	59.80	80.49	19.51	85.38	14.62
2003	40.47	59.53	80.39	19.61	86.21	13.79
2004	40.90	59.10	81.05	18.95	86.97	13.03

Source: Bangladesh Bank, Scheduled Bank Statistics, concerned issues

Table 10.12: Proportionate Share of Private Commercial Banks (PCBs)

[In Percent]

Year	Branches			Deposits			Credits		
	NCBs	PCBs	FCBs	NCBs	PCBs	FCBs	NCBs	PCBs	FCBs
1987	80.60	-	0.42	83.13	3.61	7.4	70.39	2.14	5.01
1989	67.00	12.89	0.42	70.89	18.34	6.37	58.26	13.51	5.29
1990	65.59	13.47	0.42	67.59	21.49	7.24	53.93	17.82	6.25
1991	64.01	14.87	0.40	64.04	24.41	7.15	53.88	19.39	5.92
1992	63.65	15.45	0.39	62.43	26.06	7.14	52.78	21.05	5.75
1993	63.20	15.88	0.39	64.05	26.12	5.27	53.81	23.51	4.03
1994	62.78	16.44	0.31	63.63	27.06	4.52	52.11	25.08	3.97
1995	62.54	16.59	0.31	62.41	27.55	3.99	53.47	25.11	3.86
1996	62.31	17.25	0.36	61.84	27.66	4.66	52.21	25.47	4.34
1997	61.77	18.22	0.38	62.07	21.85	5.18	52.36	25.13	5.32
1998	61.40	18.32	0.44	60.87	28.45	6.00	52.73	25.6	5.16
1999	60.95	18.82	0.46	61.53	27.11	6.25	53.65	25.57	5.43
2000	60.58	19.26	0.49	60.22	27.22	7.36	51.09	25.58	5.40
2001	59.89	20.11	0.51	57.73	28.99	7.41	49.41	27.96	5.37
2002	58.96	20.66	0.56	55.71	31.06	7.76	48.95	32.38	6.29
2003	58.33	21.46	0.53	52.75	34.25	6.92	45.05	34.88	5.19
2004	56.90	21.76	0.49	51.72	35.21	7.73	44.17	36.28	5.43

Source: Bangladesh Bank

Table 10.13: Growth of Bank Credit to Private Sector (In Crore Tk.)

Years	Total Domestic Bank Credit	Bank Credit to Private Sector	% Changes	Private Sector Credit to GDP (at current market price)
1993-94	30310	20973	45	0.15
1994-95	40328	30023	34	0.20
1995-96	46868	34670	35	0.21
1996-97	53086	38948	36	0.22
1997-98	59970	44206	36	0.22
1998-99	68003	50429	35	0.23
1999-00	77030	55732	38	0.24
2000-01	90169	64782	39	0.26
2001-02	101398	73555	38	0.27
2002-03	109717	82894	32	0.28
2003-04	125551	94635	33	0.28

Source: Economic Trends, Bangladesh Bank

Table 10.14: Performance of Money Loan Courts

Year	No. of suits and amount*					% of settled suits					% of recovered amount				
	NCBs	PCBs	DFIs	FCBs	Total	NCBs	PCBs	DFIs	FCBs	Total	NCBs	PCBs	DFIs	FCBs	Total
2004	34901 (46096.02)	12532 (34772.50)	11650 (14089.50)	189 (1490.52)	58272 (96448.54)	45.90	39.81	32.29	70.01	41.27	11.16	10.19	7.12	51.93	12.19
1999	32804 (36963.04)	10225 (31977.02)	10919 (11099.22)	167 (1250.61)	54215 (81299.78)	43.13	38.48	30.92	68.86	39.87	8.63	9.88	6.11	46.11	9.41
1996	25831 (18093.1)	7852 (16547.3)	7785 (5602.1)	143 (1038.8)	41611 (41281.3)	36.34	27.13	24.47	43.35	32.40	9.42	5.98	4.47	22.01	7.69
1993	16798 (11263.9)	6301 (7477.7)	6201 (3766.4)	141 (844.0)	29441 (3352.0)	25.72	32.45	20.00	28.83	25.98	4.38	3.81	1.99	8.87	3.98
1991	11804 (6699.3)	4044 (2933.6)	4325 (739.8)	121 (397.0)	20294 (11332.5)	9.90	24.35	9.75	13.22	12.77	1.75	2.80	2.13	6.64	2.13

Source: Bangladesh Bank

* Notes: Amounts in parenthesis are in Million Taka

Table 10.15: Some Macroeconomic Indicators in Bangladesh

(in Billion Tk.)

Year	Growth Rate of GDP (%)	Per Capita Income US\$ (Amount in Unit)	Inflation Rater (%)	Bank Rate (%)	Export as % of GDP (f.o.b)	Import as % of GDP (c.i.f)	Balance of Trade (Billion Tk.)	IIP* Growth Rates (%)
1984-85	3.7	157	10.94	11.13	31.16	84.97	- 43.53	4
1985-86	4.4	147	9.95	11.00	5.83	15.15	- 43.48	3
1986-87	4.5	160	10.35	10.75	5.68	14.88	- 49.62	14
1987-88	2.9	191	11.42	10.75	6.20	15.62	-56.24	1
1988-89	2.5	201	8.00	10.75	6.47	16.52	- 66.29	2
1989-90	6.61	215	9.30	10.25	6.78	16.92	- 74.76	13
1990-91	3.34	279	8.94	9.50	1.15	3.18	- 63.96	2
1991-92	5.04	277	5.09	8.92	1.59	2.95	- 5930	11
1992-93	4.57	277	1.33	7.17	1.71	3.25	- 7134	13
1993-94	4.08	288	1.83	5.75	1.86	3.09	- 69.66	-0.26
1994-95	4.93	316	5.20	7.75	2.27	3.83	- 103.24	6
1995-96	4.62	334	6.65	6.75	2.34	4.18	- 15.69	7
1996-97	5.39	340	2.52	7.50	2.43	3.96	- 86.00	3
1997-98	5.23	348	6.99	7.75	2.58	3.76	- 73.17	9
1998-99	4.87	357	8.91	7.00	2.42	3.65	- 91.62	4
1999-00	5.94	363	3.41	7.00	2.42	3.54	- 92.21	5
2000-01	5.27	364	1.58	7.00	2.55	3.69	- 105.90	7
2001-02	4.80	360	2.79	6.00	2.20	3.15	- 101.69	5
2002-03	5.26	407	4.38	5.00	11.00	19.00	-22676	7
2003-04	6.27	440	5.83	5.00	12.00	19.00	-23676	7
2004-05	5.38	470	6.48	5.00	14.00	22.00	-30060	7

Sources: Bangladesh Bureau of Statistics and Bangladesh Bank

*IIP = Index of Industrial Production (manufacturing).

Table 10.15 (a): Gross National Savings and Investment in Bangladesh (percent)

Years	National Savings as % of GDP	National Investment as % of GDP	Growth in Index of Industrial Production
1994-95	19.12	19.12	6
1995-96	20.17	19.99	7
1996-97	21.58	20.72	3
1997-98	21.77	21.63	9
1998-99	22.31	22.19	4
1999-00	23.10	23.02	5
2000-01	22.41	23.09	7
2001-02	23.44	23.15	5
2002-03	24.45	23.41	7
2003-04	25.44	24.04	7
2004-05	26.49	24.43	7

Source: Bangladesh Bank Economic Trend

Table 10.16: Interest Rate Structure in the Scheduled Banks (Weighted Average)

Year	Interest Rate on Deposits	Interest Rate on Advances	Inflation Rate (1990-100)	Real Rate of Interest on Deposit	Real Interest Rate on Advances	Bank Rate
1987	8.62	14.59	10.45	-1.83	4.14	10.75
1988	8.8	14.62	11.30	-2.50	3.32	10.75
1989	8.94	14.66	8.03	0.91	6.63	10.75
1990	9.12	14.87	9.30	0.18	5.57	9.75
1991	9.07	14.91	8.9	0.17	6.01	9.25
1992	8.11	14.98	5.14	2.94	9.84	8.50
1993	6.6	14.17	1.31	5.47	12.86	7.00
1994	5.48	12.79	1.81	3.67	10.98	5.50
1995	5.04	12.47	5.25	-0.21	7.22	6.00
1996	6.20	13.37	4.02	2.18	9.35	7.50
1997	6.83	13.82	3.87	2.96	9.95	8.00
1998	7.12	14.04	4.48	2.64	9.56	8.00
1999	7.26	14.01	5.12	2.14	8.89	7.00
2000	7.21	13.86	3.41	3.80	10.45	7.00
2001	7.03	13.75	1.54	5.49	12.21	6.00
2002	6.74	13.10	2.79	3.15	9.51	6.00
2003	7.54	12.24	4.38	3.17	7.86	5.00
2004	6.38	11.16	5.83	0.55	5.33	5.00

Source: Bangladesh Bank, Economic Trends, Various Issues

Table 10.17: Share of Financial Sector to GDP Compared to Some other Major Sectors at Current Market Price (%)

Period	Financial Sector	Agriculture & Forestry	Fishing	Mining & Quarrying	Manufacturing	Electricity, Gas and	Construction	Whole Sale & Retail Trade	Hotel & Restaurant	Transport, storage &
1975	0.80	62.53	n/a	0.78	6.66	0.10	4.51	8.73	n/a	4.49
1980	1.57	50.26	n/a	0.75	8.23	0.31	4.70	9.62	n/a	5.82
1985	1.69	41.77	n/a	0.80	8.85	0.58	5.53	9.54	n/a	11.22
1990	2.05	36.89	n/a	0.81	8.75	1.20	5.84	8.35	n/a	10.18
1991	1.34	25.91	3.59	0.82	13.03	1.50	5.77	12.08	0.57	9.37
1992	1.37	24.70	3.69	0.88	13.44	1.50	5.99	11.84	0.57	9.38
1993	1.44	20.89	4.39	1.01	14.35	1.56	6.01	11.95	0.58	9.53
1994	1.48	19.87	4.86	1.01	14.75	1.56	6.14	12.08	0.59	9.37
1995	1.47	20.33	5.00	1.01	14.72	1.49	6.36	12.37	0.58	8.87
1996	1.51	19.50	5.14	1.00	14.81	1.44	6.61	12.39	0.59	8.71
1997	1.53	19.39	5.34	1.00	14.98	1.41	6.73	12.20	0.57	8.62
1998	1.49	19.05	5.43	0.98	15.62	1.32	6.93	12.41	0.58	8.36
1999	1.53	19.57	5.68	0.94	14.92	1.29	7.11	12.40	0.60	8.21
2000	1.54	18.85	5.77	0.97	14.69	1.30	7.43	12.32	0.62	8.33
2001	1.54	18.00	5.29	1.04	15.08	1.32	7.63	12.81	0.63	8.73
2002	1.54	17.45	5.07	1.08	15.20	1.35	7.74	13.09	0.64	8.89
2003	1.57	16.23	4.74	1.10	15.24	1.33	7.66	13.01	0.65	10.55
2004	1.56	15.74	4.40	1.09	15.47	1.33	7.63	13.27	0.66	10.34

Source: Bangladesh Bank, Economic Trends, related Issues