

EAST DELTA UNIVERSITY

Department of Business Administration

**UNDERDEVELOPMENT OF THE DERIVATIVES
MARKET IN BANGLADESH**

Causes, Limitations, Challenges, and Policy Recommendations

A Comprehensive Research Paper Submitted in Partial Fulfillment
of the Requirements for the Degree of
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DECLARATION

I hereby declare that this research paper titled "Underdevelopment of the Derivatives Market in Bangladesh: Causes, Limitations, Challenges, and Policy Recommendations" is an original work prepared for academic purposes in partial fulfillment of the requirements for the degree of Master of Business Administration (MBA) in Finance under the course Financial Derivatives (FIN 661) at East Delta University.

This work has not been previously submitted, in whole or in part, for any other degree or examination. All information, data, citations, and references used in this paper have been appropriately acknowledged and listed in the references section.

The views expressed in this paper are those of the author and do not necessarily represent the official position of East Delta University or any other institution.

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ABSTRACT

The derivatives market constitutes one of the most critical pillars of modern financial systems globally, offering instruments essential for risk management, price discovery, capital allocation efficiency, and market liquidity. Futures, options, swaps, and forward contracts enable market participants — from multinational corporations to individual investors — to hedge exposures arising from fluctuations in equity prices, exchange rates, interest rates, and commodity prices. Nations that have successfully developed structured derivatives markets have demonstrably achieved deeper financial integration, greater economic resilience, and improved capacity for mobilizing long-term investment capital.

Bangladesh, however, presents a striking contrast. As of 2013, the country lacks a formally established exchange-traded derivatives market. While certain over-the-counter forward transactions exist in the foreign exchange domain, no standardized derivative instruments are accessible for organized trading on national exchanges. This absence represents a systemic gap in Bangladesh's financial architecture — one that leaves exporters, importers, banking institutions, and investors without the mechanisms they need to manage financial risk in a disciplined, cost-effective manner.

This research paper conducts a comprehensive examination of the underdevelopment of the derivatives market in Bangladesh, identifying the structural, regulatory, institutional, technological, and behavioral factors that have inhibited its growth. The study draws upon secondary data from Bangladesh Bank annual reports, BSEC publications, IMF and World Bank assessments, and peer-reviewed academic literature.

Empirical comparisons are drawn with the derivatives markets of India, Singapore, and the United States, offering lessons in phased market development, regulatory architecture, and institutional capacity building. The paper incorporates relevant financial models, including the Black-Scholes Option Pricing Model, the Cost-of-Carry Model for futures pricing, and statistical measures of market depth, to provide analytical rigor.

The findings confirm that the primary barriers to derivatives market development in Bangladesh include: absence of enabling legislation, underdeveloped capital market infrastructure, inadequate institutional investor participation, limited financial literacy, technological deficiencies in trading and clearing systems, weak corporate governance, and macroeconomic instability.

The study concludes with a comprehensive policy framework organized into short-term, medium-term, and long-term interventions. These recommendations offer a strategic roadmap for policymakers, regulators, and financial institutions to develop a sustainable, well-regulated derivatives market capable of supporting Bangladesh's continued economic growth and financial modernization.

Keywords: *Derivatives Market, Financial Futures, Options Pricing, Risk Hedging, Capital Market Development, Bangladesh Securities and Exchange Commission, Emerging Financial Markets, Currency Risk, Interest Rate Risk, Black-Scholes Model.*

Table of Contents

DECLARATION	2
ACKNOWLEDGEMENT	3
ABSTRACT.....	4
CHAPTER 1: INTRODUCTION	8
1.1 Background of the Study	8
1.2 Statement of the Problem.....	9
1.3 Significance of the Study	10
1.4 Organization of the Paper	10
CHAPTER 2: OBJECTIVES OF THE STUDY.....	11
2.1 General Objective	11
2.2 Specific Objectives	11
CHAPTER 3: RESEARCH QUESTIONS	12
CHAPTER 4: SCOPE OF THE STUDY.....	13
4.1 Thematic Scope.....	13
4.2 Geographic Scope	13
4.3 Temporal Scope	13
4.4 Sectoral Scope.....	13
CHAPTER 5: LIMITATIONS OF THE STUDY	14
CHAPTER 6: LITERATURE REVIEW	15
6.1 Theoretical Foundations of Derivatives Markets.....	15
6.2 Derivatives and Risk Management Theory.....	15
6.3 Empirical Evidence on Derivatives Market Development in Emerging Economies	16
6.4 Barriers to Derivatives Market Development	17
CHAPTER 7: RESEARCH METHODOLOGY	18
7.1 Research Design.....	18
7.2 Sources of Secondary Data	18
7.3 Analytical Framework	18
CHAPTER 8: OVERVIEW OF THE GLOBAL DERIVATIVES MARKET.....	20
8.1 Historical Development	20
8.2 Structure and Scale of the Global Derivatives Market.....	20
8.3 Major Global Derivatives Exchanges	21
8.4 Classification of Derivative Instruments.....	22
8.5 The 2008 Financial Crisis and Regulatory Reform.....	23
CHAPTER 9: OVERVIEW OF THE BANGLADESH FINANCIAL MARKET	24
9.1 Structure and Composition.....	24

9.2 The Capital Market	24
9.3 Key Weaknesses of the Bangladesh Financial Market	25
9.3.1 High Retail Investor Dependency	25
9.3.2 Limited Market Depth and Liquidity	25
9.3.3 Underdeveloped Bond Market	25
9.3.4 Governance and Market Integrity Issues.....	25
CHAPTER 10: CURRENT STATUS OF THE DERIVATIVES MARKET IN BANGLADESH	26
10.1 Absence of Exchange-Traded Derivatives.....	26
10.2 Informal and OTC Instruments	26
10.2.1 Foreign Exchange Forward Contracts.....	26
10.2.2 Interest Rate Swaps.....	26
10.3 What is Missing: A Comprehensive Gap Analysis.....	26
CHAPTER 11: MAJOR PROBLEMS AND STRUCTURAL WEAKNESSES.....	28
11.1 Regulatory Deficiencies.....	28
11.2 Underdeveloped Underlying Cash Market	28
11.3 Inadequate Institutional Investor Base.....	28
11.4 Limited Financial Literacy and Market Knowledge	28
11.5 Absence of a Central Clearing Infrastructure.....	29
11.6 Human Capital Constraints	29
CHAPTER 12: REGULATORY AND INSTITUTIONAL CHALLENGES	30
12.1 The Regulatory Framework: Current State.....	30
12.2 Regulatory Institutional Capacity	30
12.3 Multi-Regulator Coordination.....	30
12.4 The Role of Bangladesh Bank	30
CHAPTER 13: TECHNOLOGICAL AND OPERATIONAL LIMITATIONS	32
13.1 Technology Requirements for Derivatives Markets	32
13.2 The Specific Case of Margin Management.....	32
13.3 ICT Infrastructure and Connectivity	33
CHAPTER 14: ECONOMIC AND POLITICAL BARRIERS	34
14.1 Macroeconomic Environment.....	34
14.2 Political Economy Constraints.....	35
14.3 Market Size and Viability	35
CHAPTER 15: COMPARATIVE STUDY WITH INDIA AND OTHER COUNTRIES	37
15.1 India: A Model of Phased Derivatives Market Development.....	37
15.2 Singapore: Derivatives Market Development in a Small Economy	38
15.3 Comprehensive Country Comparison.....	38
CHAPTER 16: IMPORTANCE OF DEVELOPING A DERIVATIVES MARKET IN BANGLADESH	40

16.1 Risk Management for the Export Sector.....	40
16.2 Interest Rate Risk Management in Banking.....	40
16.3 Price Discovery and Market Efficiency	41
16.4 Capital Market Deepening and Foreign Investment	41
CHAPTER 17: RISKS ASSOCIATED WITH DERIVATIVES MARKETS	42
17.1 Speculative Risk and Market Stability	42
17.2 Counterparty Credit Risk	42
17.3 Systemic Risk.....	42
17.4 Risk Summary Matrix.....	42
CHAPTER 18: SECTOR-WISE NEED FOR DERIVATIVES IN BANGLADESH.....	44
18.1 Ready-Made Garments (RMG) Sector	44
18.2 Banking Sector.....	44
18.3 Agricultural Sector.....	44
18.4 Energy Sector.....	45
18.5 Insurance Sector.....	45
CHAPTER 19: POLICY RECOMMENDATIONS AND STRATEGIC ROADMAP.....	46
19.1 Overview of the Recommended Approach.....	46
19.2 Short-Term Recommendations (Years 1–3)	46
19.2.1 Enabling Legislation	46
19.2.2 Regulatory Capacity Building.....	46
19.2.3 Capital Market Strengthening	46
19.2.4 Investor Education	46
19.3 Medium-Term Recommendations (Years 4–7)	47
19.3.1 Establishment of Central Clearing Infrastructure	47
19.3.2 Launch of Currency Derivatives — Pilot Phase	47
19.3.3 Introduction of Equity Index Derivatives	47
19.4 Long-Term Recommendations (Years 8–15).....	47
19.5 The Strategic Roadmap.....	47
CHAPTER 20: FUTURE PROSPECTS OF THE DERIVATIVES MARKET IN BANGLADESH.....	49
20.1 Macroeconomic Trajectory and Financial Market Evolution	49
20.2 Technological Enablers.....	49
20.3 Demographic and Educational Trends.....	49
20.4 Regional Integration and Global Linkages	49
CHAPTER 21: CONCLUSION	51
REFERENCES	52
Appendix A: Glossary of Key Derivatives Terms	53
Appendix B: Black-Scholes Model — Numerical Example.....	54
Appendix C: Suggested Areas for Future Research.....	54

CHAPTER 1: INTRODUCTION

1.1 Background of the Study

The development of organized financial markets is widely regarded as a prerequisite for sustained economic growth and industrial expansion. Among the various components of a modern financial architecture, derivatives markets occupy a particularly significant position. By providing mechanisms for the systematic transfer and management of financial risk, derivatives instruments have transformed how businesses, investors, and governments operate in a world characterized by volatility across asset prices, currencies, and interest rates.

A derivative is a financial contract whose value is *derived* from the performance of an underlying asset, index, or rate. Common underlying assets include equities, fixed-income securities, foreign currencies, commodities, and interest rate benchmarks. The main categories of derivative instruments are futures, options, swaps, and forward contracts, each serving distinct risk management and investment functions.¹

The global derivatives market has undergone extraordinary expansion over the past four decades. The liberalization of financial markets, advancements in information technology, growth in cross-border trade, and the development of sophisticated quantitative finance methods have collectively driven the proliferation of derivative products. The notional value of outstanding over-the-counter (OTC) derivative contracts reached approximately USD 693 trillion globally by mid-2013, while exchange-traded derivatives added several trillion more in open interest.

Developed economies — principally the United States, United Kingdom, and Japan — established sophisticated derivatives exchanges decades ago. Chicago Mercantile Exchange (CME), the New York Mercantile Exchange (NYMEX), and the Intercontinental Exchange (ICE) handle millions of contracts daily, spanning equity index futures, currency futures, commodity futures, interest rate derivatives, and options across all categories. Emerging economies, most notably India, Brazil, South Korea, and Singapore, have also developed robust derivatives markets over the past two decades.

Bangladesh, by contrast, has not followed this trajectory. Despite recording consistent real GDP growth averaging approximately 6.0 to 6.5 percent annually in the years leading to 2013, the country's financial markets remain structurally underdeveloped. The banking sector dominates the financial landscape, and the capital market — while active — suffers from low depth, high volatility, and inadequate institutional participation. Against this backdrop, the virtual absence of a formal derivatives market represents a significant structural gap with tangible consequences for risk management, capital market efficiency, and investor protection.

¹Hull, J.C. (2012). *Options, Futures and Other Derivatives* (8th ed.). Prentice Hall, p.1.

Figure 5: Bangladesh Financial Sector Structure by Asset Size, circa 2012
(Source: Bangladesh Bank, 2012; World Bank, 2012; ADB, 2012)

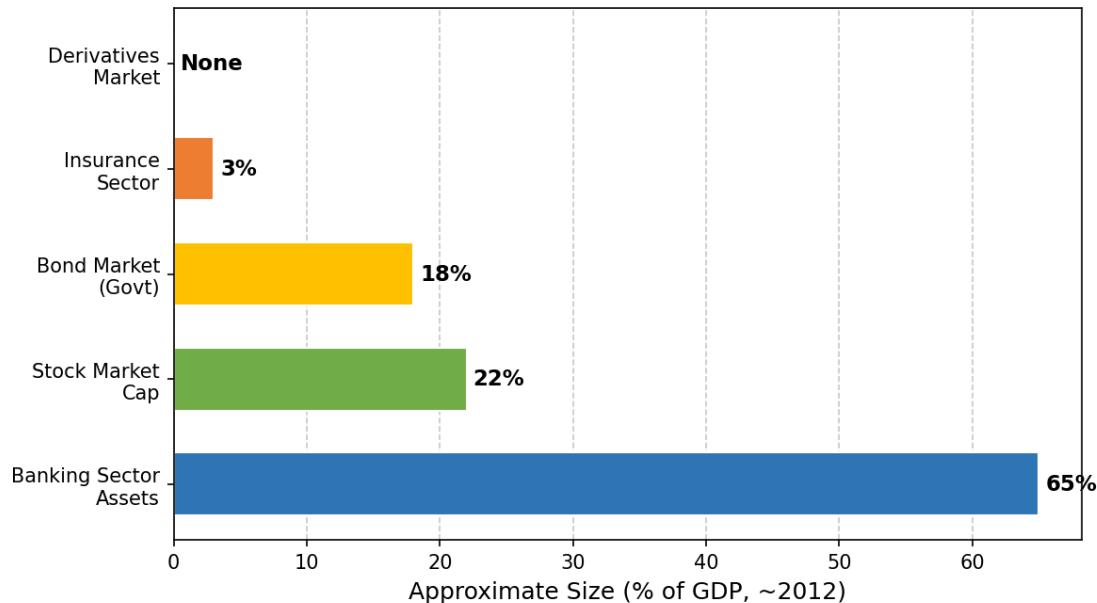


Figure 5: Bangladesh Financial Sector Structure by Approximate Asset Size (% of GDP), circa 2012 (Source: Bangladesh Bank, 2012; World Bank, 2012)

The ready-made garments (RMG) industry, which accounts for more than 80 percent of Bangladesh's total export earnings, is particularly exposed to currency risk. As export receipts are denominated primarily in US dollars and euros, while operational costs are incurred in Bangladeshi taka, exchange rate movements can materially affect profitability. Without access to currency hedging instruments, RMG exporters bear this risk without protection. A structured derivatives market would provide these businesses with tools to lock in exchange rates for future transactions, reducing uncertainty and supporting more informed financial planning.

Similarly, commercial banks and financial institutions in Bangladesh face significant exposure to interest rate risk, given the maturity mismatches inherent in their balance sheets. Agricultural commodity producers face price risk from seasonal fluctuations in crop prices. Energy importers face fuel price volatility. In each case, derivative instruments — if available — would offer cost-effective solutions. Their absence does not eliminate risk; it merely means that risk is absorbed inefficiently, passed on to consumers, or simply left unmanaged.

This research paper undertakes a systematic investigation of the factors responsible for the underdevelopment of the derivatives market in Bangladesh. It aims to provide a comprehensive analysis that is both theoretically grounded and practically relevant, drawing on financial theory, empirical data, and international comparative experience.

1.2 Statement of the Problem

Bangladesh's financial sector has made considerable strides over the past two decades in areas such as banking system expansion, microfinance development, and mobile financial services. Yet the capital market remains one of the least sophisticated in South Asia. The Dhaka Stock Exchange (DSE) and Chittagong Stock Exchange (CSE), while functional, operate primarily in spot equity transactions. No organized

derivatives exchange exists. No listed futures contracts or options are available to investors, hedgers, or arbitrageurs.

The consequences of this gap are multifaceted. Without exchange-traded currency futures, exporters and importers cannot efficiently hedge foreign exchange risk on standardized terms. Without interest rate futures or swaps, banks cannot effectively manage asset-liability mismatches. Without commodity futures, agricultural producers remain exposed to price volatility that undermines rural incomes and food security planning. Without equity options, portfolio managers lack tools for dynamic risk management.

The problem is not simply the absence of specific financial products; it reflects deeper systemic weaknesses. These include inadequate legal and regulatory frameworks, an underdeveloped institutional investor base, limited technological infrastructure for trading and settlement, low financial literacy among market participants, weak corporate governance, and political economy constraints that have historically inhibited financial sector reform.

It is therefore important to conduct a rigorous, evidence-based investigation into the root causes of this underdevelopment, assess its economic consequences, and identify the policy interventions that could support the orderly development of a derivatives market appropriate to Bangladesh's current level of financial sector maturity and institutional capacity.

1.3 Significance of the Study

This study holds significance for several categories of stakeholders. For policymakers and regulators — including the Ministry of Finance, Bangladesh Bank, and BSEC — the findings provide an analytical basis for designing enabling legal and regulatory frameworks. For financial institutions, particularly commercial banks and brokerage houses, the study identifies the institutional readiness requirements for derivatives market participation. For corporate treasurers and risk managers in export-oriented industries, the study highlights the potential benefits of hedging instruments. For academic researchers, the paper contributes to the sparse literature on financial market development in Bangladesh. For investors and market participants, the findings offer insight into the future trajectory of financial market sophistication in the country.

1.4 Organization of the Paper

The remainder of this paper is organized as follows. Chapter 2 presents the objectives of the study. Chapter 3 states the research questions. Chapters 4 and 5 address the scope and limitations. Chapter 6 provides a comprehensive literature review. Chapter 7 describes the research methodology. Chapters 8 through 10 present contextual analysis of the global derivatives market, Bangladesh's financial market, and the current status of derivatives in Bangladesh. Chapters 11 through 14 identify the major structural, regulatory, technological, and political barriers. Chapter 15 provides a comparative analysis with India and other countries. Chapters 16 through 18 examine the importance, risks, and sector-specific need for derivatives in Bangladesh. Chapter 19 presents policy recommendations. Chapter 20 discusses future prospects, and Chapter 21 concludes the study.

CHAPTER 2: OBJECTIVES OF THE STUDY

2.1 General Objective

The principal objective of this study is to conduct a comprehensive analysis of the causes, structural weaknesses, institutional barriers, and policy dimensions of the underdevelopment of the derivatives market in Bangladesh, with a view to formulating practical recommendations for its sustainable development.

2.2 Specific Objectives

The following specific objectives guide the research:

1. To examine the current status of derivative instruments and their availability in Bangladesh's financial market as of 2013.
2. To identify and analyze the structural weaknesses of Bangladesh's capital market that impede the development of a derivatives market.
3. To assess the regulatory and institutional barriers, including the absence of enabling legislation, weak enforcement capacity, and limited regulatory expertise.
4. To evaluate the technological and operational limitations that constrain derivatives trading, clearing, and settlement in Bangladesh.
5. To analyze the economic, political, and governance factors that have historically inhibited financial market reform in Bangladesh.
6. To compare Bangladesh's derivatives market development with that of India, Singapore, and the United States, drawing lessons from their experiences.
7. To evaluate the potential benefits of a structured derivatives market for Bangladesh's key economic sectors, including the RMG industry, banking, agriculture, and energy.
8. To assess the risks and safeguards associated with introducing derivatives in a developing financial market context.
9. To formulate a comprehensive and phased policy framework for developing a sustainable and well-regulated derivatives market in Bangladesh.

CHAPTER 3: RESEARCH QUESTIONS

This research paper attempts to address the following research questions:

10. Why does Bangladesh lack a formal exchange-traded derivatives market despite decades of economic growth and financial sector development?
11. What are the primary structural, regulatory, institutional, and technological barriers to the introduction of derivative instruments in Bangladesh?
12. How do the experiences of India, Singapore, and the United States in developing derivatives markets offer lessons applicable to the Bangladeshi context?
13. What are the potential economic benefits of developing a derivatives market for Bangladesh's key industrial sectors, and how can these benefits be quantified?
14. What risks and governance challenges are associated with introducing derivatives in an underdeveloped financial market, and how can these be managed?
15. What specific policy reforms and institutional changes are required to create the conditions necessary for a functional derivatives market in Bangladesh?

CHAPTER 4: SCOPE OF THE STUDY

The scope of this study is defined along the following dimensions:

4.1 Thematic Scope

The study focuses on financial derivatives — specifically exchange-traded and OTC derivatives including futures, options, swaps, and standardized forward contracts. It does not address credit derivatives or structured products in detail, given that these require a significantly more advanced market infrastructure than currently exists in Bangladesh.

4.2 Geographic Scope

The primary geographic focus is Bangladesh. Comparative analysis draws upon the experiences of India, Singapore, and the United States, which represent a gradient from large emerging economy to small advanced economy to the world's most developed derivatives market.

4.3 Temporal Scope

The study covers the period up to 2013, using data from the preceding decade where available. This temporal boundary reflects the date of submission and is consistent with the study's focus on conditions prevailing as of November 2013.

4.4 Sectoral Scope

The study examines derivatives market relevance across the following sectors of the Bangladesh economy: banking and financial services, export-oriented manufacturing (particularly RMG), agriculture, energy, and insurance.

CHAPTER 5: LIMITATIONS OF THE STUDY

While every effort has been made to ensure the rigor and comprehensiveness of this research, the following limitations are acknowledged:

- **Data Scarcity:** The absence of a formal derivatives exchange in Bangladesh means that there is no primary trading data — no volume statistics, no open interest figures, no price series — that could be used for quantitative analysis of derivatives market activity. The study therefore relies primarily on secondary sources.
- **Qualitative Nature:** Given data constraints, the analytical approach is predominantly qualitative and descriptive, supplemented by comparative and illustrative quantitative analysis. Formal econometric modeling was not feasible within the scope of this study.
- **Secondary Source Dependence:** The study draws extensively on reports from regulatory bodies, international financial institutions, and academic publications. These sources may carry their own biases or analytical limitations.
- **Limited Academic Literature on Bangladesh Derivatives:** Very few peer-reviewed studies specifically address the derivatives market in Bangladesh. The limited body of existing research constrains the review of prior empirical findings.
- **Dynamic Environment:** Financial markets evolve rapidly. Some conditions described in this paper as of 2013 may have changed since data collection for this study was completed.

These limitations notwithstanding, the study makes a meaningful analytical contribution to the understanding of derivatives market development in Bangladesh and provides a foundation for future empirical research as market data become available.

CHAPTER 6: LITERATURE REVIEW

6.1 Theoretical Foundations of Derivatives Markets

The theoretical foundation of derivatives markets rests on several key contributions from financial economics. **Hull (2012)** provides the most comprehensive treatment of derivative instruments, establishing the conceptual framework for understanding how futures, options, and swaps are priced and used in practice. His formulation of the cost-of-carry model for futures pricing remains the standard theoretical benchmark:²

$$F_0 = S_0 \times e^{(r-q)T} \quad (\text{Equation 1: Cost-of-Carry Model})$$

where F_0 is the futures price, S_0 is the current spot price of the underlying asset, r is the continuously compounded risk-free interest rate, q is the continuous dividend yield (or convenience yield for commodities), and T is the time to expiration in years. This model reveals that in efficient markets, the futures price is simply the present value of the expected future spot price, adjusted for carry costs and income.

The **Black-Scholes-Merton (1973)** option pricing model represents perhaps the most celebrated achievement in quantitative finance. The model derives the fair value of a European call option on a non-dividend-paying stock as:³

$$C = S_0 N(d_1) - Ke^{-rT} N(d_2) \quad (\text{Equation 2: Black-Scholes Call Option Price})$$

$$d_1 = [\ln(S_0/K) + (r + \sigma^2/2)T] / (\sigma\sqrt{T}) \quad (\text{Equation 3: } d_1 \text{ parameter})$$

$$d_2 = d_1 - \sigma\sqrt{T} \quad (\text{Equation 4: } d_2 \text{ parameter})$$

where C is the call option price, S_0 is the current stock price, K is the strike price, r is the risk-free rate, T is time to maturity, σ is the volatility of the underlying asset's returns, and $N(\cdot)$ denotes the cumulative standard normal distribution function. The implications of this model for financial markets are profound — it established that options could be priced analytically and that dynamic hedging was possible, laying the groundwork for large-scale derivatives markets worldwide.

Mishkin (2010) emphasizes that the depth and efficiency of financial markets are fundamental determinants of economic growth and monetary policy transmission.⁴ A shallow financial market — characterized by few instruments, limited participants, and high transaction costs — impedes the efficient allocation of capital and reduces the effectiveness of monetary interventions. His analysis implies that Bangladesh's underdeveloped capital market is not merely a financial sector problem; it has macroeconomic consequences for growth, employment, and monetary stability.

6.2 Derivatives and Risk Management Theory

The fundamental rationale for derivatives rests on the theory of risk transfer. Modern Portfolio Theory, as developed by Markowitz (1952), established that investors can reduce portfolio risk through diversification — combining assets whose returns are imperfectly correlated. Derivatives extend this concept by enabling

³Black, F. & Scholes, M. (1973). The Pricing of Options and Corporate Liabilities. *Journal of Political Economy*, 81(3), 637–654.

⁴Mishkin, F.S. (2010). *The Economics of Money, Banking and Financial Markets* (9th ed.). Pearson, p.221.

investors to isolate specific risk exposures and manage them independently through targeted hedging strategies.

The Modigliani-Miller theorems, while addressing capital structure, provide a theoretical context in which corporate hedging decisions can be evaluated. In the presence of market frictions — taxes, bankruptcy costs, information asymmetries, and financial distress — corporate risk management through derivatives creates value. Smith and Stulz (1985) formalized this argument, demonstrating that hedging can increase expected firm value when financial distress costs are significant. This finding has direct relevance to Bangladesh's RMG exporters, whose thin margins make them particularly vulnerable to exchange rate movements.

The hedging effectiveness literature offers quantitative tools for evaluating derivative strategies. The minimum variance hedge ratio, derived from ordinary least squares regression of spot price changes on futures price changes, is defined as:

$$h^* = \rho \times (\sigma_S / \sigma_F) \quad (\text{Equation 5: Minimum Variance Hedge Ratio})$$

where h^* is the optimal hedge ratio, ρ is the correlation coefficient between changes in the spot price and futures price, σ_S is the standard deviation of spot price changes, and σ_F is the standard deviation of futures price changes. A hedge ratio of 1.0 implies that a unit change in the spot position is exactly offset by a unit change in the futures position. This tool, simple in computation but powerful in application, is unavailable to Bangladeshi firms simply because no organized futures market exists.

6.3 Empirical Evidence on Derivatives Market Development in Emerging Economies

The empirical literature on derivatives market development in emerging economies offers important insights. India's experience is particularly instructive. Thomas (2006) documents the step-by-step regulatory and institutional reform process that preceded the launch of index futures on the NSE in June 2000.⁵ The reforms included the enactment of the Securities Contracts (Regulation) Amendment Act, the establishment of a central counterparty for clearing, and extensive investor education initiatives. Within a few years of launch, NSE's derivatives segment became one of the most liquid in the world by volume, underscoring the latent demand for risk management tools when appropriate infrastructure is provided.

World Bank (2012) assessed Bangladesh's financial system and identified the shallow capital market, bank-dominated intermediation, and limited non-bank financial institution participation as key structural constraints.⁶ The report recommended a sequenced approach to capital market development, starting with strengthening the underlying spot market before introducing more complex instruments such as derivatives.

The IMF (2011) Financial System Stability Assessment for Bangladesh highlighted the vulnerability of the banking system to interest rate risk and foreign exchange risk, both of which could be substantially mitigated through derivatives instruments.⁷ The IMF noted that Bangladesh Bank's ability to implement monetary policy is constrained by the underdevelopment of money and capital markets.

The Asian Development Bank (2012) financial sector development strategy for Bangladesh recommended the introduction of money market instruments, the deepening of the bond market, and — over the medium

⁵Thomas, S. (2006). How the Financial Sector in India Was Reformed. In S. Narayan (Ed.), *Documenting Reforms: Case Studies from India*. Observer Research Foundation.

⁶World Bank (2012). *Bangladesh: Financial Sector Assessment Program*. Washington, D.C.: World Bank.

⁷IMF (2011). *Bangladesh: Financial System Stability Assessment*. Washington, D.C.: International Monetary Fund.

to long term — the introduction of derivatives as part of a comprehensive financial sector modernization agenda.⁸

6.4 Barriers to Derivatives Market Development

A consistent theme across the literature on financial market development in low-income and lower-middle-income countries is the identification of multiple, interlocking barriers that resist piecemeal reform. Levine (1997), in his influential survey of finance and economic growth, identifies five key functions of financial systems: mobilizing savings, allocating capital, facilitating risk management, monitoring managers, and easing exchange. Each function is impaired in Bangladesh's current financial market structure.

Rajan and Zingales (2003) argue that political economy factors — specifically the opposition of incumbent financial sector actors to competition and market development — are often more powerful barriers to financial market reform than technical constraints. This 'incumbent veto' problem is particularly relevant in Bangladesh, where a concentrated banking sector may resist the development of capital market alternatives that could challenge bank dominance of corporate finance.

The literature also emphasizes the importance of legal system quality for financial market development. La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1997, 1998) demonstrate that countries with stronger legal protections for investors tend to develop deeper, more liquid financial markets. Bangladesh's legal system, while evolving, has historically provided limited protections for minority shareholders and creditors, constraining the confidence of both domestic and foreign investors.

⁸Asian Development Bank (2012). Bangladesh: Financial Sector Development Strategy 2011–2020. Manila: ADB.

CHAPTER 7: RESEARCH METHODOLOGY

7.1 Research Design

This research employs a qualitative-descriptive research design supplemented by comparative analysis. Given the absence of primary trading data from a domestic derivatives exchange, a quantitative-statistical approach based on domestic market data was not feasible. Instead, the study draws on secondary data, theoretical frameworks, and cross-country comparisons to build a comprehensive analytical picture of Bangladesh's derivatives market landscape.

The research design incorporates elements of case study methodology — drawing on the Bangladesh financial market as the primary case — augmented by comparative case analysis of India, Singapore, and the United States. This comparative approach enables the identification of institutional prerequisites and reform pathways that may be applicable to Bangladesh.

7.2 Sources of Secondary Data

The study draws upon the following categories of secondary sources:

Source Category	Specific Sources Used	Type of Data
Central Bank Reports	Bangladesh Bank Annual Reports 2010–2013; Bangladesh Bank Financial Stability Reports	Monetary, banking, and financial sector statistics
Capital Market Regulators	BSEC Annual Reports 2011–2012; DSE Annual Reports 2011–2012	Capital market structure, trading volumes, listed securities
International Financial Institutions	IMF FSSA Bangladesh 2011; World Bank Financial Sector Assessment 2012; ADB Financial Sector Strategy 2012	Systemic assessment, reform recommendations
Academic Publications	Hull (2012); Mishkin (2010); Black & Scholes (1973); Thomas (2006)	Theoretical frameworks, empirical evidence
Statistical Sources	BIS OTC Derivatives Statistics 2013; WFE Annual Statistics 2012	Global and regional derivatives market data

7.3 Analytical Framework

Data analysis proceeds through the following analytical steps: (1) descriptive analysis of Bangladesh's current financial market structure and derivatives market status; (2) structured comparative analysis of derivatives market characteristics across Bangladesh, India, Singapore, and the United States; (3) application of theoretical models — including the Black-Scholes Model and Cost-of-Carry Model — to illustrate the analytical framework applicable to derivative pricing in the Bangladesh context; and (4) synthesis of findings into a policy framework drawing on the literature on financial sector development sequencing.

The study acknowledges that qualitative research of this nature is subject to interpretive elements. However, the theoretical grounding, use of multiple secondary sources, and systematic comparative methodology

provide sufficient rigor for the study's primary purpose: to generate actionable insights for policymakers and market participants interested in developing Bangladesh's derivatives market.

CHAPTER 8: OVERVIEW OF THE GLOBAL DERIVATIVES MARKET

8.1 Historical Development

The origins of organized derivatives trading can be traced to the mid-nineteenth century. The Chicago Board of Trade (CBOT), established in 1848, began trading standardized forward contracts on agricultural commodities and eventually introduced futures contracts — the first formally exchange-traded derivatives. The fundamental innovation was the standardization of contract terms: commodity grade, quantity, delivery location, and settlement date were all specified in advance, enabling anonymous trading between parties who did not know each other.

Currency futures were introduced at the Chicago Mercantile Exchange (CME) in 1972, shortly after the collapse of the Bretton Woods fixed exchange rate system. This institutional innovation was a direct response to a new risk environment — the world of floating exchange rates created by the breakdown of international monetary order. Stock index futures followed in 1982, allowing portfolio managers to hedge equity market exposure efficiently. Interest rate derivatives expanded dramatically in the 1980s and 1990s, driven by the volatility of interest rates and the complex liability structures of financial institutions.

The over-the-counter (OTC) derivatives market developed alongside exchange-traded derivatives, offering customized contracts tailored to specific risk management needs. By the early 2000s, interest rate swaps and credit default swaps had grown to represent the largest components of the global OTC market. The 2008 Global Financial Crisis revealed the systemic risks embedded in poorly regulated OTC derivatives, particularly mortgage-related credit derivatives. The regulatory response — including the Dodd-Frank Act in the United States and EMIR in Europe — pushed much of the OTC derivatives market toward central clearing and trade reporting.

8.2 Structure and Scale of the Global Derivatives Market

According to the Bank for International Settlements (BIS), the total notional value of outstanding OTC derivative contracts reached approximately USD 693 trillion at end-June 2013.⁹ Interest rate derivatives accounted for the largest share, representing approximately 77 percent of total OTC notional outstanding, followed by foreign exchange derivatives at approximately 10 percent and credit derivatives at approximately 5 percent.

⁹Bank for International Settlements (2013). OTC Derivatives Statistics at end-June 2013. Basel: BIS.

Figure 1: Global OTC Derivatives Market — Notional Amounts Outstanding, 2004-2013
(Source: Bank for International Settlements, 2013)

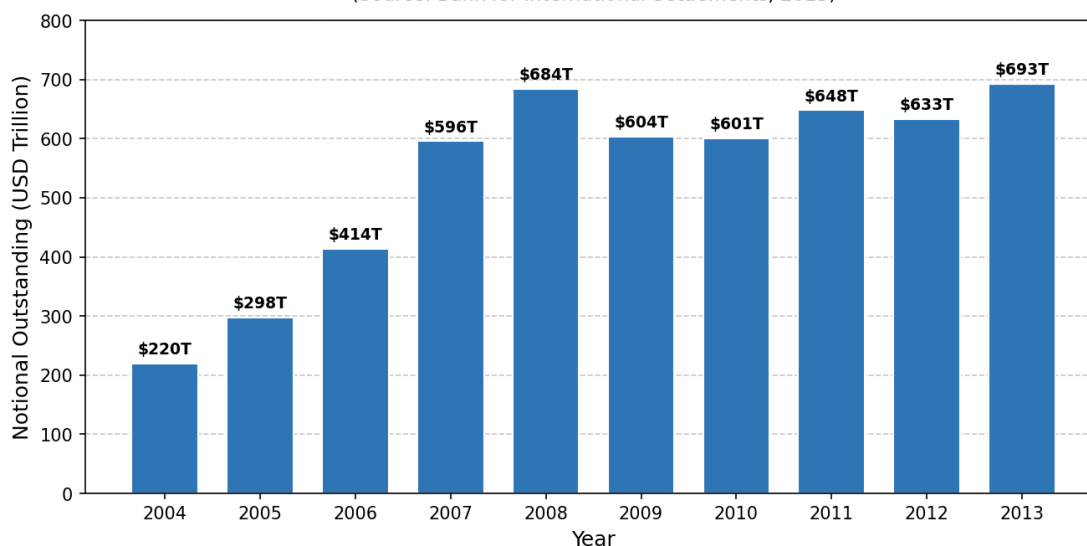


Figure 1: Global OTC Derivatives Market – Notional Amounts Outstanding (USD Trillion), 2004–2013 (Source: Bank for International Settlements, 2013)

The following table summarizes the composition of the global OTC derivatives market as of mid-2013:

Derivative Category	Notional Outstanding (USD Trillion)	Share of Total (%)
Interest Rate Derivatives	561.3	77.0
Foreign Exchange Derivatives	73.1	10.0
Credit Derivatives (CDS)	24.3	5.0
Equity-Linked Derivatives	6.3	2.0
Commodity Derivatives	2.7	1.0
Other	25.3	5.0
Total	693.0	100.0

Table 8.1: Global OTC Derivatives Market Composition, Mid-2013 (Source: BIS, 2013)

Exchange-traded derivatives markets added significantly to this figure. The World Federation of Exchanges (WFE) reported that the total number of futures and options contracts traded on global exchanges exceeded 21 billion in 2012, with equity derivatives representing the largest segment by contract volume.

8.3 Major Global Derivatives Exchanges

The world's major derivatives exchanges serve as benchmarks against which Bangladesh's market structure can be assessed. The table below summarizes key characteristics of leading global exchanges:

Exchange	Country	Founded	Key Products	Annual Volume
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				(Contracts, 2012)
CME Group (CME/CBOT/NYMEX)	USA	1848/1898/1872	Interest rates, FX, equity, commodity	~3 billion
ICE Futures	USA/UK	2000	Energy, commodity, FX, equity	~1.5 billion
Eurex	Germany/Switzerland	1998	Interest rates, equity	~1.7 billion
NSE (F&O Segment)	India	2000	Equity index, stock futures/options	~2.1 billion
Korea Exchange (KRX)	South Korea	1956	KOSPI 200 options, futures	~3.8 billion
SGX	Singapore	1973	FX, equity, commodity, interest rate	~200 million

Table 8.2: Major Global Derivatives Exchanges and Key Characteristics (Source: WFE, 2012; BIS, 2013)

8.4 Classification of Derivative Instruments

Derivative instruments are classified along several dimensions. The primary classification distinguishes between exchange-traded derivatives and over-the-counter (OTC) derivatives. Exchange-traded derivatives are standardized, cleared through a central counterparty, and traded on a regulated exchange. OTC derivatives are bilateral contracts negotiated directly between counterparties, offering flexibility in terms but carrying counterparty credit risk.

The major types of derivative instruments are described below:

Instrument	Definition	Settlement	Primary Uses
Futures	Standardized obligation to buy/sell an underlying asset at a future date at an agreed price	Cash or physical delivery via exchange clearing house	Price risk hedging; speculation; arbitrage
Options	Right (not obligation) to buy (call) or sell (put) an underlying asset at or before expiration	Cash settlement or exercise into underlying position	Downside protection; portfolio insurance; volatility trading
Swaps	Agreement to exchange periodic cash flows, typically fixed for floating rates or one currency for another	Net cash settlement of periodic flows	Interest rate risk management; currency hedging; credit risk transfer
Forwards	Customized OTC agreement to buy/sell an underlying at a specified future date and price	Physical delivery or cash settlement at maturity	Currency hedging; commodity price locking; customized risk management

Table 8.3: Classification and Characteristics of Major Derivative Instruments

Each of these instruments has specific applications in risk management, and the absence of all of them in Bangladesh's organized market structure represents a comprehensive gap in the country's financial toolkit.

8.5 The 2008 Financial Crisis and Regulatory Reform

The 2008 Global Financial Crisis demonstrated that poorly regulated derivatives markets — particularly complex credit derivatives such as collateralized debt obligations (CDOs) and credit default swaps (CDS) — can amplify systemic financial instability. The chain of losses transmitted through interconnected derivatives positions among major financial institutions contributed to the near-collapse of the global banking system.

The regulatory response, formalized primarily through the G20 Pittsburgh Summit commitments and subsequent national legislation, focused on four pillars: mandatory central clearing of standardized OTC derivatives; mandatory trade reporting to trade repositories; mandatory trading on exchanges or electronic platforms where appropriate; and higher capital requirements for non-centrally cleared derivatives.

For a country like Bangladesh, the lessons of the 2008 crisis are instructive rather than directly applicable. Bangladesh's financial market is not currently exposed to complex structured credit derivatives. However, the post-crisis reform agenda does provide a policy template for how derivatives markets can be developed with built-in safeguards — central clearing, transparency, capital buffers, and regulatory oversight — that Bangladesh can incorporate into its own market development framework from the outset.

CHAPTER 9: OVERVIEW OF THE BANGLADESH FINANCIAL MARKET

9.1 Structure and Composition

The financial system of Bangladesh is characterized by bank dominance. According to Bangladesh Bank (2012), the banking sector accounts for approximately 70 to 75 percent of total financial system assets.¹⁰ The capital market, while the second-largest segment, is substantially smaller in relative terms than in comparable South and Southeast Asian economies.

The Bangladesh financial market consists of the following major segments:

- **Banking Sector:** Comprising 4 state-owned commercial banks, 39 private commercial banks (including 9 Islamic banks), 9 foreign commercial banks, and 4 specialized development banks as of 2013.
- **Capital Market:** Comprising the Dhaka Stock Exchange (DSE) and Chittagong Stock Exchange (CSE), regulated by the Bangladesh Securities and Exchange Commission (BSEC).
- **Non-Bank Financial Institutions (NBFIs):** Including 31 licensed NBFIs engaged in term lending, hire purchase, and leasing.
- **Insurance Sector:** Comprising state-owned insurance corporations and private insurers, regulated by the Insurance Development and Regulatory Authority (IDRA).
- **Microfinance Institutions (MFIs):** A distinctive feature of Bangladesh's financial landscape, with institutions such as Grameen Bank, BRAC, and ASA serving tens of millions of rural borrowers.

9.2 The Capital Market

The Dhaka Stock Exchange was established in 1954 and currently constitutes the primary national securities exchange. The Chittagong Stock Exchange was established in 1995. As of 2012, the DSE had approximately 510 listed securities with a combined market capitalization of approximately BDT 2.7 trillion (roughly USD 33 billion), representing approximately 26 percent of GDP.¹¹ While significant in nominal terms, this market capitalization ratio is low by regional standards.

The capital market experienced a severe bubble and subsequent crash in 2010–2011. The DSE All Share Price Index (DGEN) rose by more than 80 percent between 2009 and late 2010, driven by speculative excess and regulatory failures, before collapsing by more than 50 percent in 2011. The crash wiped out the savings of millions of retail investors and severely damaged public confidence in the capital market — a confidence that had not fully recovered by 2013.

The following table summarizes key indicators of the Bangladesh capital market:

Indicator	Bangladesh (2012)	India (2012)	Singapore (2012)
No. of Listed Companies	~510	~5,100	~780
Market Capitalization (USD bn)	~33	~1,260	~765
Market Cap as % of GDP	~26%	~68%	~243%
Daily Trading Volume (USD mn avg)	~70–100	~3,000–5,000	~800–1,200

¹⁰Bangladesh Bank (2012). Financial Stability Report 2012. Dhaka: Bangladesh Bank.

¹¹BSEC (2012). Annual Report 2011–2012. Dhaka: Bangladesh Securities and Exchange Commission.

Institutional Investor Share of Volume	~15–20%	~40–50%	~55–65%
Derivatives Exchange Available	No	Yes (NSE, BSE)	Yes (SGX)
Bond Market Development	Nascent	Moderate	Advanced

Table 9.1: Comparative Capital Market Indicators, 2012 (Sources: BSEC, 2012; WFE, 2012; World Bank, 2012)

9.3 Key Weaknesses of the Bangladesh Financial Market

Several structural weaknesses characterize Bangladesh's financial market and directly constrain the development of a derivatives market:

9.3.1 High Retail Investor Dependency

The Bangladesh capital market is disproportionately dependent on retail investors, who typically have shorter investment horizons, lower risk management sophistication, and greater susceptibility to speculative behavior. The 2010–2011 bubble and crash exemplified the systemic instability that results from retail-dominated markets. Institutional investors — pension funds, insurance companies, and mutual funds — who would be the natural buyers and sellers of derivative instruments, account for a small fraction of market activity.

9.3.2 Limited Market Depth and Liquidity

Market depth refers to the ability of a market to absorb large trades without materially moving prices. Bangladesh's equity market lacks depth: relatively few large-cap, actively traded stocks exist, and bid-ask spreads remain wide compared to more developed markets. A derivatives market requires a liquid underlying cash market — without depth in the spot market, derivatives markets will also lack liquidity and be susceptible to manipulation.

9.3.3 Underdeveloped Bond Market

A well-functioning bond market is a prerequisite for interest rate derivatives. Without a deep, liquid, and transparent secondary market for government and corporate bonds, there is no reliable interest rate benchmark against which to construct interest rate swaps, futures, or options. Bangladesh's bond market is nascent, with limited secondary market trading and a dominance of government securities held to maturity by banks.

9.3.4 Governance and Market Integrity Issues

The 2010–2011 capital market crisis exposed serious governance deficiencies — including allegations of market manipulation, insider trading, and regulatory lapses. Restoring market integrity and institutional credibility is a precondition for introducing more complex financial instruments such as derivatives, which require high levels of participant trust and regulatory reliability.

CHAPTER 10: CURRENT STATUS OF THE DERIVATIVES MARKET IN BANGLADESH

10.1 Absence of Exchange-Traded Derivatives

As of November 2013, Bangladesh has no formally established exchange-traded derivatives market. Neither the Dhaka Stock Exchange nor the Chittagong Stock Exchange offers any futures, options, or standardized forward contracts for trading. This stands in stark contrast not only to developed markets but also to regional peers including India, Singapore, Thailand, and Malaysia, all of which have established derivatives exchanges.

The implication is direct and consequential: market participants in Bangladesh have no access to exchange-traded hedging instruments. A garment exporter expecting to receive USD 10 million in three months' time cannot lock in a forward exchange rate through an organized, transparent, standardized market. A bank with a significant floating-rate loan portfolio cannot hedge interest rate exposure through an exchange-traded interest rate future. A farmer cannot hedge against a decline in rice prices through a commodity futures contract.

10.2 Informal and OTC Instruments

While no organized derivatives exchange exists, some limited forms of derivative-like instruments do exist in the Bangladeshi market in informal or OTC form:

10.2.1 Foreign Exchange Forward Contracts

Commercial banks in Bangladesh offer foreign exchange forward contracts to corporate clients on a bilateral, OTC basis. These contracts allow exporters and importers to agree today on the exchange rate for a currency transaction that will occur at a future date. However, these are non-standardized bilateral agreements, not exchange-traded instruments. They carry counterparty credit risk, are accessible only to large corporate clients with established banking relationships, and lack the transparency and price discovery benefits of exchange-traded products.

10.2.2 Interest Rate Swaps

A very limited number of interest rate swap transactions have reportedly been conducted between Bangladeshi banks on an OTC basis, primarily in the context of borrowings from international financial institutions with floating rate structures. These are isolated transactions rather than components of a functioning derivatives market.

10.3 What is Missing: A Comprehensive Gap Analysis

The following instrument-level gap analysis illustrates the extent of the void in Bangladesh's derivatives market:

Derivative Instrument	Purpose	Available in Bangladesh?	Consequence of Absence
Currency Futures / Forwards (exchange-traded)	Hedge foreign exchange risk for exporters/importers	No	RMG exporters bear unhedged currency risk worth billions annually

Stock Index Futures	Hedge portfolio equity risk; enable leveraged directional views	No	Portfolio managers cannot hedge market downturn risk systematically
Stock Index Options	Asymmetric risk management; volatility trading	No	No downside protection instruments for equity investors
Single-Stock Futures	Leverage + hedging on individual equity positions	No	Limits institutional portfolio management flexibility
Interest Rate Futures	Hedge interest rate risk in banking book and trading book	No	Banks manage interest rate risk only through balance sheet means
Interest Rate Swaps (exchange-cleared)	Convert fixed-rate exposures to floating or vice versa	No (limited bilateral OTC only)	Maturity mismatch risk in banking sector is not efficiently managed
Commodity Futures (agriculture)	Hedge crop price risk for farmers and agribusinesses	No	Agricultural price volatility absorbed by farmers with no recourse
Commodity Futures (energy)	Hedge fuel price risk for energy importers	No	Fuel price risk absorbed by consumers or state-owned enterprises

Table 10.1: Derivative Instrument Gap Analysis — Bangladesh, 2013

This table makes clear that the absence of derivatives affects virtually every major economic sector and participant category. It is not a niche gap but a systemic one with economy-wide risk management consequences.

CHAPTER 11: MAJOR PROBLEMS AND STRUCTURAL WEAKNESSES

11.1 Regulatory Deficiencies

Perhaps the most fundamental barrier to derivatives market development in Bangladesh is the absence of enabling legislation. No specific law governs the creation, trading, or clearing of financial derivatives. The Securities and Exchange Ordinance of 1969 and the Securities and Exchange Commission Act of 1993, which form the primary legal foundation of Bangladesh's capital market, were not designed with derivatives in mind and do not adequately address the legal requirements of derivatives trading — including netting agreements, margin requirements, central counterparty structures, and mark-to-market settlement.

In the absence of explicit legislative authority, BSEC lacks the clear mandate to regulate a derivatives exchange. Banks engaging in OTC derivatives transactions operate under Bangladesh Bank's foreign exchange and prudential regulations, but these do not constitute a comprehensive derivatives regulatory framework. The legal vacuum creates uncertainty for market participants and effectively prevents the emergence of a structured market.

11.2 Underdeveloped Underlying Cash Market

A derivatives market cannot be built on a weak foundation. The development of derivatives trading requires that the underlying spot market — in equities, currencies, bonds, or commodities — be sufficiently liquid, transparent, and well-priced for derivatives contracts to be valuable. If the underlying market is illiquid, derivatives prices will be unreliable, and hedging will be ineffective.

As established in Chapter 9, Bangladesh's equity market suffers from low depth and limited institutional participation. The foreign exchange market, while significantly larger in transaction volume (driven by remittances and RMG exports), lacks a transparent, competitive market-making structure that could underpin a currency futures market. The government bond market has no meaningful secondary trading. These structural weaknesses of the underlying markets must be addressed in parallel with any derivatives market development initiative.

11.3 Inadequate Institutional Investor Base

Institutional investors are the backbone of functional derivatives markets. Pension funds, insurance companies, mutual funds, and investment managers use derivatives for portfolio hedging, asset-liability management, and tactical asset allocation. Their participation provides liquidity to derivatives markets and stabilizes prices.

Bangladesh's institutional investor base is strikingly thin. The insurance sector, while present, manages relatively modest assets and lacks sophisticated investment management capabilities. The mutual fund industry is small. Most critically, Bangladesh lacks a developed private pension system — the social security system relies primarily on government pensions and informal family-based support, with no large pension fund pools investing in capital markets.

The comparison with India is instructive: institutions such as the Life Insurance Corporation (LIC), the Employees' Provident Fund Organisation (EPFO), and the Unit Trust of India collectively manage assets of several hundred billion dollars and are major participants in India's derivatives markets. Bangladesh has no comparable institutional investor base.

11.4 Limited Financial Literacy and Market Knowledge

Derivatives are complex instruments that require a level of financial sophistication that goes well beyond what is needed for basic equity investing. The Black-Scholes formula for option pricing (presented in Chapter 6) involves logarithms, normal distribution functions, and continuous-time calculus — concepts that most individual investors worldwide do not understand. The Greeks — delta, gamma, theta, vega, and rho — which measure the sensitivity of option prices to changes in underlying variables, require quantitative training to apply correctly.

In Bangladesh, financial literacy is limited even at the level of basic equity investing, as the 2010–2011 market crash starkly demonstrated. Many retail investors entered the market without understanding earnings-based valuation, let alone derivative pricing theory. The introduction of derivatives without extensive financial education programs would likely amplify speculative behavior and increase market instability.

11.5 Absence of a Central Clearing Infrastructure

A central counterparty clearing house (CCP) is an essential component of exchange-traded derivatives markets. The CCP interposes itself between the buyer and seller of every derivatives contract, becoming the buyer to every seller and the seller to every buyer. This novation eliminates bilateral counterparty credit risk and ensures that contract obligations are met even if one party defaults — provided the CCP is adequately capitalized and risk-managed.

Bangladesh has no CCP for derivatives. The existing clearing infrastructure for equity transactions — operated jointly by the DSE and its associated clearing house — was not designed for derivatives settlement, which involves daily mark-to-market margining, variation margin calls, and position limits. Establishing a CCP requires significant capital investment, sophisticated risk management systems, and regulatory oversight framework — none of which currently exist in Bangladesh.

11.6 Human Capital Constraints

The development of a derivatives market requires specialized human capital: derivatives traders, risk managers, compliance officers, quantitative analysts, regulators with derivatives expertise, and academics capable of training the next generation of market practitioners. This specialized human capital pool is extremely limited in Bangladesh.

Very few Bangladeshi finance professionals have formal training in derivatives or quantitative finance. Most MBA curricula in Bangladesh treat derivatives as a peripheral topic. The regulatory agencies — BSEC and Bangladesh Bank — have limited in-house expertise in derivatives supervision. Developing the necessary human capital base will require years of investment in education, training, and international knowledge transfer.

CHAPTER 12: REGULATORY AND INSTITUTIONAL CHALLENGES

12.1 The Regulatory Framework: Current State

Bangladesh's capital market regulatory framework is built on a layered set of legislation and regulations. The core instruments are the Securities and Exchange Ordinance 1969, the Securities and Exchange Commission Act 1993, and the rules, regulations, and orders issued thereunder by BSEC. The financial sector regulatory architecture also includes Bangladesh Bank's role in regulating banks' capital market exposures and foreign exchange operations.

This framework, however, has significant gaps from a derivatives market perspective. There is no legislation that defines derivatives contracts as legally enforceable instruments, no framework for licensing derivatives exchanges or central counterparties, no regulatory capital requirements for derivatives exposures of banks, no margin requirement framework, and no position limit regime. These regulatory gaps mean that even if a market participant wanted to develop a derivatives exchange in Bangladesh today, the legal and regulatory infrastructure to do so in a compliant manner would not exist.

12.2 Regulatory Institutional Capacity

Even where regulatory mandates exist, institutional capacity to exercise them effectively is limited. BSEC has historically faced challenges in enforcing securities laws — including failures in the surveillance of the 2010–2011 market bubble. Developing the regulatory capacity for derivatives supervision — which involves understanding complex pricing models, monitoring margin compliance, overseeing CCP risk management, and detecting market manipulation in derivatives — is a substantially more demanding task.

Regulatory capacity building will require investment in personnel training, hiring of specialists, development of supervisory technology, and engagement with international regulatory peers. The International Organization of Securities Commissions (IOSCO), the BIS Financial Stability Institute, and bilateral technical assistance programs from regulatory peers in India, Singapore, or Australia could play important roles in this capacity building.

12.3 Multi-Regulator Coordination

Financial derivatives in Bangladesh fall under the jurisdictions of multiple regulators. Currency derivatives involve Bangladesh Bank (as the foreign exchange regulator). Equity derivatives involve BSEC. Commodity derivatives might involve the Ministry of Agriculture and the Directorate of National Consumer Rights Protection. Interest rate derivatives touch both Bangladesh Bank (monetary policy) and BSEC (capital markets). Managing these overlapping jurisdictions requires a coordinated regulatory architecture — possibly a Memorandum of Understanding among regulators or a joint derivatives regulatory committee — that does not currently exist.

The absence of regulatory coordination is not just an administrative inconvenience; it creates regulatory gaps that can be exploited, and it creates uncertainty about which regulator has the authority to approve a new derivatives product or sanction a market participant for derivatives-related misconduct.

12.4 The Role of Bangladesh Bank

Bangladesh Bank plays a central role in any derivatives market development initiative. As the monetary authority and banking system regulator, Bangladesh Bank controls the framework within which banks operate in financial markets. Bangladesh Bank's existing guidelines allow limited foreign exchange forward

transactions between banks and their corporate clients, but do not create the conditions for a broader, exchange-traded currency derivatives market.

Bangladesh Bank would need to: (1) issue clear guidelines permitting and regulating banks' derivatives activities; (2) develop prudential standards for derivatives risk management (consistent with Basel III requirements); and (3) coordinate with BSEC on the development of joint regulatory frameworks for currency and interest rate derivatives. Bangladesh Bank's monetary policy credibility is also relevant — a derivatives market functions best when the underlying monetary framework is stable and credible, providing a reliable anchor for interest rate and currency expectations.

CHAPTER 13: TECHNOLOGICAL AND OPERATIONAL LIMITATIONS

13.1 Technology Requirements for Derivatives Markets

The technology infrastructure required for a functioning derivatives market is substantially more sophisticated than that needed for spot equity trading. The key technological requirements include:

Technology Component	Function	Status in Bangladesh (2013)
Electronic Trading Platform	Real-time order matching, price dissemination, trade execution	Present for equity spot market; not derivatives-capable
Central Counterparty Clearing System	Novation, margin management, default fund administration	Absent — no CCP exists
Margin Management System	Initial margin calculation (VaR-based or SPAN), intraday variation margin	Absent
Risk Surveillance System	Real-time position monitoring, market manipulation detection, circuit breakers	Basic system at DSE; not derivatives-calibrated
Trade Repository	Post-trade reporting and transparency for OTC derivatives	Absent
Market Data Infrastructure	Real-time price feeds, index calculation, volatility surface construction	Limited — no organized volatility data infrastructure
Settlement System (T+n)	Daily mark-to-market cash settlement for futures	Present for T+3 equity settlement; not real-time margining capable

Table 13.1: Technology Requirements for Derivatives Markets and Bangladesh Status, 2013

13.2 The Specific Case of Margin Management

Margin management is a critical operational function in derivatives markets. Unlike spot equity transactions, which require full payment at settlement, derivatives contracts require only a small initial margin deposit — typically 5 to 15 percent of the contract's notional value — as a performance bond. The margin requirement is then marked to market daily: losses are collected as variation margin, and gains are paid out, ensuring that potential defaults are contained.

The Standard Portfolio Analysis of Risk (SPAN) system, developed by the CME Group, is the industry standard for margin calculation in futures markets. It computes the maximum likely loss on a portfolio of derivative positions over a given time horizon (typically one trading day), using scenarios that capture price movements, volatility changes, and time decay effects. A simplified illustration of initial margin estimation under a Value-at-Risk approach is:

$$IM = V_0 \times Z_{\alpha} \times \sigma \times \sqrt{T} \quad (\text{Equation 6: Initial Margin Estimate})$$

where IM is the initial margin, V_0 is the contract notional value, Z_{α} is the z-score corresponding to the confidence level α (e.g., 99%), σ is the daily volatility of the underlying asset, and T is the margin period

of risk (in days). This level of quantitative risk management infrastructure is entirely absent from Bangladesh's current financial system.

13.3 ICT Infrastructure and Connectivity

Broader ICT infrastructure constraints also affect derivatives market feasibility. While Bangladesh has made significant progress in mobile and internet connectivity over the past decade, the reliability, bandwidth, and latency characteristics of the national telecommunications network remain below the standards required for high-frequency derivatives trading. Data center infrastructure, disaster recovery capabilities, and cybersecurity protocols — all critical for a derivatives exchange — require substantial investment.

CHAPTER 14: ECONOMIC AND POLITICAL BARRIERS

14.1 Macroeconomic Environment

The macroeconomic environment of Bangladesh, while improving, presents several conditions that complicate derivatives market development. Inflation has been volatile, with consumer price inflation ranging from 6 to 12 percent in the years leading to 2013. High and unstable inflation creates uncertainty in real interest rates and complicates the pricing of interest rate derivatives. Foreign exchange reserves, while adequate, reflect the country's dependence on remittance inflows and RMG exports — both of which introduce significant external sector volatility.

The following table illustrates selected macroeconomic indicators for Bangladesh over the period 2009 to 2012, contextualizing the economic environment within which any derivatives market would operate:

Indicator	2009	2010	2011	2012
Real GDP Growth (%)	5.7	6.1	6.7	6.2
Inflation (CPI, %)	5.4	7.3	11.5	8.7
USD/BDT Exchange Rate (avg)	68.8	69.6	74.2	81.8
Current Account Balance (% of GDP)	+2.9	+3.7	+1.2	+0.2
DSE General Index (DGEN) year-end	2,795	6,153	5,257	4,232
Foreign Exchange Reserves (USD bn)	10.2	11.2	9.1	10.4

Table 14.1: Selected Macroeconomic Indicators, Bangladesh 2009–2012 (Source: Bangladesh Bank, 2012; IMF, 2013)

The table highlights several important features: (1) the exchange rate depreciated by nearly 19 percent from 2009 to 2012, illustrating the currency risk that RMG exporters face; (2) inflation exceeded 11 percent in 2011, creating complications for interest rate product pricing; and (3) the equity market experienced dramatic volatility — the DGEN index more than doubled in 2010 before declining sharply — reflecting speculative excess followed by a confidence collapse.

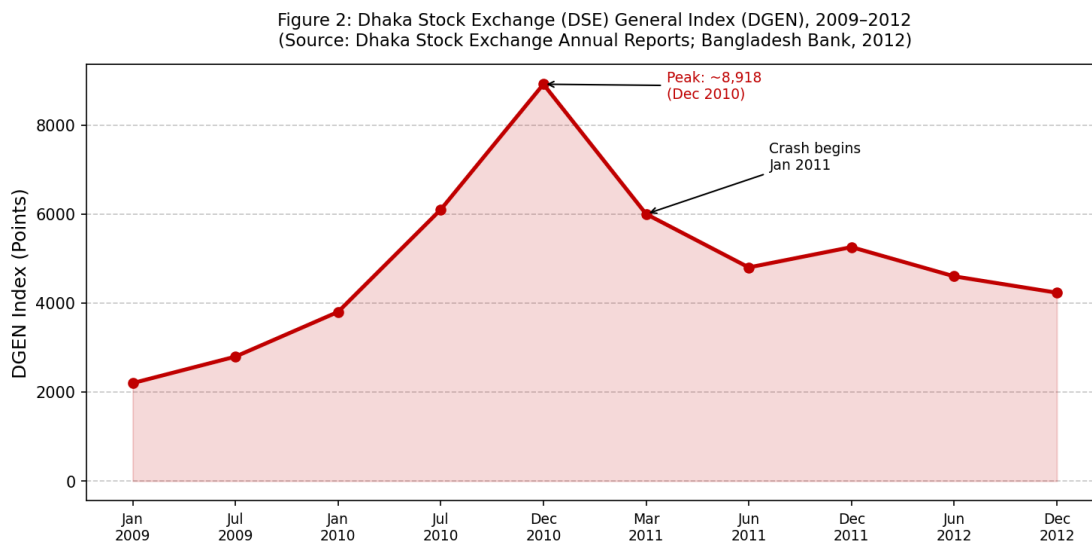


Figure 2: Dhaka Stock Exchange General Index (DGEN), 2009–2012 (Source: DSE Annual Reports; Bangladesh Bank, 2012)

14.2 Political Economy Constraints

Financial market reform is not purely a technical exercise — it is a political process. The development of a derivatives market would alter the competitive landscape of Bangladesh's financial sector in ways that create both winners and losers, and losers typically resist change with more intensity than winners advocate for it.

The banking sector, which currently dominates corporate finance and foreign exchange services, might view a derivatives exchange as a competitive threat — shifting revenue from bilateral OTC currency forwards (where banks earn wide margins) to transparent, low-cost exchange-traded contracts. Some banks might therefore have incentives to resist or delay derivatives market development, and given the political influence of major banks in Bangladesh, this resistance is not trivial.

Political instability is another constraint. Bangladesh has historically experienced periodic political disruptions — including the military-backed caretaker government of 2007–2008 and recurring street-level political conflicts. Sustained financial market reform requires multi-year policy commitment that is difficult to maintain in an unstable political environment. The capital market crash of 2010–2011, which occurred during a period of nominally stable democratic government, further illustrates how political pressures (including alleged interference in BSEC's regulatory decisions) can undermine financial market governance.

14.3 Market Size and Viability

A derivatives market requires sufficient trading volume to achieve the liquidity that makes hedging effective and transaction costs acceptable. In thin markets, large price impacts from individual trades make hedging unreliable. Bangladesh's economy, while growing, is still relatively small — its GDP of approximately USD 133 billion in 2012 is modest compared to India (USD ~1.8 trillion), Indonesia (USD ~878 billion), or Thailand (USD ~366 billion), all of which have established derivatives markets.

Market size constraints suggest that a sequenced approach is appropriate — starting with the most actively traded and economically significant instrument (currency forwards on USD/BDT, given the volume of

RMG export receipts) and gradually expanding to equity index futures and, over the longer term, commodity derivatives and interest rate instruments.

CHAPTER 15: COMPARATIVE STUDY WITH INDIA AND OTHER COUNTRIES

15.1 India: A Model of Phased Derivatives Market Development

India's experience in developing a derivatives market is the most directly relevant comparator for Bangladesh, given cultural, geographic, and historical similarities, as well as comparable starting conditions in the 1990s.¹² In 1993, India's capital market — dominated by the Bombay Stock Exchange — was a floor-trading, outcry-based market with limited transparency, high settlement risk, and no derivatives instruments.

India's derivatives market development followed a carefully sequenced reform process spanning approximately six years from the initial policy decision to the launch of exchange-traded futures:

16. 1993–1995: Legislative and committee work — The L.C. Gupta Committee was constituted in 1996 to design a regulatory framework for derivatives. The committee's 1998 report recommended exchange-traded equity derivatives as the starting point.
17. 1999: Enabling legislation — The Securities Contracts (Regulation) Amendment Act 1999 defined 'derivatives' as securities, providing the legal basis for exchange-traded derivatives regulation by SEBI.
18. 2000: Launch of index futures — NSE launched Nifty 50 futures in June 2000, followed by BSE's Sensex futures. Initial volumes were modest.

Figure 3: NSE India — Derivatives Segment Annual Turnover, 2000–01 to 2011–12
(Source: National Stock Exchange of India; Thomas, 2006; NSE Annual Reports)

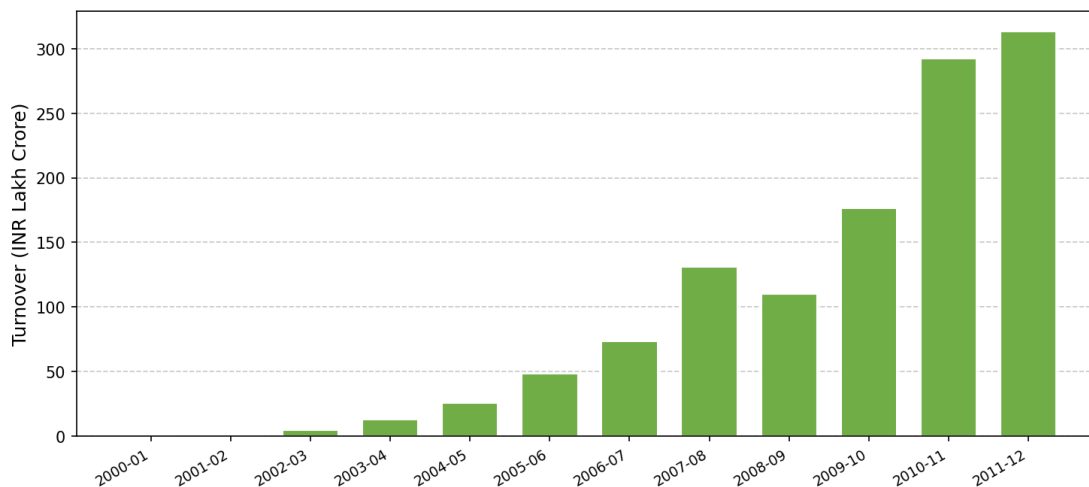


Figure 3: NSE India – Derivatives Segment Annual Turnover (INR Lakh Crore), 2000–01 to 2011–12 (Source: NSE India; Thomas, 2006)

19. 2001: Launch of index options and single-stock futures — SEBI approved trading in equity options and single-stock futures, rapidly expanding the product range.
20. 2003–2007: Rapid volume growth — NSE's derivatives segment grew to become one of the highest-volume derivatives exchanges globally by contract count.
21. 2007–2010: Introduction of currency derivatives — SEBI and RBI jointly approved exchange-traded currency futures on USD/INR in 2008, addressing a long-identified gap in the hedging toolkit.

The key lessons from India's experience for Bangladesh are: (1) enabling legislation must precede exchange launch; (2) a phased approach — starting with index futures before single-stock futures and options — manages systemic risk; (3) strong regulatory institutions (SEBI) with clear mandates and enforcement powers are critical; (4) investor education must run in parallel with market development; and (5) the underlying spot market must be strengthened before derivatives are introduced.

15.2 Singapore: Derivatives Market Development in a Small Economy

Singapore's experience offers lessons for a small economy with significant trade-related risk management needs. Singapore's GDP is broadly comparable in size to Bangladesh's, yet Singapore has one of the world's most developed financial markets, including a highly active derivatives exchange (Singapore Exchange, SGX).

Singapore's success rests on several foundations: (1) an early commitment to rule of law and contract enforcement, making Singapore a reliable jurisdiction for financial contracts; (2) proactive regulatory development through the Monetary Authority of Singapore (MAS); (3) deliberate cultivation of an open, internationally competitive financial sector; and (4) human capital investment through educational institutions like the National University of Singapore and Nanyang Technological University.

Bangladesh cannot replicate Singapore's institutional environment overnight, but the Singapore example demonstrates that market size alone does not determine derivatives market feasibility — institutional quality and governance can compensate for small market size.

15.3 Comprehensive Country Comparison

Dimension	Bangladesh (2013)	India (2013)	Singapore (2013)	USA (2013)
Exchange-Traded Derivatives	None	Equity, currency, commodity, interest rate	Equity, FX, commodity, interest rate	Comprehensive — all major asset classes
Regulatory Framework	No derivatives law	SEBI (Securities); RBI (currency); FMC (commodity)	MAS — unified regulator	SEC, CFTC (dual mandate)
Central Clearing (CCP)	None	NSCCL (NSE's CCP)	SGX-DC	CME Clearing, DTCC
Market Depth (equity)	Low	Moderate–High	High	Very High
Institutional Investor Base	Weak	Moderate–Strong	Strong	Very Strong
Bond Market Development	Nascent	Moderate	Advanced	Very Advanced
Financial Literacy	Low	Moderate	High	High
Legal Framework Quality	Developing	Strong (common law)	Very Strong (common law)	Very Strong (common law)

Derivatives Volume (2012)	N/A	~3.5 billion contracts	~200 million contracts	~5 billion contracts
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Table 15.1: Multi-Dimensional Derivatives Market Comparison: Bangladesh, India, Singapore, USA, 2013

The comparison reveals that Bangladesh is deficient across virtually all dimensions that matter for derivatives market development. This is both sobering and informative: it suggests that the task of building a derivatives market in Bangladesh is a long-term, multi-decade undertaking that requires simultaneous progress on multiple fronts rather than a narrow focus on any single reform.

CHAPTER 16: IMPORTANCE OF DEVELOPING A DERIVATIVES MARKET IN BANGLADESH

16.1 Risk Management for the Export Sector

Bangladesh's economy is exceptionally concentrated in export-oriented manufacturing, with the ready-made garments (RMG) sector accounting for more than 80 percent of total export earnings. In the fiscal year 2012–2013, total RMG exports exceeded USD 21 billion. These export receipts are predominantly denominated in US dollars and euros, while production costs are incurred in Bangladeshi taka. The exchange rate risk exposure is therefore enormous in absolute terms.

To illustrate the significance: in 2011, the USD/BDT exchange rate moved from approximately 71 to 79 over the course of the year — a depreciation of more than 11 percent. An RMG exporter who had locked in a USD/BDT forward rate of 71 at the beginning of the year would have missed gains of BDT 8 per dollar received — a significant opportunity cost relative to unhedged receipts. Conversely, in a year of taka appreciation, an unhedged exporter would suffer losses. The point is not which direction the rate moved but that the absence of standardized hedging instruments leaves exporters exposed to this volatility with no systematic way to manage it.

Figure 4: USD/BDT Exchange Rate Trend, 2009–2012
(Source: Bangladesh Bank Annual Reports, 2010–2012; IMF, 2013)

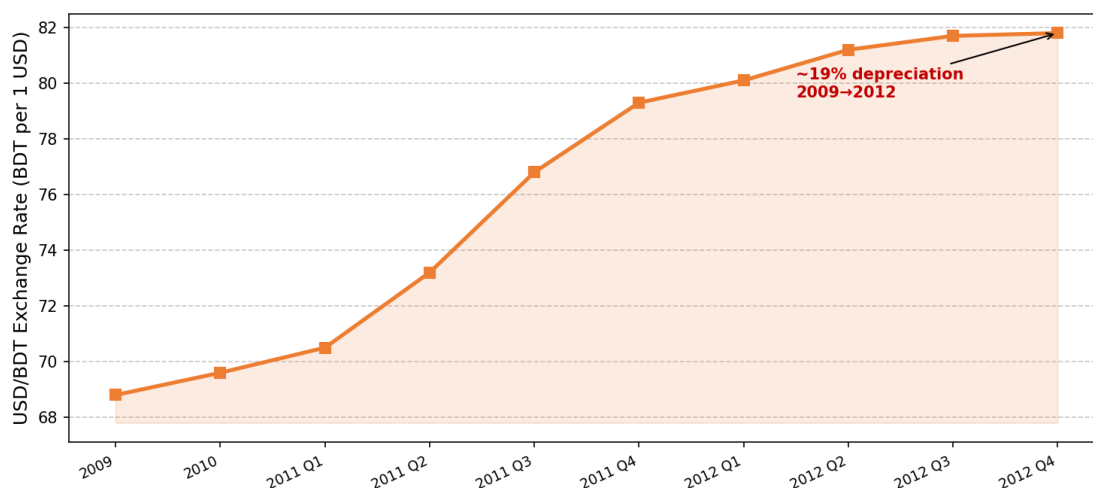


Figure 4: USD/BDT Exchange Rate Trend, 2009–2012 (Source: Bangladesh Bank Annual Reports, 2010–2012)

Currency futures with monthly or quarterly settlement, traded on an organized exchange and backed by a CCP, would give RMG exporters a reliable, cost-effective tool for managing this risk. The pricing of such instruments would also provide valuable market-based information about future exchange rate expectations.

16.2 Interest Rate Risk Management in Banking

Bangladesh's banking sector is characterized by balance sheet structures that create significant interest rate risk. Banks borrow short (deposits with short maturities) and lend long (term loans, project finance). When interest rates rise, the cost of funding increases faster than the repricing of assets, squeezing net interest margins. Conversely, when rates fall, assets reprice down while liabilities may remain sticky.

Interest rate swaps — in which a bank exchanges a fixed interest obligation for a floating rate obligation or vice versa — are the primary tool for managing this exposure. In the absence of an interest rate swap market,

Bangladeshi banks manage interest rate risk primarily through deposit product design, which is an imprecise and costly substitute. The development of a taka interest rate swap market, anchored by a credible and liquid benchmark rate, would substantially improve the capacity of Bangladeshi banks to manage their interest rate exposures and improve the efficiency of monetary policy transmission.

16.3 Price Discovery and Market Efficiency

Beyond risk management, derivatives markets serve a critical informational function: price discovery. Futures prices for commodities, currencies, or equity indices embody the market's consensus expectation about future prices, aggregating information from diverse participants. This forward-looking price information has economic value beyond the transactions themselves — it signals to producers, consumers, and policymakers what the market expects.

For example, the existence of USD/BDT futures with maturities of 1, 3, 6, and 12 months would provide a continuously updated, market-determined view of expected exchange rate movements. This information would be valuable for economic planning, monetary policy, and corporate investment decisions. Similarly, rice futures would provide agricultural price signals useful for farmers' planting decisions and government buffer stock management.

16.4 Capital Market Deepening and Foreign Investment

A derivatives market contributes to capital market deepening by attracting a broader and more sophisticated set of market participants. International institutional investors — who may be interested in Bangladeshi equities for their growth potential — often require access to currency hedging instruments before they can allocate capital to a market. The absence of currency derivatives is, according to multiple financial sector development reports, one reason that foreign portfolio investment in Bangladesh remains modest relative to regional peers.

The availability of equity derivatives would also attract hedge funds, arbitrageurs, and proprietary trading firms whose activities add market liquidity and improve price accuracy in the underlying equity market.

CHAPTER 17: RISKS ASSOCIATED WITH DERIVATIVES MARKETS

17.1 Speculative Risk and Market Stability

The most commonly cited concern about derivatives markets in developing countries is their potential to amplify speculative activity. Because derivatives contracts are highly leveraged — a relatively small margin deposit controls a much larger notional position — losses can accumulate rapidly if prices move against a position. In markets with limited regulatory oversight and a retail investor base prone to herding behavior, the introduction of leveraged instruments could exacerbate market volatility rather than dampen it.

The concern is not theoretical. In India, the rapid growth of single-stock futures attracted speculative retail investors who did not fully understand the risks, and several instances of market manipulation through derivatives were reported in the early 2000s. In China, commodity futures markets have at times exhibited extreme volatility driven by speculative retail participation. These risks can be managed through appropriate position limits, margin requirements, and investor suitability restrictions — but these safeguards must be in place from the outset.

17.2 Counterparty Credit Risk

In the absence of a central counterparty, OTC derivatives expose participants to bilateral counterparty credit risk. If a bank or counterparty defaults on its derivatives obligations, the surviving party may be exposed to replacement cost losses. In Bangladesh, where several banks have experienced financial difficulties in recent years, bilateral derivatives exposure could concentrate risk in the banking system in ways that are difficult to monitor.

The establishment of a CCP is the primary mechanism for managing this risk. With a well-capitalized CCP backed by a default fund and daily margin collection, systemic credit risk from derivatives is substantially reduced. This architectural feature should be built into Bangladesh's derivatives market from the start.

17.3 Systemic Risk

The 2008 financial crisis demonstrated that complex, opaque derivatives exposures can create systemic interconnections that transmit losses rapidly across the financial system. For Bangladesh, the relevant systemic risk in the near term is not complex structured credit products but the potential for a poorly regulated derivatives market to amplify the kind of speculative excesses that occurred in the equity market in 2010–2011, potentially on a larger scale given derivatives' leverage characteristics.

Systemic risk management requires a combination of micro-prudential measures (capital and margin requirements for individual participants) and macro-prudential measures (market-wide position limits, circuit breakers, and systemic risk monitoring). Bangladesh Bank and BSEC would need to develop both dimensions of systemic risk oversight before and alongside derivatives market development.

17.4 Risk Summary Matrix

Risk Category	Description	Mitigation Mechanism
Speculation Risk	Retail investors using leverage inappropriately, causing price bubbles	Investor suitability rules; position limits; margin requirements; education

Counterparty Credit Risk	OTC derivatives default creating losses for solvent parties	Central counterparty clearing (CCP); netting agreements
Market Manipulation	Large participants cornering markets or creating artificial prices	Position limits; surveillance technology; legal sanctions
Operational Risk	Technology failures in trading, clearing, or settlement systems	Robust IT infrastructure; disaster recovery; business continuity planning
Systemic Risk	Derivatives losses cascading across the financial system	Macro-prudential oversight; stress testing; capital surcharges
Legal Risk	Enforceability of derivatives contracts in the courts	Enabling legislation; ISDA-compatible documentation standards

Table 17.1: Risk Categories in Derivatives Markets and Corresponding Mitigation Mechanisms

CHAPTER 18: SECTOR-WISE NEED FOR DERIVATIVES IN BANGLADESH

18.1 Ready-Made Garments (RMG) Sector

The RMG sector is the most obvious and economically significant beneficiary of derivatives market development in Bangladesh. With annual export earnings exceeding USD 20 billion and virtually all revenue denominated in foreign currencies, the sector's aggregate currency exposure is enormous. Even a 1 percent adverse movement in the USD/BDT rate, applied to USD 20 billion of annual exports, represents a BDT 1.6 billion (approximately USD 20 million) loss to the sector annually.

The key instrument needed is standardized USD/BDT currency futures with maturities aligned to typical export payment cycles (1, 2, 3, and 6 months). With such instruments, a garment factory expecting USD 1 million in receivables in three months' time could sell USD 1 million worth of currency futures today, locking in the current exchange rate and eliminating exchange rate uncertainty from its revenue planning. The hedge does not guarantee profit — it removes uncertainty. For an industry operating on thin margins in a competitive global market, certainty about revenue in domestic currency terms is immensely valuable.

18.2 Banking Sector

The Bangladesh banking sector has multiple risk management needs that derivatives could address:

- **Interest Rate Risk:** Banks with fixed-rate loan portfolios are exposed to rising interest rates. Interest rate swaps would allow banks to convert fixed-rate assets to floating-rate structures (or vice versa) to manage asset-liability mismatches.
- **Foreign Exchange Risk:** Banks with foreign currency assets and liabilities — common in correspondent banking and trade finance — need FX swap instruments for precise balance sheet hedging.
- **Equity Risk:** Banks with equity holdings (portfolio investments or shares in subsidiaries) may wish to hedge equity price exposure through index futures.
- **Commodity Price Risk in Collateral:** Banks with commodity-backed loans face collateral value risk — commodity futures could provide a hedge against the decline in value of commodity collateral.

18.3 Agricultural Sector

Bangladesh's agricultural sector employs approximately 40 to 45 percent of the workforce and contributes approximately 17 to 20 percent of GDP. Rice is the dominant crop, with Bangladesh being one of the world's largest rice producers. Farmers face significant price risk: rice prices fluctuate seasonally and in response to weather events, government procurement policies, and international commodity prices.

Rice futures — allowing farmers, rice millers, and grain traders to hedge price risk — could improve the efficiency of agricultural markets in Bangladesh. Farmers who can lock in a sale price at planting time face reduced financial uncertainty, potentially supporting greater investment in productivity-enhancing inputs. Rice millers who can hedge their procurement costs can offer more stable prices to consumers. The government's food security operations could be conducted more efficiently with a functioning commodity futures market providing price signals.

However, commodity futures development in Bangladesh faces additional complexity: a commodity exchange infrastructure (warehousing, grading, inspection) is needed alongside the financial market

infrastructure, and agricultural commodity prices in Bangladesh are significantly influenced by government price support programs, which can distort commodity futures pricing.

18.4 Energy Sector

Bangladesh is a significant importer of petroleum products and is developing its natural gas reserves. The state-owned Bangladesh Petroleum Corporation (BPC) bears substantial exposure to global oil price movements — when international crude oil prices rise, BPC's import costs increase, often without offsetting increases in domestic retail fuel prices due to government subsidies. The cumulative subsidy cost from unhedged oil price exposure has been substantial in recent years.

Petroleum derivatives — primarily crude oil futures — could provide BPC and private energy sector participants with tools to hedge energy price exposure. However, access to international commodity derivatives (such as WTI or Brent crude futures on CME or ICE) requires that Bangladeshi companies be permitted to trade on international exchanges — a foreign exchange and regulatory policy question that extends beyond the domestic derivatives market infrastructure.

18.5 Insurance Sector

The insurance sector, particularly life insurers with long-duration policyholder obligations, faces interest rate risk: the present value of long-dated insurance liabilities moves inversely with interest rates. Interest rate derivatives — specifically long-dated interest rate swaps or bond futures — would allow insurers to hedge this duration mismatch.

This need will grow as Bangladesh's insurance sector develops and as the volume of long-term insurance liabilities increases. Developing the interest rate derivatives market infrastructure will ultimately benefit the insurance sector's solvency and policyholders' security.

CHAPTER 19: POLICY RECOMMENDATIONS AND STRATEGIC ROADMAP

19.1 Overview of the Recommended Approach

The development of a derivatives market in Bangladesh is a multi-year, multi-stakeholder undertaking that cannot be achieved through a single legislative act or regulatory announcement. It requires a carefully sequenced, phased approach in which foundational conditions are established before market launch, initial products are simple and economically significant before more complex instruments are introduced, and regulatory capacity is built alongside market development.

The recommended strategic roadmap is organized into three phases: Short-Term (Years 1–3), Medium-Term (Years 4–7), and Long-Term (Years 8–15). Each phase has specific legislative, regulatory, infrastructure, institutional, and market development objectives.

19.2 Short-Term Recommendations (Years 1–3)

19.2.1 Enabling Legislation

The most urgent requirement is the enactment of a Derivatives Act or the comprehensive amendment of existing capital market legislation to provide a clear, unambiguous legal basis for derivatives contracts, derivatives exchanges, central counterparties, and derivatives market participants. The legislation should: define derivative instruments and their legal enforceability; authorize BSEC to regulate exchange-traded derivatives and Bangladesh Bank to regulate OTC derivatives; establish a framework for central counterparty licensing and regulation; provide legal certainty for netting and close-out netting of derivatives positions in the event of insolvency; and create a legal framework for margining and collateral arrangements.

19.2.2 Regulatory Capacity Building

BSEC and Bangladesh Bank should initiate intensive capacity building programs to develop in-house expertise in derivatives regulation and supervision. This should include: hiring of specialists with derivatives market experience (possibly from India, Singapore, or international financial organizations); formal training programs for existing staff through partnerships with IOSCO, BIS FSI, or regulatory peers in India and Singapore; development of supervisory guidance on derivatives risk management and market conduct; and engagement with the International Swaps and Derivatives Association (ISDA) to align Bangladesh's legal framework with international documentation standards.

19.2.3 Capital Market Strengthening

In parallel with derivatives-specific preparations, the underlying capital market must be strengthened. This requires: restoring public confidence following the 2010–2011 crisis through governance reforms at BSEC, DSE, and listed companies; increasing institutional investor participation through reforms to the mutual fund and insurance investment frameworks; developing the government bond secondary market as a foundation for interest rate derivatives; and improving market surveillance technology to ensure that the spot market is free of manipulation.

19.2.4 Investor Education

A structured, sustained investor education program on derivatives — aimed at corporate treasurers, bank risk managers, institutional investors, financial journalists, and university students — should be developed and implemented. The program should explain derivative instruments, their uses, their risks, and the regulatory safeguards in place. This education effort should begin years before market launch to build the awareness and knowledge base needed for effective participation.

19.3 Medium-Term Recommendations (Years 4–7)

19.3.1 Establishment of Central Clearing Infrastructure

A central counterparty clearing house (CCP) should be established, either as a subsidiary of DSE or as an independent entity. The CCP should be designed to meet CPSS-IOSCO Principles for Financial Market Infrastructures, the international standard for CCP design. Key design elements include: adequate capitalized default fund; rigorous initial and variation margin methodology (SPAN or VaR-based); clear default management procedures; governance structure with independent risk management committee; and regulatory oversight by BSEC (and, for currency derivatives, Bangladesh Bank).

19.3.2 Launch of Currency Derivatives — Pilot Phase

The first exchange-traded derivatives product should be standardized USD/BDT currency forwards or futures. This instrument addresses the most economically significant risk in Bangladesh's economy (export sector currency risk), has a natural and large buyer base (RMG exporters), has a natural seller base (importers and banks), and involves a well-understood underlying (the USD/BDT exchange rate, which already has established banking market pricing).

The pilot phase should be carefully monitored, with position limits conservatively set, initial access restricted to institutional participants (banks, large corporates, registered trading members), and a post-launch review after six months to assess liquidity, pricing efficiency, and any unintended market behavior.

19.3.3 Introduction of Equity Index Derivatives

Following successful establishment of currency futures, equity index futures on the DSE broad market index (or a liquid subset index) should be introduced. This provides portfolio managers and institutional investors with tools to hedge equity market risk. The product design should follow the NSE Nifty futures model, which has proven highly effective: cash settlement against the closing index value, standard contract size calibrated to institutional participation, and quarterly expiry dates.

19.4 Long-Term Recommendations (Years 8–15)

Over the longer term, Bangladesh should work toward a comprehensive derivatives market that includes: single-stock futures and options for major listed companies; interest rate futures and swaps based on a deep, liquid government bond market; commodity futures for agricultural products (rice, wheat, jute, sugar) and energy; integration with regional derivatives markets through cross-listing arrangements with NSE, SGX, or other ASEAN exchanges; and development of Islamic derivatives instruments (profit rate swaps, FX forwards structured within Shariah compliance) given the significant Islamic banking sector in Bangladesh.

19.5 The Strategic Roadmap

The following table summarizes the strategic roadmap with key milestones:

Phase	Timeline	Key Actions	Expected Outcomes
Short-Term Foundation	Years 1–3 (2014–2016)	Derivatives Act; regulatory capacity building; capital market reforms; investor education; CCP design	Legal framework in place; regulatory readiness; improved spot market quality
Medium-Term Pilot Launch	Years 4–7 (2017–2020)	CCP establishment; USD/BDT currency futures launch; equity index futures; expand institutional participation	Functioning currency and equity derivatives market; hedging tools available for RMG exporters
Long-Term Expansion	Years 8–15 (2021–2028)	Single-stock derivatives; interest rate derivatives; commodity futures; Islamic derivatives; regional integration	Comprehensive, diversified derivatives market; full-function risk management ecosystem

Table 19.1: Strategic Roadmap for Derivatives Market Development in Bangladesh

CHAPTER 20: FUTURE PROSPECTS OF THE DERIVATIVES MARKET IN BANGLADESH

20.1 Macroeconomic Trajectory and Financial Market Evolution

Bangladesh's macroeconomic trajectory provides a favorable backdrop for financial market development over the medium to long term. The country has sustained real GDP growth of approximately 6 percent annually over a decade, driven by RMG exports, remittances from overseas workers, and a growing domestic consumption base. Population dynamics — a large young workforce — provide a demographic dividend that supports growth.

As income levels rise, the savings rate increases, and financial assets accumulate, the demand for sophisticated financial instruments naturally grows. Middle-class savers seeking returns on accumulated savings represent a growing potential investor base. Corporate treasurers managing increasingly complex global supply chains will seek more professional risk management tools. Financial institutions competing for sophisticated corporate clients will need to offer derivatives-based products.

20.2 Technological Enablers

The pace of technological change creates opportunities for Bangladesh to build a modern derivatives market infrastructure at substantially lower cost than earlier generations of market developers faced. Cloud computing, open-source trading platforms, and standardized clearing system software have dramatically reduced the technology investment required. Bangladesh can adopt best-practice systems from the outset rather than building from scratch, compressing the development timeline.

Mobile financial services — which Bangladesh has pioneered in the form of bKash and other mobile money platforms — create a population with experience in digital financial transactions. This technological literacy is a foundation for broader financial market participation, including eventual retail access to simpler derivatives instruments.

20.3 Demographic and Educational Trends

The growing number of Bangladesh graduates in finance, economics, and business administration provides a gradually expanding human capital base for the financial sector. University programs that incorporate quantitative finance, derivative pricing theory, and risk management will accelerate the development of the talent pool needed for a derivatives market. International academic partnerships and scholarship programs that send Bangladeshi students to graduate programs in finance at leading universities abroad can accelerate this human capital development.

20.4 Regional Integration and Global Linkages

Bangladesh's deepening integration into global trade and investment flows creates natural demand for derivatives. As more Bangladeshi companies operate internationally, manage cross-border supply chains, or access international capital markets, their risk management needs grow more complex and more amenable to derivatives solutions. Regional financial integration through SAARC (South Asian Association for Regional Cooperation) financial frameworks, while slow-moving, could eventually create opportunities for cross-border derivatives trading with Indian markets.

The ASEAN Financial Integration Framework, while Bangladesh is not an ASEAN member, provides a model of how regional financial market integration can be structured. Bangladesh could explore bilateral or multilateral arrangements with regional exchanges to allow cross-listing of derivatives contracts — for example, listing USD/BDT currency futures on SGX or NSE — as an intermediate step while domestic market infrastructure is being developed.

CHAPTER 21: CONCLUSION

This research paper has provided a comprehensive examination of the underdevelopment of the derivatives market in Bangladesh, analyzing the structural, regulatory, institutional, technological, and political economy factors that have inhibited its emergence, and proposing a phased strategic roadmap for its development.

The central finding is unambiguous: as of 2013, Bangladesh lacks a formal exchange-traded derivatives market, and this absence represents a significant structural gap in the country's financial architecture with real economic consequences. Exporters, importers, banks, agricultural producers, and energy sector participants are all exposed to financial risks — currency risk, interest rate risk, commodity price risk — that derivatives instruments could efficiently manage, but for which no organized, standardized hedging tools are currently available.

The analysis of barriers reveals that the problem is not monolithic — it reflects a combination of regulatory deficiencies, capital market weaknesses, institutional investor limitations, technological constraints, human capital gaps, and political economy dynamics. No single intervention can resolve this complex, multi-dimensional challenge. Progress requires coordinated, sustained effort across legislative, regulatory, institutional, and educational dimensions, over a timeframe measured in years rather than months.

The comparative analysis with India, Singapore, and the United States provides both cautionary lessons and constructive guidance. India's experience demonstrates that even a large, complex economy can develop a sophisticated derivatives market through patient, sequenced reform — but also that governance failures and speculative excesses remain risks that require continuous regulatory vigilance. Singapore demonstrates that institutional quality can compensate for small market size. The United States illustrates both the power of a comprehensive derivatives market ecosystem and the systemic risks that emerge when complex instruments outpace regulatory capacity.

The policy recommendations developed in Chapter 19 offer a practical framework for action. The immediate priorities — enabling legislation, regulatory capacity building, capital market strengthening, and investor education — do not require large financial investments but do require sustained political commitment and institutional effort. The medium-term objective of launching USD/BDT currency futures addresses the most economically significant derivative need in Bangladesh's economy and is achievable within a five to seven year timeframe if the foundation work proceeds effectively.

Looking further ahead, the long-term vision of a comprehensive derivatives market — encompassing currency, equity, interest rate, and commodity derivatives — is achievable within a fifteen to twenty year timeframe given Bangladesh's growth trajectory and improving institutional capacity. This market, if well-designed and well-regulated, would substantially enhance Bangladesh's financial system resilience, improve capital allocation efficiency, attract foreign investment, and support the risk management needs of all major economic sectors.

The development of a derivatives market is not a luxury or an academic exercise — it is a practical imperative for a growing, globally-integrated economy seeking to manage its financial risks in a disciplined, efficient, and cost-effective manner. Bangladesh's economic ambitions warrant a financial system commensurate with those ambitions. This paper hopes to contribute, however modestly, to the intellectual and policy groundwork needed to realize that goal.

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Appendix A: Glossary of Key Derivatives Terms

Term	Definition
Arbitrage	The simultaneous purchase and sale of an asset or derivative in different markets to profit from a price discrepancy, without net risk exposure.
Call Option	A contract giving the buyer the right, but not the obligation, to purchase the underlying asset at the strike price on or before the expiration date.
Central Counterparty (CCP)	An entity that interposes itself between the buyer and seller in a derivatives transaction, becoming the buyer to every seller and the seller to every buyer, eliminating bilateral counterparty credit risk.
Contango	A market condition in which the futures price of a commodity or asset is higher than the current spot price, reflecting positive carry costs.
Delta	The sensitivity of an option's price to a one-unit change in the price of the underlying asset; measures the option's directional exposure.
Forward Contract	A customized, bilateral OTC agreement to buy or sell an asset at a specified future date at a price agreed today; carries counterparty credit risk.
Futures Contract	A standardized, exchange-traded agreement obligating the buyer to purchase and the seller to deliver a specified quantity of an underlying asset at a specified future date at an agreed price.
Hedge	A financial transaction that offsets an existing risk exposure, reducing the potential for loss (at the cost of potentially forgoing some gain).
Initial Margin	A performance bond deposit required by a derivatives exchange or CCP when opening a futures or options position; calculated to cover maximum likely one-day loss.
Mark-to-Market	The daily revaluation of derivatives positions at current market prices, with profits credited and losses debited from the margin account.
Option Premium	The price paid by the option buyer to the option seller for the rights conveyed by the option contract.
Put Option	A contract giving the buyer the right, but not the obligation, to sell the underlying asset at the strike price on or before the expiration date.
Swap	An agreement between two parties to exchange specified cash flows at specified intervals over a set period; commonly used to exchange fixed for floating interest rate payments.
Variation Margin	Daily cash payments required to restore a derivatives account to the initial margin level following adverse price movements.
Volatility (σ)	The standard deviation of the returns of an underlying asset; a key input to option pricing models and margin calculations.

Appendix B: Black-Scholes Model — Numerical Example

The following numerical example illustrates the application of the Black-Scholes model to a hypothetical Bangladeshi equity option, demonstrating the kind of analytical framework that would be applicable if options were available on DSE-listed stocks.

Assume: Current stock price (S_0) = BDT 100; Strike price (K) = BDT 105; Time to expiration (T) = 3 months (0.25 years); Risk-free rate (r) = 8% per annum; Stock volatility (σ) = 30% per annum.

$$d_1 = [\ln(100/105) + (0.08 + 0.09/2) \times 0.25] / (0.30 \times \sqrt{0.25})$$

$$d_1 = [-0.0488 + 0.0313] / 0.15 = -0.117$$

$$d_2 = -0.117 - 0.15 = -0.267$$

$$N(d_1) = N(-0.117) \approx 0.4534; \quad N(d_2) = N(-0.267) \approx 0.3947$$

$$C = 100 \times 0.4534 - 105 \times e^{(-0.08 \times 0.25)} \times 0.3947$$

$$C = 45.34 - 105 \times 0.9802 \times 0.3947 \approx 45.34 - 40.62 \approx \text{BDT } 4.72$$

This calculation indicates that a three-month call option with a strike price of BDT 105 on a stock currently trading at BDT 100 would be worth approximately BDT 4.72 per share, given the specified parameters. The ability to compute and arbitrage such prices is what makes options markets function efficiently — and this analytical infrastructure, while available to professionals in India and globally, is entirely unused in Bangladesh today simply because no options market exists.

Appendix C: Suggested Areas for Future Research

The following areas represent important directions for future empirical and analytical research as Bangladesh's financial market evolves:

22. Quantitative estimation of the foreign exchange hedging demand from Bangladesh's RMG sector, including simulation of hypothetical hedging outcomes under historical USD/BDT volatility.
23. Assessment of the feasibility and design of an Islamic derivatives framework for Bangladesh, given the significance of Islamic banking in the country.
24. Econometric analysis of the relationship between capital market depth, derivatives market development, and economic growth across a panel of South and Southeast Asian economies.
25. Case study analysis of the 2010–2011 DSE market crash — its causes, regulatory responses, and lessons for designing circuit breakers and surveillance systems in a future derivatives market.
26. Feasibility study for the introduction of rice futures in Bangladesh: warehousing infrastructure, grading standards, government price support interactions, and liquidity analysis.
27. Survey-based research on the awareness, attitudes, and hedging needs of Bangladeshi RMG exporters and commercial banks regarding foreign exchange risk management.
28. Assessment of FinTech integration opportunities in Bangladesh's capital market infrastructure, including the potential role of mobile platforms in democratizing access to derivatives instruments.