Report On

Impact of Taka Depreciation and Inflation on Foreign Ownership in DSE Banking Stocks: Evidence from 2019–2025

By

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An internship report submitted to the BRAC Business School in partial fulfillment of the requirements for the degree of
Bachelor of Business Administration

BRAC Business School

BRAC University

April 2026

Declaration

It is hereby declared that

1. The internship report submitted is my/our own original work while completing degree at Brac University.
2. The report does not contain material previously published or written by a third party, except where this is appropriately cited through full and accurate referencing.
3. The report does not contain material which has been accepted, or submitted, for any other degree or diploma at a university or other institution.
4. I/We have acknowledged all main sources of help.

Student's Full Name & Signature:

_____

Sabrina Iqbal

21204053

Supervisor's Full Name & Signature:

_____

Dr. Riyashad Ahmed

Associate Professor of Finance & Director of MBA & EMBA Programs,

BRAC Business School

BRAC University

Letter of Transmittal

Dr. Riyashad Ahmed

Associate Professor of Finance & Director of MBA & EMBA Programs,

BRAC Business School

BRAC University

Kha 224 Pragati Sarani, Merul Badda, Dhaka 1212.

Subject: Internship report on "Impact of Taka Depreciation and Inflation on Foreign Ownership in DSE Banking Stocks: Evidence from 2019–2025".

Dear Sir,

I am submitting my internship report titled "Impact of Taka Depreciation and Inflation on Foreign Ownership in DSE Banking Stocks: Evidence from 2019–2025", prepared during my internship at BRAC EPL Stock Brokerage.

The report analyzes how currency depreciation and rising inflation have impacted foreign portfolio investment in Dhaka Stock Exchange listed banking sectors over 2019-2025. I have ensured the accuracy and originality of all concepts presented and trust it meets the academic requirements.

Thank you so much for your guidance throughout this entire process.

Sincerely yours,

_____

Sabrina Iqbal
21204053
BRAC Business School
BRAC University
Date: April 5, 2026

Non-Disclosure Agreement

This agreement is entered into between BRAC EPL Stock Brokerage and the undersigned student at BRAC University. In this report titled “Impact of Taka Depreciation and Inflation on Foreign Ownership in DSE Banking Stocks: Evidence from 2019–2025”, all information were sourced from publicly available data. During my internship, I was exposed to confidential organizational information. I am aware that I must maintain the privacy of this information.

_____

Sabrina Iqbal
21204053

Acknowledgement

All praise to Almighty Allah, for giving me the strength and opportunity to complete this internship successfully.

I would like to sincerely thank my academic supervisor, Dr. Riyashad Ahmed and co-supervisor, Dr. Saif Hossain, for their continuous guidance, support and patience throughout the preparation of this report. My heartfelt gratitude also goes to Mr. Salim Afzal Shawon of BRAC EPL Stock Brokerage, whose mentorship and teachings gave me a deep understanding of the capital market in Bangladesh and helped me grow my technical skills which I will carry forward throughout my career.

Lastly, I am thankful to my family and friends for their constant encouragement and support.

Executive Summary

The report documents a five-month research internship at BRAC EPL Stock Brokerage Ltd . BESL is Bangladesh's one of the leading brokerage firms and a subsidiary of BRAC Bank. The internship involved daily market reports generation, database maintenance and one pager generations. It also included several AI-assisted Python based automation projects. The automated One Pager generation system reduced a nine person days task to under five minutes. Also, a primary relational database design was created for the Research Department.

The organization analysis shows that BESL follows a hybrid leadership style and holds a 60% market share of the foreign portfolio market. It has an award-winning research team, which is one of its competitive advantages. However, the five-year financial analysis reveals that BESL is not performing up to the mark. Over the years, net profit margin declined from 40.6% to -8.6%. Increasing operating costs are the reason behind it. Since the gross margin stayed above 70%, it was deducted that its core business was healthy. The main problem was the cost management.

The project part focuses on the impact of inflation and BDT depreciation in foreign ownership. Four DSE listed banking stocks were selected. The observation period for the study was 2019-2025 and OLS regression and t-tests were used. The findings revealed that both macro variables negatively impacted foreign ownership. BRAC Bank showcased the strongest impact (adjusted R2=0.757). They also offer practical insights for policy and investment decisions for frontier capital markets like Bangladesh.

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List of Acronyms

BESL	BRAC EPL Stock Brokerage Ltd
DSE	Dhaka Stock Exchange
CSE	Chittagong Stock Exchange
BDT	Bangladeshi Taka
USD	United States Dollar
UI	User Interface
MIS	Management Information System
NRB	Non-Resident Bangladeshi
CPI	Consumer Price Index

Chapter 1

Overview of Internship

1.1 Student Information

Name	Sabrina Iqbal
ID	21204053
Program	Bachelor or Business Administration (BBA)
First Major	Finance
Second Major	Computer Information Management

1.2 Internship Information

1.2.1 Internship Details

Period	13th October, 2025 to 12th March 2026
Company	BRAC EPL Stock Brokerage
Department	Research
Address	Symphony (3rd Floor) SE (F) -9, Road No. -142, Gulshan Avenue, Dhaka

1.2.2 Internship Supervisor Information

Name	Salim Afzal Shawon, CFA
Position	Head of Research
Email	salim@bracepl.com
Phone	01708805221

1.2.3 Job Scope

As a Research Intern at BRAC EPL Stock Brokerage Ltd (BESL), my role offered me a broad range of analytical, data management and operational responsibilities which provided me with exposure to how a leading brokerage's research team operates on a daily basis. My primary duties and responsibilities were:

- Compiled Daily News from different newspapers and categorized them into Macro, Sector & Industries and Stock specific news. Then assessed the likely positive, negative or neutral impact in the DSE.
- After the market closed each trading day, updated and published the Daily Market update to BESL's website and published Weekly Market update each week.
- Maintained BESL's Corporate Events Database, Shareholding Structure Database and updated financials for the listed companies.
- Collected financial data for companies to support Research Analysts and Associates in company valuation.
- Prepared One Pagers for retail clients under the supervision of the Research Analysts and Associates.

1.3 Internship Outcomes

1.3.1 Student Contribution to the Company

While I carried out all the standard intern responsibilities, my most significant contributions to BESL went beyond the routine tasks. Using my academic background in Finance and Management Information System, I resolved some inefficiencies in the workflows and implemented automation solutions that improved efficiency and produced tangible impact for the team.

One Pager Automation System

The most impactful contribution I made during my internship was developing a fully automated One Pager generation system using Python.

Prior to this automation, generating One Pagers was an entirely manual process. It used to take 3 interns working simultaneously for approximately 3 days to generate 15 One Pagers. It involved gathering data manually from the DSE website and company's financial statements. After that perform calculations in Excel and formatting the results into a standardized template. Along with

the time cost, the manual process was prone to calculation errors. During the first batch, the inconsistencies and calculation required the Analysts to review and correct the work.

Recognizing the inefficiency, I took their feedback to verify and confirm the correct formulas required for each data field in the One-Pager, then developed a Python-based automation code that performs the following sequence of work autonomously:

- Directly pulls all the required company data from the DSE website automatically.
- Opens a python terminal-based UI that allows the team member to interact with the system by entering a company ticker.
- Performs all required calculations inside the code.
- Populates the results into a pre-made, properly formatted template.
- Produces a docx output file which requires no manual intervention

A task which previously required three interns over three days, amounting to a nine-person-days of effort as interns also have the daily tasks can now be completed in under five minutes. The Analysts can spend less time reviewing and correcting interns' work as the formulas are validated.

The completed automation code has been handed off to the BESL Research Team for further review and integration into their operation workflow. This represents a post-internship contribution to the organization which distinguishes this work from a typical internship deliverable.

DSE Midday Data Automation Code

Prior to the One Pager automation, I was first assigned to develop a Python Script that retrieves midday market data from DSE and delivers it as a report. On execution, the code produces a real time report of market updates and produces three scheduled reports at 12pm, 2pm and 3pm.

DSE Day End and DSE News Extractor Code

To generate day-end reports and update databases with company financials, the team used to use Excel-based Power Query. At times, reliability issues occurred during the loading process. Hence another script was built to quickly retrieve Market Data and News from the DSE website.

Research Database Design

Under direct guidance of Mr. Salim Afzal Shawon, CFA, Head of Research, I contributed to designing a foundational database structure for the Research team.

The Research Department manages a large and growing volume of data from multiple sources. This data is organized informally. Without a structured centralized system, this approach leads to inefficient use of storage space and makes it difficult to retrieve the required data efficiently. My contribution was to begin the process of formalizing the structure. The deliverables I produced for this initiative include:

- Written notes documenting how each category of data should be gathered, which sources and links to use and how data should be cleaned.
- Documentation of the data layers.
- A basic relational database schema design outlining how the data categories relate to one another.

This contribution reflects the MIS components of my academic background and applies them directly to real organizational problems.

1.3.2 Benefits to the Student

My internship gave me the opportunity to apply both of my academic majors in a professional setting. From Finance, I learned how equity research is conducted and how macroeconomic events are interpreted in real time by professional analysts. This knowledge helped me conduct my research in Chapter 3 of this report.

From MIS, I applied Python programming in a real-world context where my code reliability had direct consequences for Research Team's operations. I learned to identify workflow inefficiencies, build automation solutions and designing tools for non-technical users.

My five-month tenure also gave me a broader organizational exposure than a standard twelve-week program. I got to experience strategy planning sessions and observe how the Research Team responded to pre and post-election market environments. These gave me firsthand insight into how a professional research team navigates macroeconomic and political uncertainty.

1.3.3 Problems Faced During the Internship

My internship at BESL was a positive and productive experience. However, I faced challenges regarding data confidentiality while designing the database. As interns, we had limited access to high value data, hence it was difficult to get a comprehensive look at the data they have.

1.3.4 Recommendation

Based on my experience, I would offer the following recommendation to BESL:

- Providing interns with a structured technical onboarding session at the start of their placement.
- Consider offering interns a brief exposure to the other departments to help understand how the analytical work connects to the company's broader commercial functions.

Chapter 2

Organization Part

2.1 Introduction

BRAC EPL Stock Brokerage Ltd is a subsidiary of BRAC Bank Limited and one of the leading brokerage firms in Bangladesh. Its client base includes domestic individuals, local institutions, foreign organizations and Non-Resident Bangladeshis (NRB).

The research team of BESL is one of the best teams in the country consisting of team members who are either CFA holders or are actively pursuing the qualification. They won numerous awards including Best Research House by International Finance (2019) and Best Brokerage House in Bangladesh (2019). The team's core function required providing sector specific analysis, company equity notes, investment research and actionable recommendation for both domestic and foreign clients.

This chapter provides a comprehensive analysis of BESL as an organization which includes, management practices, marketing strategy, financial performance, operations and competitive environment.

2.1.1 Objectives

- To outline BESL's history, mission, vision, values and key achievements.
- To evaluate BESL's management and human resource practices.
- To analyze BESL's marketing strategies.
- To examine BESL's financial performance using the most recent available financial statements.
- To conduct a SWOT analysis and Porter's Five Forces to analyze BESL's competitive environment.

2.1.2 Scope of Study

The scope of this chapter is limited to BRAC EPL Stock Brokerage as an organization. It does not cover the broader Bangladesh capital market but instead provides an in-depth analysis of one of its key institutional players.

2.1.3 Methodology

The chapter uses a qualitative approach. It uses both primary and secondary data sources.

- **Primary Sources:** Personal observation during the five-month internship at BESL's Research department, along with informal discussions with Head of Research and members of the research team.
- **Secondary Sources:** BESL's financial statements over five years, BESL's official website, articles from The Business Standards, The Financial Express and The Daily Star.

2.1.4 Significance of Study

- **Students:** Provides a practical insight into the operations of a leading brokerage firm and draws connection to the classroom theory with the real-world application of Bangladesh's Capital Market.
- **BESL:** Offers a fresh perspective on the organizational operations by highlighting the strengths, gaps and areas for improvement across management, marketing and financial performance.
- **Academia:** Serves as a case study which connects finance and management theory to the frontier market.

2.1.5 Limitations

- **Confidentiality:** Access to certain financial document and proprietary client data was restricted due to privacy concern, hence it limiting the depth of analysis in some areas.
- **Internship Scope:** The observations were made based on Research Department, which might in some cases not properly reflect the broader management and operations.

2.2 Overview of the Company

2.2.1 History and Background

BESL started its journey in 2000 as Equity Partner Securities Limited (EPSL). The firm operated as an independent entity for nearly a decade before BRAC Bank PLC acquired a 51% controlling stake in the company in 2009. In 2011, the bank acquired an additional 39% shares, making it 90% cumulative ownership and incorporated it into BRAC organization's financial service portfolio.

Since the rebranding, BESL has grown substantially. It holds trading right entitlement certificates on both DSE & CSE and operates in 8 branches across 5 cities in Bangladesh. The firm's client base has grown to 21,000 domestic accounts and over 60 foreign institutional clients.

2.2.2 Mission, Vision and Values

Mission

We strive to develop a sustainable growth model that will guide us to market leadership through advanced technology and superior client service. We aim to create a highly visible brand by developing a diverse talent pool and synergy within the group.

Vision

To be the trusted broker of choice for all investors by offering an unrivaled level of investment expertise and customer service.

Values

Customer Focus, Innovation, Integrity and Team Work.

2.2.3 Organizational Structure

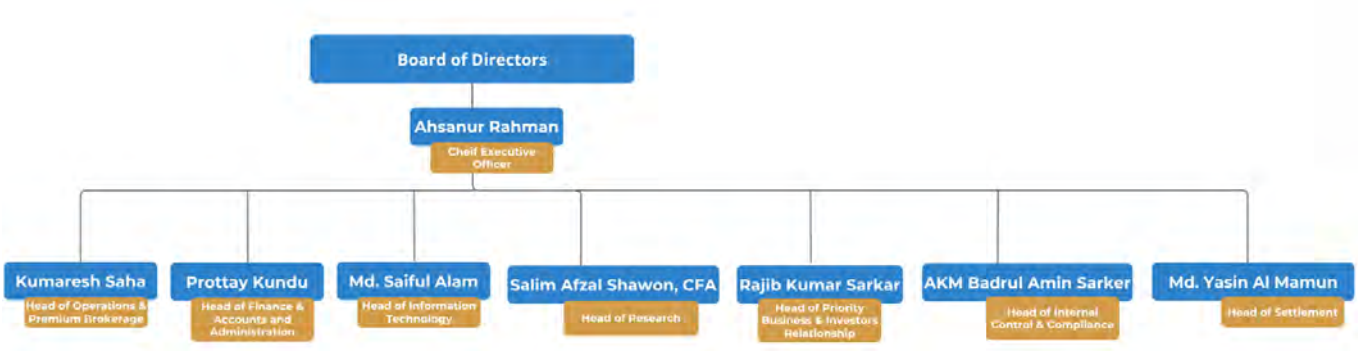

Figure No: 1. BESL Organization Structure

2.3 Management Practices

2.3.1 Leadership Style

BESL does not operate under a single leadership approach. The Research department is run in a democratic and participative manner. Team members, even the interns are encouraged to participate during research discussions. I personally experienced this during my tenure where interns' observations were taken seriously in strategy meetings and team members openly challenged each other's assumptions without hesitation. This style suits the research environment where the quality of the output depends on the diversity of the thinking. However, the downside is consensus takes time. In a market, where conditions change by the hour, delayed calls can be a missed opportunity (Eisenhardt,1989; Baum & Wally, 2003). In contrast, Settlements and Trading Operations are run autocratically. As these departments operate under strict BSEC regulation, there is seldom much room for individual interpretation.

In the long run, BESL's hybrid leadership style fits to its purpose. A democratic leadership style promotes creative autonomy and it is an essential for research excellence. At the same time, the autocratic leadership style maintains the operational integrity, which is essential for client's trust (Mullins, 2016). However, BESL must integrate a more transformational leadership framework, where leaders at all levels actively develop the capabilities of their teams (Bass & Riggio, 2006).

2.3.2 Human Resource Planning Process

2.3.2.1 Recruitment and Selection

Recruitment practices at BESL are department specific. Within the Research department, where my direct observation was possible, follows a three-step process.

CV Screening: Vacancies are initially advertised through social media channels, mainly in LinkedIn. Submitted applications are screened first through the team members and then through the Head of the department.

Written Assessment: Shortlisted candidates are invited for an online written assessment. This tests candidates on the technical and analytical skill involving financial statement analysis, equity valuation and market knowledge.

Interview: The candidates who pass the written tests are called for the final interview conducted by the full research team. They not only assess the candidate's ability to fit to the role, but also assess their ability to incorporate in the team dynamic.

2.3.2.2 Compensation System

BESL's compensation packages follow a reasonable set of benefits for the industry which includes Provident Fund, Gratuity, health insurance, life insurance and festival allowances. Even though the salaries are industry standard, the base salaries at the entry level and mid-level are not competitive to commercial banks and institutional asset managers in Bangladesh. Research Analysts with CFA qualifications or progress toward the designation have multiple employment alternatives which may offer higher compensation. As a consequence, they sometimes face challenges in both talent acquisition and retention. In an industry where the business' competitive differentiation is the quality of their research output, the ability to retain genuinely exceptional analysts is a strategic concern. In this case, BESL would benefit from a structured compensation review.

2.3.2.3 Training & Development

BESL encourages research analysts to pursue the CFA designation and provides partial funding for the examination costs, although the amount is not sufficient. Additionally, it fully funds relevant online courses from Coursera and Udemy. To keep employees up to date with the BSEC and market regulations, it conducts in-house compliance trainings frequently. I was unable to find any career development framework for the whole organization. However, the research department has its own career framework which is evaluated by the Head of the Department.

2.3.2.4 Performance Appraisal

The annual appraisal system of BESL evaluates employees on metrics like their contribution, their cooperation with teamwork and how well they manage deadlines. These appraisals are conducted by the department heads and then reviewed by the HR. This ensures cross departmental consistency. One limitation which was expressed by some employees is, the reward and recognition they receive do not completely reflect the volume or quality of work they produce. The absence of quantifiable KPIs specific to research output such as report volume, accuracy rates, client feedback scores make the process more subjective.

2.4 Market Practices

2.4.1 Marketing Strategy and Positioning

The 4P model can be used to systematically evaluate BESL's marketing strategy

Product	● Equity Brokerage services on DSE and CSE ● Online trading platform: BRAC EPL Trade ● Awards winning Equity Research: One-pagers, Industry Report and full equity notes with buy/sell recommendation ● Investment advisory service ● Probashi Biniyog: Service for NRB's to invest in Bangladeshi Capital Market.
Price	● Brokerage commissions are charged in accordance with DSE/CSE regulations ● BESL justifies its pricing through superior research quality and personalized client service ● For institutional and foreign clients, customized fee structure are offered to establish a long-term relationship ● Margin loan facilities are provided at competitive rates.
Place	● 8 branches across 5 cities. Dhaka: Gulshan, Mirpur, Dhanmondi, Motijheel, Banasree/Basundhara. Chittagong: Agrabad and Nasirabad, Cumilla, Sylhet, Showmuhani and Mymensingh. ● Online Platform: BRAC EPL iDesk, which is also available as mobile app. ● International roadshows in UK, USA, Singapore and Hong Kong to capture NRB clients.
Promotion	● Regular social media posts on Facebook and LinkedIn about market updates, educational infographics and investor engagement contents. ● Investment seminars and roadshows. ● Investor education webinars, workshops and training session to encourage financial literacy.

Table No: 1, BESL 4Ps of Marketing

2.4.2 Target Customers, Targeting & Positioning Strategy

2.4.2.1 Market Segmentation & Targeting Strategy

Based on investor demography, BESL segments the capital market investment sector into primarily four groups:

Segment	Description	Profile	Client Status	Targeting Strategy
Retail Investor	Individual local investors	High volume, transaction size lower than average	Underpenetrated	Least developed segment.
Domestic Institutions	Banks, Mutual Funds, Insurance companies and Corporates	Medium volume, higher transaction value	Core Client Base	Served through advisory
Foreign Institutions/Investors	Foreign portfolio managers, individual investors	Low volume but high transaction value	Dominant Segment	Primary target. Holds approximately 60% market share. Heavily defended and resource intensive
NRB	Non-resident Bangladeshis	Low volume, high value transaction	Growing Segment	Served through Probashi Biniyog and international roadshows

Table No: 2, Market Segment & Targeting Strategy

2.4.2.2 Positioning

BESL positions itself as Bangladesh's premium research-driven brokerage. A trusted gateway for foreign and institutional investors into the Bangladesh capital market. It competes on research quality, institutional credibility (BRAC organization) for every level or investors.

2.4.3 Marketing Channels

BESL used a multi-channel marketing model.

Channel	Purpose
Social media	Facebook and LinkedIn are primarily used to promote market updates, educational contents, CEO commentary and research publication announcements.
Company Website	Publishes research reports, product descriptions and investor portal access.
iDesk & Mobile App	Primary transaction channels where investors can do real-time trading and track portfolios.
Branch Network	Direct service delivery to 8 branches across 5 cities
Print Media	Advertisement and published editorials in The Daily Star, The Business Standard and The Financial Express
SMS & Email	Daily trade confirmation via SMS. Portfolio updates and research report via email to specific clients.

Table No: 3, BESL Marketing Channels

2.4.4 Product/New Product Development and Competitive Practices

BESL is continuously working on developing new financial services, including BRAC EPL Trade, an online trading platform with real time execution services. Other services include iDesk mobile app and Probashi Biniyog, which is specifically structured to cater to NRBs. Additionally, they offer research driven investment recommendations.

Competitive Landscape: BESL focuses on utilizing its international credibility, the BRAC brand, to acquire foreign clients. This has resulted in its dominant 60% market share. This combined with its award-winning research team, helps gain customer trust.

2.4.5 Branding Activities

BESL builds its brand through research-driven content branding, including daily market overviews, equity reports and monthly industry analysis. This establishes its reputation as a knowledge leader rather than simply a transaction broker. This is strengthened by its association with the BRAC organization. It utilizes its parent brand credibility through visual co-branding and reputational references. International awards such as Best Brokerage house 2019 and BSEC Golden Jubilee Awards 2023 serves as a trust indicator. CEO Ahsanur Rahman's media presence

in the renowned newspapers serves as a credible brand voice. BESL further sets itself apart by organizing the global roadshows in the USA, Singapore and Hong Kong.

2.4.6 Advertising and Promotion Strategies

BESL used a mix of digital marketing, events, investor education webinars and traditional advertisements to promote its brand and services.

Digital marketing & social media: BESL uses Facebook and LinkedIn for market updates and educational content. Also to support organic reach it uses branded hashtag strategy such as #bracepl and #stockmarket.

Events & Roadshows: In 2015, BESL organized the NRB Investment Summit in the UK. During my tenure they arranged a seminar called *"Post Election 2026 Horizon*".

Investor Education Initiatives: BESL hosts educational webinars and workshops on stock market and investment strategy. Some of the research reports can be accessed through its website. This attracts retail and semi-institutional investors

Traditional & Print Media: BESL publishes market insights in renowned newspapers like The Daily Star and The Financial Express.

2.4.7 Critical Marketing Issues & Gaps

Although BESL stands on a strong institutional ground, it has some gaps in its marketing practices. One of the gaps is its limited brand penetration and inability to communicate with the younger tech savvy investors. The majority of Bangladesh's population belongs to a young demographic with growing financial literacy. However, BESL's marketing strategy still focuses on the institutional clients and older retail investors. In recent years, it has tried to restrategize to cater to the younger audience by increasing its digital presence. But it has not made heavy marketing/promotional efforts as it used its own employees to do that. It can collaborate with personal finance content creators to do that. This could help BESL row its retail base as this generation enter the investing market.

Another gap is BESL's relatively small marketing team compared to its operations. This capacity gap explains why it only has a Dhaka centric presence while having 8 more branches in different

cities. On the other hand, competitors like Shanta Securities and UCB Stock brokerage capture these markets through aggressive mass marketing campaigns.

Lastly, BESL heavily relies on its research-heavy value proposition. While the research excellence gives it a competitive advantage in the institutional client and foreign client segment, it fails to communicate with the retail investors. Additionally, the research outputs are currently distributed to a relatively niche client. This completely excludes the retail investors. The company can make executive summaries publicly available through its website and explore relationships with international finance media outlets. This could extend their reach of its brand without additional costs.

2.5 Financial Performance and Accounting Practices

2.5.1 Financial Performance

A five year ratio analysis of BESL (2020-2024) shows that it has shifted from a well-capitalized, profitable brokerage which generated double digit returns in 2021 to a loss-making operation in 2024. This decline is due to the profitability and operational efficiency. The is in profitability and efficiency. The balance sheet is still stable. But it no longer can cover the ongoing pressure on the income statement.

Ratio	2020	2021	2022	2023	2024
Current Ratio	1.67	2.26	2.97	2.33	2.13
Cash Ratio	0.74	1.48	1.41	1.22	1.24
Receivable Turnover	1.1	2.16	0.96	0.89	1.8
D/E Ratio	2%	5%	6%	5%	4%
Debt Ratio	0.9%	2.9%	3.8%	2.8%	2.5%
Interest Coverage	23.46	48.86	12.48	10.16	1.59
ROA	6.2%	10.6%	3.5%	1.7%	-1.6%
ROE	14.4%	18.7%	5.3%	2.8%	-2.7%
GP Margin	73.9%	76.9%	76.7%	78.6%	73.1%
OP Margin	54.1%	52.8%	27.7%	26.6%	4.5%
NP Margin	40.6%	36.2%	14.8%	10.5%	-8.6%

Table No : 4, Ratio Summary

2.5.1.1 Liquidity

BESL's liquidity position is adequate but all three metrics are trending downwards

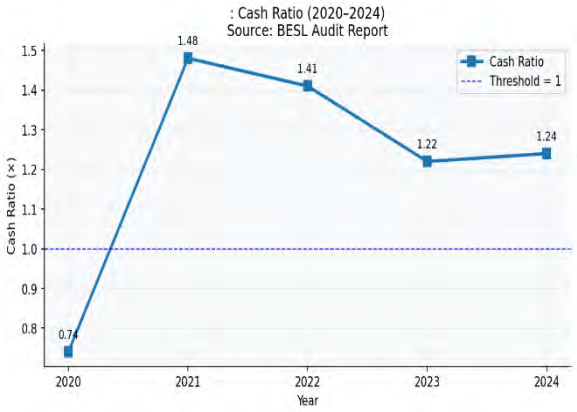

Figure No: 2, Current Ratio (2020-2024)

Current Ratio

The ratio peaked at 2.97 in 2022 then continued to decline to 2.13 in 2024. The peak itself is a concern, as asset level is nearly three times the current liabilities. This means capital is not being used productively. The decline, combined with the company's growing net losses, suggests that it is due to cash being used up by operations.

Cash Ratio

Cash ratio 0.74 in 202 showcases clear weakness. At this point, BESL could not handle short term settlement obligations using cash only. The jump to 1.48 in 2021 reflects that year's strong earnings. The gradual decline to 1.24 since then follows a profitability trend. Without addressing it, the firm risks falling back to where it was in 2020.

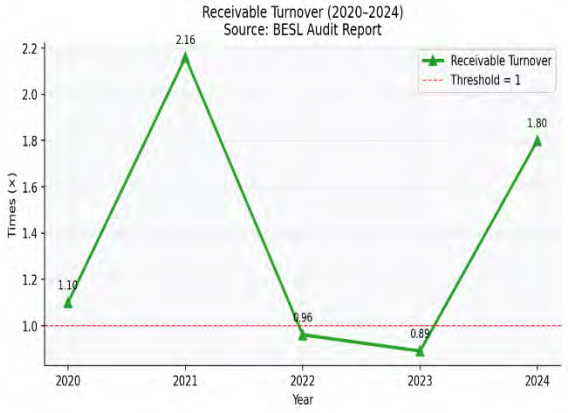

Figure No: 3, Cash Ratio (2020-2024)

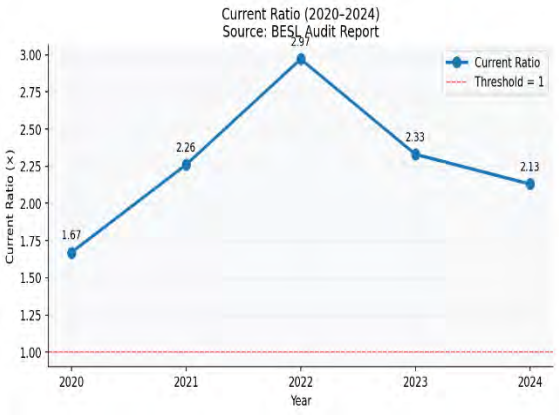

Figure No: 4, Receivable Turnover (2020-2024)

Receivable Turnover

Turnover below 1.0 in 2022 and 2023 means BESL took over a year to collect its receivables. For a brokerage operating on set settlement periods, this is indefensible. This put pressure on operating cashflows during those years. The recovery to 1.8 in 2024 is optimistic but it is only one data point. BESL has not yet shown consistency in collecting receivables.

2.5.1.2 Solvency

Solvency remains BESL's biggest strength. But its risk-averse approach comes with a hidden cost.

Debt to Equity and Debt Ratio

BESL relies almost entirely on equity. Its maximum debt-to-equity at 6% and its debt ratio never exceeded 3.8%. This removes refinancing risk and exposure to insolvency. This is a strategic move in a volatile market. But this also means BESL failed to leverage its balance sheet to increase returns during its 2021 high. The DuPont analysis explains it more clearly.

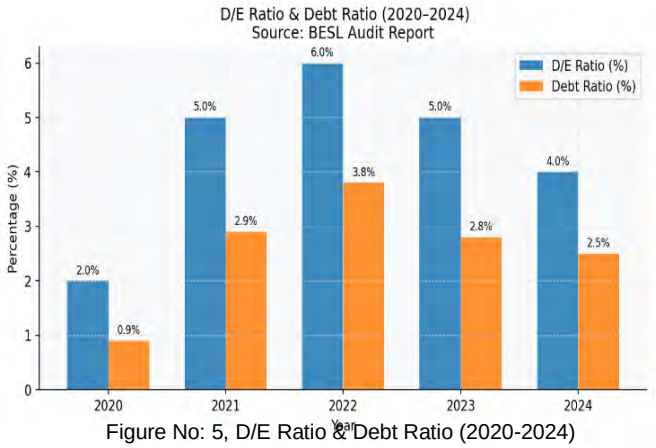

Figure No: 5, D/E Ratio & Debt Ratio (2020-2024)

Interest Coverage Ratio

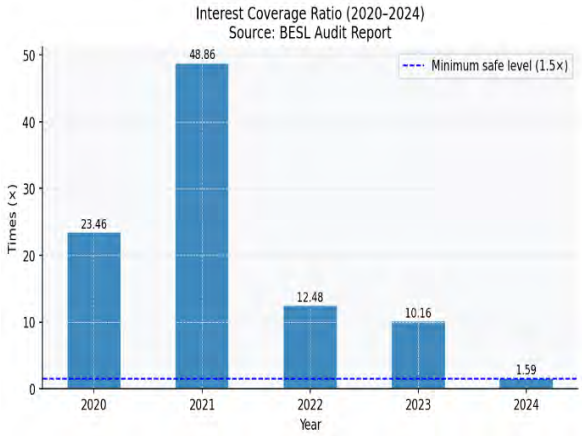

Figure No: 6, Interest Coverage Ratio (2020-2024)

The interest coverage ratio's decline from 48.86 to 1.59 over the years is not due to leverage, as the debt remains almost unchanged. This is due to operating profit. EBIT only covers interest by less that 0.6x. The ratio will be below 1.0 if losses continue for another year. As a result, BESL will be unable to service its debt through operations. This would cause reputational and governance issue.

2.5.1.3 Profitability

This part showcases how BESL went from net margins above 40% to incurring a net loss in just over three years. This decline is more structural than cyclical downturn.

Return on Assets and Return on Equity

In 2021, ROA and ROE both increased to 10.6% and 18.7%. But then it continued to decline. When ROA and ROE are -1.6% and -2.7% respectively, BESL is not creating any value for its assets. Asset turnover 0.18, meaning for every 1 BDT in assets, BESL only earns BDT 0.18 in revenue. This trend has shown no improvement over the observed period.

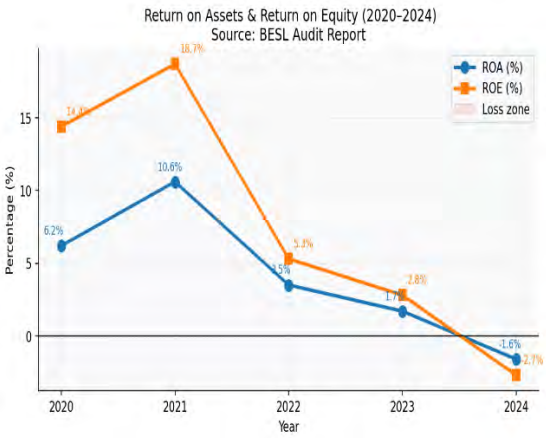

Figure No: 7, ROA & ROE (2020-2024)

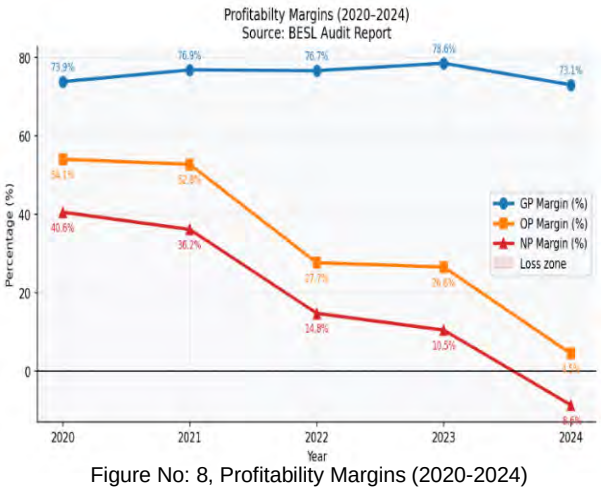

Figure No: 8, Profitability Margins (2020-2024)

Profitability Margins

The gap between gross margin and operating margin provides a significant insight. Gross margin consistently remained above 70%, confirming the core brokerage business is not at risk. Operating margin dropped 49.6 percentage points over five years, while the gross margin barely changed. This reveals operating costs have grown disproportionately to revenue. The result was -8.6% net margin in 2024.

2.5.1.5 DuPont Analysis

Margins	2020	2021	2022	2023	2024
Net Profit Margin	40.6%	36.2%	14.8%	10.5%	-8.6%
Asset Turnover	0.15	0.29	0.24	0.16	0.18
Equity Multiplier	2.33	1.76	1.5	1.65	1.74
DuPont ROE	14%	19%	5%	3%	-3%

Table No : 5, DuPont Analysis

All three DuPont components are declining. The decline in ROE is due to net profit margin, while asset turnover barely changed at 0.15x to 0.18. This indicates that the balance is not fully utilized. The equity multiplier has decreased from 2.33x to 1.74x removed a lever which could have boosted

the returns. As all three components are moving against BESL, it will be difficult for it to recover financial health without an operational intervention.

2.5.2Accounting Practices

BESL's financial statements are prepared following IFRS and Bangladeshi regulations. Under IFRS 15, it records commissions at trade execution. It recognizes margin loan interest on accrual basis and records dividend income when received. It follows straight line depreciation (20% for vehicles and 25% for computers). Under IFRS, 16 right-use-of assets are depreciated and software is amortized as an intangible asset. Under IFRS 9, securities and investments are carried at fair value

These practices meet the standards of all listed brokerages. One important implication is the use of accrual basis of accounting. The reported profits may vary significantly from the actual cash generation. This is an important thing to consider, as BESL showcased receivable failure in 2022 and 2023.

2.6 Operations Management and Information System

2.6.1 Operations Management

BESL operates in eight branches across five cities. Each branch functions independently and handles its own operations. Additionally, client deposits and payments are managed at branch level. Almost all the branches have its own finance, settlement and IT teams. The corporate branch in Gulshan only handles the international trade and foreign trade.

2.6.2 Information System

The IT department plays the most critical role in BESL. Trading would be impossible without it. All trading activities are automated through software. Now, the IT team's key responsibility is to run the software without any issue. Different departments store data in different ways.

2.7 Industry and Competitive Analysis

2.7.1 SWOT Analysis

Strength	Weakness
● Almost 60% market share in foreign portfolio investment ● Award-winning research team ● Integration of automation and Artificial Intelligence	● Compensation at entry-level and mid-levels is below market rates, creating retention challenges. ● Weak retail market penetration ● Limited branch presence and brand recognition outside Dhaka ● Heavy reliance on research reputation
Opportunities	**Threats**
● Potential entry into commodity exchange and derivatives market ● Growing NRB investor base seeking Bangladeshi market exposure ● Digital platform extension to capture tech-savvy younger investors	● Macroeconomic instability reducing market activity ● Intensifying competition from emerging fintech platforms ● Regulatory changes in BSEC

Table No: 6, SWOT Analysis

2.7.2 Porter's Five Forces Analysis

Force	Intensity	Analysis
Threat of New Entrants	Moderate	Entry barriers are high due to BSEC licensing requirements and the cost of building research capabilities and client network.
Bargaining Power of Buyers	High	Institutional and foreign clients have significant negotiating power given the availability of alternative brokers.
Bargaining Power of Suppliers	Low	Whole DSE and CSE data is standardized and accessible, skilled human capital remain scarce. BESL's employer brand partially compensates this.
Threats of Substitutes	Moderate	There are few alternatives available in Bangladesh. Investors have few options outside the core offerings such as T-bonds, T-bills and corporate bonds.
Competitive Rivalry	High	DSE has over 250 registered brokers, and the community is highly competitive. BESL stands out for its research quality and foreign investor access. Though it faces strong rivalry from firms like Shanta Securities and UCB Stock Brokerage.

Table No: 7, Porter's Five Forces

2.8 Summary and Conclusion

BRAC EPL Stock Brokerage (BESL) is Bangladesh's one of the most reliable institutional brokerages. The SWOT analysis reveals its strengths, which are an award-winning research team, a dominant share in foreign portfolio investment and the reputational strength of BRAC organization. The hybrid leadership style and research driven culture have given it genuine brand recognition.

On the other hand, the financial analysis showcases that the company is not in sound health. Profitability has declined sharply over the years despite having a healthy gross margin above 70%. Net margin dropped from 40.6% in 2020 to -8.6% in 2024. The DuPont analysis reveals operating costs have grown faster than the revenue, assets are underutilized and all three drivers are working against the firm.

BESL still holds a competitive advantage in brand equity. In order to sustain it, BESL must solve the cost management issue, address talent retention and look for ways to diversify its revenue. Otherwise, income statement pressure will erode the balance sheet stability.

2.9 Recommendation

Cost Audit Across Branches: BESL's operating margin dropped from 54% to 4.5%, while gross margin remained stable. This shows that the company has a cost management problem. This is also a branch level problem. A cost review at that level can uncover the inefficiencies which might be missed in consolidated reporting. By identifying the problems at specific locations, BESL can become highly profitable again without relying on revenue growth.

Revised Compensation: Salary benchmarking will provide just enough support to keep the talents from leaving and save BESL from the cost of constant rehiring.

Build a Retail Digital Strategy: BESL's digital presence should cater to younger, tech savvy investors. Collaborations with personal finance influencers can help them diversify the client base.

Chapter 3

Project Part

3.1 Introduction

Bangladesh's capital market went through a major transformation from 2019-2025. The macroeconomic condition went from a period of stability to a worsening crisis. This was mostly driven by two key forces: the sharp depreciation of Bangladeshi Taka (BDT) and sharp rise in domestic inflation. This directly influenced the foreign investor activities in Dhaka Stock Exchange (DSE). This chapter analyzes the nature of the relationship using the baking sector to represent the overall capital market.

Banks play a central role in the DSE. Stock such as BRACBANK, CITYBANK, PRIMEBANK and ISLAMIBANK are always in the radar of the foreign portfolio investors. These are large-cap stocks, at least in some cases, with internationally recognized governance. As a result, foreign ownership in the baking stocks servs as a leading indicator which showcases investor confidence in Bangladesh's macroeconomic stability.

3.1.1 Background and Problem Statement

Bangladesh experienced a period of notable macroeconomic stability from 2019 to 2021. Taka remained stable, trading at BDT 83-86 per USD, while inflation was controlled at 5-6%. Foreign exchange reserves were steadily growing and reached USD 49 billion. In the capital market, foreign ownership percentage of banking stocks remained relatively stable. It was around 3-4% of the broader market. However, the stability did not last. From mid-2022, a combination of external shocks shifted the situation dramatically. Globally, Russia-Ukraine war spiked the energy and commodity prices. Domestically, high import bills and current account deficits led to a severe foreign exchange crisis. BDT depreciated approximately 43.5% against USD. By 2024, one USD cost BDT 121-122. Inflation followed a similar pattern, peaking at 11.66% in July 2024 (Bangladesh Bureau of Statistics, 2024). Meanwhile, the foreign reserves dropped below USD 20 billion. This resulted in Bangladesh Bank to imposing restriction on import and capital flows. This report aims to find the quantitative relationship between BDT depreciation, inflation and foreign ownership in the DSE banking sector over 2019-2025 using comparative, time-series analysis.

3.1.2 Objectives

Primary Objective: To investigate the impact of exchange rate depreciation and inflation on foreign ownership in four major DSE-listed banking stocks (BRACBANK, CITYBANK, PRIMEBANK, and ISLAMIBANK) by comparing the stable period (2019–2021) with the crisis period (2022–2025).

Secondary Objective:

- To document changes in exchange rate, inflation, and foreign ownership levels across stable and crisis periods using descriptive statistics and independent sample t-tests.
- To analyze the strength and direction of relationships between macroeconomic variables and foreign ownership using Pearson correlation, and to identify counter-theoretical reversal patterns
- To determine the explanatory power of exchange rate and inflation on foreign ownership using regression analysis, and to examine whether macroeconomic impact intensifies during crisis periods using period-specific regression.
- To identify bank-specific heterogeneity in macro sensitivity and explain anomalies and to provide evidence-based recommendations for policymakers, regulators, and market participants

3.1.3 Significance

The study contributes to both academic and practical policy discussions. It offers a quantitative look at how Bangladesh's capital market moved through a full macroeconomic cycle through analyzing foreign ownership in banking sector. The methodology is designed to be replicable for similar frontier market studies. The findings also address the ongoing sectoral reforms, given Bangladesh's current situation and IMF program commitments. For investors, this study helps understand how macroeconomic risk factors affect capital allocation decision and what variables to consider before entering in Bangladeshi market.

3.1.4 Scope of the Study

The study focuses on monthly ownership data for four banking stocks listed on the DSE: BRACBANK, PRIMEBANK, CITYBANK and ISLAMIBANK, covering November 2019 to December 2025. These four stocks were selected based on their large cap status and high visibility,

which make them more likely to attract foreign portfolio investment. Data was collected from DSE website, Bangladesh Bank, Bangladesh Bureau of Statistics and LankaBangla Financial Portal.

The study has some limitations. Foreign ownership is measured as percentage of total shares outstanding, so it does not distinguish between strategic and portfolio investors. As only four banks were analyzed, the findings cannot be generalized across the whole banking sector. The regression model excludes potential control variables such as GDP growth, interest rate differentials and global risk sentiment (VIX index). Monthly frequency of data may hide the volatility within the individual months.

3.2 Literature Review

According to Branson (1977), portfolio balance model shows exchange rate depreciation creates a dual penalty on foreign equity holders. It causes direct value loss when BDT assets are converted back to foreign currency and increases the country's risk premium, which raises the discount rate applied to the future cashflow. Ajayi and Mougoue (1996) confirmed this pattern in emerging markets. Their research showed that currency depreciation negatively impacts stock returns and the effect increases in weaker institutional environments. Hau and Rey (2006) demonstrated that countries undergoing depreciation systematically lose foreign portfolio investment during periods of global risk aversion. Fama (1981) proxy hypothesis established that inflation is negatively related to real economic activity which extends to stock returns. Gultekin (1983) confirmed this relationship across 26 countries and observed that the effect is strongest in less developed financial systems. A synthesis of frontier market literature revealed that these markets respond disproportionately to domestic shocks in inflation, currency stability and governance where larger emerging markets are more influenced by global factors (Speidell & Krohne 2007). Lastly, Ahmed and Zlate (2014) and Fratzscher (2012) established the canonical framework distinguishing push factors (global conditions) from pull factors (domestic conditions). Their findings reveal that pull factors plays the dominant role when domestic conditions weaken.

Bangladesh’s post 2022 experience provides a perfect example. Taka depreciated approximately 43.5% between 2021 and 2024, reaching BDT 121-122 per USD. Meanwhile CPI based inflation peaked at 11.66% in July 2024 (Bangladesh Bureau of Statistics, 2024; US State Department, 2024). Royal Capital noted that even when share prices are stable in taka, foreign investors incur dollar losses when the currency weakens (The Financial Express, 2026). Net foreign investment

in DSE stocks fell to negative USD 66 million in July to October period alone, compared to negative USD 9 million in the same period the previous year (The Daily Star, 2025). Data from DSE reveals that foreign investment was negative in seven of eight years prior to this study. The only exception was 2023. (The Business Standard, 2026). Adding to the macroeconomic pressure, Bangladesh's banking sector faced a severe governance crisis. NPL increased from USD 12.8 billion in September 2022 to USD 16.2 billion in September 2023. By June 2025, NPL reached BDT 5,304 billion, representing 27.09% of all outstanding loans, the highest NPL ratio in Asia (Prothom Alo, 2025). This left foreign investors deeply concerned about the banking sector, with most viewing only four to five banks as relatively stable (The Daily Star, 2025). The combination of currency depreciation and institutional weakness created a dual risk environment that this study aims to analyze.

Beyond the macroeconomic issues, DSE's structural problems made things worse. Foreign investors mentioned tax complexity, limited listings and unpredictable regulatory policies as key barriers to participation (The Business Standard, 2026). Market data reflects this sentiment. Foreign investors accounted for just 0.88% of DSE market turnover in 2024, the lowest figure since 2010. In contrast, Thailand's foreign investor contribution was 51%, Indonesia's 33% and Vietnam's 18% (The Business Standard, 2025). On top of that, no significant new listing occurred on the DSE for more than two years, which led stakeholders and regulators to push for mandatory listing policies targeting multinationals and large local companies (The Financial Express, 2026).

Policy responses during this period produced mixed results. In March 2025, Bangladesh Bank raised the threshold for approval-free capital repatriation from BDT 10 crore to BDT 100 crore. However, analysts warned that easing capital exit during a period of currency depreciation could speed up outflows rather than attract new investment (The Daily Star, 2025). According to Habib (2023), foreign stock market investment fell by 50% from 2019 to 2023, with banking stocks experiencing the sharpest decline. Net foreign outflow from the DSE reached BDT 261 crore in 2024 and BDT 270 crore in 2025 (The Business Standard, 2026).

The political transition of August 2024 briefly lifted investor sentiment, with foreign investors expressing cautious optimism (The Daily Star, 2024). However, outflows resumed by early 2025, suggesting the market failed to contain the investor confidence. Remarkably, BRACBANK's

foreign ownership rose from 33.79% to 36.16% between June and September 2024, following its record profit of BDT 12.3 billion (The Financial Express, 2025).

3.3 Methodology

The study uses a quantitative, explanatory research design to analyze how BDT depreciation and inflation affected foreign ownership in the selected banking stocks between 2019 and 2025. The time frame is divided into two periods, a Stable Period (2019-2021) and a Crisis Period (2022-2025), allowing a direct comparison of foreign ownership and macroeconomic conditions. All analyses were done using Python 3.14 with pandas, NumPy and SciPy.

3.3.1 Data Collection and Sources

Secondary data was collected from multiple sources. Monthly foreign ownership percentages were taken from DSE website and LankaBangla Financial Portal for BRACBANK, CITYBANK, PRIMEBANK and ISLAMIBANK. Exchange rate data (BDT/USD) was taken from Bangladesh Bank. Monthly CPI based inflation data came from Trading Economics which uses BBS data. The dataset covers November 2018 to December 2025. The Stable Period (January 2019 – December 2021) includes 31 observations and the Crisis Period (January 2022-December 2025) includes 44 observations.

3.3.2 Dependent and Independent Variables

Dependent Variable: Foreign Ownership (%). The proportion of total outstanding shares held by foreign investors for each baking stocks

Independent Variable:

- Exchange rate (BDT/USD). Monthly average BDT/USD exchange rate from Bangladesh Bank. A higher rate means more BDT depreciation. Depreciation is expected to have a negative relationship with foreign ownership because it lowers the dollar value of asset held in Taka.
- Inflation Rate (%). Monthly CPI based inflation rate taken from Trade Economics and BBS. High inflation is expected to have a negative relationship with foreign ownership as high inflation reduces real returns and signals an unstable economy.

3.3.3 Analytical Methods

Five analytical methods were used in sequence. First, descriptive statistics (mean, standard deviation, min, max) for all variables across both periods. This shows how the distributions changed between the stable and crisis period. Second, independent sample t-tests were used to see whether the mean differences between the two periods were significant. Results are marked with * ($p<0.05$), **($p<0.01$) and **($p<0.001$) levels. Third, Pearson's correlation coefficients were computed between each macro variable and each bank's foreign ownership. This was done for the full period and each sub period separately to see if the relationship shifted or not. Fourth, a simple OLS regression was conducted. Each macro variable was tested separately against each bank's foreign ownership to see its individual explanatory power. Finally, multiple OLS regression was conducted with both exchange rate and inflation as simultaneous predictors. Adjusted R^2 and F-statistics are reported. This also was run separately for each period to see whether relationships intensified during the crisis.

$$Foreign\ Ownership_{(i,t)} = \alpha + \beta_1 \times ExRate_{(t)} + \beta_2 \times Inflation_{(t)} + \varepsilon_{(i,t)}$$

3.4 Hypothesis

- H_0 : Taka depreciation and inflation have no significant impact on foreign ownership in DSE banking stocks during 2019-2025
- H_1: Taka depreciation and inflation have significant negative impact on foreign ownership in DSE banking stocks during 2019-2025

3.5 Findings and Analysis

3.5.1 Descriptive Statistics

Variable	Period	Mean	Std Dev	Min	Max
Exchange Rate (BDT/USD)	Stable (2019-2021)	84.75	0.42	83.9	85.8
	Crisis (2022-2025)	110.03	11.67	86	123
Inflation (%)	Stable (2019-2021)	5.6	0.27	5.02	6.44
	Crisis (2022-2025)	9.02	1.29	5.86	11.66
BRACBANK Foreign (%)	Stable (2019-2021)	40.07	2.75	35.19	43.92
	Crisis (2022-2025)	33.43	2.42	29.9	38.26
CITYBANK Foreign (%)	Stable (2019-2021)	7.74	3.74	3.03	12.47
	Crisis (2022-2025)	5.08	0.92	3.5	6.8
PRIMEBANK Foreign (%)	Stable (2019-2021)	2.33	1.38	0.44	3.54
	Crisis (2022-2025)	2	2.49	0.32	7.54
ISLAMIBANK Foreign (%)	Stable (2019-2021)	22.12	1.76	20.31	24.18
	Crisis (2022-2025)	18.97	4.94	8.27	34.49

Table No: 7, Descriptive Statistics (Stable vs. Crisis Period)

Between the stable and crisis period, the exchange rate increased by a mean of BDT 25.24. This is a depreciation of about 29.8%. Inflation increased from 5.60% to 9.02%, an increase of 3.44% point. Foreign ownership declined across all four banks during this shift. BRACBANK saw the most pronounced decline. Average foreign ownership dropped 6.64% points, from 40.07% to 33.43%. CITYBANK's foreign ownership fell from 7.74% to 5.08%, while PRIMEBANK had an insignificant decline. However, ISLAMIBANK experienced a sharp decline from 22.12% to 18.97%, dropping 3.21 percentage points. Its standard deviation nearly tripled during the crisis period from 1.76% to 4.94%, indicating high volatility. On top of that, its minimum foreign ownership dropped to 8.27%, suggesting these patterns result from a structural ownership shift due to governance issues.

3.5.2 Independent Sample T-tests

Variable	Stable Mean	Crisis Mean	Change	t-Statistic	p-Value	Significance
Exchange Rate (BDT/USD)	84.79	109.03	25.24	-14.165	< 0.001	***
Inflation (%)	5.6	9.02	3.44 pp	-16.727	< 0.001	***
BRACBANK Foreign (%)	40.07	33.43	-6.64 pp	10.402	< 0.001	***
CITYBANK Foreign (%)	7.74	5.08	-2.66 pp	3.756	0.0007	***
PRIMEBANK Foreign (%)	2.33	2.03	-0.30 pp	0.652	0.5166	ns
ISLAMIBANK Foreign (%)	22.12	18.86	-3.26 pp	3.962	0.0002	***

Table No: 8, Independent Sample T-Test Results (Stable vs. Crisis Period)

The independent t-test results strongly support H1. The differences in exchange rate and inflation between the two periods are highly significant ($p<0.001$), confirming a shift in the macro environment. BRACBANK ($t=10.402$, $p<0.001$), CITYBANK ($t=3.756$, $p=0.0007$) and ISLAMIBANK ($t=3.962$, $p=0.0002$) showed significant declines in foreign ownership, whereas PRIMEBANK ($p=0.5166$) did not.

These results show a consistent pattern. Foreign investors withdrew significantly from DSE banking stocks during crisis period, which supports the portfolio balance theory.

3.5.3 Correlation Analysis

Bank	Period	r (Exchange Rate)	p-Value	r (Inflation)	p-Value
BRACBANK	Full Period	-0.793	< 0.001	-0.875	< 0.001
	Stable	-0.614	0.0004	-0.114	0.5568
	Crisis	-0.572	0.0001	-0.853	< 0.001
CITYBANK	Full Period	-0.279	0.0177	-0.358	0.0020
	Stable	-0.669	< 0.001	0.187	0.3319
	Crisis	0.767	< 0.001	0.261	0.0915
PRIMEBANK	Full Period	0.271	0.0213	-0.070	0.5612
	Stable	-0.554	0.0018	0.240	0.2106
	Crisis	0.624	< 0.001	-0.049	0.8012
ISLAMIBANK	Full Period	-0.450	0.0001	-0.408	0.0004
	Stable	-0.634	0.0002	-0.03	0.877
	Crisis	-0.273	0.0768	-0.188	0.2277

Table No: 9, Pearson Correlation Coefficients (Exchange Rate and Inflation vs. Foreign Ownership)

The correlation analysis reveals BRACBANK having the strongest relationships, with full period correlations of -0.793 ($p<0.001$) for the exchange rate and -0.874 ($p<0.001$) for inflation. During

the crisis period, inflation correlation rises to -0.853, indicating that inflation has more influence on foreign ownership decline than the exchange rate.

CITYBANK shows an unexpected reversal pattern, where during the stable period exchange rate correlation is -0.669, a strong negative relationship aligning with the theory. However, during the crisis period, the correlation reverses to +0.767 ($p<0.001$). This might be the result of CITYBANK's strategic positioning as a trade finance beneficiary, as its corporate client base expanded during BDT depreciation within the export sector. This could have increased the profit even when the macro environment worsened. PRIMEBANK shows a similar pattern. -0.554 in the stable period to +0.625 in the crisis period. As its foreign ownership base is already so low, these numbers likely come from thin market or erratic trading.

ISLAMIBANK stays negative across both periods. But significance drops during a crisis. The bank went through major governance related ownership restructuring from 2022 to 2025. This probably explains this pattern.

3.5.4 Simple Linear Regression Results

Bank	Independent Variable	α (Intercept)	β (Coefficient)	R^2	p-Value
BRACBANK	Exchange Rate	57.5185	-0.2145	0.6289	< 0.001
	Inflation (%)	50.1971	-1.8454	0.7631	< 0.001
CITYBANK	Exchange Rate	11.1996	-0.0505	0.0778	0.0177
	Inflation (%)	10.0222	-0.5064	0.128	0.002
PRIMEBANK	Exchange Rate	-1.5874	0.0374	0.0735	0.0213
	Inflation (%)	2.7262	-0.0751	0.0048	0.5612
ISLAMIBANK	Exchange Rate	32.6869	-0.1253	0.2022	0.0001
	Inflation (%)	26.9567	-0.8877	0.1664	0.0004

Table No: 10, Simple Linear Regression Results

BRACBANK's simple regression shows the strongest results. Exchange rate alone explains 62.89% of the variance in the foreign ownership (R^2=0.6289). Inflation explains 76.31% (R^2=0.7631). These represent the strongest relationships in the dataset and strongly support H_1 for BRACBANK. For every BDT 1 depreciation against dollar, foreign ownership of BRACBANK declines by 0.22 percentage points (coefficient= -0.2145). A 1 percentage point rise in inflation reduces it by 1.84 percentage points.

Both CITYBANK and ISLAMIBANK show significant relationships. But with lower R^2 values of only 0.0778 to 0.2022. PRIMEBANK shows no significant relationship with inflation

(p=0.5612, R^2= 0.0048). This shows PRIMEBANK's foreign ownership is not driven by macro variables in this study.

3.5.5 Multiple Linear Regression (OLS) Results

Bank	α	β (ExRate)	β (Inflation)	R^2	Adj. R^2	F-Stat	p(F)
BRACBANK	50.96	-0.0164	-1.7306	0.7639	0.757	111.6	< 0.001
CITYBANK	8.31	0.0369	-0.764	0.1364	0.1114	5.45	0.0064
PRIMEBANK	-7.93	0.229	-1.674	0.5572	0.5444	43.42	< 0.001
ISLAMIBANK	32.44	-0.1179	-0.0646	0.2024	0.1793	8.76	0.0004

Table No: 11, Multiple Linear Regression (OLS) (Full Period Results)

The multiple regression results strongly support H_1. For BRACBANK, the model shows an adjusted R^2=0.757 and F=111.6 (p<0.001). Exchange rate and inflation together explain 76% of foreign ownership variance. Inflation is the dominant predictor (β= -1.7306). When the inflation is included, the exchange rate coefficient drops to -0.0164. This indicates the two variables are colinear for BRACBANK.

PRIMEBANK shows the 2nd highest adjusted R^2 at 0.5444 with F=43.42 (p<0.001). The exchange rate coefficient is positive. This is likely due to thin market dynamics seen in the correlation analysis. The inflation coefficient is strong at -1.674. This suggests that inflation still affects PRIMEBANK's foreign ownership.

CITYBANK shows adjusted R^2=0.1114 with F=5.45 (p=0.0064). The exchange rate coefficient is positive which matched with the crisis period reversal found earlier. ISLAMIBANK's adjusted R^2 =0.1793 with F=8.76 (p=0.0004). The exchange rate coefficient is negative but the inflation coefficient is close to zero. This likely mirrors the governance related ownership restructuring.

3.5.6 Period Specific Regression Results

Bank	Period	α	β (ExRate)	β (Inflation)	R^2
BRACBANK	Stable	410.12	-4.3982	0.5122	0.379
	Crisis	47.84	-0.0008	-1.5885	0.728
CITYBANK	Stable	591.1	-7.2298	5.2984	0.588
	Crisis	-1.27	0.0841	-0.3209	0.703
PRIMEBANK	Stable	187.05	-2.3172	2.1009	0.466
	Crisis	-11.36	0.2522	-1.592	0.767
ISLAMIBANK	Stable	268.36	-2.967	0.953	0.422
	Crisis	31.63	-0.1128	-0.0398	0.074

Table No: 12, Period-Specific Multiple Regression Results

The period specific regression shows, for most banks, R^2 values increase sharply during the crisis period. BRACBANK 0.379 to 0.728, CITYBANK 0.588 to 0.703 and PRIMEBANK 0.466 to 0.767. This means macro variables better predict foreign ownership during crisis periods. This supports H_1 and confirms that negative impact of macro variables intensifies during crisis periods. BRACBANK shows exchange rate coefficient -4.3982 during a stable period. In the crisis period it is only -0.0008. Even small changes in the exchange rate movement caused considerable shift in foreign ownership during the stable period, as investors are highly sensitivity to currency fluctuation. However, during the crisis period, inflation became the dominant variable. By that point, the exchange rate had already depreciated so much that small changes carried less informational value compared to the broader inflation trend.

Among the four banks, ISLAMIBANK is the outlier. Its R2 declined sharply from 0.422 (stable period) to just 0.074 (crisis period), meaning macroeconomic variables lost almost all explanatory power. The ownership changes during 2022-2025 were caused by institution specific factors rather than macroeconomic conditions, including the governance scandals, S. Alam group's ownership restructuring and regulatory intervention.

An abnormal pattern occurs in the stable period, where inflation coefficients are positive for CITYBANK, PRIMEBANK and ISLAMIBANK. When inflation remained stable between 5.02% - 6.44%, small increases may have signaled economic strength and higher expected bank profitability. This is consistent with the Fisher effect, where nominal returns partially compensate for inflation. However, during crisis, the relationship reversed sharply as rising inflation began signaling economic distress.

3.6 Summary and Conclusion

The study analyzed the relationship between BDT depreciation, inflation and foreign ownership in four DSE listed banking stocks from November 2019 to December 2025, using descriptive statistics, independent t-tests, Pearson correlation, and both simple and multiple OLS regression. Over the five years, BDT depreciated by nearly 30%, inflation nearly doubled and foreign ownership in banks decline sharply.

BRACBANK served as the strongest example, with average foreign ownership falling from 40.06% to 33.43%. The multiple regression explains almost 76% of the variance, with inflation

being the stronger predictor during the crisis period. These findings support the portfolio balance theory, where depreciation and inflation raise the cost of holding local currency equity for foreign investors. Period specific regression further indicated that macro variables became stronger predictors of foreign ownership during crisis period. However, ISLAMIBANK was the exception. Its ownership changes during the crisis period were caused by governance issues, not macro conditions It highlights the importance of qualitative context when interpreting quantitative findings. CITYBANK and PRIMEBANK both showed correlation reversals, moving from negative relationships in stable period to positive ones during crisis. It might be due to Bangladesh's export sector, which benefited from BDT depreciation and shifted banking business towards these institutions.

In conclusion, BDT depreciation and inflation meaningfully influence foreign portfolio investment in Bangladesh's banking sector, through the intensity of the impact varied from bank to bank and economic cycle.

3.7 Recommendations and Implications

For Macroeconomic Policymakers: BDT depreciated 43.5% between 2021 and 2024 and inflation peaked at 11.66% in July 2024. These two variables explain 76% of BRACBANK's foreign ownership variance, making macroeconomic stability the most powerful lever for restoring foreign investor confidence. Bangladesh Bank should prioritize transparent exchange rate management, credible inflation targeting matched with IMF. It should also work towards rebuilding reserves from below USD 20 billion towards the peak it had seen during the stable period (2019-2021). Reserve building can be done by export diversification and remittance formalization.

For Banking Sector Regulators: ISLAMIBANK's declining R^2 shows governance failures can completely override macro variables. No amount of macroeconomic improvement will recover foreign ownership in institutionally compromised banks. Bangladesh Bank and BSEC should prioritize governance reform alongside macro stability, including independent board requirements, NPL resolution framework and beneficial ownership disclosure.

For Market Participants and Investors: CITYBANK and PRIMEBANK's exchange rate correlations turned from negative to positive during crisis, while BRACBANK's inflation

coefficient remained stable and significant. For investors, it is important to acknowledge that different banks respond differently to macro shocks. BRACBANK's foreign ownership is can be considered as an indicator of broader sentiment, whereas some banks may require tracking through governance indicators rather than macro variables.

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Appendix A: Data Table

Date	BRACBANK	CITYBANK	PRIMEBANK	ISLAMIBANK	Exchange rate	Inflation
30-Nov-18	40.57	11.44	3.08	24.01	83.9	5.58%
Dec 31, 2018 (year ended)	40.69	12.4274	3.08	24.0125	83.9	5.55%
31-Jan-19	41.42	12.4025	3.08	24.0321	83.9	5.51%
28-Feb-19	41.72	12.4274	3.21	24.0818	84.15	5.49%
31-Mar-19	42.7	12.47	3.35	24.15	84.25	5.48%
30-Apr-19	42.85	11.69	3.44	24.12	84.45	5.47%
31-May-19	42.38	12.02	3.41	24.18	84.5	5.63%
30-Jun-19	42.52	11.69	3.41	24.13	84.5	5.52%
31-Jul-19	42.59	11.68	3.38	24.13	84.5	5.62%
31-Aug-19	42.99	11.65	3.56	24.13	84.5	5.49%
30-Sep-19	43.42	11.65	3.54	24.13	84.5	5.54%
31-Oct-19	43.15	11.43	3.52	24.13	84.75	5.47%
30-Nov-19	43.45	10.83	3.52	23.81	84.9	6.05%
Dec 31, 2019 (year ended)	43.48	10.1	3.52	23.57	84.9	5.75%
31-Jan-20	43.92	9.67	3.52	23.57	84.9	5.57%
29-Feb-20	43.23	9.57	3.51	23.54	84.9	5.46%
30-Jun-20	42.42	9.54	3.44	23.26	84.85	6.02%
31-Jul-20	42.17	9.35	3.42	23.23	84.8	5.53%
31-Aug-20	39.08	9.36	3.4	20.72	84.85	5.68%
30-Sep-20	37.45	9.31	3.36	20.67	84.83	5.97%
31-Oct-20	37.04	9.16	3.28	20.63	84.8	6.44%
30-Nov-20	39.4	9.11	3.08	20.58	84.8	5.52%
Dec 31, 2020 (year ended)	39.57	4.15	2.99	20.58	84.8	5.29%
31-Jan-21	39.25	4.23	1.94	20.57	84.8	5.02%
28-Feb-21	39.02	4.23	0.54	20.49	84.8	5.32%
31-Mar-21	37.99	3.91	0.49	20.5	84.8	5.47%
30-Apr-21	37.1	3.44	0.44	20.43	84.8	5.56%
31-May-21	37.93	3.06	0.44	20.42	84.8	5.26%
30-Jun-21	37.71	3.06	0.44	20.39	84.9	5.64%
31-Jul-21	37.4	3.03	0.44	20.36	84.8	5.36%
31-Aug-21	36.72	3.09	0.44	20.34	85.2	5.54%
30-Sep-21	35.61	3.49	0.53	20.32	85.5	5.59%
31-Oct-21	35.19	3.62	0.53	20.31	85.66	5.70%
30-Nov-21	36.81	3.71	0.53	20.31	85.8	5.98%
Dec 31, 2021 (year ended)	37.88	3.64	0.53	20.19	85.8	6.05%
31-Jan-22	38.26	3.57	0.53	20.46	86	5.86%
28-Feb-22	38.18	3.54	0.53	20.46	86	6.17%
31-Mar-22	37.44	3.54	0.51	20.49	86.2	6.22%
30-Apr-22	37.37	3.53	0.51	20.48	86.45	6.29%
31-May-22	37.2	3.5	0.5	20.49	89	7.42%

30-Jun-22	36.06	3.86	0.5	20.58	93.45	7.56%
31-Jul-22	35.84	4.59	0.5	20.59	94.7	7.48%
31-Aug-22	35.21	4.76	0.5	20.59	95	9.52%
30-Sep-22	34.17	4.77	0.5	20.58	107.5	9.10%
31-Oct-22	34.1	4.74	0.5	20.57	104.34	8.91%
30-Nov-22	34.03	4.92	0.5	20.59	103.6	8.85%
Dec 31, 2022 (year ended)	33.64	5.19	0.5	20.24	107	8.71%
31-Jan-23	33.51	5.24	0.5	20.24	105.35	8.57%
28-Feb-23	33.48	5.16	0.5	20.24	107	8.78%
31-Mar-23	33.42	5.16	0.5	21.3025	107	9.33%
30-Apr-23	33.4	5.16	0.5	22.365	107	9.24%
31-May-23	33.33	5.1	0.5	23.4275	108	9.94%
30-Jun-23	33.02	5	0.5	24.49	108.84	9.74%
31-Jul-23	32.89	5	0.5	34.49	109	9.69%
31-Aug-23	32.65	4.94	0.34	34.49	109.5	9.92%
30-Sep-23	30.57	4.9	0.34	26.595	110.5	9.63%
31-Oct-23	30.45	4.89	0.34	8.27	110.5	9.93%
30-Nov-23	30.29	4.89	0.34	13.16	110.5	9.49%
Dec 31, 2023 (year ended)	30.2	4.82	0.33	13.16	110	9.41%
31-Jan-24	29.9	4.57	0.33	13.16	110	9.86%
29-Feb-24	30.8	4.46	0.33	13.16	110	9.67%
31-Mar-24	30.96	4.31	0.33	13	110	9.81%
30-Apr-24	30.77	4.1	0.33	12.96	110	9.74%
31-May-24	30.66	4.1	0.33	12.96	117.9	9.89%
30-Jun-24	30.25	4.2	0.33	12.96	118	9.72%
31-Jul-24	30.75	4.32	0.33	12.96	118	11.66%
31-Aug-24	32.11	5.3	0.32	17.91	120	10.49%
30-Sep-24	31.9	5.54	2.36	17.89	120	9.92%
31-Oct-24	31.92	5.57	3.34	17.89	120	10.87%
30-Nov-24	31.86	5.56	4.11	17.89	120	11.38%
Dec 31, 2024 (year ended)	31.76	5.66	4.11	17.89	120	10.89%
31-Jan-25	32.09	5.87	4.09	17.89	122	9.94%
28-Feb-25	32.2	5.88	4.44	17.89	122	9.32%
31-Mar-25	31.97	5.84	4.96	17.89	122	9.35%
30-Apr-25	31.51	5.77	4.87	17.89	122	9.17%
31-May-25	32.52	6.71	5.12	17.89	123	9.05%
30-Jun-25	33.79	6.53	5.12	17.89	122.85	8.48%
31-Jul-25	35.5	6.64	7.54	17.88	118	8.55%
31-Aug-25	36.06	6.77	7.48	17.89	121.73	8.29%
30-Sep-25	36.16	6.8	7.48	17.89	121.8	8.36%
31-Oct-25	36.08	6.47	7.14	17.89	122.34	8.17%
30-Nov-25	36.11	6.04	6.71	17.89	122.35	8.29%
Dec 31, 2025 (year ended)	36.06	5.4	6.72	17.89	122.29	8.49%

Appendix B: Python Code for evaluating BESL's Financial Performance

Data Setup:

```
import matplotlib.pyplot as plt
import numpy as np

plt.rcParams.update({
    "figure.facecolor": "white",
    "axes.facecolor":   "#f8f9fa",
    "axes.grid":        True,
    "grid.color":       "#e0e0e0",
    "grid.linestyle":   "--",
    "grid.linewidth":   0.6,
    "axes.spines.top":  False,
    "axes.spines.right":False,
    "font.family":      "DejaVu Sans",
    "axes.titlesize":   12,
    "axes.labelsize":   10,
})

YEARS  = [2020, 2021, 2022, 2023, 2024]
SOURCE = "Source: BESL Audit Report"

# Table 1: Five-Year Financial Ratio Summary
current_ratio  = [1.67, 2.26, 2.97, 2.33, 2.13]
cash_ratio     = [0.74, 1.48, 1.41, 1.22, 1.24]
receivable_to  = [1.10, 2.16, 0.96, 0.89, 1.80]
de_ratio       = [2,    5,    6,    5,    4   ]   # in %
debt_ratio     = [0.9,  2.9,  3.8,  2.8,  2.5]   # in %
interest_cov   = [23.46, 48.86, 12.48, 10.16, 1.59]
roa            = [6.2,  10.6,  3.5,  1.7,  -1.6]  # in %
roe            = [14.4, 18.7,  5.3,  2.8,  -2.7]  # in %
gp_margin      = [73.9, 76.9, 76.7, 78.6, 73.1]   # in %
op_margin      = [54.1, 52.8, 27.7, 26.6,  4.5]   # in %
np_margin      = [40.6, 36.2, 14.8, 10.5, -8.6]   # in %

# Table 2: DuPont ROE Decomposition
np_margin_dupont  = [40.6, 36.2, 14.8, 10.5, -8.6]
asset_turnover    = [0.15, 0.29, 0.24, 0.16,  0.18]
equity_multiplier = [2.33, 1.76, 1.50, 1.65,  1.74]
dupont_roe        = [14,   19,    5,    3,    -3  ]   # in %
```

Representative Chart

```
fig, ax = plt.subplots(figsize=(8, 4.5))

ax.plot(YEARS, roa, marker="o", linewidth=2.5, color="#1f77b4",
        markersize=8, label="ROA (%)")
ax.plot(YEARS, roe, marker="s", linewidth=2.5, color="#ff7f0e",
        markersize=8, label="ROE (%)")

ax.axhline(0, color="black", linewidth=0.9)
ax.fill_between(YEARS, roa, 0, where=[v < 0 for v in roa],
                alpha=0.10, color="#d62728")
ax.fill_between(YEARS, roe, 0, where=[v < 0 for v in roe],
                alpha=0.10, color="#d62728", label="Loss zone")

ax.set_title(f"Figure 7: Return on Assets & Return on Equity (2020–2024)\n{SOURCE}")
ax.set_xlabel("Year")
ax.set_ylabel("Percentage (%)")
ax.set_xticks(YEARS)
ax.legend()

plt.tight_layout()
plt.savefig("Figure_7_ROA_ROE.png", dpi=150, bbox_inches="tight")
plt.show()
```

All other figures use the same structure. Full code for Figures 2–6, 8, and 9 is available in this Link

Appendix C: Python Code for DSE Banking Foreign Ownership Analysis

Library Imports

```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import matplotlib.dates as mdates
from scipy import stats
from scipy.stats import f as f_dist
from numpy.linalg import lstsq
import io, warnings
warnings.filterwarnings("ignore")

plt.rcParams.update({
    "figure.facecolor": "white",
    "axes.facecolor": "white",
    "axes.grid": True,
    "grid.color": "#e5e5e5",
    "axes.spines.top": False,
    "axes.spines.right": False,
    "font.family": "DejaVu Sans",
})

BANKS  = ["BRACBANK", "CITYBANK", "PRIMEBANK", "ISLAMIBANK"]
COLORS = {"BRACBANK": "#1f77b4", "CITYBANK": "#ff7f0e",
          "PRIMEBANK": "#2ca02c", "ISLAMIBANK": "#d62728"}
STABLE_END   = pd.Timestamp("2021-12-31")
CRISIS_START = pd.Timestamp("2022-01-01")
```

Data Loading & Preparations

```
COL_NAMES = ["Date", "Sponsor_Director", "Government", "Institute", "Foreign", "Public"]

bank_dfs = {}
for bank in BANKS:
    file_bytes.seek(0)
    raw = pd.read_excel(file_bytes, sheet_name=bank, header=None,
                        skiprows=2, usecols=range(1, 7))
    raw.columns = COL_NAMES
    raw["Date"] = pd.to_datetime(raw["Date"], errors="coerce")
    raw = raw.dropna(subset=["Date"])
    for c in COL_NAMES[1:]:
        raw[c] = pd.to_numeric(raw[c], errors="coerce")
    raw = raw.sort_values("Date").reset_index(drop=True)
    bank_dfs[bank] = raw

# Exchange rate & inflation sheets loaded similarly, then merged:
master = exch.merge(infl[["Date", "Inflation_pct"]], on="Date", how="inner")
for bank in BANKS:
    tmp = bank_dfs[bank][["Date", "Foreign"]].rename(columns={"Foreign": bank})
    master = master.merge(tmp, on="Date", how="inner")

master = master[master["Date"] >= "2019-01-01"].reset_index(drop=True)
master["Period"] = master["Date"].apply(
    lambda d: "Stable (2019-2021)" if d <= STABLE_END else "Crisis (2022-2025)"
)
stable = master[master["Period"] == "Stable (2019-2021)"].reset_index(drop=True)
crisis = master[master["Period"] == "Crisis (2022-2025)"].reset_index(drop=True)
```

Descriptive Statistics:

```
for v in variables:
    for period, df in [("Stable (2019-2021)", stable), ("Crisis (2022-2025)", crisis)]:
        s = df[v].dropna()
        print(f"{var_labels[v]:<28} {period:<22} "
              f"{s.mean():>7.2f} {s.std():>7.2f} {s.min():>7.2f} {s.max():>7.2f}")
```

Independent sample T-test

```
for v in variables:
    s_vals = stable[v].dropna()
    c_vals = crisis[v].dropna()
    t_stat, p_val = stats.ttest_ind(s_vals, c_vals, equal_var=False)
    print(f"{var_labels[v]:<28} {s_vals.mean():>12.2f} {c_vals.mean():>12.2f} "
```

```
        f"{t_stat:>10.3f} {p_val:>10.4f}")
```

Multiple OLS Regression

```
def run_multiple_ols(df, bank):
    """OLS: bank ~ intercept + Exchange_Rate + Inflation_pct"""
    y = df[bank].values
    X = np.column_stack([np.ones(len(df)), df["Exchange_Rate"].values,
                         df["Inflation_pct"].values])
    n, k = X.shape
    coeffs, _, _, _ = lstsq(X, y, rcond=None)
    y_hat  = X @ coeffs
    ss_res = np.sum((y - y_hat) ** 2)
    ss_tot = np.sum((y - y.mean()) ** 2)
    r2     = 1 - ss_res / ss_tot
    adj_r2 = 1 - (1 - r2) * (n - 1) / (n - k)
    f_stat = (r2 / (k-1)) / ((1 - r2) / (n - k))
    p_f    = 1 - f_dist.cdf(f_stat, k-1, n-k)
    return {"alpha": coeffs[0], "b_exrate": coeffs[1],
            "b_infl": coeffs[2], "r2": r2, "adj_r2": adj_r2,
            "f_stat": f_stat, "p_f": p_f}

# Full period regression
for bank in BANKS:
    r = run_multiple_ols(master, bank)
    print(f"{bank:<12} α={r['alpha']:.2f}  β(ExRate)={r['b_exrate']:+.4f}  "
          f"β(Inflation)={r['b_infl']:+.4f}  R²={r['r2']:.4f}  p(F)={r['p_f']:.4f}")
```

Full code for rest of the calculation is available in this Link