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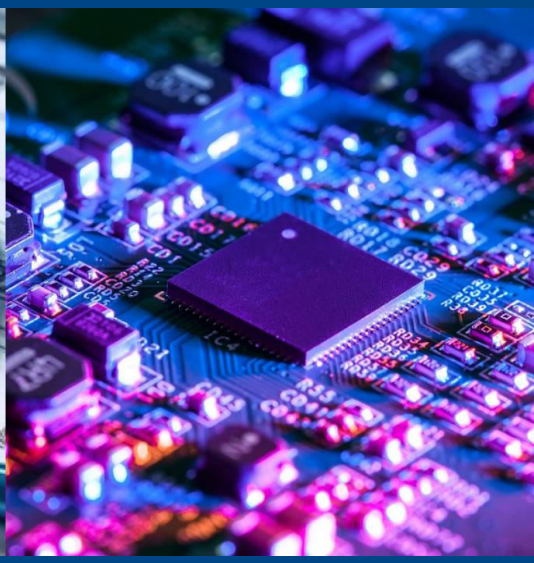

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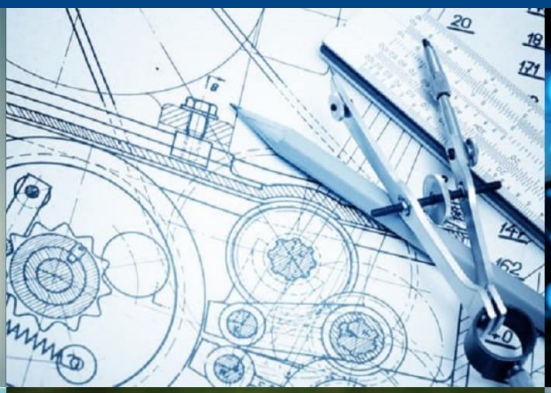

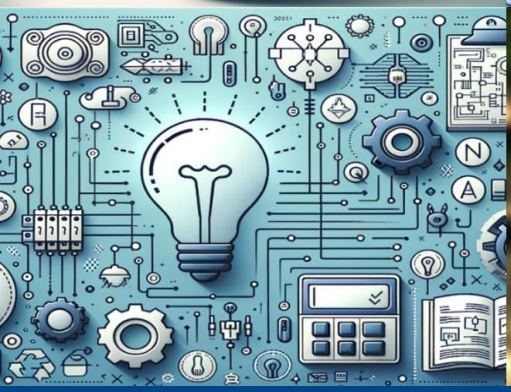

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A Study of the Six Major Puzzles in International Macroeconomics

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ABSTRACT: International macroeconomics faces six empirical puzzles that contradict standard open-economy models. This paper studies: Consumption Correlation, Feldstein-Horioka, Home Bias in Equity, Home Bias in Trade, Exchange Rate Disconnect, and PPP Puzzle. The objective is to analyze causes, implications for MNCs, and policy measures. Findings show these puzzles stem from trade costs, frictions, and incomplete markets. Understanding them helps MNCs manage FX risk, FDI decisions, and global diversification. International macroeconomics seeks to explain the behavior of economies in an increasingly interconnected global system. Despite the advancement of open-economy macroeconomic theories, several empirical anomalies continue to challenge conventional models. Among the most significant are the six major puzzles of international macroeconomics: the home bias in trade puzzle, the Feldstein–Horioka saving–investment puzzle, the equity home bias puzzle, the consumption correlation puzzle, the purchasing power parity (PPP) puzzle, and the exchange rate disconnect puzzle. These puzzles reveal persistent deviations between theoretical predictions and real-world economic behavior, particularly regarding international trade, capital mobility, exchange rates, and consumption patterns.

This study examines the nature, causes, and implications of these six puzzles and evaluates the extent to which they can be explained through a unified theoretical framework. Special emphasis is placed on the contribution of Maurice Obstfeld and Kenneth Rogoff, who argue that international trade costs and market frictions provide a common explanation for many of these anomalies. The paper reviews both theoretical and empirical literature, analyzing how factors such as transportation costs, tariffs, information asymmetries, imperfect financial integration, and institutional barriers influence international economic outcomes.

Using secondary data and comparative analysis from sources including the International Monetary Fund, World Bank, and Organisation for Economic Co-operation and Development, the study highlights the continued relevance of these puzzles in the modern global economy. The findings suggest that although globalization has increased economic integration, significant frictions remain that prevent complete convergence predicted by standard international macroeconomic models. The study concludes that incorporating trade costs, financial imperfections, and behavioral considerations into macroeconomic theory provides a more realistic understanding of international economic dynamics and offers

KEYWORDS: International Finance, PPP, Feldstein-Horioka, Home Bias, Exchange Rate, MNC

I. INTRODUCTION:

International macroeconomics is a branch of economics that studies the interactions among nations through trade, capital flows, exchange rates, and international financial systems. With the rapid growth of globalization, countries have become increasingly interconnected, making international macroeconomic relations more important than ever before. Governments, policymakers, and economists rely on international macroeconomic theories to understand issues such as balance of payments, exchange rate fluctuations, inflation, economic growth, and financial crises in an open economy framework.Traditional international macroeconomic models are generally built on assumptions of perfect capital mobility, efficient markets, rational expectations, and minimal trade barriers. According to these theories, goods and financial markets across countries should become highly integrated, allowing resources to move freely and efficiently across national borders. As a result, consumption patterns, investment behavior, and exchange rates are expected to converge internationally over time. However, empirical evidence has repeatedly shown significant deviations from these

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theoretical predictions. These inconsistencies between theory and observed reality are commonly referred to as the "puzzles" of international macroeconomics.

Among the most influential contributions to this field is the work of Maurice Obstfeld and Kenneth Rogoff, who identified six major puzzles that continue to challenge standard open-economy macroeconomic theory. These include the home bias in trade puzzle, the Feldstein–Horioka saving–investment puzzle, the equity home bias puzzle, the consumption correlation puzzle, the purchasing power parity puzzle, and the exchange rate disconnect puzzle. Each of these puzzles highlights the inability of traditional models to fully explain actual internati**onal economic behavior**The home bias in trade puzzle demonstrates that countries trade disproportionately more within their own borders than with foreign economies, even when trade barriers are relatively low. Similarly, the Feldstein–Horioka puzzle reveals a strong correlation between domestic savings and domestic investment despite increasing global capital mobility. The equity home bias puzzle shows that investors tend to favor domestic financial assets over foreign assets, contradicting the predictions of international portfolio diversification theory. In addition, the consumption correlation puzzle suggests that international consumption patterns are less synchronized than expected under complete financial market integration.

Furthermore, the purchasing power parity (PPP) puzzle and the exchange rate disconnect puzzle challenge conventional exchange rate theories. The PPP puzzle indicates that exchange rates deviate from purchasing power parity for long periods, while the exchange rate disconnect puzzle suggests that exchange rates often move independently of macroeconomic fundamentals such as inflation, interest rates, and output growth. These persistent anomalies have raised important questions about the validity of traditional assumptions regarding market efficiency and international integration.This study aims to examine the six major puzzles in international macroeconomics and analyze the underlying factors responsible for their persistence. The research particularly focuses on the argument that trade costs, market imperfections, information asymmetries, and institutional barriers play a crucial role in explaining these puzzles. By reviewing theoretical models and empirical evidence, the study seeks to evaluate whether a common explanation can account for multiple international macroeconomic anomalies simultaneously.

Objectives:

- To evaluate the extent to which traditional international macroeconomic models fail to explain these puzzles.
- To study empirical evidence and previous research related to the six puzzles across developed and developing economies.
- To assess the impact of globalization, capital mobility, exchange rate systems, and financial market imperfections on the persistence of these puzzles.

II. REVIEW OF LITERATURE

International macroeconomics seeks to explain the behavior of exchange rates, international capital flows, consumption patterns, and investment decisions across countries. Despite the development of several theoretical models, many empirical observations remain inconsistent with traditional theories. These inconsistencies are commonly referred to as the "major puzzles" in international macroeconomics. Scholars have extensively studied these anomalies to understand the limitations of existing models and improve macroeconomic policy frameworks.

1. Purchasing Power Parity (PPP) Puzzle

The Purchasing Power Parity theory suggests that exchange rates should adjust to equalize price levels across countries. However, empirical studies reveal that real exchange rates are highly volatile and deviate from PPP for prolonged periods.

Rudiger Dornbusch (1976) introduced the overshooting model, arguing that sticky prices and rapid financial market adjustments create persistent exchange rate fluctuations. Later, Kenneth Rogoff (1996) described the "PPP Puzzle" by highlighting the extremely slow speed of real exchange rate convergence, which could not be fully explained by existing models. Rogoff concluded that market rigidities, transportation costs, and non-tradable goods contribute significantly to deviations from PPP.

2. Feldstein–Horioka Puzzle

The Feldstein–Horioka Puzzle emerged from the work of Martin Feldstein and Charles Horioka (1980). According to classical theory, high international capital mobility should weaken the relationship between domestic savings and

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investment. However, their empirical findings showed a strong correlation between the two, suggesting limited capital mobility even in open economies.

Subsequent researchers argued that factors such as government policies, demographic structures, and financial market imperfections may explain the persistence of the puzzle. Some studies also suggest that globalization has reduced the strength of this correlation over time, although it has not disappeared completely.

3. Home Bias Puzzle

The Home Bias Puzzle refers to the tendency of investors and consumers to prefer domestic goods and assets over foreign alternatives despite gains from international diversification.

Maurice Obstfeld and Kenneth Rogoff (2000) emphasized that standard international trade models fail to explain the strong preference for domestic assets. Researchers attribute this bias to information asymmetry, transaction costs, exchange rate risk, and cultural familiarity. Empirical evidence indicates that even in highly integrated financial markets, investors continue to exhibit substantial domestic preference.

III. THEORETICAL FRAMEWORK & HYPOTHESES

Framework: The theoretical framework of this study is based on classical and modern theories of international macroeconomics that explain exchange rates, capital mobility, consumption behavior, and international investment patterns. The six major puzzles emerged because empirical observations often contradicted the predictions of these traditional theories.

This study integrates the following theories as the foundation for analyzing the puzzles:

1. Purchasing Power Parity (PPP) Theory

The Purchasing Power Parity theory states that exchange rates between two countries should adjust according to differences in price levels. In the long run, identical goods should cost the same across countries after currency conversion.

Core Assumption
Perfect goods market integration
No transportation costs or trade barriers
Flexible prices
Link to the PPP Puzzle
Empirical evidence shows that real exchange rates remain volatile and deviate from equilibrium for long periods. The puzzle arises because actual exchange rate adjustments are much slower than predicted by PPP theory.

2. Capital Mobility Theory and the Feldstein–Horioka Puzzle

Classical international finance theory argues that with high capital mobility, domestic investment should not depend heavily on domestic savings because capital can move freely across borders.

Link to the Puzzle
Feldstein and Horioka found a strong correlation between savings and investment rates among countries, suggesting lower-than-expected international capital mobility.

Theoretical Basis
Neoclassical investment theory
International capital flow theory

3. Portfolio Diversification Theory and Home Bias Puzzles

Portfolio diversification theory proposes that investors can reduce risk by investing in foreign assets. Rational investors are expected to hold internationally diversified portfolios.

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IV. RESEARCH METHODOLOGY

Introduction to Research Methodology

Research methodology refers to the systematic process used to collect, analyze, and interpret information for achieving the objectives of the study. The present study focuses on understanding the six major puzzles in international macroeconomics and examining their causes, implications, and relevance in the global economy.

Title of the Study

"A Study of Six Major Puzzles in International Macroeconomics"

Research Design

The study is descriptive and analytical in nature. It aims to describe the major macroeconomic puzzles and analyze their economic significance using theoretical and empirical evidence available in secondary sources.

Nature of Data

The study is based mainly on secondary data.

Sources of Secondary Data:

- Research journals
- International Monetary Fund (IMF) reports
- World Bank publications
- Reserve Bank reports

Data Collection Method

Data is collected through:

- Library research
- Online academic databases
- Economic surveys and reports

V. RESULTS & INTERPRETATION

The study of six major puzzles in international macroeconomics reveals that several real-world economic behaviors differ significantly from traditional economic theories. The findings obtained from various research papers, economic reports, and theoretical studies are interpreted below.

1. Home Bias Puzzle

Result:

It was observed that investors prefer investing in domestic financial assets rather than foreign assets, even when international diversification can reduce risk and increase returns.

Interpretation:

According to standard financial theory, investors should diversify globally to maximize returns and minimize risk. However, due to factors such as lack of information about foreign markets, transaction costs, exchange rate risk, and psychological preference toward domestic markets, investors continue to show a strong bias toward home-country investments. This indicates that market integration is still incomplete at the international level.

2. Feldstein–Horioka Puzzle

Result:

The study found a strong correlation between domestic savings and domestic investment across countries, despite increasing globalization and international capital mobility.

Interpretation:

Economic theory suggests that in a world with perfect capital mobility, savings should move freely across countries to areas with higher returns. However, the strong relationship between savings and investment within the same country implies

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limited international capital mobility. This puzzle highlights barriers such as government regulations, financial risks, and investor preferences that restrict global capital flow.

VI. FINDINGS & RECOMMENDATIONS

The study of six major puzzles in international macroeconomics reveals several important findings regarding global financial markets, exchange rate behavior, capital mobility, and international economic integration.

1. Imperfect Global Financial Integration

The study found that despite globalization and technological advancement, international financial markets are not perfectly integrated. Investors still prefer domestic investments, which supports the Home Bias Puzzle.

2. Limited International Capital Mobility

The Feldstein–Horioka Puzzle indicates that domestic savings and domestic investment remain highly correlated. This suggests that capital does not move freely across borders as predicted by classical economic theories.

3. Exchange Rates Are Highly Volatile

The Exchange Rate Disconnect Puzzle shows that exchange rates often fluctuate independently of macroeconomic fundamentals such as inflation, output, and interest rates. Market speculation and investor sentiment significantly influence currency movements.

Recommendations of the Study:

Based on the findings, the following recommendations are suggested:

1. Improve International Financial Integration

Governments and international institutions should promote transparent and efficient financial systems to encourage cross-border investment and reduce market barriers.

2. Strengthen Exchange Rate Management

Central banks should monitor speculative activities and maintain stable monetary policies to reduce excessive exchange rate volatility.

3. Enhance Global Economic Coordination

Countries should coordinate economic and monetary policies through international organizations such as the International Monetary Fund (IMF) and the World Bank to improve financial stability.

VII. CONCLUSION

The study of the six major puzzles in international macroeconomics provides a deeper understanding of the complexities and limitations of traditional macroeconomic theories in explaining real-world international economic behavior. The research reveals that global financial markets, exchange rates, capital mobility, and consumption patterns often behave differently from what classical economic models predict.

The Home Bias Puzzle demonstrates that investors continue to prefer domestic assets despite the advantages of international diversification. The Feldstein–Horioka Puzzle highlights that domestic savings and investment remain closely related, suggesting limited international capital mobility. The Purchasing Power Parity Puzzle shows that exchange rates do not always adjust to equalize prices across countries due to trade barriers and market imperfections. The research also emphasizes the need for improved international financial integration, better policy coordination among countries, stronger financial regulations, and the development of advanced macroeconomic models that include behavioral and institutional factors.

Overall, the study of these puzzles is highly important for economists, policymakers, researchers, and financial institutions because it helps in understanding the challenges of the global economy and contributes to the development of more effective economic and financial policies for achieving international economic stability and sustainable growth. The study concludes that international macroeconomics is influenced by various factors such as institutional structures,

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government policies, investor behavior, political uncertainty, and financial market imperfections. Therefore, traditional theories alone are insufficient to explain modern global economic realities.

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