



TC.

BANDIRMA ONYEDİ EYL L UNIVERSITY

INSTITUTE OF SOCIAL SCIENCES

DEPARTMENT OF ECONOMICS

Master's Thesis

**THE NEXUS AMONG FOREIGN DIRECT INVESTMENT, TRADE
OPENNESS, INTEREST RATES AND ECONOMIC GROWTH: A NEW
EVIDENCE FROM EGYPT**

Amr Abdo Taha Saif AL-AWADHI

2315031009

Supervisor:

Assoc. Prof. Mustafa KEVSER

Bandırma 2025

TC.

BANDIRMA ONYEDİ EYLÜL UNIVERSITY

INSTITUTE OF SOCIAL SCIENCES

DEPARTMENT OF ECONOMICS

Master's Thesis

**THE NEXUS AMONG FOREIGN DIRECT INVESTMENT, TRADE
OPENNESS, INTEREST RATES AND ECONOMIC GROWTH: A NEW
EVIDENCE FROM EGYPT**

Amr Abdo Taha Saif AL-AWADHI

2315031009

Supervisor:

Assoc. Prof. Mustafa KEVSER

Bandırma 2025

APPROVAL OF MASTER THESIS

The Master's thesis titled “The Nexus Among Foreign Direct Investment, Trade Openness, Interest Rates and Economic Growth: A New Evidence from Egypt,” prepared by graduate student Amr Abdo Taha Saif Al-Awadhi under the supervision of Assoc. Prof. Mustafa KEVSER, was submitted to the Institute of Social Sciences as part of the requirements for the Master’s Degree in Economics at the Department of Economics, Bandırma Onyedi Eylül University. Following the thesis defense held on 30/05/2025, the examining committee unanimously approved the study as a Master's thesis.

Head of Examining Committee

Assoc. Prof. Mustafa KEVSER

Examining Committee Member

Assoc. Prof. Hale KIRER SILVA LECUNA

Examining Committee Member

Assoc. Prof. Gülçin BEKEN

TO
BANDIRMA ONYEDİ EYLÜL UNIVERSITY
INSTITUTE OF SOCIAL SCIENCES
DEPARTMENT OF ECONOMICS

I affirm that all the information presented in this dissertation has been collected and prepared in compliance with academic standards and ethical principles. In alignment with these standards, I also confirm that any data, opinions, or results not originally mine have been properly referenced and cited. (30/05/2025)

Amr Abdo Taha Saif AL AWADHI

ABSTRACT

THE NEXUS AMONG FOREIGN DIRECT INVESTMENT, TRADE OPENNESS, INTEREST RATES AND ECONOMIC GROWTH: A NEW EVIDENCE FROM EGYPT

Amr Abdo Taha Saif AL AWADHI

This study examines the short- and long-term relationships between Foreign Direct Investment (FDI), trade openness, interest rates, imports, and economic growth in Egypt, employing the Vector Autoregression (VAR) methodology over the period from 1993 to 2023. The Granger causality test is applied to investigate the intertemporal causal linkages among the selected variables. The results reveal unidirectional Granger causality from interest rates to FDI, suggesting that changes in monetary policy play a significant role in influencing foreign investment inflows. Moreover, the study finds unidirectional causality from trade openness to GDP and from imports to GDP, indicating that greater openness to trade and the volume of imports, particularly of capital and intermediate goods, contribute to economic growth. However, no direct or short-term causality is observed from FDI to GDP. These findings highlight the importance of implementing policies that enhance macroeconomic stability, support trade integration, and optimize the structure of imports to support production. The study concludes with policy recommendations aimed at infrastructure modernization, regulatory reform, and export diversification to attract sustainable investments and foster long-term economic development. It also encourages future research to explore the roles of technological innovation, human capital, and environmental sustainability in shaping Egypt's economic trajectory.

Keywords: Egypt, Foreign Direct Investment (FDI), Trade Openness, Economic Growth, Interest Rates, VAR Analysis.

ÖZET

DOĞRUDAN YABANCI YATIRIM, TİCARET AÇIKLIĞI, FAİZ ORANLARI VE EKONOMİK BÜYÜME ARASINDAKİ İLİŞKİ: MISIR'DAN YENİ BİR KANIT

Amr Abdo Taha Saif AL AWADHI

Bu çalışma, 1993–2023 dönemi için Mısır'da doğrudan yabancı yatırım (FDI), ticaret açıklığı, faiz oranları, ithalat ve ekonomik büyüme arasındaki kısa ve uzun vadeli ilişkileri, Vektör Otoregresyon (VAR) yöntemi kullanarak incelemektedir. Seçilen değişkenler arasındaki zamana bağlı nedensellik ilişkilerini analiz etmek amacıyla Granger nedensellik testi uygulanmıştır. Bulgular, faiz oranlarından FDI'ya doğru tek yönlü bir Granger nedenselliği ortaya koymakta olup, para politikasındaki değişimlerin yabancı yatırım girişlerini önemli ölçüde etkilediğini göstermektedir. Ayrıca, çalışmada ticaret açıklığından GSYİH'ye ve ithalattan GSYİH'ye doğru tek yönlü nedensellik ilişkisi tespit edilmiştir. Bu durum, ticarete daha fazla açıklığın ve özellikle sermaye ve ara mal ithalatının ekonomik büyümeye katkı sağladığını göstermektedir. Ancak, FDI'dan GSYİH'ye doğrudan veya kısa vadeli bir nedensellik ilişkisine rastlanmamıştır. Bu bulgular, makroekonomik istikrarı artıracak, ticaret entegrasyonunu destekleyecek ve üretimi desteklemek amacıyla ithalat yapısını optimize edecek politikaların uygulanmasının önemini vurgulamaktadır. Çalışma, sürdürülebilir yatırımları çekmek ve uzun vadeli ekonomik kalkınmayı teşvik etmek amacıyla altyapı modernizasyonu, düzenleyici reformlar ve ihracat çeşitlendirmesine yönelik politika önerileriyle son bulmaktadır. Ayrıca, gelecekte yapılacak araştırmalarda teknolojik yenilik, beşerî sermaye ve çevresel sürdürülebilirliğin Mısır'ın ekonomik gelişim rotasındaki rolünün incelenmesi teşvik edilmektedir.

Anahtar Kelimeler: Mısır, Doğrudan Yabancı Yatırım (FDI), Ticaret Açıklığı, Ekonomik Büyüme, Faiz Oranları, VAR Analizi.

ACKNOWLEDGMENT AND DEDICATION

First and foremost, I express my utmost gratitude to Allah Almighty for granting me the strength, perseverance, and guidance to complete this academic journey successfully. Without His divine assistance, none of this would have been possible. This work is dedicated to my beloved parents, whose unwavering love, support, and prayers have been my source of motivation and inspiration throughout my life.

I would also like to extend my deepest gratitude to Bandırma Onyedi Eylül University for providing an encouraging and stimulating academic environment that greatly contributed to the completion of this research.

A special acknowledgment goes to my esteemed supervisor, Associate Professor Mustafa Kevser, whose invaluable guidance, constructive feedback, and constant encouragement were pivotal in shaping this study. His dedication and support throughout my research journey have been truly instrumental in achieving this milestone.

I am also deeply thankful to all the professors in my program, whose expertise and knowledge have enriched my academic experience and provided me with a solid foundation for this research. My heartfelt thanks go to my friends in the city of Bandırma, Türkiye, who became my second family and ensured that I never felt the burden of being away from home. Finally, I hope that this work will contribute meaningfully to the advancement and development of our nation and humanity as a whole.

Amr Abdo Taha Saif AL AWADHI

Bandırma, 2025

TABLE OF CONTENT

ABSTRACT	IV
ÖZET	V
ACKNOWLEDGMENT AND DEDICATION.....	VI
LIST OF TABLE	X
LIST OF FIGURE.....	XII
LIST OF ABBREVIATIONS	XIII
INTRODUCTION.....	1
CHAPTER ONE.....	4
LITERATURE REVIEW	4
1.FDI and GDP.....	4
2.TO and GDP	7
3.IR and GDP	9
CHAPTER TWO.....	13
FDI, TO, IR AND ECONOMIC GROWTH: THE THEORETICAL APPROACH	13
1.Foreign Direct Investment.....	13
1.1.The Concept and Nature of FDI.....	13
1.2.The Feasibility and Benefits of FDI.....	15
1.3. FDI To Host Countries	17
1.3.1.Theories Explaining the Factors and FDI	18
1.3.2.Factors Influencing the Flow of FDI to Developing Countries.	20
2. Trade Openness	23
2.1.The Concept of Trade Openness	23
2.2.Theories Connected To Trade.....	24
2.2.1. International Trade in the Thought of Mercantilists.....	24
2.2.2. The Classical School and the Emergence of Free Trade	27
2.2.3.The Historical School and the Revival of Mercantilism.	32

2.2.4.The Neoclassical School and the Evolution of the Concept of Relative Costs.....	32
2.2.5.Modern Developments in the Theory of International Trade:.....	34
3.Interest Rate (IR).....	36
3.1. The Concept Of Interest Rate.....	37
3.2.The Importance of Interest Rates	40
3.4.Determinants and Influencing Factors of Interest Rates	41
3.4.1.Determinants of Interest Rates	41
3.4.2.Influencing Factors of Interest Rates	42
3.5.Theories of Interest Rate	43
3.5.1.Views of Ancient Thinkers on Interest Rates	43
3.5.2.The Classical Theory of Interest Rates.....	44
3.5.3.Keynesian Theory of Interest Rate.....	46
3.5.4.The Modern Interest Rate Theory	48
4.Economic Growth:	56
4.1.The concept of Economic Growth	56
4.2.Theories Of Economic Growth	57
4.2.1.Economic growth in the mercantilist school of thought.	57
4.2.2.Classical Views On Economic Growth	57
4.2.3.The Marxist Model Of Economic Growth	60
4.2.4.Schumpeter's Theory of Economic Growth	62
4.2.5.The Keynesian Model of Economic Growth.....	63
4.2.6.The Harrod-Domar Growth Model	65
4.2.7.Economic Growth in Neoclassical Thought.....	66
4.2.8.Modern Developments in Economic Growth Theory	68
CHAPTER THREE	72
EGYPT'S FDI, TRADE POLICIES, INTEREST RATE, AND MACROECONOMIC INDICATORS.....	72
1.FDI IN EGYPT	72
1.1.Comparative Analysis of FDI: Evaluating Egypt's Status and Ranking in the MENA Region and Globally.....	73
1.1.1. Starting A Business.....	74
1.1.2.Dealing with Construction Permits.....	74
1.1.3.Getting Electricity.....	75
1.1.4.Registering Property	75
1.1.5.Getting Credit	75
1.1.6.Protecting Minority Investors	76
1.1.7.Paying Taxes	76
1.1.8.Trading Across Borders	77

1.1.9.Enforcing Contracts	77
1.1.10. Resolving Insolvency	77
1.2.Sources and Sectoral Distribution of FDI	78
1.2.1. Sources of FDI	78
2.EGYPT: AN ANALYSIS OF ECONOMIC REFORMS AND TRADE AGREEMENTS .	80
2.1.The Importance of Trade Openness in the Egyptian Economy.....	80
2.2.The Evolution of Trade Openness in Egypt and Its Comparative Analysis with Other Countries	81
2.2.Egypt's Trade Engagements with the Global Economy	82
3. Macroeconomic Indicators	83
3.1.Economic Growth	84
3.2.Inflation	87
3.3. Unemployment.....	88
3.4. Interest Rate.....	90
CHAPTER FOUR.....	92
ANALYSIS AND EMPIRICAL RESULTS.....	92
1.Research Methodology and Empirical Results.....	92
1.1.Research Design.....	92
1.2. Descriptive Statistics	93
1.3. Unit Root Test	95
1.4 Vector Autoregression (VAR).....	97
1.4.1 Residual Diagnostic Tests	98
1.4.2. Inverse Roots for VAR Model.....	100
1.5. Granger Causality Test	100
1.6. Comparison of Previous Studies and the Current Study	105
CONCLUSION.....	107
REFERENCES.....	109

LIST OF TABLE

Table 1: Starting A Business.....	74
Table 2: Dealing with Construction Permits	74
Table 3: Getting Electricity	75
Table 4: Registering Property	75
Table 5: Getting Credit	75
Table 6: Protecting Minority Investors.....	76
Table 7: Paying Taxes.....	76
Table 8: Trading across borders.....	77
Table 9: Enforcing Contracts.....	77
Table 10: Resolving Insolvency.....	77
Table 11: Indicators	93
Table 12: Descriptive Statistics Table.....	94
Table 13: Unit Root Test.....	96
Table 14: VAR Lag Order Selection Criteria.....	97
Table 15 : Autocorrelation Test	98
Table 16 : Normality Test	99
Table 17 : Heteroskedasticity Test.....	99
Table 18 : GDP Growth	101
Table 19 : FDI.....	102
Table 20 : OP	102
Table 21: Import	102
Table 22: IR	102
Table 23: Variance Decomposition Results for FID Variable.....	104

LIST OF FIGURE

Figure1 : Shows The Equilibrium In The Model IS – LM.....	52
Figure 2: Net FDI Inflows Into Egypt By Major Foreign Investor Countries	78
Figure3 : The Development Of Trade Openness During The Period (1980-2020)...	81
Figure4 : GDP of Egypt	84
Figure5 : GDP Growth (Annual %) EGYPT And Middle East&North Africa	86
Figure6 : Inflation rate data of EGYPT and Middle East&North Africa	87
Figure7 : Unemployment Data.....	88
Figure 8 : Interest Rate	90
Figure 9: Inverse Roots for VAR Model	100
Figure10 : Impulse – Response Functions	103

LIST OF ABBREVIATIONS

ADF	:Augmented Dickey-Fuller
AIC	:Akaike Information Criterion
ARCH	:Autoregressive Conditional Heteroskedasticity
ARDL	:Autoregressive Distributed Lag
COVID-19	:Coronavirus Disease 2019
CUSUM	:Cumulative Sum
CUSUM	:Cumulative Sum
DI	:Domestic Investment
ECM	:Error Correction Model
EOI	:Export-Oriented Industrialization
ETS	:Emission Trading Scheme
EU	:European Union
FDI	:Foreign Direct Investment
GCF	:Gross Capital Formation
GDP	:Gross Domestic Product
IBRD	:International Bank for Reconstruction and Development
IC	:Intellectual Capital
IDEP	:African Institute for Economic Development and Planning
IFI	:International Financial Institution
IMF	:International Monetary Fund

IR	:Interest Rate
KPSS	:Kwiatkowski-Phillips-Schmidt-Shin
LM	:Lagrange Multiplier
MENA	:Middle East and North Africa
OP	:Trade openness
PP	:Phillips-Perron
PPP	:Purchasing Power Parity
S.E.	:Standard Error
T-Y	:Toda-Yamamoto
TFP	:Total Factor Productivity
TVET	:Technical and Vocational Education and Training
U.S.	:United States
UAE	:United Arab Emirates
UN	:United Nations
UNCTAD	:United Nations Conference on Trade and Development
UNDP	:United Nations Development Program
UNESCO	:United Nations Educational, Scientific and Cultural Organization
UNIDO	:United Nations Industrial Development Organization
UNSTAT	:United Nations Statistics Division
USD	:United States Dollar
VAR	:Vector Autoregression
WTO	:World Trade Organization
WAMZ	:West African Monetary Zone
RESET	:Regression Equation Specification Error Test

STD. DEV. :Standard Deviation

SUM SQ. DEV. :Sum Squares Standard Deviation



INTRODUCTION

Understanding the factors influencing economic growth has long been a primary objective for researchers in economics and economic policymakers. The economic developments witnessed worldwide in the last decade of the 20th century, particularly the signing of the World Trade Organization agreements, which included the liberalization of international trade and the free movement of private capital and foreign investments, are among the most significant factors that have contributed to the deepening and widespread phenomenon of globalization in recent years. Strategic foreign direct investment can significantly contribute to a host country's economic advancement by addressing critical resource gaps and enhancing its investment capacity. When carefully selected, these investments can introduce valuable technologies, expertise, and financial resources that may be scarce domestically, thereby fostering economic growth and development.

One of the most notable features of developing economies in recent decades is their trend towards trade liberalization. They have started taking measures to integrate their economies into the global economy, shifting from isolation to openness, as engagement in the global economy opens up horizons and provides significant opportunities for development and economic growth. The impact of trade liberalization on economic growth has been extensively explored within both theoretical and empirical research over the past three decades. While perspectives vary, the prevailing consensus suggests that increased international trade openness can foster economic development, particularly for developing economies.

This study is concerned with analyzing the relationship between trade openness, foreign direct investment and the interest rate on the gross domestic product of the Egyptian Republic during (1993-2023). The Vector Autoregression (VAR) methodology will be employed in this study. To ensure the stationarity of the variables, several unit root tests will be conducted, including the Augmented Dickey-Fuller (ADF) test, the Phillips-Perron (PP) test, the Kwiatkowski-Phillips-Schmidt-Shin (KPSS) test, and the Ng-Perron test. Furthermore, the Granger causality test will be utilized to examine the intertemporal causal relationships among the variables.

The primary motivation for studying the Egyptian economy lies in understanding the gaps and transformations that have occurred, particularly following the 2011 revolution. This period marked a significant turning point, making the Egyptian economy increasingly open and integrated with global markets. The post-revolutionary phase brought about economic reforms and policy shifts aimed at liberalizing trade, attracting foreign investment, and enhancing competitiveness in the global arena. This research seeks to analyze these changes and their implications for economic performance, focusing on the dynamics of openness, structural adjustments, and the interplay between domestic and international economic factors.

The Arab Republic of Egypt is one of the developing countries in North Africa. The major challenges facing most countries in the Middle East and North Africa (MENA) region, particularly in light of falling oil prices, necessitate finding alternative solutions to oil exports by turning to export-oriented production, diversifying their economies, opening up to global markets, and adopting policies to encourage foreign direct investment, which requires infrastructure development.

This topic revolves around presenting the most important previous studies on foreign direct investment, trade liberalization, interest rates, and economic growth in the Arab Republic of Egypt. It also aims to present the most important economic theories related to these topics with empirical analysis. The goal is to provide a vision that helps policymakers implement economic policies.

The second chapter reviews the theoretical aspect and provides a comprehensive review of the literature, also contributing to translating theories and formulating them into variables for this study. It identifies the importance of each perspective and its impact on the study variables, considering that these theories have conflicting viewpoints. This chapter establishes a solid theoretical foundation for our research and provides specific insights into the behavior of variables and future analyses. It also examines the multifaceted effects of foreign direct investment, trade liberalization, and interest rates as presented in economic theories.

The third chapter provides a detailed explanation of the historical and current economic context of the Arab Republic of Egypt. It reviews the variables of this study and their impact on the Egyptian economy, as well as the trade agreements and reforms

introduced by the Republic of Egypt, assessing their origins and implications for macroeconomic indicators by scrutinizing the relevant study variables. Additionally, this chapter discusses the extent of Egypt's economic interaction within the African continent and its ranking among those countries.

The fourth chapter, considered the most important in this thesis, translates the theoretical aspect into empirical analysis. This chapter is dedicated to the technical aspects. It begins with a comprehensive review of the literature, identifies the research methodology, and conducts analytical tests to ensure the model's validity. It also applies tests to verify the reliability of the model, presents empirical results, and provides a detailed examination of the relationships between variables in the short and long term, aiming to enhance overall confidence in the research methodology.

The fifth chapter presents a comparative analysis between the findings of this study and the conclusions drawn from previous research. It aims to identify key similarities and differences, providing a deeper understanding of how the current study contributes to the existing body of literature. The chapter also discusses how this research aligns with or diverges from earlier studies in terms of methodology, data analysis, and outcomes, offering insights into its unique implications for the field of economic growth and foreign direct investment (FDI) in Egypt.

In addition, provides the conclusion of the study, summarizing key findings and evaluating them in relation to the research hypotheses. It also compares these results with previous studies, highlights the challenges encountered during the research process, and offers policy recommendations for decision-makers. Furthermore, the chapter discusses limitations and proposes future research directions that could enhance the understanding of economic growth and FDI dynamics. The concluding remarks reflect the study's contributions and its potential implications for sustainable development and trade openness.

CHAPTER ONE

LITERATURE REVIEW

1.FDI and GDP

The following section presents a review of the empirical literature, including previous studies and findings conducted by researchers. We have formulated the following hypotheses to study the relationship between Foreign Direct Investment (FDI), trade openness, interest rates, and economic growth in the Arab Republic of Egypt:

H1: There is a long-term relationship between Foreign Direct Investment and economic growth.

The research conducted by (Morabet, 2017), titled "An Analysis of the Determinants of the Decision to Localize Foreign Direct Investment in Algeria in Light of Current Local and Global Economic Variables," sought to determine the key factors influencing the localization of Foreign Direct Investment (FDI) in Algeria between 1995 and 2015. The study examined the effects of various economic indicators, including inflation, exchange rates, economic growth, and trade openness, on FDI inflows through the development of a logarithmic econometric model. Utilizing the Ordinary Least Squares (OLS) method, the findings indicated that all tested economic variables had a statistically significant impact on FDI, aligning with established economic theories. Among these variables, the exchange rate emerged as the most influential factor in attracting foreign investments. Moreover, a study by De Gregorio, & Lee, 1998) titled "How Does Foreign Direct Investment Affect Economic Growth?" investigated the influence of Foreign Direct Investment (FDI) on economic growth across 69 developing nations over a span of two decades, employing a cross-country regression framework. The research concluded that FDI plays a pivotal role in facilitating technology transfer, proving to be a more effective driver of economic growth than domestic investment. However, the study highlighted that the extent of FDI's positive impact is highly dependent on the host country's level of human capital. This implies that for FDI to significantly enhance economic growth, the recipient country must have an adequate absorptive capacity, including a well-developed skilled labor force, to integrate and effectively leverage the advanced

technologies brought by foreign investments. In a study titled "The Role of Inward (Zhang Foreign Direct Investment in Transitional Economies: Evidence from China," K. H., 2001B) explored the impact of Foreign Direct Investment (FDI) on China's economic transformation and income growth. The research sought to identify the mechanisms through which FDI influences the Chinese economy, either positively or negatively. By employing a growth model and analyzing cross-sectional and panel data from 1984 to 1998, the study provided empirical evidence demonstrating that FDI played a significant role in facilitating China's transition toward a market-oriented economy while fostering income growth. The findings revealed that the beneficial effects of FDI intensified over time, particularly in coastal regions, which experienced more substantial economic expansion compared to inland areas. This underscores the role of FDI in shaping economic transformation and regional economic disparities within China.

Moreover, (Zhang K. H., 2001A) conducted another study titled "The Causal Relationship Between Foreign Direct Investment and Economic Growth: Empirical Evidence from East Asia and Latin America," which aimed to examine the causality patterns between FDI and economic growth across 11 developing economies in East Asia and Latin America. Utilizing advanced econometric techniques, the study found that while FDI can be a catalyst for economic growth, its impact varies depending on country-specific conditions. Key determinants of FDI effectiveness included trade liberalization policies, investments in education and human capital, the encouragement of export-oriented FDI, and the maintenance of macroeconomic stability. The study concluded that FDI is more likely to have a substantial positive impact on economic growth in nations that meet these conditions, emphasizing the need for targeted policy strategies to maximize the benefits of FDI inflows.

Also, (Belkhabat, 2015) conducted a study titled The Feasibility of Foreign Direct Investments in Achieving Economic Growth: A Comparative Study between Algeria and Morocco. This research sought to investigate the influence of Foreign Direct Investment (FDI) on economic growth within both nations. Employing an econometric framework, specifically the Ordinary Least Squares (OLS) regression method, the analysis revealed a statistically significant and positive correlation. These findings suggest that FDI exerts a positive impact on economic growth in both

countries under examination. Moreover, (Liu, 2005) conducted a study titled "The Impact of Foreign Direct Investment on Economic Growth: A Panel Data Analysis of 84 Countries (1970–1999)." This research sought to investigate the bidirectional link between Foreign Direct Investment (FDI) and economic growth by employing both single-equation and simultaneous equation models. The results indicated a strong and interdependent relationship, particularly evident since the mid-1980s. The study demonstrated that FDI exerts a significant influence on economic growth not only directly but also through intricate channels of interaction within the economy. These results highlight the dual role of FDI in driving economic growth, emphasizing the importance of human capital and technological readiness in maximizing its benefits.

However, the impact was limited and weak. The study also confirmed that economic growth in these countries primarily depends on internal sources, particularly local investment, which had a strong effect according to the econometric results. A study conducted by (Pradhan, Norman, Badir, & Samadhan, 2013) examined the intricate interplay between transport infrastructure, foreign direct investment (FDI), and economic growth within the Indian context. Specifically, it examines the dynamic relationships between these key factors over the period 1970-2012. Employing the Autoregressive Distributed Lag (ARDL) framework, complemented by Variance Decomposition and Impulse Response Function (VDC and IRF) analyses, this study investigates the nature and direction of causality among the variables. The findings provide empirical evidence of a long-run equilibrium relationship, signifying cointegration among transport infrastructure, FDI, and economic growth. Furthermore, the study establishes a bidirectional causal link between FDI and economic growth, while also demonstrating a unidirectional causal influence of transport infrastructure on both FDI inflows and overall economic expansion. These results underscore the critical role of transport infrastructure as a significant predictor of both FDI and economic growth trajectories in India. If policymakers in India wish to sustain long-term economic growth and maintain high FDI inflows, they should focus on building infrastructure in general, and the transport sector in particular. Additionally, (Fadil, 2004) conducted a study on the importance of foreign direct investment (FDI) in Arab countries, aiming to highlight the degree of parity or disparity among three Arab countries—Algeria, Egypt, and Saudi Arabia—regarding the reality of inbound FDI

and its contribution to their economies. Through analytical study, the researcher found significant differences between the three countries in terms of the share of attracted investments, with Egypt leading in many of the past 20 years. A common factor among them was identified concerning the sectoral and geographical orientation of FDI inflows. However, the contribution of these investments remains weak compared to prominent developing countries that share similar conditions. Furthermore, the level of FDI's contribution varied among the three countries, with Egypt's contribution being greater than that of Algeria and Saudi Arabia.

2.TO and GDP

H2: There is a long-term relationship between Trade Openness and economic growth.

In a study on trade openness conducted by (Bibi & Jalil , 2019) titled " A Re-examination of the Relationship Between Trade Liberalization and Economic Expansion Utilizing Panel Data Analysis, the research aimed to analyze the empirical literature on the long-term effects of trade on economic growth. The study employed the standard method using Ordinary Least Squares (OLS) to measure the relationship between changes in per capita GDP and openness, represented by trade volume, tariff policies, globalization, per capita capital, financial development, and human capital index, for 82 countries during the period 1960–2017. The study incorporates various measures of trade openness, such as trade volume, tariff rates, globalization, and both physical and human capital. The study concluded that greater trade openness can enhance the economic performance of countries and that reducing tariff barriers through free trade agreements may help improve the economies of these countries.

Additionally, (Yanikkaya, 2003) conducted a study titled "The Relationship Between Trade Liberalization and Economic Growth: A Cross-Country Analysis." The study aimed to examine the complex relationship between trade liberalization and economic growth using multiple measures of trade openness for a cross-section of countries over three decades. The analysis employed regression models to evaluate the impact of trade intensity ratios and trade barriers on growth. The results indicated that trade intensity ratios generally aligned with existing literature, showing a positive but nuanced relationship with growth. However, contrary to conventional perspectives, This research observed a positive correlation between trade barriers and economic

growth, particularly in developing economies, with this relationship often reaching statistical significance. These findings align with existing theoretical frameworks in growth and development economics, which emphasize that the link between trade liberalization and economic growth is not always linear and is influenced by a range of relevant circumstances.

Furthermore, (Keho, 2017) conducted a study titled "The Impact of Trade Openness on Economic Growth: Evidence from Côte d'Ivoire (1965–2014)." This research sought to examine the dynamic interplay between trade openness and economic growth within the Ivorian context. Utilizing a comprehensive econometric framework, the study incorporated capital stock, labor force, and trade openness as core determinants of economic growth. To investigate long-run equilibrium and causal relationships, the study employed the Autoregressive Distributed Lag (ARDL) bounds testing approach for cointegration and the robust Toda-Yamamoto Granger causality test. Empirical findings provide evidence of a statistically significant positive association between trade openness and economic growth in both short- and long-term horizons. Furthermore, the analysis underscored a strong synergistic effect between trade openness and capital accumulation in fostering economic development. These findings underscore the critical role of trade liberalization in stimulating economic progress in Côte d'Ivoire, particularly when supported by robust capital formation. In a study titled "The Interplay of Financial Systems and Economic Expansion: Examining Causal Linkages¹ in 21 African Countries: The Role of International Trade," (Menyah, Nazlioglu, & Wolde-Rufael, 2014) investigated the impact of financial development and international trade on economic growth. The study constructed a financial development index using four distinct indicators and employed a panel bootstrapped Granger causality approach to analyze the data. The findings revealed limited evidence to support the hypotheses of finance-led growth and trade-led growth. The results suggest that recent efforts toward financial development and trade liberalization have not significantly influenced economic growth in the examined African countries. This highlights the need for more effective policies to enhance the contribution of financial systems and trade to economic development.

Also, an earlier study by (Sheng & Fatima, 2019) examined the relationship between openness and economic growth in developing nations, employing empirical

analysis. Their research was published in the European Online Journal of Natural and Social Sciences. The study aimed to empirically explore the relationship between openness and growth using gross fixed capital formation as an intermediary variable in a time series dataset of 19 advanced economies for the period 1980 to 2013. The study investigates the relationship between trade openness and economic growth. The standard model was employed, based on the assumption that trade openness and foreign direct investment contribute to economic growth through the stock of fixed capital as an intermediary variable. This empirical study uses the trade openness index, employing a dataset of 19 developing countries spanning from 1980 to 2013. The GMM system estimator and instrumental variables were used to address the problem of endogeneity. Trade openness is measured by the ratio of imports plus exports to GDP, while foreign direct investment is measured by the ratio of FDI to GDP. The empirical literature shows a varied response concerning the impact of trade openness on economic growth and indicates that fixed capital formation is an important intermediary for trade openness. Trade openness encourages economic growth in an economy that has good capabilities for fixed capital formation. The study recommends that a developing economy aiming for economic progress should begin by developing its level of fixed capital formation to compete positively in global trade.

3. IR and GDP

H3: There is a long-term relationship between Interest Rate and economic growth.

With regard to the interest rate, a study conducted by (Uodka, 2012) on "The Effect of Interest Rate, This study sought to assess the influence of interest rate volatility on Nigeria's economic expansion. Two primary research hypotheses were formulated. The first aimed to determine the nature of the relationship between interest rates and economic growth, while the second sought to analyze the differential impact on economic growth observed before and after the implementation of an interest rate hike within the Nigerian economy. The results of this study revealed an inverse relationship between the interest rate and economic growth in Nigeria. It concluded that an increase in the interest rate would lead to a decline in the country's gross domestic product (GDP), which in turn delayed the growth of the real sector. Similarly, in another study conducted by (Saymeh, 2013) on "The Effect Of Interest Rate, Inflation Rate, Gdp, On Real Economic Growth Rate In Jordan " the primary objective

of this study is to examine the impact of the interest rate, inflation rate, and gross domestic product (GDP) on real economic growth in Jordan during the period 2000-2010. The analysis uses four variables (economic growth, interest rate, GDP, and inflation level), and the study relied on the Johansen test. The study found that inflation affects interest rates while holding other independent variables constant. The results also indicated that the interest rate has an effect on the growth rate. A study conducted by (Danladi & Uba, 2016) on the impact of exchange rate fluctuations on the economic performance of countries in the West African Monetary Zone (WAMZ) as individual case studies for the period 1980-2013 revealed that exchange rate volatility has a significantly negative effect on economic growth. This implies that policies aimed at enhancing exchange rate stability will, in turn, promote economic growth. (Kohler, Manalo, & Perera, 2014) Pointed out that a decline in the exchange rate may have a negative impact on economic growth by affecting the aggregate supply in the economy.

Another study by, (Barro & Becker, 1989) explored the interplay between family size decisions, consumption patterns, and intergenerational transfers within the framework of altruistic parental behavior. The study applied this model to a closed economy, considering key economic variables such as interest rates, wage levels, population growth, and capital stock accumulation were determined simultaneously. By integrating fertility choices and intergenerational transfers into the analysis, the study extended the existing literature on optimal economic growth. The model was utilized to evaluate the impacts of various factors, including child-rearing costs, tax systems, technological conditions, preferences, and shocks to initial population and capital stock levels. This approach provided a comprehensive understanding of how demographic and economic variables interact to shape long-term growth dynamics. Also, (Acemoglu & Guerrieri, 2008) conducted a study titled "A Model of Nonbalanced Growth: Factor Proportions and Capital Deepening." The study aimed to analyze the dynamics of nonbalanced growth by examining the effects of factor proportions and capital deepening on sectoral and aggregate economic performance. This research employed a two-sector general equilibrium framework to investigate the impact of capital deepening. Our analysis demonstrated that an increase in the capital stock disproportionately benefits the more capital-intensive sector in terms of output growth. However, this sectoral shift also induces a reallocation of both capital and

labor away from the more capital-intensive sector. Despite these dynamics, the model converges towards a stable long-run equilibrium characterized by a constant interest rate and a stable capital share in national income, indicating non-balanced growth. Notably, for reasonable parameter assumptions, the model's predictions align with historical trends observed in the United States, such as faster employment growth in less capital-intensive sectors relative to their output growth. Furthermore, the model's aggregate behavior exhibited key characteristics consistent with the stylized facts identified by Kaldor, supporting its theoretical and empirical validity.

A depreciation in the exchange rate could increase the cost of importing raw materials, intermediate goods, and capital goods used in the production process, thereby raising production costs. This, in turn, would negatively affect aggregate supply, particularly in countries that heavily rely on imported factors of production. The study by (Ebaidalla, 2013) analyzed the impact of exchange rate fluctuations on the performance of the macroeconomy in Sudan, with a focus on three key indicators: foreign direct investment, the trade balance, and economic growth during the period 1979-2011.

The study revealed that real effective exchange rate volatility has a negative effect on economic growth and the inflow of foreign direct investment, while it has a positive effect on the trade balance. In a study by (Kamin & Rogers, 2000), it was found that the real and persistent depreciation of the Mexican currency was associated with a contraction in economic activity. (Kandil, M, 2004B) confirmed that exchange rate fluctuations have a negative impact on real GDP growth, as well as a negative effect on both export volumes and investment demand. (Kandil, M, 2004A) also suggested that currency depreciation increases net exports and raises production costs, while currency appreciation reduces net exports and lowers production costs. The final effect, however, is determined by the interaction of supply and demand forces. (Linjouom, 2007) indicated in his study that an overvaluation of the exchange rate in Nigeria would hinder economic growth. He also argued that if currency depreciation is accompanied by specific goals and gradual adjustments in the prices of domestically tradable goods through increases, it could restore the exchange rate to equilibrium, thus contributing to improved economic growth. Based on the review of the literature within the specific context.

The empirical literature on the relationship between foreign direct investment (FDI), trade openness, interest rates, and economic growth reveals diverse findings across regions. In the Middle East, studies such as (Saymeh, 2013) in Jordan highlight that interest rates and inflation significantly influence economic growth, showing an inverse relationship. Similarly, research by (Danladi & Uba, 2016) in the West African Monetary Zone (WAMZ), which includes Nigeria, emphasizes the negative impact of exchange rate fluctuations on economic growth, suggesting that exchange rate stability could foster economic performance. In North Africa, (Morabet, 2017) analyzed FDI determinants in Algeria and found economic variables such as inflation and exchange rates significantly influence FDI, with the exchange rate being the most critical. Comparatively, (Belkhabat, 2015) demonstrated that while FDI contributes positively to growth in Algeria and Morocco, its impact remains limited compared to local investment.

In Europe, (Sheng & Fatima, 2019) found that trade openness and FDI influence economic growth indirectly through fixed capital formation in developing countries, emphasizing infrastructure as a prerequisite for trade benefits. In South Asia, (Pradhan, Norman, Badir , & Samadhan, 2013) identified transport infrastructure as a predictive variable for FDI inflows and economic growth in India, showcasing a bidirectional relationship between these factors. Finally, in Sub-Saharan Africa, studies like (Ebaidalla, 2013) on Sudan highlighted the adverse effects of exchange rate volatility on FDI and economic growth, while trade balance performance improved. These findings underscore regional differences, where variables such as infrastructure, policy environments, and external economic factors interact differently, shaping the dynamics of economic growth and FDI inflows.

CHAPTER TWO

FDI, TO, IR AND ECONOMIC GROWTH: THE THEORETICAL APPROACH

The study approach begins with a thorough analysis of the existing literature, providing a comprehensive overview of the variables and their complexities. It examines foreign direct investment and the theoretical frameworks related to this variable. Additionally, it discusses the importance of trade openness and trade liberalization, along with interest rates, considering their different types and effects. This chapter concludes by reviewing various economic growth theories, aiming to gain an understanding and offer specific insights into the context regarding the behavior of variables through the diverse perspectives found in economic theories and discussions.

1.Foreign Direct Investment

This section reviews foreign direct investment in its various forms, in addition to addressing the analyses and expected outcomes it presents. It also provides different perspectives from existing theories on the subject.

1.1.The Concept and Nature of FDI

Foreign Direct Investment (FDI) can be defined as the process by which an enterprise invests in projects located outside its home country with the intention of actual participation and exerting a degree of influence on the operations of those projects (Parker, 1998).

Thus, FDI involves the foreign investor owning a portion (or all) of the investments in a particular project in a country other than their own, in addition to participating in the management of the project in the case of a joint venture, or exercising complete control over management and organization in the case of full ownership of the investment project. Moreover, the foreign investor transfers financial resources and provides advanced levels of technology and technical expertise related to their field of activity to the host countries (Saqr, 2001).

It is clear from the above that foreign direct investment (FDI) involves capital transfers from an investor, whether an individual or a company, to a foreign project in

a host country, where the foreign investor holds real control over this project as a result of the investment (Lizondo, 1993, p. 25). The investor also provides it with technical, administrative, organizational, and marketing services (Parker, 1998).

Foreign direct investment can take various forms. It may involve establishing a new company or the complete or partial acquisition of an existing company in a foreign country, whether it represents production, marketing, sales branches, or any type of productive or service activities (Lizondo, 1993, p. 26). This investment may also occur through mergers and acquisitions of companies in different countries. Additionally, a foreign company may acquire assets in an existing establishment with the aim of upgrading the services provided or producing new goods and services. FDI can also take the form of industrial, agricultural, service, construction, or financial projects, among others (Saqr, 2001).

FDI includes equity capital, reinvested earnings, and loans from the parent company to its subsidiaries in host countries, as long as they lead to control over the assets used for production abroad (Lizondo, 1993, p. 27).

FDI is considered a crucial avenue for external financial support, particularly for developing economies facing limitations in domestic capital formation is insufficient to fund the appropriate level of investments necessary to achieve high rates of economic growth and, consequently, economic development. Moreover, FDI, as a combination of capital paired with technological expertise, administrative and organizational knowledge, as well as marketing capabilities, can play an important role in compensating for the local shortage of these elements in the countries where it is invested (Saqr, 2001).

The importance of foreign direct investment (FDI) lies in its significant role in financing economic development and alleviating its burdens, particularly the "burden of reducing consumption to increase savings (Saqr, 2001)." While the inflow of FDI represents an addition to the volume of real resources available for use, it also ensures increased efficiency of local resources through the advanced technology it brings with it. This is achieved by either activating previously idle resources or enhancing the productivity of already utilized resources (Hermes & Lensink, 2003).

Foreign direct investment (FDI) is distinguished from other sources of external financing, particularly commercial bank lending, by its usual association with the transfer of technology, whether in the field of production or management. It often comes in the form of a package that includes technology, managerial expertise, and ideas, which enhances capital productivity. Through FDI, access to new technologies or global markets can be achieved, and it also strengthens competition in domestic markets (Jamil, 1999).

1.2.The Feasibility and Benefits of FDI.

Despite the increasing role of foreign direct investments in international financing, particularly after the relative decline in importance of other forms of capital flows to developing countries—especially domestic loans—the issue of the feasibility of foreign direct investment and its role in economic development remains a subject of debate among economists. While some argue that developing countries will gain significant benefits from foreign investment, others believe that the negative impacts of foreign investment on the economies of developing countries far outweigh its benefits. Given the importance of this topic, it is useful to briefly present some perspectives on the matter (Jamil, 1999).

Proponents of the classical school of thought argue that foreign direct investments bring numerous benefits, but these benefits primarily accrue to multinational corporations rather than the host countries. The classical theory proponents justify their position with several reasons, notably that multinational corporations—the main source of foreign direct investment—transfer as much of their profits as possible back to the home country instead of reinvesting them in the host countries. Additionally, the technology that multinational corporations transfer is often not aligned with the economic, social, and cultural development needs of the host countries (Hashad, 1996, p. 40) .

Supporters of modern theory argue that both parties in the investment relationship (multinational corporations and host countries) are bound by mutual interests, as each relies on or the success of any collaborative endeavor hinges on the reciprocal advantages gained by each participant. The extent and nature of these benefits are significantly influenced by the policies and actions undertaken by each

party, establishing the core dynamics of their partnership (Hashad, 1996, p. 43). This perspective suggests that foreign direct investment can yield substantial advantages for host countries, both directly and indirectly (Qahf A. S., 2001).

The direct benefits can be summarized as follows: foreign investment leads to consumer benefits, as foreign investors use technologically advanced machinery and equipment compared to what is typically employed by local investors (Jamil, 1999:25). This results in lower production costs, which in turn reduces the prices of goods while also improving the quality of the products produced through foreign direct investment. Additionally, foreign investment helps create new export markets, which contributes to reducing the foreign exchange gap and subsequently improving the host country's balance of payments (Hashad, 1996, p. 45).

As for the indirect benefits that host countries gain from foreign direct investment, they can be summarized in the improvements and developments to infrastructure projects. These include the modernization of transportation, communication, and road networks to facilitate the transportation of raw materials to the factories established by foreign companies, as well as the delivery of manufactured goods to consumption sites. This positively reflects on the national economy of the host country. Furthermore, foreign investment provides training programs, both in technical and administrative fields, which benefit both the project and the individuals involved (Khalil, 1994).

The opposing views on foreign investment are represented by proponents of the "Economic Dependency School." The pioneers of this school argue that foreign investment harms the economies of developing countries. Therefore, they believe that such countries should avoid relying on foreign investment until they achieve high rates of economic growth and development (Khalil, 1994). The arguments supporting the Dependency School suggest that foreign direct investment primarily seeks quick profits, establishing projects that serve this goal without addressing the economic development needs of developing countries. Moreover, foreign investment projects tend to transfer their profits and financial returns from developing countries back to their home countries. These reverse flows from developing nations to the home (or

parent) country lead to an increase in national income for developed countries and a decline for developing countries (Hermes & Lensink, 2003).

Nevertheless, while acknowledging the inevitable negative impacts of foreign investment, practical experience supports the views of modern theory. It has been demonstrated that countries which have embraced foreign investment have achieved significantly high rates of economic growth (Hermes & Lensink, 2003). Examples include Singapore, Taiwan, Hong Kong, and South Korea. Furthermore, the intense competition among various nations to attract foreign investment through offering incentives, guarantees, and substantial benefits clearly reflects the importance of private investment in economic development.

1.3. FDI To Host Countries

There are numerous perspectives and theories that have examined the determinants of attracting foreign direct investment (FDI) through study and analysis. Additionally, many factors and determinants influence investment decisions in host countries (Hermes & Lensink, 2003). Thus, the decision of a multinational company to invest in one country over another is a function of many factors. Some of these factors pertain to the host country itself such as the economic, social, political, and cultural investment climate, while others relate to the foreign investor, specifically the characteristics of multinational companies such as size, availability of financial, human, and technical resources, etc. Furthermore, there are additional factors linked to the government(s) of the home country and the nature of the market in which the company operates (such as the political or economic objectives these governments seek to achieve by encouraging foreign investment, or the state of the domestic market and the level of competition within it (Hood & Young, 1997, p. 43).

This paper will discuss the most important factors, determinants, and motivations leading to the attraction and flow of foreign direct investment to host countries by reviewing key theories explaining these factors and determinants, followed by an examination of the most essential factors, determinants, and primary motivations that contribute to attracting foreign direct investment.

1.3.1.Theories Explaining the Factors and FDI

There are various theories that explain the factors and determinants of attracting foreign direct investment. One such theory is the Market Imperfection Theory, this analysis acknowledges the realities of developing economies, where markets often deviate from perfect competition. These markets frequently grapple with supply constraints and face challenges from more competitive foreign companies, hindering the growth of domestic enterprises in various sectors. In this context (Hood & Young, 1997, s. 66). argues that if perfect competition prevails in a foreign market, it would reduce the ability of multinational corporations to influence or control the market, as any investor would be free to enter the market. Moreover, the goods and services provided, as well as production inputs, would be homogeneous, which means that foreign companies may not possess competitive advantages in such market models.

Another theory is the Industrial Enterprise Theory, which stems from the market imperfection theory. Both Kindleberger and Hymer presented the Industrial Enterprise Theory to explain foreign investments. According to this theory, foreign investments are justified based on achieving higher returns abroad, meaning that the profits generated from these investments overseas exceed those that could be achieved domestically (Qahf A. S., 2001). For this to occur, the foreign-investing enterprise must possess a set of monopolistic or quasi-monopolistic advantages compared to local firms in the host country, such as technological superiority, technical knowledge, patents, large capital resources, trained labor, and significant spending on research and development, in addition to its strong ability to differentiate its products and benefit from economies of scale (Salam, 2006).

As for Vernon (1966), in his theory of the "Product Life Cycle," he emphasized the importance of technological superiority as one of the determinants of foreign direct investment (FDI), in addition to stressing the significance of the locational advantages of the host country for foreign direct investment. It is worth noting that the practical reality of many multinational companies supports the assumptions upon which Vernon's "Product Life Cycle" theory is based (Qahf A. A., 2002, p. 43)

There is also the "International Capital Movements" theory, which explains the movement of foreign direct investments based on differences in interest rates between countries. These differences stem from variations in a country's capital stock. This theory applies more to investments in securities rather than other types of investments (Salam, 2006). In countries with lower capital formation (developing countries), interest rates tend to be higher compared to other capital-rich countries. The theory thus suggests the potential flow of direct investment and portfolio investment from capital-abundant countries to capital-poor countries. As a result of such movements of capital between countries and changes in supply and demand structures, interest rates tend to equalize (Qahf A. A., 2002, p. 50).

The Theory of Internalization of Monopoly Advantages: This theory is attributed to Buckley (1985), Rugman (1986), and Dunning (1979). It builds upon the concept of intangible assets (monopoly advantages) proposed by Caves in an attempt to explain the motivations and determinants of foreign direct investment (FDI). This is achieved through multinational companies' internal utilization of monopoly advantages, meaning the company retains technical expertise, inventions, and innovations that grant it absolute superiority rather than exporting or selling them to other companies in host countries (Qahf A. A., 2002, p. 53). The concept of internalizing monopoly advantages is based on the fundamental assumption that market imperfections prevent the efficient international trade of these assets. Thus, internal utilization allows multinational firms—often owners of such advantages—to bypass the restrictions imposed by various governments on markets, while also ensuring that new competitors are kept out, as the monopoly advantages remain within the firm (Salam, 2006).

There is also the eclectic theory, attributed to John Dunning (1979). According to this theory, foreign direct investment is a function of three variables: the monopoly advantages held by investing companies, the advantages stemming from the internalization of these monopoly advantages, and the locational advantages or potentials that host countries offer, such as the availability of raw materials, natural and human resources, an expanding local market, infrastructure, and a suitable legal and institutional framework (Khalil, 1994).

This theory is thus a synthesis of all the essential elements found in industrial firm theories, the internalization theory of monopoly advantages, and location theory. Dunning has clarified that a firm engages in foreign investment when three conditions are met (Khalil, 1994):

- The firm must possess transferable monopoly advantages compared to local firms in host countries, such as the firm being larger than its local counterparts.
- It is preferable to internally utilize monopoly advantages through foreign direct investment rather than alternative uses, such as exporting or licensing.
- The host country must offer locational advantages superior to those of the firm's home country, such as lower wages, a larger market, and the availability of primary raw materials and cheap energy sources.

Dunning argues that foreign direct investment occurs when these three factors converge. For instance, a company's ownership of monopoly advantages, such as technology, when utilized effectively, can offset the increased expenses associated with setting up production operations in foreign markets and can surmount the challenges presented by local competitors. The foreign company's monopoly advantages must be coupled with locational advantages in the host country, and finally, the foreign firms must derive benefits from exploiting both their monopoly and locational advantages in the form of direct investment, which surpasses alternative uses of these advantages, such as exporting or licensing (Khalil, 1994).

1.3.2.Factors Influencing the Flow of FDI to Developing Countries.

In light of previous theories and their identification of factors influencing the attraction of investments, and with reference to several studies conducted in the field of determining factors, determinants, and motives leading to the attraction of foreign direct investment (FDI) to host countries, the following factors can be identified:

1.3.2.1.Investment Climate with its Components and Determinants.

The investment climate refers to the overall economic, social, political, institutional, and legal conditions that can affect the success of an investment project in a given country. The main components and determinants related to the investment climate are as follows (Alnajjar, 1989, pp. 40-45).

- **Economic Determinants**

These determinants include a set of economic indicators reflecting the performance level of the national economy. One of the most important determinants is the competitiveness of the national economy, which means that the stronger the competitiveness, the more attractive the economy is to foreign investment, and vice versa. This can be indicated by several measures, the most important of which is the export growth rate. An increasing export growth rate indicates a rise in the national economy's competitiveness and attractiveness to foreign investors (Alnajjar, 1989, pp. 43-46)

Another determinant is the efficiency in managing the national economy, implying that a more efficiently managed economy will be more attractive to foreign investment. This efficiency can be evidenced by indicators such as the foreign currency reserves and their rate of change, as well as the coverage ratio of exports to imports. An increase in these indicators signifies improved economic management and enhances the attractiveness to foreign investment (Alnajjar, 1989, pp. 43-46)

Furthermore, the strength of the national economy and its potential for growth and development in the future also serve as determinants. The stronger the national economy and the higher its potential for growth, the more attractive it is to foreign investment. This can be measured by three indicators (Toward, 1980) :

- **Gross Domestic Product (GDP):** As the GDP increases, the national economy becomes more attractive to foreign direct investment, especially for companies seeking growth or access to new markets. Several studies, including Dunning (1980) on U.S. foreign direct investment, demonstrated a positive correlation between GDP size and foreign direct investment (Toward, 1980) .
- **Economic growth rate:** A higher economic growth rate suggests a more attractive national economy for foreign direct investment .
- **Inflation rate:** A lower inflation rate indicates a more attractive economy for foreign direct investment, and vice versa. Inflation also distorts investment patterns, leading investors to focus on short-term activities and avoid long-term investments (Alnajjar, 1989, pp. 51-53).

- **Determinants of Economic, Political, Environmental, and Institutional Systems**

A market-based economic system with economic freedom is more attractive to foreign investment. Similarly, a political system characterized by democracy, political and security stability, and a lack of risks such as wars attracts foreign investment (Alnajjar, 1989, pp. 51-53). An environment that supports positive values, customs, and traditions conducive to foreign investment, along with a simple and transparent administrative and institutional system without bureaucratic complexities, also plays a significant role in attracting foreign investment (Hamid, 1997, pp. 66-64).

- **Determinants of Macroeconomic Policies**

Macroeconomic policies that are liberal, flexible, clear, stable, non-contradictory in objectives, efficient, and effective, and that adapt to economic changes at both the national and global levels are more attractive to foreign investment (Alnajjar, 1989, p. 55).

- **Legal and Legislative Determinants Governing Foreign Investment.**

A unified investment law that promotes and stimulates investment, is clear, and harmonizes with other relevant legislations can attract foreign direct investment. Additionally, the law should guarantee adequate protections against confiscation or nationalization, ensure the freedom to transfer profits abroad, and allow the free movement of capital in and out of the country (Alnajjar, 1989, p. 56).

1.3.2.2. Factors and Determinants Related to the Competitiveness of the Host Country

The key factors here include the availability of infrastructure projects, transportation and telecommunication costs and facilities, the reliability and cost of electricity and energy, land availability and costs, and the availability, education level, skills, and productivity of the labor force. Additionally, factors influencing business projects, which are part of the investment climate, also contribute (Zaki, 1999, p. 30).

1.3.2.3.The Absorptive Capacity of the National Economy

The absorptive capacity refers to the amount of capital that can be invested efficiently and with high profitability in a given country. This capacity depends on three main factors (Alnajar, 1989, pp. 59-60).

- Available investment opportunities in the economy
- Constraints limiting the exploitation of available investment opportunities in the economy .
- The type and size of the return expected from the invested capital .

One of the main constraints limiting a country's absorptive capacity is the lack of sufficient amounts of non-capital production factors, the shortage of technical and organizational skills, inadequate levels of social capital, and small market size.

1.3.2.4.Return on Investment (ROI)

ROI is one of the most crucial factors in attracting foreign direct investment. Foreign investors engage in overseas investments expecting higher returns, adjusted for commercial and non-commercial risks. Other factors, such as the investment climate and competitiveness, are also considered when making investment decisions in a specific country (Zaki, 1999:34).

2. Trade Openness

2.1.The Concept of Trade Openness

The concepts and definitions related to trade openness have varied. Trade openness refers to policies aimed at reducing procedures and tariffs, facilitating the movement of trade between different countries. The International Monetary Fund (IMF) defines it as "the liberalization of the external trade sector, which consists of the foreign trade balance and the flow of capital in and out, free from all restrictions and obstacles, such as customs duties and governmental, administrative, and technical constraints (Abdulwahab, 2020). This refers to the liberalization of the economy from constraints that hinder the movement of trade and financial exchanges, and the creation of a climate and environment that enable it to compete globally, attract foreign capital, and adopt advanced technology for investment in various sectors (Zaki, 1999:53) .

Typically, expansion in exports leads to increased technological advancement, improved economic structures, enhanced productivity, higher living standards for individuals, and greater contribution to the growth of gross national product (GNP). Conversely, an increase in imports may result in lower prices for goods, higher aggregate demand, and consequently, increased consumption, which could have adverse effects on national income (Abdulwahab, 2020) .

Trade openness is expressed by the ratio of exports and imports to gross domestic product (GDP), and can be measured by the following formula (Zaki, 1999:55) :

This formula reflects the relationship between exports and imports on one hand, and GDP on the other. The expansion of exports typically leads to increased technological advancement, improvements in economic structures, higher productivity, and enhanced living standards for individuals. It also contributes to the growth of national output and gross national income. Conversely, an increase in imports can lead to lower commodity prices, greater aggregate demand, and thus an increase in consumption, which may have adverse effects on national income.

2.2.Theories Connected To Trade

Despite the fact that the true beginning of the study and systematic development of international trade theory as an independent field of economic study came at the hands of classical economists such as Adam Smith, David Ricardo, John Stuart Mill, and Frank Taussig, (Heller & Porter, 1978), ideas related to international trade existed even before that era. This section will trace intellectual developments in the field of international trade, with a focus on the connection between these developments and the advocacy for free trade.

2.2.1. International Trade in the Thought of Mercantilists

It is believed that the era of mercantilism extended for about three hundred years, from the mid-15th century to the mid-18th century. It clearly ended with the beginning of the Industrial Revolution, the outbreak of the American Revolution, and the advent of Adam Smith's seminal work, 'An Inquiry into the Nature and Causes of the Wealth of Nations ' (Galbraith, 2000, p. 33). The term "mercantilists" refers to the

writers who contributed to shaping the economic policies that dominated Western Europe during that period. It is worth noting here that not all economists who lived during the mercantilist era were mercantilists. For example, Adam Smith and David Hume were contemporaries of this intellectual school but did not belong to it. Moreover, the mercantilist writers themselves did not represent a single intellectual model but rather similar groups of views and applications concerning the state's economic policy (Ahmad Y. A., 2001B, p. 45)

What distinguished mercantilist thought was its foundation on what is known as the "economics of state-building," where a close union between politics and economics emerged, unprecedented in earlier history. This gave rise to political economy, and De Montchretien, in his book "Political Economy" in 1615, considered economics as a tool of political power (Zweig, 2001, p. 36).

Mercantilism emerged as a result of developments in Europe, notably the collapse of feudalism, the rise of the nation-state, the discovery of the New World (the Americas), and the growing importance of international trade. These factors necessitated the emergence of new ideas in line with the changes of the time. Hence, mercantilist ideas developed, with the aim of devising economic policies suitable for the needs of the rising state (Al-Najjar, 1973, p. 53).

Mercantilists placed great importance on precious metals, particularly gold and silver, which they viewed as the foundation of a nation's wealth. They believed that the wealth and economic power of a country depended largely on its possession of these metals (Ahmad A. Y., 2001 A, p. 35). Precious metals were seen as a means for full production, full employment, and the main source of state power (Zweig, 2001). Therefore, policies were consistently directed toward increasing the state's stock of precious metals. Until the mid-16th century, the bullionist doctrine prevailed, which focused on controlling the state's foreign trade. Proponents of this doctrine advocated preventing the outflow of precious metals from the state through the implementation of direct policies that imposed restrictions on imports, with laws enacted to enforce these policies. State control was exercised through what was known as the "King's Exchanger". One example of the state's strictness in preventing the export of precious metals was Spain's imposition of the death penalty for those exporting gold abroad.

The mercantilists also employed various other methods to control foreign trade, including the organization of state monopolies on trade (Ahmad, 2001A:38).

This vision prevailed before the beginning of the 17th century. Later economists, often referred to as mercantilists, focused on the idea of a favorable balance of trade. They emphasized that foreign trade was the means of increasing the state's stock of precious metals, especially when other methods, such as mining, were unavailable (Alnajjar, 1989, p. 62). This was achieved by exporting more than importing, thus creating a surplus in the trade balance in favor of the country, which would lead to an increase in its stock of precious metals. Misselden stated in this regard:

"If the value of national goods exported exceeds the value of foreign goods imported, the rule that always holds is that the kingdom becomes richer and more prosperous, as the surplus must bring in precious metals..." (Al-Najjar, 1973:40).

Thomas Mun, one of the pillars of mercantilist thought, stated:

"The ordinary means to increase our wealth is by foreign trade, where we must always observe this rule: to sell to foreigners annually more than we consume of theirs in value..." (Al-Najjar, 1973:42). This vision had a nationalistic character, as the mercantilists believed that increasing the wealth and prosperity of the state could only be achieved at the expense of others. They saw the quantity of precious metals as fixed, meaning that one country's wealth could only grow by impoverishing other countries (Zweig, 2001).

In summary, the mercantilist view of foreign trade centered around the principle of protectionism, implementing economic policies aimed at restricting imports through customs and non-customs barriers, encouraging exports by providing support to exporters, and promoting re-exports. All of this was intended to achieve a favorable trade balance, which they believed would increase the nation's wealth, stimulate production, and promote growth. Consequently, this school of thought is classified as one that supports trade restrictions as a path to growth and development.

2.2.2. The Classical School and the Emergence of Free Trade

The period dominated by mercantilist thought in European countries during the 16th and 17th centuries provided a favorable climate for industrial growth in these nations under trade protectionism, shielding them from international competition. Once these industries reached a level capable of penetrating foreign markets, mercantilist policies became an obstacle, as the principle of trade protectionism proved unable to adapt to the new economic realities of the time (Al-Najjar, 1973: 60).

On the other hand, David Hume's theory of automatic balance dealt a decisive blow to mercantilist thought. This theory suggests that precious metals distribute automatically among countries engaged in international trade. If, for any reason, a trade deficit occurs in a particular country, this results in an outflow of precious metals (Hattem, 1993, p. 43). According to the quantity theory of money, which was prevalent at the time, this leads to a decrease in prices in that country relative to the outside world ("relative prices"). Consequently, external demand for the country's exports increases, and demand for its imports, now relatively more expensive, decreases. This eventually leads to the return of precious metals to the country (Al-Najjar, 1973:63). Conversely, a trade surplus would result in the opposite effect. This process continues until relative price levels balance among the countries involved in international trade (Hattem, 1993:43). As such, state intervention in foreign trade becomes futile.

The term "classical thought" refers to the set of ideas and opinions shaped by "Adam Smith" in his renowned book "An Inquiry into the Nature and Causes of the Wealth of Nations" (1776), and further developed by economists such as "David Ricardo", "Robert Malthus", and "Jean-Baptiste Say" (Hattem, 1993:45). The core issue that these classical economists theorized about and advocated was "economic freedom", grounded in Adam Smith's belief in the natural law, which inspired the famous maxim, "Let things take their course"(Al-Najjar, 1973:66). Based on this, the classical economists promoted the "principle of free trade", highlighting the disadvantages of government intervention in economic life (Hattem, 1993:47). The analytical framework of the classical model of international trade can be explained through the following theories:

2.2.2.1.Adam Smith's Theory of Absolute Advantage

Classical economists, within the context of international trade theory, focused on identifying the reasons for the existence of international trade and the gains derived from it (Heller R. , 1987, p. 30). Based on this foundation, Adam Smith formulated his theory of international trade, which was a logical extension of his theory of wealth (Hatem, 1993:49).

The "absolute advantage principle" posits that countries specialize in producing and exporting goods that they can produce at a lower cost than other countries. Consequently, each country produces and exports certain goods while importing others that can be produced at a lower absolute cost by other nations (Hatem, 1993:50). According to Smith, this cost is measured in terms of the number of labor hours required to produce a good. This perspective is based on the labor theory of value, which assumed that labor was the only factor of production involved in the production process, and that relative prices in exchange were determined on this basis.

Thus, Adam Smith's "theory of absolute advantage" concerning the reasons for the existence of international trade, can be seen as an extension of his theory of domestic trade(Hatem, 1993:55). Like other international trade theories, it assumes the complete free movement of goods within a country's borders and between countries, as well as the free movement of factors of production within a country but not between countries Chipman, 1965; (Hyint, 1977).

It is noteworthy that this theory emphasized that all countries engaged in international trade benefit from the advantages it offers. It called for the necessity of allowing trade to be free from restrictions, which, according to this vision, would lead to increased national wealth through enhancing productive capacity. The theory also stressed that "trade restrictions" deprive countries of these benefits. Experience in the 19th century demonstrated that international trade could play an important role in driving the growth of countries involved in international exchange (Elkan, 1983, p. 40).Adam Smith and John Stuart Mill, both pioneers of the classical school, pointed out that "free trade" is a driver of economic growth.

2.2.2.2.The Theory of Comparative Advantage by David Ricardo

The theory of comparative advantage, formulated by David Ricardo in his renowned book "The Principles of Political Economy and Taxation" published in 1817, addresses several questions that preoccupied Ricardo, such as the potential scenarios for countries that possess no absolute advantages in producing any goods, or countries that possess absolute advantages in producing all goods (Geronilam, 1991, p. 18) Ricardo turned his attention to the idea that international specialization is based on the principle of comparative advantage, rather than absolute advantage (Hatem, 1993: 74). In this regard, Ricardo emphasizes that absolute advantages are not a necessary condition for two countries to benefit from trade between them.

Ricardo's theory of comparative advantage asserts that countries tend to specialize in the production and export of goods in which they have a comparative advantage, meaning they can produce these goods at a lower relative cost than other countries. Conversely, they import goods that they produce at a higher relative cost than other countries (Geronilam, 1991:19). Ricardo considers differences in relative production costs to be the key factor enabling countries to engage in international trade. He attributes these cost differences primarily to technology, which reflects the production methods adopted in each country. The variations in technological levels are, according to Ricardo, the main explanation for the differences in trade patterns among countries (Zhang W.-B. , 2008, p. 65).

This theory naturally advocates for free trade without restrictions (Geronilam, 1991:19). The argument for free trade is rooted in the fundamental theory of economic welfare, where trade between two countries leads to Pareto optimality, meaning that trade results in mutual benefit for the parties involved in international exchange. This is an outcome that classical trade theory assumes will inevitably occur, as trade would not take place unless it results in mutual benefits. This perspective is based on the assumption that international trade must be driven by the desire of trading parties to engage in such exchanges. The argument is also based on the assumptions of the perfect competition model, which serves as the foundation of the theory of comparative advantage (Hamadi , 2007).

The gains from trade, according to this theory, lie in the fact that a country participating in international trade can achieve consumption and welfare levels beyond its production possibilities. Through international trade, the nation concentrates its production efforts on goods where it possesses a competitive edge, leading to increased output in these areas while simultaneously scaling back production in sectors where it is less competitive. This leads the country to acquire a broader array of goods than it could have produced using its domestic resources alone. Additionally, international trade can provide an outlet for a country's products, even if its resources were not fully employed initially, representing a static gain (Elkan, 1983:26).

Ricardo also highlights that countries should specialize in producing and exporting goods in which they have a comparative advantage and abandon the production of goods in which they do not enjoy such advantages. He stresses that free trade leads to the optimal global allocation of economic resources (Geronilam, 1991: 45). The theory of comparative advantage is the cornerstone of the classical framework for international trade, with many aspects of Ricardo's formulation still relevant in explaining certain phenomena of international trade in the modern world (Hatem, 1993:65).

It is crucial, in the context of analyzing international trade phenomena, to identify the mechanisms by which trade patterns and directions are explained, the conditions for its occurrence, and the gains derived from it. Ricardo's theory of comparative advantage addresses the first aspect concerning the explanation of trade patterns and directions, but it fails to account for the benefits derived from trade between countries (Geronilam, 1991: 48).. This shortcoming is due to the theory's assumption of constant returns to scale, which makes it difficult to determine the rate of international exchange or "terms of trade" (Hatem, 1993:68). This issue has been the subject of numerous scientific contributions following the theory.

2.2.2.3. John Stuart Mill's Theory of International Values

This theory addressed the gap left by Ricardo's theory of comparative advantage, which failed to explain how to determine exchange rates between goods produced in different countries (Hatem, 1993: 67). While Ricardo's theory dealt with the issue of determining domestic exchange rates (relative prices) based on the relative

costs of producing goods within a country, which in turn depended on the number of labor hours spent in production, it left the question of determining exchange rates between goods produced in different countries unresolved. Ricardo merely stated that this rate falls between two limits, leading to a problem related to determining the gains from trade (Al-Najjar, 1973:45).

John Stuart Mill tackled this issue with his well-known theory of international values (Geronilam, 1991:77). According to Mill, the international exchange rate or "terms of trade" are determined through what is known as reciprocal demand, which reflects the strength and elasticity of each country's demand for the products of the other country (Hatem, 1993:60). For example, if there is a high demand for a particular commodity involved in international trade, the international exchange rate for that commodity will be close to its domestic exchange rate in the producing country. Similarly, if the demand is high for another commodity in a different country, the international exchange rate for that commodity will be close to its domestic exchange rate in that country (Geronilam, 1991:45).

In Ricardo's traditional example involving two goods and two countries, the actual international exchange rate falls between the two limits representing the domestic exchange rates in the two countries. Mill argued that the exchange rate is determined by the law of reciprocal demand, provided that each country's exports cover the value of its imports (Hatem, 1993:61). Both Marshall and Edgeworth, building on classical economics, extended this analysis using graphical representation of the law of relative expenses in the context of Ricardo's traditional example. They showed, through reciprocal demand curves, how to arrive at the international exchange rate, which is determined at the point where the two countries' demand curves intersect in this example.

The international exchange rate between two goods, often referred to as the "terms of trade," represents the amount of one good that needs to be sacrificed to acquire one unit of another good. It can be viewed as the price of one good measured in units of the other good (Hudson, John, & Harinder Mark, 1987, p. 26). In the 1960s, some of the first attempts to analyze the impact of international trade on economic growth came from Bhagwati, with his theory of "immiserizing growth," and Johnson

through his "trade-cum-growth" model, demonstrating that terms of trade play a critical role in explaining the effects of trade on economic growth (Sunanda, 2010, p. 37).

2.2.3.The Historical School and the Revival of Mercantilism.

Before discussing the developments that followed the classical school and its views on international trade, it is important to mention a school of thought that arose in Germany and coexisted with classical economics at the height of its influence. However, due to the specific circumstances that Germany experienced after the Napoleonic wars, this school, known as the historical school, was more closely aligned with mercantilist thought and less connected to classical ideas, which were based on individualism and economic freedom.

The historical school, led by figures like Friedrich List, promoted the idea of nationalism and emphasized the important role of the state in the economy. List advocated for economic integration among the fragmented German states following the war and made significant contributions to the fields of nationalism, trade protectionism, and tariffs. It is clear that this school believed in restricting trade and was more aligned with mercantilism than classical economics, despite attempts by some members of the old historical school, like Wilhelm Roscher, to balance the ideas of both schools. However, on the whole, the historical school leaned more towards mercantilism (Sunanda, 2010, p. 38).

2.2.4.The Neoclassical School and the Evolution of the Concept of Relative Costs.

Although the classical model of international trade provided a reasonable explanation of international trade patterns and directions, its reliance on restrictive assumptions disconnected it from the realities of life (Hudson , John , & Mark, 1987:49). The second generation of classical economists, including Edgeworth, Haberler, Leontief, Lerner, Marshall, Meade, Heckscher, and Ohlin, all prominent figures in the neoclassical school, took on the task of freeing Ricardo's law of comparative costs from its constraints. The neoclassical analysis of international trade was based on several points (Hatem, 1993:78):

- Acceptance of the classical logic of international trade based on the principle of comparative costs, while emphasizing the need to free this law from some of the restrictions imposed by the labor theory of value. The concept of opportunity cost replaced labor in the theory of value, becoming a cornerstone of neoclassical thought in the field of international trade .
- The use of marginal analysis tools, which emerged from developments in microeconomic theory within this school of thought. This included the use of production possibilities curves, price lines, the concept of equilibrium, and more (Hudson , John , & Mark, 1987:50).

The neoclassical school sought to explain the sources of differences in relative costs of producing goods among countries. The Heckscher-Ohlin model is a prime example of this effort.

2.2.4.1.Opportunity Cost and the Law of Comparative Costs

Haberler was one of the first to contribute to the theory that replaced the quantity of labor with opportunity cost in determining value. The value of a good is determined by the amount of production sacrificed to allocate resources to produce that good (Heller, 1987:55).

The Ricardian formulation of the law of comparative costs was based on geographic variation—differences in production costs between countries. However, the new logic focuses on product variation, emphasizing output rather than inputs, as Ricardo's interest in the latter was rooted in his acceptance of the labor theory of value prevalent at the time (Hatem, 1993:56) .

2.2.4.2. The Heckscher-Ohlin Model of Factor Proportions.

The classical theory of international trade explained the existence of trade between nations by pointing to differences in relative production costs but did not explain the underlying reasons for these differences. This gap was addressed by the Swedish economists Eli Heckscher and Bertil Ohlin. Their model, based on multiple assumptions, includes differences in the abundance of production factors between countries and the varying intensity with which these factors are used in the production

of different goods, while assuming constant returns to scale across countries (Heller, 1987:57) .

According to the Heckscher-Ohlin model, differences in relative production costs are attributed to the relative abundance of production factors in each country, as well as the varying intensity with which these factors are employed. Consequently, a country will specialize in producing goods that rely on its abundant factors and will export these goods while importing those goods that rely on its scarce factors (Geronilam, 1991:49).

2.2.5.Modern Developments in the Theory of International Trade:

The "Heckscher-Ohlin model" dominated the field of pure international trade theory during the 1930s and 1940s as a foundation for explaining the differences in relative costs of producing goods across various countries. However, this model faced criticism due to the findings of some empirical studies, which examined the reasons for international trade in the United States. One of the most important studies in this regard was conducted by "W. Leontief" who demonstrated that the United States, a capital-rich country, exports labor-intensive goods (Hatem, 1993:70). This finding became known as the "Leontief Paradox" or "Leontief's apparently contradictory result" (Geronilam, 1991: 57).

Leontief explained his findings with two key points. The first relates to the nature of labor in the United States. According to "Leontief", the productivity of American workers was estimated to be three times that of foreign workers. Therefore, even though the U.S. may not be labor-abundant in terms of worker numbers, it is relatively abundant in this factor when considering the quality of labor used in production. The second point involves Leontief's omission of other factors of production, as his study focused solely on labor and capital (Geronilam, 1991:50). Consequently, a number of ideas and theories emerged to explain these phenomena, falling into two main categories (Hatem, 1993:76)

2.2.5.1.Schools of Thought Rejecting the Heckscher-Ohlin Model's Validity.

These schools sought to dismantle the Heckscher-Ohlin model and propose alternatives based on the assumption that all supply-side models and theories, including classical and neoclassical trade theories, are invalid. Among these ideas are (Hatem, 1993:78):

- "B.S. Minhas" studies, which showed that production functions' intensities can reverse, meaning that a capital-intensive country today might become labor-intensive tomorrow. Thus, a consistent pattern for international trade flows cannot be established.
- Empirical studies also demonstrated that the structure of trade protection can favor labor- or capital-intensive industries. When the assumption of free trade is dropped, the industries that received protection often dominate the export structure of those countries, even when they are not abundant in the relevant production factor.
- "Linder's Theory" is another critique of the Heckscher-Ohlin model. Linder argued that demand-side factors better explain international trade flows. His theory focuses on similarities in income structures and preferences, differing from Heckscher-Ohlin, which assumed trade between homogeneous nations. Linder's dynamic approach also contrasts with the static analysis of classical and neoclassical theories, making it more aligned with the contemporary global economy (Mustafa, 2014). His theory further distinguishes between trade in primary goods (explained by Heckscher-Ohlin) and trade in manufactured goods, which is driven by similarities in income and preferences (Hatem, 1993: 79) .

2.2.5.2.Schools of Thought Aimed at Resolving the Leontief Paradox by Developing the Heckscher-Ohlin Model

These schools agree with the Heckscher-Ohlin model that supply-side factors explain international trade patterns but seek to modify some of its assumptions to better fit reality (Mustafa, 2014, p. 41) .Major theories in this direction include:

- The New Factor Proportions Theory.

This theory divides countries based on the relative abundance of "human capital" in addition to the traditional factors of production, labor and physical capital (Hatem, 1993:81). The theory abandons the assumption of labor homogeneity across countries and instead bases production on three factors: labor, physical capital, and human capital. It explains the "Leontief Paradox" by suggesting that the U.S. is rich in human capital.

- The Theory of Economies of Scale.

This theory departs from the classical assumption of constant returns to scale and instead introduces the idea of "increasing and decreasing returns", highlighting the importance of "economies of scale" as a source of comparative advantage (Mustafa, 2014, p. 43)

2.2.5.3. Technological Developments in International Trade Theory.

This theory modifies many of the assumptions of the Heckscher-Ohlin model by incorporating key global economic realities such as development issues, multinational corporations (MNCs), and the dynamic nature of economic analysis. It studies "relative costs" dynamically, explaining international trade patterns in new products resulting from technological changes, including "innovation" and "invention". Countries that achieve technological innovations gain a "monopoly-based comparative advantage" for a limited time, known as the "technological gap" (Hatem, 1993:82). This theory explains trade in "high-tech products", leaving the analysis of primary products (Ricardian goods) and standardized products (Heckscher-Ohlin goods) to classical and neoclassical trade theories (Mustafa, 2014, p. 42). The technological theory also explains international trade through three models: "economies of scale", "technological gap", and "product life cycle" models.

3. Interest Rate (IR)

The economy of each country is characterized by the use of the interest rate, the effectiveness of monetary policy, particularly interest rate adjustments, hinges on the central bank's capacity and the prevailing economic conditions. Interest rates play a crucial role in facilitating capital allocation by influencing the flow of funds between

lenders and borrowers within the financial system. Economic growth is a multifaceted phenomenon, driven by a complex interplay of factors including money supply, international trade, and government economic policies. These factors, in turn, affect business costs, particularly the interest rate (Hatem, 1993:81). Moreover, the interest rate is one of the most important indicators used to analyze economic movement and trends. Given this critical role of the interest rate in the economy, this section will examine the concept of interest rate, its types, and influencing factors, in addition to modern theories and models related to interest rates (Mustafa, 2014, p. 43).

3.1. The Concept Of Interest Rate

The opinions on providing a specific definition of the interest rate have varied according to the different schools of thought that have addressed it. However, all the definitions share a common essence: the interest rate is the price paid by the borrower for the use of borrowed funds for a specific, agreed-upon period. It differs from the prices of goods and services as it represents a ratio between the monetary cost of borrowing divided by the borrowed amount. Therefore, it is considered a double-edged sword, as it can sometimes be seen as a return on borrowed funds and, at other times, a cost associated with them (Mustafa, 2014, p. 55).

The interest rate represents the cost incurred by the central bank to attract deposits from commercial banks, whether for overnight placements or longer durations, such as a month or more. This rate acts as a benchmark for interest rates at commercial banks, ensuring they remain above the central bank's rate. Moreover, the central bank utilizes interest rates as a tool to regulate the money supply, adjusting them upward or downward over the medium term to achieve monetary policy objectives.. An increase in interest rates means a restriction on borrowing activities, which then reduces liquidity in the market, ultimately lowering the inflation rate (price increases) (Al-Assar, 2010, p. 66)

Reasons for adopting interest rate policy as one of the main tools and a crucial weapon for the central bank (Al-Assar, 2010,P.66):

- Reducing the interest rate will increase the volume of securities presented by commercial banks for rediscounting at the central bank,

which helps commercial banks provide the necessary liquidity for expanding credit.

- There is a relationship between the interest rate set by the central bank and the rate charged by commercial banks to borrowers. The interest rate represents a cost for commercial banks on loans provided by the central bank. Therefore, if the interest rate set by the central bank rises, it leads to an increase in the interest rates on loans that commercial banks grant to customers.
- The interest rate is one of the means through which commercial banks can periodically obtain the necessary funds.
- The interest rate enables commercial banks to adjust the size of their reserves at the central bank to align with the legal cash reserve ratio.
- The central bank uses its rate as a tool to influence the money supply.

Thus, we find that the interest rate is one of the most important variables affecting investment decisions. It is known that investment is the portion of income used in the production process to create capital. The demand for investment depends on three factors: expected profits (the marginal efficiency of capital), interest rates, and investment opportunities. The investor must compare profits and costs. If profits exceed costs, they will invest and expand existing projects (Al-Hajj, 1998, p. 33)

It is rare to receive the full amount of capital and interest at the end of the loan period. Interest income is usually received at regular intervals, typically annually (El-Sayed, 2003, p. 34). In its simplest form, investing money by purchasing bonds of a certain value is considered one of the best forms of investment in securities, as the current value of the bond inversely correlates with the interest rate. Every decrease in the interest rate results in an increase in the bond's value. Furthermore, the effectiveness of using interest rates as a tool of monetary policy depends on the fulfillment of the following three conditions (Al-Sayed, 1986:54):

- The existence of a broad and developed financial and monetary market.
- The practice of discounting commercial paper on a large scale by banks.
- The retention of fixed cash reserves by banks.

Interest rates in the financial market play a fundamental role in the monetary cycle and contribute to directing funds through intermediaries from savers to investors. Hence, the interest rate is regarded as the primary driver of the financial market mechanism.

The impact of interest rates on the financial market can take several forms, summarized as follows (Al-Sayed, 1986, p. 54):

- The interest rate is a significant element in project costs because, in the absence of self-available resources, investors usually resort to borrowing. When interest rates rise, it increases total costs, leading to a decline in overall profits, which, in turn, reduces stock profits and their prices.
- The prices of securities represent the present value of future funds. Therefore, their direct value depends on the discount rate or the achieved return. Naturally, this rate represents the prevailing interest rate at the same time concerning investment for the same period.
- The interest rate plays a pivotal role in choosing between different types of investments. Savers wishing to invest their money must compare between fixed-return investments and those with lower returns, and between risk-free investments and those carrying higher risks but offering high and variable returns.

It is also noteworthy that interest rates play important functions in the economy, summarized as follows (Al-Rafai, 2014):

- They help protect savings and direct them towards investments that aim to achieve economic growth.
- They determine the amount of available credit and prepare the borrowed funds for high-return investment projects.
- They help achieve a balance between money supply and demand.

3.2.The Importance of Interest Rates

Interest rates are a key factor in shaping economic activity and are widely recognized as one of the most important indicators for assessing macroeconomic trends and dynamics. The following points highlight the importance of interest rates: (Ross, 1997, p. 44):

- **Significance of Interest Rates at the Individual Level:** Higher interest rates can present challenges for individuals, particularly those looking to finance purchases such as cars, real estate, or other assets, as borrowing becomes more expensive. On the other hand, elevated interest rates may appeal to individuals aiming to maximize returns through financial savings.
- **Significance of Interest Rates at the Macro Level:** Interest rates play a crucial role in shaping the broader economy by facilitating the flow of savings from surplus units to deficit units, thereby fostering economic growth. They also help maintain equilibrium between the supply and demand for money, while influencing both savings and investments—two essential components of monetary policy., and influencing international financial flows, where higher interest rates in a given country encourage capital inflows, and vice versa (Al-Sayed, 1986:33). Additionally, interest rates help guide the economy in line with planned policy and prevailing economic conditions (Thomas, 2002, p. 66).

It is worth noting that savings institutions faced unexpected increases in interest rates during the 1970s and early 1980s, particularly in industrialized nations such as the United States and Western European countries (Thomas, 2002, P.67).

Interest rates are also critical in financial markets, as they are one of the main variables affecting international capital flows. If interest rates rise in one country compared to others, it stimulates capital inflows—within the legal limits—from other countries for two reasons (Al-Sayed, 1986:33):

- Higher interest rates encourage investment units in other countries to invest their funds in the country offering the highest rate, assuming other influencing factors remain constant.
- Higher interest rates push borrowing units to seek cheaper borrowing sources from other countries.

The importance of interest rates is evident in their impact on economic development and the expansion of economic activity. They also influence wholesale traders' inventory holding, as costs rise with increased interest rates, in addition to their effects on savings rates (Balwafi & Balabbas, 2009).

In conclusion, interest rates are one of the critical economic variables affecting economic activity. They also influence the level of investment undertaken by businesses, making them a key factor in shaping the movement of capital flows at the international level. This is because interest rates are one of the most important monetary policy tools through which a country can influence its economic activity (Al-Sayed, 1986:33).

3.4.Determinants and Influencing Factors of Interest Rates

3.4.1.Determinants of Interest Rates

Interest rates are not established automatically; rather, they are determined based on the monetary policy framework implemented by the country. Central banks determine a specific interest rate level while considering expected inflation rates. To steer these rates in the right direction (Welch & Gerry, 2010, p. 223), central banks typically rely on various variables to achieve this goal. Therefore, the key factors determining interest rate levels are as follows (Weston j.fred, 1996, p. 96).

- The supply of funds from all types of savers.
- The demand for funds from companies to finance various investments.
- The net supply and demand for funds from the government.

Interest rate risk represents the cost that a financial institution bears when it exceeds the return from investing in assets. Financial institutions earn profits from the fees they charge for the services they provide, and from the spread between the interest rate they charge borrowers and the rate they offer depositors. This difference between

the two rates is known as the "spread", which represents the amount the financial institutions use to cover their expenses, with the remainder constituting their profit. Any fluctuation or change in this spread poses a risk to the financial institution, referred to as "interest rate risk."

Thus, the market or nominal interest rate consists of the risk-free interest rate plus components such as inflation, default risk, liquidity risk, and maturity or credit risk. These variables can be expressed in the following equation (Borio & Dessiat, 2016):

$$i = RFI + DEF + LIQ + MAT$$

Where:

-i = Nominal market interest rate.

-RFI = Risk-free interest rate.

-INF = Inflation premium.

-DEF= Default risk premium.

-LIQ = Liquidity premium.

-MAT = Maturity premium .

3.4.2.Influencing Factors of Interest Rates

The factors influencing interest rates can be divided into two categories: direct and indirect factors, which are explained in more detail below (Parliament, 1999).

Direct Factors:

- **Monetary Policy:** The monetary policy followed by any country influences the money supply (currency in circulation) and demand deposits. This is achieved through the central authority's role in determining the amount of money in the economy. An increase in the money supply leads to a decrease in interest rates and potentially higher inflation rates, and vice versa (Parliament, 1999).

- **Fiscal Policy:** An increase in a country's public debt due to its expansionary spending policies forces banks to lend more, resulting in higher interest rates if other factors remain constant.
- **Economic Activity Level:** The structure of interest rates is influenced by the level of economic activity. An increase in economic growth means greater demand for funds, which raises interest rates, especially if accompanied by rising inflation rates and an expanded money supply resulting from an expansionary monetary policy, and vice versa.

Indirect Factors:

- **Expectations:** Interest rates are influenced by investors' expectations, which are affected by expected inflation rates.
- **Liquidity Preference:** If long-term securities offer higher returns than short-term securities, this will affect interest rates.
- **Market Segmentation:** Both lenders and borrowers have preferred maturity periods, meaning that the shape of the yield curve depends on supply and demand conditions in both long-term and short-term markets.

3.5.Theories of Interest Rate

Various economic schools have addressed the concept of the interest rate, with each school emerging at different points in history. As a result, each school has provided a distinct interpretation and role for the interest rate. These schools can be classified according to their chronological emergence as follows (Al-Quraishi, 2008, p. 77).

3.5.1.Views of Ancient Thinkers on Interest Rates

The ideas proposed by Plato and Aristotle are among the earliest views later categorized as economic thoughts. Plato opposed interest and viewed the role of money as a means of accumulating wealth negatively. He saw money as a tool for building the just state he advocated for. Similarly, Aristotle held views not much different from Plato's. He regarded interest as a form of usury and deemed it socially

unacceptable, considering that money was merely a medium to facilitate exchange (Al-Quraishi, 2008,p.78).

In the Middle Ages, Saint Thomas Aquinas was one of the prominent advocates for the prohibition of interest, drawing on Christian teachings. He argued that new means of production were undermining the foundations of the feudal system. He also believed that using money to grant loans was unacceptable (Soll), and any surplus money should be directed toward consumption rather than lending. He contended that the lender would exploit the borrower's need, leading to a natural disaster represented by an increase in the poor class in society. Thus, Aquinas' view aligns with Aristotle's notion that "money does not breed money (AbdulReda, 2012, p. 69).

3.5.2.The Classical Theory of Interest Rates

According to this theory, interest is paid because the addition of new capital to the production process enhances productivity. The tangible productivity of capital goods drives greater demand for capital, and to harness this productivity, it becomes necessary to pay interest on the funds used to acquire these capital goods. Thus, according to this theory, demand drives the payment of interest (Abdelqader, 2010, p. 54). The theory, however, faced criticism for neglecting the supply side and focusing only on demand. Critics argue that interest is determined by both relative scarcity and productivity, not solely productivity, even if capital productivity plays a role in setting interest rates.

The classical theory was not clear in its treatment of the concept of interest, particularly concerning its distinction from profit, its legitimacy, or its impact. Their analysis was based on the ideas prevailing during that period, which led to the emergence of new ideas in the neoclassical school, contributing to a new understanding of interest. Economists such as Böhm-Bawerk, Knut Wicksell, Irving Fisher, and Alfred Marshall added new perspectives on the concept of interest. Classical economists viewed interest as a necessary incentive for individuals and institutions to save, i.e., defer consumption. Fisher introduced the "Time Preference Theory", which is based on the assumption that individuals prefer present consumption over future consumption and are generally impatient to postpone spending their income. The degree of impatience depends on the following factors (AbdulReda, 2012, p.70):

- **Income size:** Impatience decreases as income increases, leading to a lower preference for present consumption over future consumption.
- **Income distribution over time:** The future interest rate depends on whether income remains constant or increases with age. If income increases with age, the interest rate tends to rise; if income decreases, the interest rate tends to fall.
- **Certainty of future enjoyment:** The greater the certainty of future enjoyment, the lower the time preference and the lower the future interest rate, and vice versa.

Another theory that emerged during this period is the "Theory of deprivation and wait" by Nassau Senior (Senior, 2000, p. 44). This theory explains the reason for paying interest from both supply and demand sides. It was also known as the theory of abstinence, deprivation, or thrift, which refers to saving or forgoing present consumption to achieve greater satisfaction in the future. The theory argues that interest is the reward for the sacrifice made by the saver for abstaining from present consumption, and it equates interest with the price of saving (Blaug, 1999, p. 66). The classical period is notable for its focus on the issues of wealth and value. Classical and neoclassical economists spent a long time treating monetary theory as secondary, and their monetary analysis was simplistic, relying heavily on quantitative factors. They viewed money as a commodity and explained changes in its value through changes in supply and demand. According to the "Quantity Theory of Money", the interest rate in the market is determined by the balance between savings and investment. Thus, classical economists believed that the interest rate, like any other price, is determined by the interaction of supply and demand—specifically, the supply of capital (savings) and the demand for capital (investment). The interest rate naturally balances investment demand with the desire to save (Mallak, 2011, p. 87).

Classical economists also saw the interest rate as a critical factor influencing both saving and investment decisions. However, the effect of the interest rate on saving is the opposite of its effect on investment: saving increases as the interest rate rises, while investment decreases. Therefore, the function of the interest rate is to balance savings with investment, with interest rate flexibility maintaining a periodic income flow (Awad Allah & Adly, 2005, p. 96).

Under classical assumptions, the economy operates at full employment, meaning any increase in income allocated to savings will be fully invested. For example, if new inventions, such as environmentally friendly products, emerge, they will encourage new investments, shifting the investment curve to the right and raising interest rates. The classical analysis, according to the "Quantity Theory of Money," changes in the money supply result in proportional changes in price levels, provided that other factors, such as the velocity of money and the volume of transactions, remain unchanged. This can be represented by Fisher's equation:

$$M \cdot V = P \cdot T$$

3.5.3.Keynesian Theory of Interest Rate

In his groundbreaking publication, *The General Theory of Employment, Interest, and Money*, economist John Maynard Keynes presented a detailed presentation and thorough analysis of the demand for money and the factors influencing it, as well as the supply of money and the determinants of its supply. According to Keynes, individuals demand money not only for its use as a medium of exchange, but also for its own sake, as it is a fully liquid financial asset with unique advantages over other assets .

Keynes' perspective on money and interest rates differed from the classical economists. The classical view regarded money merely as a medium of exchange, implying that all savings would eventually be converted into investment. They argued that the volume of savings is influenced by the interest rate, and the relationship between them is positive. Some of the key assumptions of Keynes' theory can be summarized as follows (Al-Qatari, 2011):

- The private economy is inherently unstable, and full employment cannot be achieved because fluctuations in business expectations lead to instability in investments.
- The automatic corrective forces, which the classical economists believed in, are weak because prices and wages exhibit low elasticity due to the imperfect nature of markets. The economy would take a long time to recover equilibrium on its own without intervention. Therefore,

Keynes argued for the necessity of government intervention to correct economic imbalances.

- Keynes viewed the interest rate as a monetary phenomenon that reflects the cost of giving up liquidity. The interest rate depends on the liquidity preference (the price of money), and it is determined by the interaction of money supply and money demand.

Keynes identified three motives for the demand for money (Rochon & Sergio rossi, 2003, p. 97):

Transactions motive: Keynes argued that the amount of money demanded for transactions purposes depends on the level of nominal income. As real income or prices increase, spending rises, leading to a higher demand for money for transactions. This demand is assumed to be a certain proportion of income, which varies depending on individual preferences and personal income. The relationship can be expressed in the following equation:

$$L_t = f(Y)$$

- Precautionary motive: This motive reflects the desire of individuals and businesses to hold a reserve of cash balances, in addition to those set aside for transactions, to cope with various contingencies, such as changes in consumption patterns, unexpected purchases, or opportunities to make profitable deals. Keynes expressed the demand for money under the precautionary motive as a function of income, represented by the following equation (Abdullah, 1999):

$$L_p = f(Y)$$

Both the demand for money for transactions purposes and for precautionary purposes are not responsive to changes in the interest rate. Therefore, the demand for money under these two motives is stable and inelastic with respect to interest rate changes. The combined demand for money from these two motives can be expressed by the equation:

$$L_1 = L_t + L_p = f(Y)$$

- Speculative motive: The demand for money under the speculative motive represents the money held by individuals and businesses to take advantage of price fluctuations and thus earn profits. Keynes believed that the speculative demand for money is influenced by changes in the interest rate. When the interest rate is low, individuals tend to hold a larger portion of their wealth in liquid form for two reasons (Al-Hourani, 2011):
- When the interest rate is seen as a measure of the opportunity cost, individuals who prefer liquidity perceive that the cost of holding liquid assets is low. As a result, the demand for speculative money balances increases, leading people to purchase low-yield assets while maintaining a substantial portion of their wealth in liquid form.
- Changes in interest rates inversely affect bond prices. If interest rates are low, bond prices tend to rise because a lower interest rate increases the demand for bonds, driving up their prices.

Holding a certain amount of money in liquid form for speculative purposes requires balancing between money and other assets. However, there may be circumstances where an increase in the quantity of money has a limited impact on interest rates, prompting individuals to hold onto money for precautionary reasons, out of concern for future uncertainties. Consequently, Keynes concluded that there is an inverse relationship between the demand for money (for transactions, precaution, and speculation) and the interest rate (keynes, 2008, p. 85).

3.5.4.The Modern Interest Rate Theory

The modern theory of interest rates is also known as the Neo-Keynesian theory of interest rates, or what is referred to as the (Hicks-Hansen) model, supported by conditions of both internal and external equilibrium .

This modern theory integrates four factors—savings, liquidity preference, investment, and the money supply—into a unified theory. In other words, it combines both monetary and real factors to explain the mechanism for determining the interest rate (Ebdjman, 1992, p. 67).

The balance among these factors collectively determines the interest rate. As per Hansen's theory, equilibrium is reached when the cash balances desired by individuals align with the money supply and when the marginal efficiency of capital is equal to the interest rate, and when the level of investment equals desired savings. All these factors are interconnected .

In summary, according to the modern theory of interest rates, when the four variables—savings, investment, liquidity preference, and money supply—are integrated with income, we obtain a satisfactory explanation of how the interest rate is determined. To achieve this, the Neo-Keynesians combined the loanable funds theory with the liquidity preference theory, as demonstrated by economists like Lerner, Hicks, and Hansen .

As a result, the Neo-Keynesian theory of interest rates yielded two schedules: Table (Is), which shows the equilibrium between variables in the real sector, and Table (Lm), which illustrates the balance between variables in the monetary sector. At the equilibrium interest rate in the monetary sector, the following conditions are met:

- Total savings equal total investments.
- The total demand for money equals the total supply of money.
- Both the real and monetary sectors are in equilibrium.

The (Is) curve illustrates equilibrium in the real sector, representing different combinations of income levels (Y) and interest rates (r) at which total real savings and total real investments are balanced. It expresses the loanable funds theory (Hubbard, 2008, p. 61). Investment is inversely related to the interest rate, while savings are positively related to both the interest rate and income. As income rises, savings increase, leading to higher interest rates. When income rises, the interest rate increases, and investment decreases until savings equal investments.

To explain equilibrium in the monetary sector, the Neo-Keynesians developed a schedule and curve (LM), which represent the relationship between income and interest rates based on the liquidity preference function (L) and the money supply (M). According to Hansen, based on Keynes' liquidity preference theory, we can derive a series of liquidity preference schedules at different income levels. The relationship

between these liquidity preference schedules and the money supply determined by monetary authorities gives us the LM curve, which slopes upward to the right .

This slope occurs because, as income increases, liquidity preference (or the demand for money) rises, leading to a decrease in the interest rate (Delong & Martha L. , 2009, p. 67). Conversely, a decline in income leads to a drop in liquidity preference, causing the interest rate to fall, resulting in a downward slope of the LM curve from the upper right to the lower left. At high levels of income, there is significant demand for money for transactions purposes relative to a fixed money supply, causing the interest rate to rise sharply and the LM curve to become less elastic concerning the interest rate at higher income levels.

At lower income levels, the demand for money for transactions purposes is low, with most money held as idle cash balances, causing the interest rate to decline. Consequently, the liquidity preference function becomes highly elastic at low-interest rates due to increased speculative demand for money. This excess supply of money at low income levels cannot reduce the interest rate below a certain level. As a result, the LM curve becomes highly elastic concerning the interest rate at lower income levels (Friedrich, 2009, p. 96).

This model incorporates both the goods market and the money market. Equilibrium in this framework is achieved where the IS and LM curves intersect, as depicted in Figure (1-1). The IS curve delineates the combinations of interest rates and income levels that maintain equilibrium within the goods market. In essence, the economy rests in goods market equilibrium only when the prevailing interest rate and income levels align with a point on the IS curve.

Here's a rephrased version of the text, aiming to preserve its essence while avoiding potential plagiarism:

The LM curve depicts the equilibrium points where interest rates and income levels are balanced within the money market. This equilibrium exists solely when the prevailing interest rate and income levels align with the LM curve. To achieve overall economic equilibrium, the current interest rate and income levels must simultaneously satisfy both the IS and LM curves. This equilibrium occurs at the point of intersection

between these two curves, determining the equilibrium interest rate (r) and equilibrium income level (Y_0).

The equilibrium values for the interest rate and income level in the national economy can be determined by incorporating behavioral equations into the equilibrium conditions represented by the IS-LM model, then solving the simultaneous equations to find the equilibrium interest rate and income (Al-Sariti, & Abdel-Wahab, 2008).

These assumptions about the goods and money markets can be summarized mathematically as follows:

$$y_s = a + b i \dots\dots\dots(1) \quad b < 0 \quad (\text{Equilibrium in the goods market})$$

$$y_m = c + d i \dots\dots\dots(2) \quad d > 0 \quad (\text{Equilibrium in the money market})$$

$$y_s = y_m \quad (\text{Achieving equilibrium})$$

Where the equilibrium interest rate can be found by solving the equation:

$$a + b i = c + d i$$

As a prerequisite, $a < c$

$$a - c = d i - b i$$

Thus, the equilibrium interest rate is:

$$a - c = (d - b) i$$

$$i = (a - c) / (d - b)$$

In conclusion, the equilibrium interest rate is given by this formula, and to determine the equilibrium level of income, we substitute the interest rate into either the IS or LM equation. By solving for income, we obtain the equilibrium income level.

$$y_0 = (a - b c) / (d - b)$$

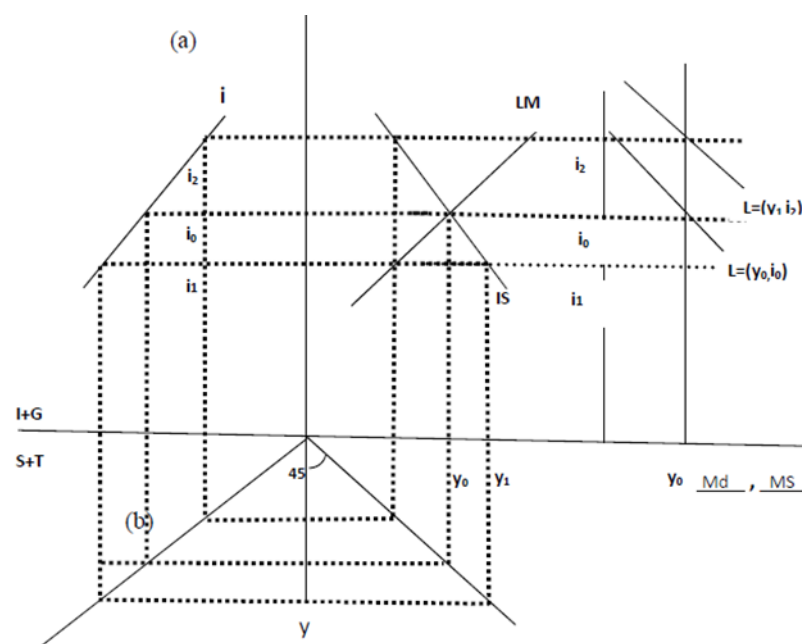


Figure 1: Shows The Equilibrium In The Model IS – LM

Source: Ebdjman, Macroeconomics Theory and Policy, 1992

The previous figure illustrates the equilibrium points between the goods market and the money market (IS-LM). Both markets are in equilibrium at an interest rate of (i_0) and income level (y_0), and at an interest rate of (i_0) and income level (y_0), where investment plus government spending equals savings plus taxes. Additionally, the supply of money equals the demand for money.

Let's assume another combination of interest rate and income level, such as the combination ($y_1 - i_1$) on curve (IS). The goods market is in equilibrium, but the money market is not, meaning there is an excess demand for money at point ($y_1 - i_1$). Under these conditions, individuals will attempt to increase their cash holdings by selling bonds, leading to a decrease in bond prices and an increase in interest rates. This creates contractionary effects in the goods market. As investment declines, income will also fall. If the equilibrium is stable, the interest rate and income will adjust until equilibrium is reached in both markets. This occurs only at an interest rate of (i_0) and an income level of (y_0).

Similarly, suppose the combination ($y_1 - i_2$) is on the curve (LM). Here, the money market is in equilibrium, but the goods market is not. Investment plus government spending will be less than savings plus taxes, leading to aggregate demand

being less than aggregate supply, and income will fall. As income declines, the opposite effects occur in the money market, reducing the money supply, which implies an increase in the interest rate. If the equilibrium is unstable, the interest rate and income will change until equilibrium is restored in both markets. This occurs only at an interest rate of (i_0) and an income level of (y_0). Thus, if we are at a point other than (y_0-i_0), at least one of the markets will be out of balance, causing either the interest rate, income, or both to change. As long as changes in interest rates or income continue in one market, the other market faces opposite effects. However, the interest rate and income will adjust until both markets reach equilibrium (Ebdjman, 1992, p. 285).

In addition to theories concerning interest rates, many views emerged that later became known as models or schools of thought regarding the determination and role of interest rates. These models appeared alongside economic schools such as the Keynesian and monetarist schools, considering interest rates the primary driver of economic activity in any country. Interest rates are one of the most important indicators used to analyze the movement and direction of the macroeconomy. These views can be classified into three main streams, either supporting or questioning the role of interest rates.

3.5.4.1. The Skeptical View on Interest Rates

This stream is divided into two groups. The first group believes that interest rates have a weak impact on economic activity, while the second group sees them as having a strong but negative impact, blaming them for causing economic crises (Belazoz, 2003). The Meade and Ebersol model best represents this view (Mercurio & Brigo, 2001, p. 57).

- The Meade and Ebersol Model:

Economists from Oxford University, such as Wilson, Anderry, Meade, and Ebersol from Harvard University, conducted research in 1938-1939 on a sample of business owners in capitalist countries to measure the impact of interest rate changes on investment decisions. The results were surprising, as there was almost unanimous agreement that short-term interest rates do not directly affect investment, whether direct or indirect, because businesses in the sample did not borrow from banks. In some cases, the effect of interest rate changes was insignificant compared to changes in profit

levels. A few admitted that interest rates affect decisions regarding machinery purchases but not inventory levels, while others acknowledged an impact on inventory but did not see it as the only factor (Mercurio & Brigo, 2001).

Most respondents denied any direct long-term impact of interest rate changes on investment levels, although some acknowledged their importance, especially when interest rates were low and remained so for some time. This majority attributed their denial to the fact that they did not borrow during expansion periods or that the cost of interest was minor compared to other project expenses.

Criticisms of this view include (Belazoz, 2003):

- Critics argue that the sample is not representative enough to generalize the findings. Economist Robinson, in lectures published in 1949, emphasized that interest rates are the only factor influencing investment decisions. Critics also note the role of interest rates in combating inflation, citing examples such as the United States, Britain, Finland, and Germany raising interest rates in 1956 to curb inflationary effects (Belazoz, 2003).
- It is unreasonable to expect investment levels to respond to decreases in interest rates during periods of recession when the marginal efficiency of capital is lower than interest rates. Therefore, even modest reductions in interest rates are unlikely to stimulate investment in such periods. Additionally, normal instruments functioning under extraordinary circumstances cannot be expected to have the same impact as in typical conditions.
- Interest rate changes can alter expectations. For example, a decrease in interest rates may enable firms that previously could not access capital at reasonable terms to do so.
- Ignoring the role of interest rates in investment decisions is a mistake, particularly when funds are allocated to new investment projects. Interest rates play a crucial role in determining the timing of investment by comparing interest rates with the marginal efficiency of capital.

-5Interest rate changes significantly impact overall economic activity, especially consumption. When interest rates decrease, investment increases, leading to more job opportunities, higher income levels, and, subsequently, increased consumption.

3.5.4.2.The Misleading Indicator View

Some economists argue that interest rates are not an effective tool for allocating resources in general, and especially for financing investment projects. Instead, they believe interest rates work against resource allocation. Economists such as Lutz, Conrad, and Johnson argue that capital has been misallocated due to interest rates, labeling them a poor tool for resource allocation. Hicks also noted that interest rates are too weak to influence short-term decisions and too uncertain to affect long-term outcomes. Finally, opponents of using interest rates in economic life provide several justifications (Belazoz, 2003):

- High public debt service costs increase tax burdens and redistribute income in favor of creditors.
- Monopolistic tendencies increase borrowing costs for consumers through higher prices for goods and services.
- Long-term investments are disadvantaged by interest rate fluctuations, as longer payback periods reduce their attractiveness and increase the risk of losses.

3.5.4.3.The Supporters of Interest Rates

In response to skepticism about interest rates, models and theories emerged that established a strong, direct relationship between rising interest rates and economic growth, particularly in developing countries. This view is represented by the "McKinnon-Shaw" model, which opposed lowering interest rates to stimulate investment. McKinnon and Shaw introduced the concept of "financial repression," a policy involving government intervention in economic activity to restrict the banking sector's freedom (Al-Hawari, 1999) As defined, it is a set of policies, laws, and regulations imposed by the government to control financial operations (Shukri, 2006) According to this policy, an interest rate is set below the equilibrium rate with the aim of increasing investment. However, under the financial repression policy, the interest

rate does not reflect market forces (equilibrium) or inflation rates. The key features of this policy can be outlined as follows (Shukri, 2006):

- Administrative determination of interest rates on loans and deposits.
- Credit allocation.
- Imposition of a high implicit tax on the banking sector.
- Mandating financial institutions to purchase low-yield government securities.
- Imposing strict restrictions on free entry into the financial sector.

McKinnon demonstrated that such a policy leads to a lower savings rate than is necessary to finance investment, thereby reducing actual investment. While Keynes advocated for lowering interest rates, McKinnon argued for raising them to improve investment efficiency. The inefficiency stems from the fact that low-interest rates fail to ensure the most efficient investment choices, as personal connections and political influence may play a role in determining which projects receive credit. McKinnon's 1973 model had significant impacts on monetary policy in several countries and became a recommended framework for structural adjustment programs proposed by international financial institutions (Shukri, 2006).

4.Economic Growth:

4.1.The concept of Economic Growth

It is defined as 'the continuous (or sustained) increase in a country's production over a long period or several periods of time' (Mesae, 2012). This refers to an increase in real individual income, not nominal income, and thus a sustained increase in the average real income over time. Typically, a grant may be given to a country that temporarily raises the average real income for a year or two, but this temporary increase is not considered economic growth (Nasif, 2003, p. 135).

4.2.Theories Of Economic Growth

The emphasis on trade openness as a factor in economic growth extends beyond international trade theory. In fact, economic growth theory itself considers variables related to trade openness as key drivers of growth. This study primarily tracks intellectual developments in the theory of economic growth through the following:

4.2.1.Economic growth in the mercantilist school of thought.

The mercantilist perspective on economic growth revolves around their concept of wealth, which is primarily concentrated in precious metals, like gold and silver. Mercantilists focused on total economic output as an indicator of economic growth rather than individual output (Al-Habib., 1985, p. 130). This is because their attention was on the state's economic power, not on the welfare of its individuals. Mercantilists attributed economic growth to internal factors such as population growth and external factors like foreign trade (Al-Habib., 1985, p.130). They implemented trade policies that favored a positive trade balance for the state. Hence, the mercantilists emphasized the role of foreign trade in economic growth, but they adhered to the principle of trade protectionism rather than free trade.

4.2.2.Classical Views On Economic Growth

Before delving into the classical perspective on economic growth, it is important to mention the school of thought that preceded classical economics and contributed to the theory of economic growth: the physiocrats. The physiocrats advocated for the concept of net agricultural output as the foundation of wealth and regarded the agricultural sector as the sole productive sector in the economy. According to the physiocrats, the agricultural sector generates a surplus that can be used for capital savings and the establishment of necessary infrastructure for ongoing agricultural production, such as irrigation canals. The physiocrats' view of economic growth centered on the growth of national output, primarily agricultural, which relied on the rate of capital formation—the primary driver of economic growth in their view—and was financed by the surplus from agricultural activities (Al-Habib., 1985, p.133). In contrast to mercantilists, the physiocrats encouraged free trade by removing obstacles to its flow between the state and the outside world. They viewed foreign

trade as a means to export agricultural products produced domestically (external demand).

Regarding classical economists' views on economic growth, they considered the rate of capital formation, or investment, as the key driver of economic growth. They believed this investment came from entrepreneurs' profits, which turned into savings used for investment, eventually leading to increased total output—an indicator of economic growth for them (Al-Habib., 1985, p.134). In contrast, classical economists believed that population growth worked against economic growth, although technical advancements in production methods could overcome this issue. Malthus and Ricardo argued that society would soon reach a state of stagnation, where population growth outpaces technical progress, while Smith believed this would occur over a longer period. Adam Smith's view of economic growth can be summarized as follows (Al-Habib., 1985, p.134):

- The rate of capital formation, driven by entrepreneurs' savings, is the main driver of economic growth.
- Total output depends on production factors such as labor, capital, land, technological progress, and a societal environment conducive to growth.
- The industrial sector is central to economic growth due to its increasing returns and the potential for specialization and division of labor, as well as its ability to generate profits. Smith used the example of a pin factory, where productivity increased two hundredfold when labor was divided compared to when one worker performed all tasks (Scherer, 2002, p. 122). Smith also emphasized that productivity increases with market size due to deeper specialization, which led him to advocate for the liberalization of both domestic and foreign trade as they are the main factors in specialization and division of labor. While Smith recognized the role of technological advancement in improving labor productivity, he attributed it to the division of labor. He believed that specialized workers in production could introduce technological improvements to the machinery they used (Scherer, 2002, p. 122). His view of technological progress aligns with the

modern concept of research centers, as he suggested that machine manufacturers, rather than their users, would lead the development of new technologies. He also added the role of philosophers who, in his view, contemplate and improve everything. Thus, Smith implicitly acknowledged the role of technology in improving labor productivity, but he viewed it as a channel through which the effects of labor division on productivity are transmitted.

Ricardo's views on economic growth were not significantly different from those of Adam Smith, particularly concerning free trade and its role in expanding market size, establishing specialization, and enhancing productivity, ultimately leading to economic growth (Al-Habib., 1985, p.136). However, Ricardo took a more pessimistic view regarding the sustainability of economic growth due to one of his key contributions: the law of diminishing marginal returns. According to this law, labor's marginal productivity declines as the number of workers increases on a fixed land supply. Malthus shared this concern, arguing that while population grows geometrically, food production increases arithmetically, thereby reducing labor productivity and, consequently, economic growth (Scherer, 2002, p. 123).

Robert Malthus, another prominent classical economist, made significant contributions to the field of economic growth, notably his concept of effective demand. Malthus criticized Say's Law and emphasized the need for inter-sectoral linkages to achieve balanced economic growth (Al-Habib., 1985, p.137). He also argued against excessive saving, which, in his view, would harm capital accumulation by reducing effective demand. His argument was based on his rejection of Say's Law, which states that supply creates its own demand. Malthus also noted that the role of the agricultural sector diminishes as society develops, while the industrial sector's importance increases due to its increasing returns (Al-Habib., 1985, p.139). He predicted a dual economy in developing countries, characterized by a slow-growing agricultural sector and a more advanced industrial sector. Malthus's contributions to classical economic thought focused primarily on his population theory, but he generally agreed with the other classical economists, particularly regarding international trade

4.2.3.The Marxist Model Of Economic Growth

Karl Marx is considered one of the classical economists , as his analyses were based on the intellectual approach of Adam Smith, the pioneer of classical economics. The Marxian model of economic growth involves several assumptions regarding wage rates and profit rates over time. Through these assumptions, the model explains the dynamic behavior of economic growth (Najafi & Qurashi, 1988, p. 112)

The classical framework for economic growth generally consists of two types of models. The first is attributed to David Ricardo and is called the Ricardian model of economic growth. The second is attributed to both Adam Smith and Karl Marx and is referred to as the Smith-Marx traditional model of economic growth. In this model, economic growth depends on various factors, including labor and capital, which are assumed to be employed in fixed proportions in the production process (Agata & Freni, 2003). Marx assumes that the supply of labor remains constant in the short run but becomes flexible in the long run in response to wage rates.

The Marxian model of economic growth can be illustrated in a dynamic economy, which initially consists of a combination of production factors, including capital stock (K), labor (L), and land, representing the natural resources used in production. Regarding technological change and its role in economic growth, Marx's view differs from that of Adam Smith, who considered technological change to be unintentional, unrelated to producers' decisions (Agata & Freni, 2003). Marx believed that current technology could be determined by investment, implying that production relies on four factors: land, labor, capital, and technology. The production function in this model can be described as follows

(1.2.1)

$$Q = F (L, L', K, T)$$

Where :

Q = Total output

L = Labor

L' = Land

K = Capital

T = Technology

Marx assumes that technology is a function of investment, so:

(1.2.2)

$$T = F(I)$$

Where :

I = Investment

$$I = F(R^*)$$

Additionally:

$$I = F(R^*)$$

(1.2.3)

Where :

R* = Rate of return on capital

$$R^* = R/(W+K)$$

Also:

(1.2.4)

Where :

R = Total rate of return

W = Wage rate

$$W = F(1)$$

In summary, Marx views technology as dependent on investment, which, in turn, depends on the rate of return on capital. He also argues that wages are a function of investment, and labor is a function of the ratio of investment to capital, indicating an inverse relationship between labor and capital.

Like other classical economists, Marx believed that economic growth relies on the same factors. However, he did not emphasize the diminishing marginal returns

phenomenon. He also believed that the capitalist system would inevitably pass through phases that would lead to its collapse (Najafi & Qurashi, 1988, p. 117). Marx argued that the capitalist system contains contradictions that, as the system evolves, would ultimately lead to its demise. One of Marx's explanations for the collapse of capitalism is that the system cannot keep pace with rapid technological advancement, which would result in widespread unemployment ("machines replacing workers"), pushing wages to subsistence levels and extending working hours due to diminishing profits. This would, in turn, reduce demand and profits, leading to more layoffs and the creation of what Marx referred to as the "industrial reserve army." The situation would continue to deteriorate until a small capitalist class controls a large amount of capital, with crises recurring (Ajami, 2001, p. 114).

4.2.4.Schumpeter's Theory of Economic Growth

Joseph Schumpeter is widely regarded as the founder of the entrepreneurial innovation theory, which significantly contributes to economic development (Masadeh, 2019). Schumpeter argued that the entrepreneur plays a fundamental role in the innovation process by enabling the implementation of new combinations of operations and practices, whether in the form of new products, markets, or production methods. In this context, Schumpeter first introduced the concept of "creative destruction" in 1934 to explain the cyclical fluctuations of capitalist economies between periods of growth and decline. This theory posits that the reallocation of available resources is driven by the dismantling of long-standing assumptions to maximize new innovations (Aghion & Bunel, 2021).

In his 1942 book, Schumpeter stated that investment in the adoption of new technologies and innovations is the focal factor for generating expected profits, thereby accelerating the obsolescence of existing technologies and innovations. In this regard, economic innovation is defined as the entrepreneurial risk-taking behavior that integrates technological inventions into the labor market. These inventions have the potential to transform existing challenges into lifelines that adapt to favorable economic conditions (Héraud, 2021). Furthermore, the Schumpeterian approach not only emphasizes the importance of innovation but also highlights the role of entrepreneurs in creating such innovations. This suggests that entrepreneurs are both

innovators and economic leaders who undertake creative initiatives that add economic value by transforming the status quo of their enterprises (Hilb, 2021).

Moreover, this theory provides a framework for understanding the long-term effects of natural disasters, such as COVID-19, and their subsequent negative economic impacts, particularly in volatile environments. Enhancing technological infrastructure efficiency and investing in cutting-edge technologies will play a crucial role in mitigating these consequences (Hack-Polay & Rah, 2022), thereby generating numerous economic opportunities for the affected industries in the coming years. Consequently, this theory underscores the importance of incorporating risk elements when adopting new technologies in the hospitality industry (Tülüce & Yurtkur, 2015), advocating for the abandonment of existing technologies and processes that provide only temporary rather than sustainable value in both the short and long term.

In this context, creative destruction is defined as the process of replacing certain products and services with higher-quality alternatives and more efficient production methods driven by technological innovation to enhance the competitiveness of enterprises. This transformation enables businesses to thrive in a highly competitive landscape (Masadeh, 2019).

Similarly, the concept of creative destruction aligns with the principles of redesign and reengineering, as all three approaches advocate for the radical elimination of existing managerial practices and processes. However, creative destruction distinguishes itself by introducing groundbreaking technological practices and processes that revolutionize the economic structure of enterprises. The significance of creative destruction lies in its emphasis on eliminating routine daily practices and adapting to environmental changes. Additionally, it promotes replacing conventional principles to mitigate the negative impacts that threaten the sustainability of competitive advantages in these enterprises (Simonen & Svento, 2020).

4.2.5. The Keynesian Model of Economic Growth.

Keynesian thought dominated the global economic landscape starting in the 1930s, following the 1936 publication of John Maynard Keynes' seminal work, 'The General Theory of Employment, Interest, and Money (Jameh, 1976, p. 45). This work was in response to the Great Depression of 1929. It can be said that Keynes'

contributions were not focused on developing a specific theory of economic growth, but rather on providing tools and policies to address the aspects of the crisis that plagued capitalist economies at the time (Al-Habib., 1985, p.143). Nevertheless, Keynesian thought extends beyond Keynes' contributions to encompass the work of many economists who operated within the framework of Keynesian analysis. Among the most famous contributions to the theory of economic growth are the Harrod-Domar growth model (Najafi & Qurashi, 1988, p. 145).

Keynes' contributions centered on income, employment, and effective demand, which he considered the primary driver of national income growth. In his view, this growth depends on the propensity to consume and the propensity to invest. According to Keynes' analysis, investment is influenced by the "marginal efficiency of capital" and the interest rate (Al-Habib, 1985, p.143). Within the framework of income determination theory, which forms the core of macroeconomic theory, the concept of the multiplier was introduced. This concept explains how changes in spending impact national income, which in turn represents economic growth. The next section will focus on the role of the foreign trade multiplier, though the mechanisms explained apply to all forms of autonomous spending, especially investment. Explaining the mechanisms of how the multiplier affects the transmission of changes in investment and foreign trade—both exports and imports—on economic growth is crucial for theoretically establishing the relationship between trade openness and economic growth from a Keynesian perspective.

Unlike the economists of the neoclassical school who emphasize the supply side in explaining economic growth, through given growth rates determined by exogenous factors such as production inputs and technology, Keynesian economists focused on a demand-oriented approach in explaining the process of economic growth through the growth of autonomous demand components, utilizing the concept of the multiplier. Harrod was the first to explicitly discuss the foreign trade multiplier in his 1933 book 'International Economics', where he proposed a mechanism for restoring balance of payments equilibrium, anticipating the concept of the savings-investment multiplier later developed by Keynes, which was based on a closed economy (Al-Huwaij, 2022)

4.2.6.The Harrod-Domar Growth Model

In the 19th century, economic analysis primarily focused on the optimal allocation of economic resources, and economic growth issues did not receive much attention during that period. This was because economic growth was effectively progressing in European and North American countries (Najafi & Qurashi, 1988, p. 149). Interest in economic growth emerged during the period marked by the Great Depression in the 1930s and the post-World War II era, driven by the spread of Keynesian thought regarding income and employment, and the growing concern of economists at the time with poverty in less developed countries. Following the emergence of Keynesian theory, several theories rooted in Keynesian thought discussed economic growth, with the Harrod-Domar growth model being one of the most prominent (Najafi & Qurashi, 1988, p. 149).

This model originates from two studies conducted by Harrod from Oxford University and Domar from the Massachusetts Institute of Technology. Both economists focused on ensuring continuous economic growth without recurring depression crises. The model assumes that economic growth depends on increasing invested capital in line with the growth of the labor force and technological developments that improve labor productivity. In a closed economy, domestic savings are the sole source of capital (Scherer, 2002, p. 135). Therefore, this model is based on several assumptions, including a constant marginal propensity to save, equality between the marginal and average propensity to save, a stable general price level, no time lag between savings and investment, and that planned investment equals actual investment (Al-Habib., 1985, p.143).

The Harrod-Domar model of economic growth relies on two specific factors that determine the level of income: the amount of capital invested and the capital-output ratio. The rate of growth of national output is thus a function of these two factors (Najafi & Qurashi, 1988). Since the amount of invested capital depends on savings, the Harrod-Domar economic growth model can be described as follows:

$$G = f (MPS, K/Y)$$

Where :

$G = \Delta Y / Y$ is economic growth ,

MPS is the marginal propensity to save ,

K/Y is the capital-output ratio.

The growth mechanism in the Harrod-Domar model operates on the assumption that savings in period (t) turn into investments in period (t+1), and this process continues in the same pattern (Najafi & Qurashi, 1988). In this model, the factors of land and labor are neglected as determinants of economic growth. The first reason is the limited importance of land, whose supply is restricted in an industrialized economy. The second reason is that the labor force increases at a relatively constant rate, determined only by demographic and cultural factors (Boglioli, 1979, p. 156). Hence, the capital-to-labor ratio is assumed to be constant, which is the premise of this model (Najafi & Qurashi, 1988).

In summary, this model emphasizes the role of savings and the capital-output ratio in economic growth in a closed economy. It does not consider the impact of technological progress on productivity and output, thus overlooking the importance of trade openness.

4.2.7. Economic Growth in Neoclassical Thought

The neoclassical school, also known as the marginalist school, critiques the Harrod-Domar model for its assumption of a constant capital-to-labor ratio. The neoclassical model assumes that capital and labor are perfectly substitutable, meaning that one can replace the other. As a result, the total production function used in this analysis incorporates varying capital-to-labor ratios and different capital-output ratios. The neoclassical growth model is based on several assumptions, the most important of which include perfect competition, full employment, a production function characterized by diminishing marginal productivity, and constant returns to scale. Additionally, the returns to factors of production are determined by their marginal productivity (Najafi & Qurashi, 1988).

One of the most notable models within the neoclassical framework is the Solow model, which won the Nobel Prize in Economics in 1987 (Scherer, 2002, p. 137). The Solow model addresses the imbalance in the Harrod-Domar growth model, which

requires maintaining balanced growth by ensuring equilibrium between the savings rate and the demand for capital. Solow proposes that when the rate of capital investment exceeds the equilibrium point due to increased demand for capital, the capital-to-labor ratio rises, leading to diminishing returns, profits, and consequently reduced investment and demand for capital. This process restores equilibrium. Conversely, if the capital-to-labor ratio falls, returns and profits increase, leading to higher investment and capital demand, bringing the system back to equilibrium (Scherer, 2002, p. 137).

Solow's significant contributions to his growth theory are related to the determinants of economic growth. He emphasizes the crucial role of technological progress in economic growth. Solow argues that the economic growth behavior assumed by the Harrod-Domar model suffers from a severe shortcoming (Solow R. , 2003, p. 171). This model assumes a fixed capital-to-labor ratio and a constant capital-output ratio, whereas industrial economies typically grow in a way that makes them more capital-intensive. With continued marginal productivity growth, Solow believes that something essential is left out of the model (Solow, 2003, p. 171). Thus, Solow replaced the fixed capital-output ratio with a variable one (Ruttan, 1998) , identifying technological change as the primary source of economic growth, instead of capital growth as in the Harrod-Domar model (Ruttan, 1998).

In his study of the U.S. economy between 1949 and 1990, Solow found that only 12.5% (later revised to 19%) of long-term productivity changes could be attributed to capital accumulation (Scherer, 2002, p. 140). He argued that the remaining portion of the productivity change must be explained by technological progress and increasing returns (Solow, 2003, p. 172). Solow emphasized the importance of technological change, as its effects often outweigh those of returns to scale. Solow used the term “technological change” to refer to any shift in the production function that alters total output while holding traditional factors of production—capital and labor—constant. Any improvements in labor education, for example, or any other factors accelerating economic growth, would manifest as technological change as long as they lead to changes in the production function (Solow, 1957).

One prominent neoclassical model of economic growth is James Meade's model, which developed the neoclassical production function by incorporating the principle of returns to scale. Economic growth in this model depends on factors such as land, labor, capital, and technological progress, symbolized by time, as follows:

$$G = f(K, L, R, T)$$

Where :

G is total output ,

K is capital ,

L is labor ,

R is land ,

T is time (representing technological progress).

The neoclassical growth theory primarily focuses on the role of technological progress in driving economic growth. Solow considers technological change to be an exogenous variable, meaning it is determined outside the model and unaffected by internal economic factors, including trade openness (Harrison, 1996). This indicates that the developmental thought of this school did not place much emphasis on trade openness. However, its significance lies in opening the door for subsequent schools of thought to address issues related to the diffusion of technology across nations, where trade openness plays a key role.

4.2.8.Modern Developments in Economic Growth Theory

The Harrod-Domar growth model and Solow's model of economic growth considered technological change as an "exogenous variable", meaning it is not explained from within the economic system (Scherer, 2002, p. 141). However, at the same time, it influences economic growth. This view contrasts with Schumpeter's findings, where "entrepreneurs seek profit through innovation", which means that economic growth is determined by "endogenous factors". A testament to this is the U.S. National Science Foundation's data from 1957 on industrial research and development (R&D) spending, which showed that it increased to \$7.7 billion, equivalent to 1.7% of the U.S. gross national product (Scherer, 2002, p. 141). Jacob

Schmookler concluded that innovation activity is significantly influenced by market forces, demonstrating that the majority of technological improvements follow investment developments, which in turn follow demand developments. Moreover, the conditions in less developed countries (LDCs) show that if technology were an exogenous variable, or as commonly called, a "gift from heaven," it would have been easier for these countries to reap the benefits of technological advancement (Scherer, 2002, p. 142).

4.2.8.1. The Endogenous Growth Theory and the Nature of Technological Change:

Modern theories of economic growth started from the basic premise that technology is an "endogenous variable" and is the primary factor explaining economic growth rates (Ruttan, 1998). As a result, the "endogenous growth theory" emerged as a major development in this field. This theory differs from the economic growth literature dominant in the 1980s by adopting the idea that "technological progress" is an endogenous variable, generated within the economic system rather than coming from outside (Romer, 1994). The modern theory of economic growth aims to build a model in which long-term economic growth rates are dependent on "production and utility functions", and also influenced by "fiscal policies", "foreign trade policies", and "population policies" (Ruttan, 1998), which were previously denied by the neoclassical growth theory.

Technological change in the "neoclassical growth models", as previously mentioned, was considered an "exogenous variable". (Mankiw, Romer, & Weil, 1992) indicated that Solow's model considered savings rates, population growth, and technological advancement as exogenous variables. The 1980s witnessed theoretical developments in the theory of economic growth, focusing on what is called "endogenous growth theory", where technological change became an "endogenous" factor, determined within the economic system (Romer, 1994). Endogenous growth models developed by Romer considered technological change the primary driver of "long-term economic growth" (Ruttan, 1998). According to (Barro, 1991), technological change is determined by the "human capital" rate, which "endogenous

growth models" consider the foundation for "research and development (R&D)" activities that drive technological change.

4.2.8.2. Lucas and Romer's Models and the Importance of Human Capital

One of the most important modern economic growth models is the one developed by (Romer A. , 1990) where human capital was added to the economic growth function alongside labor, which represents unskilled labor (Romer, 1990). This model consists of four main inputs: physical capital, human capital, labor (representing unskilled labor), and a measure of technological progress (Romer A. , 1990). The advancements made to Romer's model of economic growth distinguished the components of technological progress by expressing them as variables like human capital, rather than simply shifting the production function (Romer A. , 1990). (Mankiw, Romer, & Weil, 1992) also pointed out that understanding international differences in economic growth rates is better achieved by expanding Solow's (Solow, 1957) model to include human capital, alongside both labor and physical capital. According to this view, total output is produced through these factors, which are also used for investing in physical and human capital and consumption (Mankiw, Romer, & Weil, 1992).

The other key model in the modern developments of economic growth theory came from Lucas, who considered human capital the main driver of economic growth. Lucas argued that final production occurs through the two factors of physical capital and human capital, and human capital is produced in this model through a single input. Lucas presented two models: the schooling model, where human capital depends on how individuals allocate their time between production and capital accumulation through education and training, and the learning-by-doing model, where human capital growth depends on the effort devoted to producing new goods (Ruttan, 1998).

Based on the models of Romer and Lucas, a connection can be drawn between trade openness and economic growth in terms of the effects that arise from a country's involvement in foreign trade relations. One of the channels through which trade openness impacts economic growth, according to these models, is the possibility of advanced technology penetration into the country. Another is the role of international

competition in encouraging domestic organizers to innovate and introduce new ideas and techniques. Additionally, trade openness leads to market expansion and the reallocation of resources in a more efficient way (Ruttan, 1998). Several less developed countries (LDCs) have benefited from importing technology-intensive goods, which has allowed them to transition toward more advanced industries, alongside the technical consultations that typically accompany such trade relations (Scherer, 2002). This could explain the rapid growth observed in some countries that adopted outward-oriented economic policies (Scherer, 2002).

4.2.8.3.Simon Kuznets on Economic Growth

One of the significant contributions to modern economic growth theory is the work of Simon Kuznets, who identified several channels through which economic growth can be enhanced (Kuznets, 1966, p. 114):

" .The global stock of knowledge": This stock consists of technical and social knowledge, mostly developed in advanced countries. It serves as an external source of growth for other countries, except for those where the advancements originate, referred to as "technology leaders"—a status that doesn't last long. To benefit from this knowledge, countries need to spread modern education, which creates a skilled labor force capable of utilizing, absorbing, and developing new technologies. Economic growth is tied to modern technology through its ability to expand "productive capacity."

" .International flows of resources and goods": These flows include the movements of resources such as "labor" and "capital", and foreign trade, representing the flow of goods and services between countries. These elements of production are sources of growth, while foreign trade impacts growth through the positive effects linked to external trade in economic theory. Labor movements, such as "emigration", have historically contributed significantly to global economic growth, particularly in the period before World War I. Capital flows include payments arising from international trade activities, labor remittances, and commercial services. Additionally, capital movements between countries for investment purposes, including "foreign investment", are also a crucial factor.

CHAPTER THREE

EGYPT'S FDI, TRADE POLICIES, INTEREST RATE, AND MACROECONOMIC INDICATORS

This chapter examines trade, Foreign Direct Investment (FDI), economic openness, and trade policies in Egypt, alongside significant macroeconomic indicators including GDP, unemployment, interest rates, and inflation. The analysis provides a balanced exploration of these elements, offering insights with an appropriate level of depth.

1.FDI IN EGYPT

Egypt has demonstrated a strong commitment in its legislation to encouraging foreign investments by providing numerous guarantees against non-commercial risks, alongside offering various tax incentives and advantages. The Egyptian legislator has employed taxation as a tool to attract foreign investments into the country, incorporating these measures not only in core tax laws but also within special investment laws that have been enacted and refined over several decades (Abdul-Mawla, 2005) Recently, Egypt adopted a partial yet ambitious reform plan to ensure financial sustainability and address macroeconomic imbalances. The plan aims to mitigate economic risks and enhance investor confidence. Key elements include broadening the tax base, rationalizing subsidies on fuel and electricity, increasing capital expenditures, and allocating more resources to public services and social protection programs. These reforms have led to an improvement in Egypt's sovereign credit rating by international rating agencies, along with positive feedback from financial institutions and global organizations.

During the fiscal year 2008/2009, Egypt implemented several stimulus measures, including the development of modern infrastructure, competitive tax rates, a reformed business environment, a diversified economy, a large consumer market, a skilled labor force, stable growth rates, political stability, and proximity to regional markets.

In the same fiscal year, customs tariffs were reduced from 14.6% to 8.9%, while tax rates were lowered from 32% to 20% for individuals and from 42% to 20% for

corporations. These measures resulted in a significant increase in the number of new companies and expansions of existing ones. Egypt successfully attracted \$42.4 billion in investments between 2004/2005 and 2008/2009 (CBOE, 2017).

In 2014/2015, Egypt introduced new investment amendments and guarantees to facilitate investor activities. These included protecting investors from criminal penalties for offenses committed by individuals within the company, reflecting the country's commitment to fostering a more investor-friendly environment.

1.1.Comparative Analysis of FDI: Evaluating Egypt's Status and Ranking in the MENA Region and Globally

Based on the Doing Business Report 2020 (World Bank D. , 2020), Egypt demonstrated moderate improvements in its business environment, securing a total score of 60.1 out of 100. This ranking placed Egypt 114th out of 190 economies assessed in the Doing Business 2020 report. While Egypt managed to outperform some developing nations within its peer group, such as Sudan, its progress remains modest compared to advanced economies.

The Doing Business score reflects an aggregate evaluation across various business-related dimensions, encompassing business inception, construction approvals, and bankruptcy resolution. The detailed scores for these dimensions are outlined below, offering insights into Egypt's relative strengths and weaknesses. Despite its efforts to enhance its business climate, Egypt, as a developing country, shows limitations in its capacity to compete with developed nations, although it has a slight edge over some other developing economies within the MENA region .

This nuanced performance highlights the need for sustained reforms to attract foreign direct investment (FDI) and bridge the gap with more advanced economies.

1.1.1. Starting A Business

Table 1: Starting A Business

	Egypt	Sudan	Tunisia	MENA	Italy	Portugal	Greece
Score out of 100	87.8	76.7	94.6	84	86.8	78.2	96.0
Rank	90 rd	157 th	19 th	.....	98 th	151 st	4 th

Source: Doing Business (World Bank, 2020)

Establishing a business is assessed by considering the time, cost, and minimum capital requirements necessary for setting up a limited liability company. In this context, Egypt has attained an impressive score of 87.8, outperforming countries like Italy, Portugal, and Sudan. This achievement positions Egypt at 90th globally, while Tunisia ranks significantly higher at 19th with a score of 94.6.

1.1.2. Dealing with Construction Permits

Table 2: Dealing with Construction Permits

	Egypt	Sudan	Tunisia	MENA	Italy	Portugal	Greece
Score out of 100	71.2	64.2	77.4	61.7	68.3	53.7	69.5
Rank	74 th	124 th	32 ^{sd}	.....	97 th	164 th	86 th

Source: Doing Business (World Bank, 2020)

The assessment of the "Dealing with Construction Permits" indicator considers the steps, duration, and expenses involved in completing all necessary formalities for constructing a warehouse. It also evaluates the effectiveness of quality assurance and safety measures within the construction permitting framework. Egypt has demonstrated notable performance in this area, achieving a score of 71.2, which positions it ahead of countries such as Sudan, Italy, Portugal, and Greece, ranking 74th globally.

1.1.3. Getting Electricity

Table 3: Getting Electricity

	Egypt	Sudan	Tunisia	MENA	Italy	Portugal	Greece
Score out of 100	77.9	51.3	82.3	72.4	86.1	62.7	84.7
Rank	77 th	162 ^{ed}	63 rd	.....	38 th	127	40 th

Source: Doing Business (World Bank, 2020)

The evaluation of the "Getting Electricity" indicator examines the processes, duration, and expenses associated with establishing a connection to the electrical grid. It also considers the stability of electricity supply and the clarity of tariff structures. Based on these criteria, Egypt has secured the 77th position globally with a score of 77.9 out of 100, surpassing comparable nations such as Portugal and Sudan.

1.1.4. Registering Property

Table 4: Registering Property

	Egypt	Sudan	Tunisia	MENA	Italy	Portugal	Greece
Score out of 100	55.0	63.7	63.7	63.4	81.7	59.4	46.9
Rank	130 rd	95 th	94 th	.....	26 th	110	156 th

Source: Doing Business (World Bank, 2020)

The "Registering Property" indicator assesses the processes, duration, and expenses associated with property transfers, as well as the efficiency and reliability of the land administration system. In this area, Egypt achieved a score of 55.0, surpassing Greece in performance.

1.1.5. Getting Credit

Table 5: Getting Credit

	Egypt	Sudan	Tunisia	MENA	Italy	Portugal	Greece
Score out of 100	65.0	15.0	50.0	41.8	45.0	40.0	45.0
Rank	67 th	176 th	104 th	.....	119 th	132 ^{ed}	119 th

Source: Doing Business (World Bank, 2020)

The "Getting Credit" indicator evaluates the effectiveness of credit information systems and the legal framework governing movable collateral. While this is one of Egypt's strongest areas, the country has secured a global ranking of 67th, with a score of 65.0 out of 100.

1.1.6. Protecting Minority Investors

Table 6: Protecting Minority Investors

	Egypt	Sudan	Tunisia	MENA	Italy	Portugal	Greece
Score out of 100	64.0	30.0	62.0	51.9	66.0	44.0	70.0
Rank	57 th	153 rd	61 st	.....	51 st	114 th	37 th

Source: Doing Business (World Bank, 2020)

The "Protecting Minority Investors" indicator assesses the safeguards in place for minority shareholders in the context of related-party dealings and corporate governance practices. In this regard, Egypt has achieved a notable position, ranking 57th worldwide, surpassing both Portugal and the average performance of countries in the MENA region.

1.1.7. Paying Taxes

Table 7: Paying Taxes

	Egypt	Sudan	Tunisia	MENA	Italy	Portugal	Greece
Score out of 100	55.1	51.8	69.4	75.1	64.0	67.5	77.1
Rank	156 th	164 th	108 th	.....	128 th	116 th	72 nd

Source: Doing Business (World Bank, 2020)

The "Paying Taxes" indicator assesses the number of payments, the time required, and the overall tax and contribution rates that businesses must adhere to in order to meet tax compliance obligations. It also considers processes following tax filing. While Egypt's performance in this area is relatively modest, it remains ahead of Sudan.

1.1.8.Trading Across Borders

Table 8: Trading across borders

	Egypt	Sudan	Tunisia	MENA	Italy	Portugal	Greece
Score out of 100	42.2	19.0	74.6	61.8	100	57.9	93.7
Rank	171 st	185 th	90 th	.....	1 st	153 nd	34 th

Source: Doing Business (World Bank, 2020)

The "Trading across Borders" indicator assesses the time and expenses involved in exporting a country's key comparative advantage product and importing automotive components. Although Egypt falls short of matching the performance of European Union (EU) nations in this area, its score remains notably higher than that of Sudan.

1.1.9.Enforcing Contracts

Table 9: Enforcing Contracts

	Egypt	Sudan	Tunisia	MENA	Italy	Portugal	Greece
Score out of 100	40.0	47.8	58.4	56	53.1	50.8	78
Rank	166 th	148 th	88 th	.....	122 nd	131 st	152 ^{sd}

Source: Doing Business (World Bank, 2020)

The "Enforcing Contracts" metric evaluates the efficiency of resolving commercial disputes by assessing the time, costs, and quality of judicial processes involved. In this regard, Egypt ranked 166th globally, reflecting a performance level below the average for Middle Eastern and North African (MENA) countries and significantly lagging behind European Union (EU) benchmarks.

1.1.10. Resolving Insolvency

Table 10: Resolving Insolvency

	Egypt	Sudan	Tunisia	MENA	Italy	Portugal	Greece
Score out of 100	42.2	28.8	54.2	34.5	77.5	29.1	78
Rank	104 th	152 nd	69 th	.....	21 st	151 st	152 ^{sd}

Source: Doing Business (World Bank, 2020)

The 'Resolving Insolvency' indicator evaluates the efficiency and effectiveness of handling commercial insolvency cases by considering factors such as the time, cost, recovery rate, and the strength of the insolvency legal framework. Egypt ranked 104th in this category, performing better than Sudan, Portugal, and the average for the MENA region.

1.2.Sources and Sectoral Distribution of FDI

Egypt has been a prominent recipient of significant inflows of foreign direct investment (FDI), amounting to billions of pounds, originating from diverse regions and directed toward multiple sectors. This section explores the characteristics and dynamics of these investments in detail

1.2.1. Sources of FDI

The net foreign direct investment (FDI) in Egypt experienced a slight decline during the period from July to December 2023/2024, amounting to approximately \$5.5 billion compared to about \$5.7 billion during the same period of the previous fiscal year. This decline resulted from a reduction in both incoming investment flows to Egypt by approximately \$2.0 billion and repatriated investment flows abroad by about \$1.8 billion.

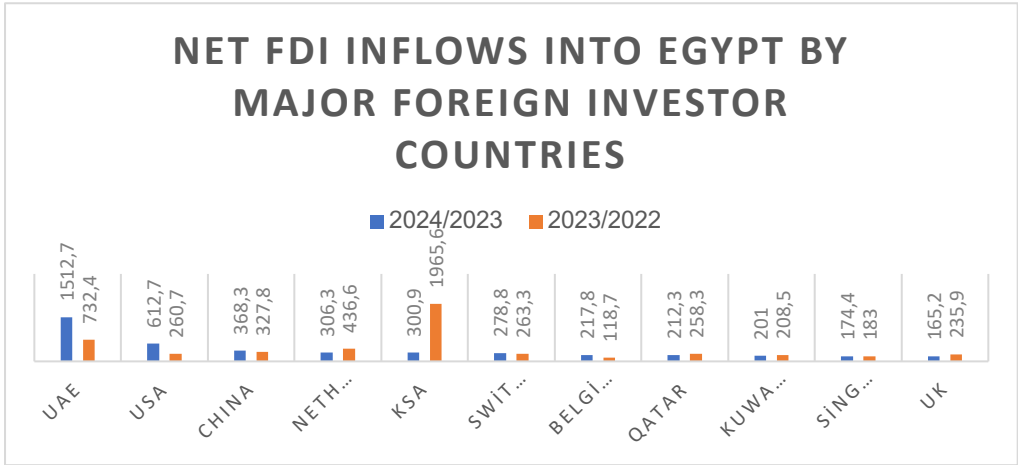


Figure 2: Net FDI Inflows Into Egypt By Major Foreign Investor Countries

Source: Central Bank Of Egypt, 2024

The net FDI flows from Arab countries decreased by about \$563.3 million, recording approximately \$2.5 billion during the July-December 2023/2024 period, compared to about \$3.0 billion during the same period of the previous fiscal year. This decline was primarily due to the decrease in net flows from Saudi Arabia by about \$1.7 billion, reducing to approximately \$300.9 million, and from Qatar by about \$46.0 million, bringing it down to around \$212.3 million. However, this decline was partially offset by an increase in net flows from the United Arab Emirates by approximately \$780.3 million, reaching \$1.5 billion, and from Morocco by \$95.3 million, reaching \$102.3 million.

Net investment flows from the European Union also decreased by about \$503.8 million during the July-December 2023/2024 period compared to the same period of the previous fiscal year. This decline was the result of reduced net flows from several countries, including Luxembourg, which saw a decrease of \$584.5 million, registering a net inflow of about \$34.1 million. Similarly, the Netherlands experienced a drop in net flows by approximately \$130.3 million, recording a net inflow of \$306.3 million. On the other hand, net flows increased for some countries, such as Sweden, which saw a rise of \$116.2 million, recording a net inflow of \$107.0 million, followed by Belgium, which recorded an increase of \$99.1 million, reaching a net inflow of \$217.8 million.

- United Kingdom: Net FDI flows decreased by approximately \$70.7 million, resulting from a decline in both incoming investment flows by about \$281.7 million and outgoing flows by \$211.0 million, leading to a net inflow of \$165.2 million.
- United States: Net FDI flows increased by about \$352.0 million due to a rise in incoming investment flows by \$253.5 million and a reduction in outgoing flows by \$98.5 million, registering a net inflow of \$612.7 million.
- Other countries: Net FDI flows rose by \$587.8 million, recording a net inflow of \$1.8 billion. This increase was attributed to a rise in incoming flows by \$229.0 million and a decrease in outgoing flows by \$358.8 million. Taiwan led this growth with an increase of \$46.0 million, followed by China with \$40.5 million and Japan with \$20.1 million.

The distribution of net FDI inflows into Egypt by major countries showed that the United Arab Emirates ranked first, accounting for approximately 27.4% of the total net inflows, followed by the United States at 11.1%, China at 6.7%, and the Netherlands at 5.6% (Egypt, 2024).

2.EGYPT: AN ANALYSIS OF ECONOMIC REFORMS AND TRADE AGREEMENTS

Over the past decades, Egypt has undergone significant economic transformations within the framework of economic reform strategies and global economic integration. The initial phases of reform began in the early 1990s in collaboration with the International Monetary Fund (IMF) and the World Bank, focusing on structural adjustment, privatization of the public sector, and exchange rate liberalization (Galal, 1996).

In recent years, Egypt adopted a comprehensive economic reform program in 2016 in coordination with the IMF. This program emphasized exchange rate liberalization, energy subsidy reductions, and improving the investment climate. While these measures contributed to economic growth, they also posed social challenges, including rising inflation rates and increased living costs (El-Megharbel, 2020).

On the trade agreements front, Egypt aims to strengthen its role in global trade by joining regional and international agreements such as the African Continental Free Trade Area (AfCFTA) and the Egypt-EU Partnership Agreement. These agreements are designed to boost exports and attract foreign investments. However, maximizing their benefits depends on enhancing productive capacities and developing infrastructure (Abdel-Khalek, 2017).

Egypt's experience highlights the importance of balancing economic reforms with social policies to achieve sustainable development. Nevertheless, addressing the challenges of social equity and reducing economic disparities remains urgent amidst regional and global economic changes.

2.1.The Importance of Trade Openness in the Egyptian Economy

Trade openness has played a significant role in supporting economic growth in Egypt. Exports, particularly non-oil goods, have contributed to increasing Egypt's

foreign currency reserves, enabling the financing of essential imports necessary for economic growth. The focus on exports has stimulated the growth of economic sectors such as industry and agriculture to meet external market demands. Additionally, Egyptian exports have integrated the Egyptian economy into the global economy, revealing new pathways for growth and innovation. Moreover, imports, especially capital goods, have facilitated the transfer of modern technology to Egypt, leading to the development of local products. (Sheikh & Mahran, 2022).

2.2.The Evolution of Trade Openness in Egypt and Its Comparative Analysis with Other Countries

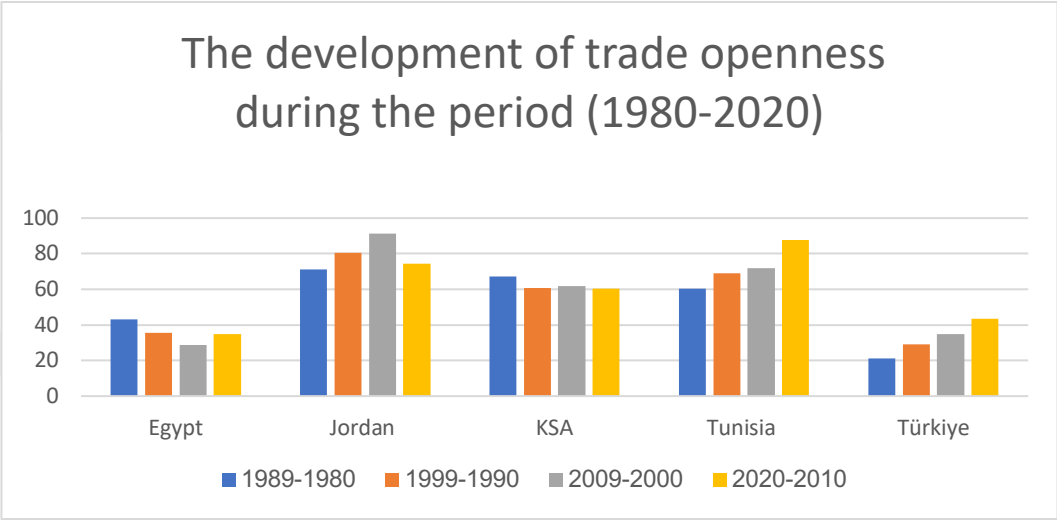


Figure 3: The Development Of Trade Openness During The Period (1980-2020)

SOURCE: (Word Bank , 2020)

Given the similarities in economic structures and the strong trade interconnections among these countries, a comparative analysis was conducted to better understand the dynamics of trade openness during the study period. The data presented in Figure (3) indicate that the volume of foreign trade reached its highest level during the study period in Jordan, with a trade openness ratio of 91.22% recorded in the period (2000–2009). This was the highest figure throughout the study, compared to a ratio of 30.71% during the period (1980–1989). This indicates a significant increase in trade openness in the Jordanian economy, which is considered an emerging market economy open to global trade. However, this ratio subsequently declined to 74.54% during the period (2010–2020).

In contrast, Saudi Arabia experienced trade openness ratios ranging between 60% and 67% during the study period. The ratio was 67.19% in the first period (1980–1989), followed by a decline to 60.60% during the period (1989–1999). It then witnessed a slight increase to 61.66% during the period (1999–2010), and a subsequent decline to 60.39% in the final period of the study (2010–2020).

The available data also indicate that trade openness showed remarkable growth in Tunisia, with increasing ratios starting at 60.39% during the period (1980–1989) and rising to 68.85% during the period (1990–1999). This upward trend continued, reaching 87.73% during the period (2010–2020), compared to 71.86% during the period (2000–2010).

In contrast, Egypt recorded relatively low trade openness ratios throughout the study period, with its highest level at 43.18% during the period (1980–1989). This was followed by a decline to 35.45% during the period (1990–1999), which continued to fall to 28.60% during the period (2000–2009). A slight recovery was observed during the period (2010–2020), with the ratio increasing to 34.72%.

Turkey reported the lowest trade openness ratios among the countries analyzed. It recorded a ratio of 21.15% during the first period of the study (1980–1989), the lowest figure across the entire study period. However, the ratio increased to 29.10% during the period (1990–1999) and continued to rise, reaching 43.53% during the period (2010–2020), compared to 35.00% during the period (2000–2009).

2.2.Egypt's Trade Engagements with the Global Economy

Trade agreements are closely linked to Egypt's foreign trade, significantly influencing its international economic relations. The Common Market for Eastern and Southern Africa (COMESA) agreement, signed by Egypt in 1994, aimed to eliminate trade barriers among 21 member states, paving the way for regional economic integration. In 1997, Egypt joined the Greater Arab Free Trade Area (GAFTA) to facilitate Arab trade under World Trade Organization (WTO) rules, with gradual tariff reductions and immediate liberalization for agreed-upon goods.

In 2001, Egypt signed a partnership with the European Union to establish a free trade zone, expanding access to a growing consumer market. The Agadir Agreement

(2004) strengthened trade and industrial integration among Egypt, Tunisia, Jordan, and Morocco. In 2007, Egypt joined the European Free Trade Association (EFTA) to boost bilateral trade by reducing tariffs on industrial imports.

More recently, Egypt became part of the Southern Common Market (Mercosur) in 2010 and entered the African Continental Free Trade Area (AfCFTA) in 2018, connecting 55 African countries to promote intra-continental trade and economic growth (The General Authority for Investment, 2024).

3. Macroeconomic Indicators

This section delves into the primary economic indicators for Egypt, focusing on aspects such as economic growth, inflation, unemployment rates, and interest rates. The analysis incorporates graphical representations and comparative evaluations, benchmarking Egypt against its income group, regional peers, and other relevant contexts when appropriate. This comprehensive methodology is intended to provide a nuanced perspective on Egypt's economic status and its dynamic developments over time.

3.1.Economic Growth

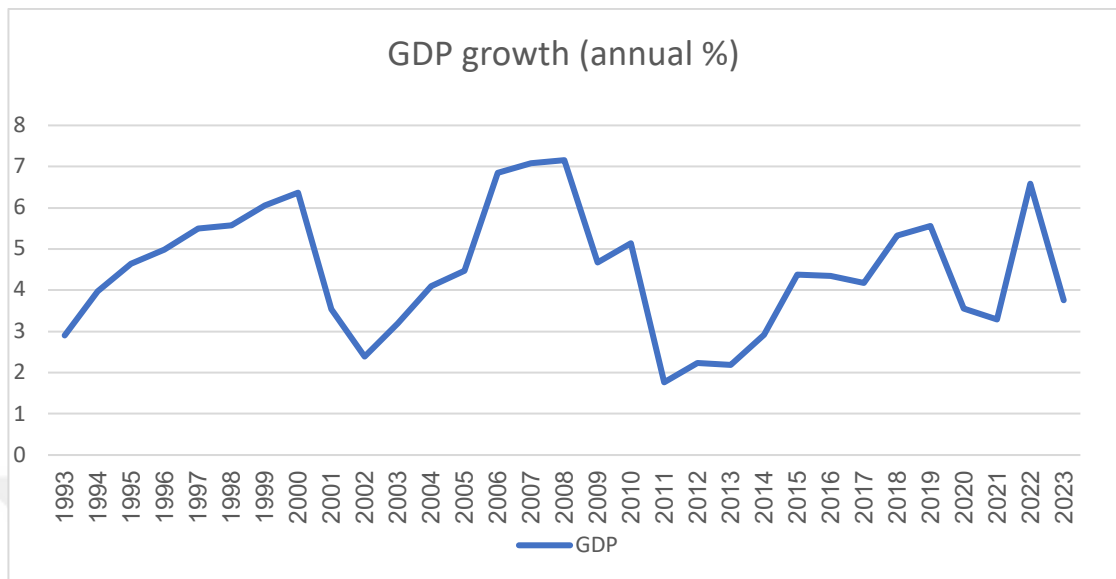


Figure 4: GDP of Egypt

Source: World Bank, GDP of Egypt, 2024

The Egyptian economy, prior to the 1990s and despite implementing the Economic Openness Program initiated in 1974, was characterized by reliance on market forces and indicators while assigning the management of the economy to state ownership of the vast majority of production tools and means across various economic activities. Consequently, the financial and credit markets were marked by stagnation and a lack of efficient resource allocation, due to the absence of reliance on market forces and the government's crowding out of the private sector (Abu Al-Ayoun, 2003). This led to a decline in GDP from 1999 to 2002, with a compound growth rate of -5.43%.

Regarding the GDP trend from 2002 to 2007, a significant increase was observed, as the annual GDP growth rate rose steadily from approximately 3% in 2002 to a peak of around 7% in 2007. This growth trajectory reflects the positive impact of Egypt's economic reform programs, initiated earlier but reinforced during this period. Key drivers included structural adjustments, enhanced privatization efforts, and improvements in both the real and financial sectors, which together contributed to achieving a compound annual growth rate of 6.92%.. This growth can be attributed to Egypt's implementation of economic reform programs that began in 1994, focusing on the real and financial sectors. Additionally, privatization revenues increased significantly, with the sale of 135 companies from 1996 to mid-2000 generating \$4.2

billion in revenue (Economic and Social Commission for Western Asia, 2002). The compound growth rate during this period reached 6.92%. The Egyptian economy witnessed substantial improvement in 2007 and 2008, coinciding with the initiation of the five-year plan in 2007, which contributed to an increase in GDP during this period.

Between 2011 and 2015, GDP continued to rise as a result of the implementation of the five-year plan. However, in 2013, the political landscape in Egypt underwent significant changes due to several political developments, which had economic implications. Following the June 30, 2013 revolution, several Arab countries, including Saudi Arabia, Kuwait, and the UAE, provided substantial support to Egypt's economy during the transitional phase. These contributions included financial aid, interest-free loans, and petroleum products worth \$12 billion, equivalent to 4.4% of GDP during that period, aimed at addressing the balance of payments deficit. Furthermore, the Central Bank of Egypt opened a special account named "Support Egypt" (Farid and others, 2013). Consequently, GDP increased from \$2,055,765 in 2011 to \$2,377,752 in 2014.

Between 2016 and 2019, Egypt's GDP growth increased by 2.5%, driven by structural reforms such as floating the currency, reducing subsidies, and attracting foreign direct investment (FDI). Infrastructure projects and fiscal discipline enhanced investor confidence and economic activities. The COVID-19 pandemic in 2020 caused a 2% decline in growth due to global disruptions in trade and tourism, straining public finances. Despite challenges, strong fiscal policies and external support enabled resilience.

From 2021, the economy rebounded as global conditions improved, with FDI and export growth driving recovery. By 2022, momentum was restored, supported by strategic reforms and diversification. However, in 2023, growth slowed due to rising interest rates and inflation. Higher borrowing costs dampened private sector activity, while currency devaluation and global uncertainties increased import costs. Maintaining stability requires advancing reforms, enhancing export competitiveness, and fostering an investment-friendly environment.

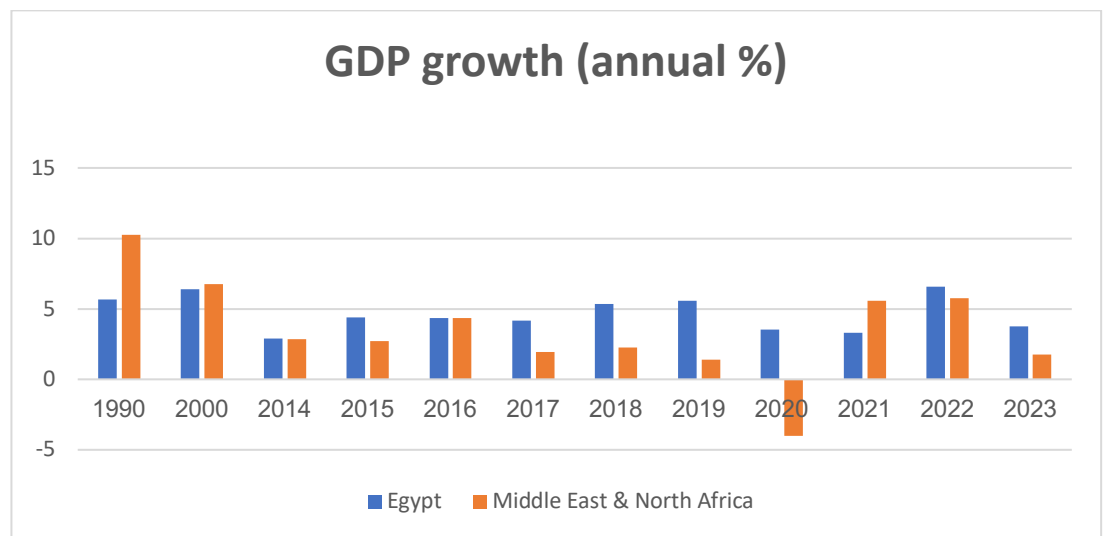


Figure 5: GDP Growth (Annual %) EGYPT And Middle East & North Africa

Source: World bank, 2024

Figure 3 presents the annual GDP growth comparison between Egypt and the MENA region from 1990 to 2023, highlighting Egypt's economic transformations through various phases. While Egypt's growth in the 1990s (5.67%) lagged behind MENA's average (10.27%), the 2000s marked a period of relative stability and reform, with Egypt's growth peaking at 6.37% in 2000, surpassing MENA's 6.76%. From 2015 to 2019, Egypt consistently outperformed the region, achieving 5.55% growth in 2019 compared to MENA's 1.38%, driven by economic reforms, infrastructure projects, and foreign investments. During the COVID-19 pandemic in 2020, Egypt maintained positive growth (3.55%), in contrast to MENA's -4.02%, reflecting its economic resilience. Post-pandemic, Egypt's growth surged to 6.59% in 2022, outpacing the MENA region's 5.75%. However, in 2023, Egypt's growth slowed to 3.76%, compared to MENA's 1.78%, due to inflationary pressures and high interest rates, highlighting ongoing economic challenges amidst recovery efforts.

3.2.Inflation

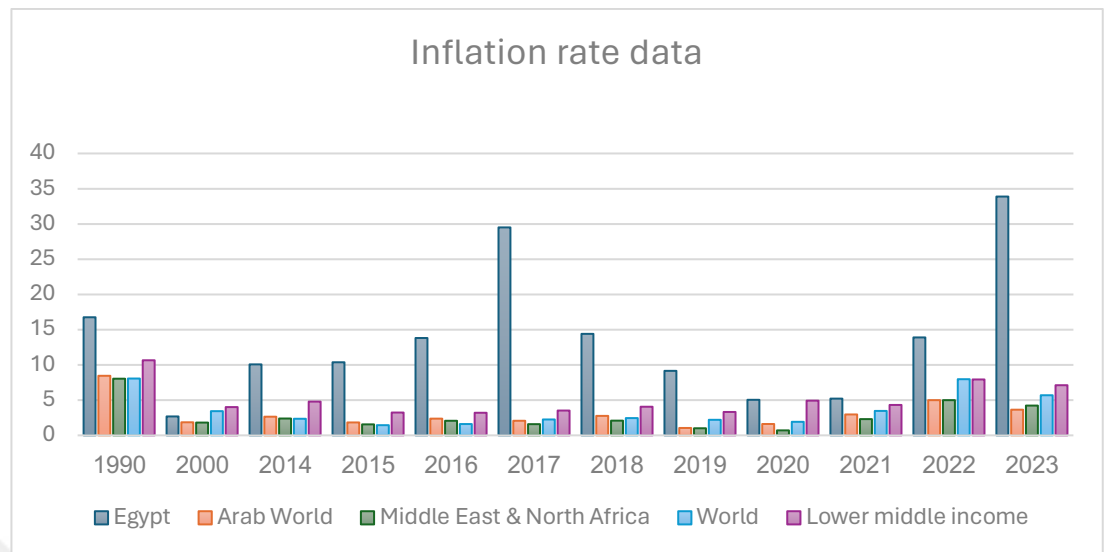


Figure 6: Inflation rate data of EGYPT and Middle East&North Africa

Source: World Bank Data, 2024

The provided data allows for an analysis of inflation trends in Egypt in comparison to the Arab World, the Middle East & North Africa (MENA), the global average, and lower middle-income countries. Egypt's inflation trajectory has undergone significant fluctuations, reflecting both internal reforms and external shocks.

In 1990, Egypt's inflation rate (16.76%) was substantially higher than the Arab World (8.45%), MENA (8.04%), and global average (8.06%), as well as the lower middle-income average (10.65%). By 2000, Egypt managed to significantly reduce inflation to 2.68%, aligning more closely with global and regional trends, likely due to stabilization policies and economic reforms.

However, from 2014 onward, inflation rose notably. The rate surged to 29.51% in 2017, driven by the 2016 economic reform program, including currency devaluation and subsidy cuts. This rate was significantly higher than the Arab World (2.07%) and MENA (1.59%), reflecting the immediate impact of structural reforms. Post-reform, inflation moderated but remained above regional averages, reaching 9.15% in 2019.

During the pandemic (2020-2021), Egypt maintained inflation levels around 5%, higher than MENA but lower than the lower middle-income group. However, in

2022, inflation surged again to 13.90%, and in 2023, it spiked to 33.88%, driven by global supply chain disruptions, high energy prices, and currency depreciation, far exceeding all comparison groups. This highlights Egypt’s unique vulnerabilities and the continued need for inflation-targeting policies to stabilize the economy.

3.3. Unemployment

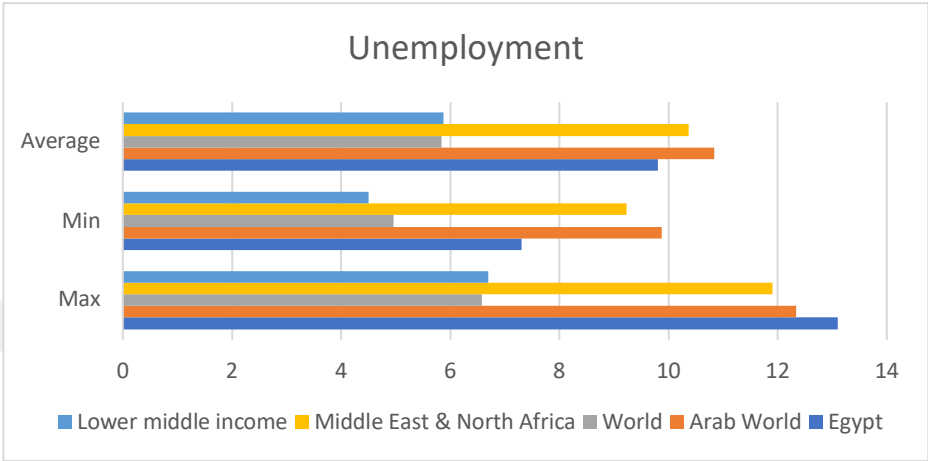


Figure 7: Unemployment Data

Source: author from World Bank data

The provided data enables an analysis of unemployment trends in Egypt compared to regional and global benchmarks, including the Arab World, Middle East & North Africa (MENA), the global average, and the lower-middle-income group.

From 2000 to 2023, Egypt's unemployment rate has shown a mixed trajectory. In 2000, Egypt recorded an unemployment rate of 8.98%, which was lower than the Arab World (12.34%) and MENA region (11.90%) but higher than the global average (6.13%) and the lower-middle-income group (6.29%). This pattern reflects a relatively moderate performance compared to regional peers, although still above the lower-middle-income group average.

During the 2014-2016 period, Egypt's unemployment rate hovered around 13%, reflecting economic challenges and political instability during the post-revolutionary transition period. This rate was significantly higher than the global and lower-middle-income averages but closer to Arab World and MENA levels, where structural unemployment is a persistent issue.

Egypt experienced notable improvements starting in 2017, with unemployment steadily declining to reach 7.31% by 2023. This reduction aligns with economic reforms under the IMF-supported program, including public sector restructuring and private sector incentivization. Despite these improvements, Egypt's unemployment rate in 2023 remained above the global (4.96%) and lower-middle-income group (4.50%) averages, suggesting ongoing labor market rigidities and demographic pressures.

Comparatively, Egypt's unemployment rate exhibits higher volatility than Morocco's. Post-2000 reforms in Morocco resulted in relatively stable unemployment with low volatility, whereas Egypt faced significant fluctuations, reflecting the impact of successive economic and political events. Further, while Morocco's unemployment rate has consistently remained higher than the lower-middle-income average, Egypt's rate converged closer to this benchmark in recent years.

The persistent challenges in reducing unemployment in Egypt highlight the need for deeper structural reforms, including fostering labor-intensive industries, improving education and skill alignment, and addressing demographic pressures. Additionally, migration dynamics and the role of remittances in the Egyptian economy warrant further exploration, as they play a critical role in household incomes and macroeconomic stability.

3.4. Interest Rate

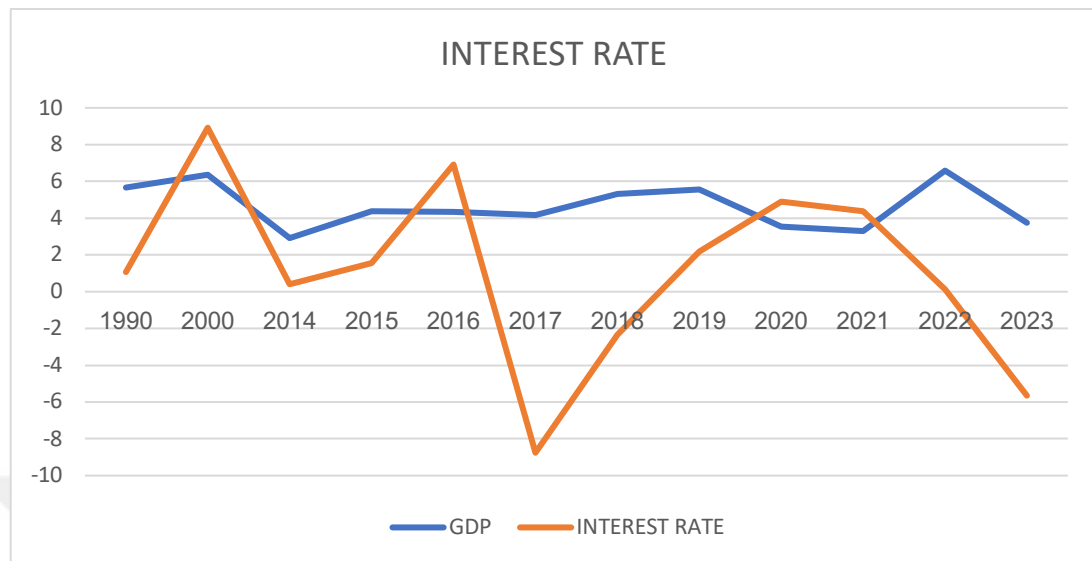


Figure 8: Interest Rate

Source: Author From World Bank Data

Interest rates in Egypt were initially set administratively under a "cheap money" policy characterized by financial repression. This approach kept nominal rates artificially low, resulting in negative real interest rates due to high inflation. Negative real rates discouraged savings, reduced the availability of funds for lending, and led to inefficiencies in investment allocation. These factors ultimately contributed to sluggish economic growth, necessitating intervention through economic reform programs.

In January 1991, Egypt launched an economic reform program in collaboration with the International Monetary Fund (IMF), which included liberalizing interest rates on deposits and loans. By 1993, positive real interest rates emerged, marking a shift toward market-driven monetary policy. This transition aimed to restore financial market efficiency, incentivize savings, and improve the allocation of credit. Post-liberalization, interest rates fluctuated, peaking in 2001 before declining steadily. By the 2011 revolution, rates had dropped to their lowest levels, reducing savings incentives and amplifying investment inefficiencies.

Political and economic instability following the 2011 revolution posed significant challenges to monetary policy. In 2017, interest rates surged to their highest levels as the Central Bank of Egypt (CBE) implemented tight monetary policies to

stabilize the currency and curb inflation following the flotation of the Egyptian pound in 2016. This marked a pivotal moment in balancing inflation control with economic stability.

The post-2017 period exhibited sharp fluctuations in interest rates. Between 2018 and 2019, real rates turned positive, supporting savings and lending. However, by 2022–2023, real rates turned negative again, as inflationary pressures exceeded nominal rates. These conditions disincentivized savings, complicated monetary policy, and exerted downward pressure on long-term investments.

The oscillation between positive and negative real rates significantly influenced economic outcomes. While positive rates encouraged savings and investment, negative rates eroded savings' value and undermined long-term financial planning. High interest rates, such as in 2017, were critical for combating inflation and stabilizing the currency, whereas low or negative rates reflected persistent challenges in maintaining monetary stability.

CHAPTER FOUR

ANALYSIS AND EMPIRICAL RESULTS

This chapter presents a review of the practical steps, and discusses the research methodology, its design, and the methods employed. Following that, it will present the empirical findings of the study.

1. Research Methodology and Empirical Results

The research methodology begins by discussing the research design and various methods, which cover descriptive statistics and economic models in both general and detailed manners. Additionally, each technique is tested in the context of its application to the study.

1.1. Research Design

This thesis aims to examine the drivers of economic growth in Egypt, taking into account the importance of variables such as foreign direct investment, trade openness, and interest rates. By focusing on the complex interactions between foreign direct investment, trade openness, interest rates, and economic growth, advanced econometric techniques will be employed due to the limitations of the available data. The research will use annual data from 1993 to 2023. It utilizes foreign direct investment flows, trade openness, interest rates, and gross domestic product (GDP) as indicators of economic activity in Egypt. The study will also include analysis across all sectors of the Egyptian economy, providing a comprehensive view of the country's economic progress, with GDP serving as the primary measure of economic advancement across these sectors.

Table 11: Indicators

Variables	Definition
Economic growth	GDP growth (annual %)
Foreign Direct Investment	Foreign direct investment, net inflows (% of GDP)
Trade openness	Trade (% of GDP)
Imports of goods and services growth	Imports of goods and services (annual % growth)
Interest rate	Interest rate (annual %)

This study aims to examine the impact of foreign direct investment (FDI) on economic growth in Egypt during the period from 1993 to 2023. The analysis will employ the Vector Autoregression (VAR) methodology to explore the dynamic relationships among the variables. To ensure the stationarity of the time series data, unit root tests will be conducted, including the Augmented Dickey-Fuller (ADF) test, the Phillips-Perron (PP) test, the Kwiatkowski-Phillips-Schmidt-Shin (KPSS) test, and the Ng-Perron test. Furthermore, the Granger causality test will be applied to investigate the causal relationships between FDI and economic growth over.

1.2. Descriptive Statistics

This analysis utilizes descriptive statistical techniques to outline the primary features of the dataset. By applying sample metrics, it provides brief summaries that serve as the foundation for all quantitative analyses. The descriptive analysis focuses on key metrics, including the mean, minimum, standard deviation, and maximum values within the dataset. This approach enables a basic understanding of the data's distribution.

This section presents the findings derived from an empirical investigation examining the relationship between Gross Domestic Product (GDP) and three key economic variables: Foreign Direct Investment (FDI), Trade Openness, and the Interest Rate.

The analysis utilizes secondary time-series data sourced from the World Bank database, covering the period from 1993 to 2023.

Table 12: Descriptive Statistics Table

	GDP	FDI (% of GDP)	Trade (% of GDP)	Imports (% of GDP)	Interest rate (annual %)
Mean	4.472608	2.411028	45.64351	25.89006	13.59366
Median	4.372019	1.524629	42.83213	24.68821	13.14167
Maximum	7.156284	9.348567	71.68063	38.63763	18.31667
Minimum	1.764572	-0.20454	29.85697	19.29582	9.425
Std. dev.	1.503387	2.259705	10.40505	4.611268	2.407508
Skewness	0.097467	1.853012	0.734644	0.846740	0.669909
Kurtosis	2.144824	5.924306	2.908623	3.332750	2.533819
Jarque-Bera	0.993713	28.78632	2.799241	3.847352	2.599394
Prob	0.608440	0.00001	0.246691	0.146069	0.272614
susq.dev.	67.80521	153.1880	3247.955	637.9138	173.8828

Table 12: presents a visual summary of the variables being examined, showcasing their means, maximum and minimum values, distribution characteristics, and overall shape. The dependent variable in our model, GDP, has an average of 4.47%, closely matching its median of 4.37%. With a kurtosis value of 2.144824, it exhibits a platykurtic distribution, generally indicating thinner tails than a normal distribution. Nevertheless, normality is preserved, as verified by the Jarque-Bera test with a p-value of 0.60.

1.3. Unit Root Test

This study utilizes four widely recognized tests to assess the stationarity of the variables: the Augmented Dickey-Fuller (ADF), Phillips-Perron (PP), Kwiatkowski-Phillips-Schmidt-Shin (KPSS), and Ng-Perron tests.

In both the ADF and PP tests, the null hypothesis suggests that the series has a unit root, implying non-stationarity. For stationarity to be established at the 5% significance level, the p-value must fall below this threshold, meaning the test statistic should exceed the critical value in absolute terms. A higher p-value, on the other hand, signifies a failure to reject the null hypothesis.

The KPSS test, in contrast, takes an opposite approach. Here, the null hypothesis assumes stationarity, with a test statistic below the critical value affirming this condition. If the test statistic surpasses the critical value, the null is rejected, indicating non-stationarity.

The Ng-Perron test consists of four sub-tests: $MZ\alpha$, MZt , MSB , and MPT . To reject the null hypothesis of a unit root, thereby confirming stationarity, the $MZ\alpha$ and MZt statistics need to exceed their critical values in absolute terms. For the MSB and MPT statistics, stationarity is indicated when they fall below their critical values at the chosen significance level.

The results of the unit root tests—including Augmented Dickey-Fuller (ADF), Phillips-Perron (PP), Kwiatkowski-Phillips-Schmidt-Shin (KPSS), and Ng-Perron—demonstrate that all variables become stationary after first differencing $[I(1)]$, except for GDP per capita, which is stationary at level $[I(0)]$, and the Interest Rate, which reaches stationarity after second differencing $[I(2)]$. Table 13 provides a comprehensive summary of the test statistics and critical values used for further examination.

Table 13: Unit Root Test

Variables	ADF	PP	KPSS	NG perron test				Remark
				MZa	MZt	MSB	MPT	
GDP	Level -3.079363 ^{*a(0)} (-2.963972)	Level -3.079363 ^{*a} (-2.963972)	Level 0.076894 ^{*a} (0.463000)	Level -9.83043 ^{*a} (-8.10000)	Level -2.21629 ^{*a} (-1.98000)	Level 0.22545 ^{*a} (0.23300)	Level 2.49513 ^{*a} (3.17000)	I (0)
FDI	Level -3.112033 ^{*a(1)} (-2.967767)	Level -2.224411 ^{*a} (-2.963972) 1 st different -3.334813 ^{*a} (-2.967767)	Level 0.106170 ^{*a} (0.463000)	Level -11.7000 ^{*a} (-8.10000)	Level -2.41617 ^{*a} (-1.98000)	Level 0.20651 ^{*a} (0.23300)	Level 2.10368 ^{*a} (3.17000)	I (0)
Trade (%GDP)	Level -2.168351 ^{*a(1)} (-2.967767) 1 st different -3.914136 ^{*a(0)} (-2.967767)	Level -1.880350 ^{*a} (-2.967767) 1 st different -3.802976 ^{*a} (-2.967767)	Level 0.203183 ^{*a} (0.463000)	Level -9.36152 ^{*a} (-8.10000)	Level -2.13197 ^{*a} (-1.98000)	Level 0.22774 ^{*a} (0.23300)	Level 2.73740 ^{*a} (3.17000)	I (1)
Import	Level -2.331119 ^{*a(1)} (-2.967767) 1 st different -4.235790 ^{*a(0)} (-2.967767)	Level -1.819798 ^{*a} (-2.963972) 1 st different -4.123604 ^{*a} (-2.967767)	Level 0.073203 ^{*a} (0.463000)	Level -11.7515 ^{*a} (-8.10000)	Level -2.35326 ^{*a} (-1.98000)	Level 0.20025 ^{*a} (0.23300)	Level 2.35452 ^{*a} (3.17000)	I (1)
Interest rate	Level -2.232607 ^{*a(3)} (-2.976263) 1 st different -5.345813 ^{*a(2)} (-2.976263)	Level -0.370937 ^{*b} (-1.610211) 1 st different -0.336294 ^{*b} (-1.61001) 2 nd different -1.827706 ^{**b} (-1.609798)	Level 0.353960 ^{*a} (0.463000) 1 st different 0.353960 ^{*a} (0.463000) 2 nd different 0.353960 ^{*a} (0.463000)	Level -1.22832 ^{**a} (-5.70000) 1 st different -4.97997 ^{**a} (-5.70000) 2 nd different -9.88210 ^{**a} (-5.70000)	Level 0.69308 ^{**a} (-1.62000) 1 st different -0.87667 ^{**a} (-1.62000) 2 nd different -1.91976 ^{**a} (-1.62000)	Level 0.56425 ^{**a} (0.27500) 1 st different 0.17604 ^{**a} (0.27500) 2 nd different 0.19427 ^{**a} (0.27500)	Level 17.0765 ^{**a} (4.45000) 1 st different 6.19659 ^{**a} (4.45000) 2 nd different 3.56666 ^{**a} (4.45000)	I (2)

Note: *:5%, **:10%, a : Intercept, b: None, (0): stationary at level, (1): stationary at first difference, (2): stationary at second difference, Augmented Dickey-Fuller (ADF), Phillips-Perron (PP), Kwiatkowski-Phillips-Schmidt- Shin (KPSS), and Ng-Perron

1.4 Vector Autoregression (VAR)

This analysis employs the VAR approach to explore the dynamic interrelationships among multiple economic indicators over time. The VAR model is particularly effective in capturing the mutual influences and temporal dependencies between the variables without requiring a priori restrictions on the direction of causality.

In the VAR framework, each variable is treated as an endogenous factor, modeled as a linear function of its own past values and the past values of all other variables in the system. This allows for a comprehensive understanding of how shocks to one variable propagate throughout the system.

Prior to the estimation of the VAR model, the stationarity of the variables must be confirmed through unit root tests such as the Augmented Dickey-Fuller (ADF) or Phillips-Perron (PP) tests. The model is applicable when the variables are stationary at levels, first difference, and second difference, i.e., integrated of order $I(0)$, $I(1)$, and $I(2)$.

Table 14: VAR Lag Order Selection Criteria

Lag	LogL	LR	FPE	A/C	SC	HQ
0	-283.6643	NA	1330.519	21.38254	21.62251*	21.45390
1	-244.7148	60.58812*	491.5488	20.34924	21.78906	20.77738
2	-214.6278	35.65866	417.3632*	19.97243*	22.61210	20.75734*

Note: The selected lag order is based on the respective criteria. LR denotes the Sequential Modified Likelihood Ratio Test Statistic; FPE refers to the Final Prediction Error; AIC is the Akaike Information Criterion; SC stands for the Schwarz Information Criterion; and HQ indicates the Hannan-Quinn Information Criterion.

This method allows the study to distinguish causal directionality between the variables and identify if there is any predictive power between them, adding depth to the analysis of dynamic relationships.

The results of the unit root tests reveal that the GDP and FDI variables are stationary at level (i.e., integrated of order zero), while Trade Openness and Import variables become stationary after first differencing. The Interest Rate variable, however, attains stationarity after second differencing. To determine the appropriate

lag length, information criteria are employed. Table 14 presents the corresponding results.

Based on the results shown in Table 14, the optimal lag length is identified as two. Subsequently, tests for autocorrelation and heteroskedasticity are conducted using one lag. Additionally, the inverse roots of the characteristic polynomial are examined to ensure they lie within the unit circle.

1.4.1 Residual Diagnostic Tests

This section conducts diagnostic tests to verify the assumptions underpinning the econometric model. Specifically, normality, heteroskedasticity, and LM Autocorrelation Test are applied, as these are essential to ensure the reliability of the model's inferences.

To detect serial correlation, this study uses either the Durbin-Watson statistic or the Breusch-Godfrey test examines the presence of serial correlation. The null hypothesis assumes the absence of serial correlation, which is essential for ensuring the validity of the model. Rejection of the null hypothesis occurs if the test statistic falls outside the critical range or if the p-value is lower than the specified significance level, indicating that the residuals exhibit serial correlation.

Table 15 :Autocorrelation Test

Lag	F-stat	Prob.
1	2.501274	0.0105
2	1.288798	0.2579

The Breusch-Godfrey Serial Correlation LM Test yields an F-statistic of 1.288798 with a p-value of 0.2579. Since the p-value is greater than the conventional significance level of 0.05, the null hypothesis of no serial correlation is retained. This suggests that, at the 5% significance level, there is no evidence of serial correlation in the residuals within the specified model.

The normality of residuals is evaluated using the Jarque-Bera statistic, a standard method for this purpose. The null hypothesis assumes that the residuals follow a normal distribution. If the Jarque-Bera statistic is significant at the 5% level, the null hypothesis is rejected, indicating that the residuals deviate from normality.

Table 16 :Normality Test

Component	Jarque-Bera	Prob.
1	5.315674	0.0701
2	0.459506	0.7947
3	5.058532	0.0797
4	1.085183	0.5812
5	0.222409	0.8948
Joint	12.14130	0.2757

The Jarque-Bera test yields a probability value of 0.2757, which supports the inability to reject the null hypothesis. This indicates that the data series conforms to the assumption of normal distribution, suggesting no significant deviation from normality in the series under analysis.

Heteroskedasticity checks whether residuals maintain a consistent variance. The Breusch-Pagan or White test is typically employed, with the null hypothesis suggesting that residuals are homoskedastic, meaning their variance is unaffected by the level of an independent variable. A p-value below 5% would lead to rejecting this hypothesis, suggesting heteroskedasticity.

Table 17 :Heteroskedasticity Test

Chi-sq	Prob.
318.3282	0.2234

The Breusch-Pagan-Godfrey Test yields an F-statistic of 318.3282 and a p-value of 0.2234, indicating insufficient evidence to reject the null hypothesis of homoskedasticity in the regression model's residuals. This result suggests that the

variance of the residuals is constant, confirming that the model does not suffer from heteroskedasticity issues, thereby validating one of the key assumptions for reliable regression analysis.

1.4.2. Inverse Roots for VAR Model

The inverse roots of the characteristic polynomial in a VAR (Vector Autoregression) model are used to assess the stability of the system. A VAR model is considered stable if all inverse roots lie within the unit circle. Stability implies that shocks to the system will dissipate over time rather than causing explosive behavior, which is essential for making meaningful inferences from the VAR estimates.

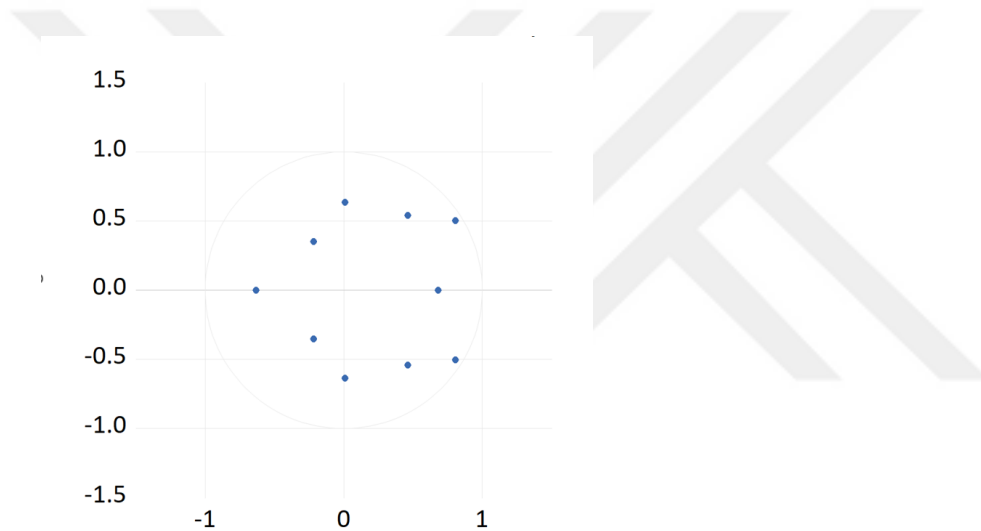


Figure 9: Inverse Roots for VAR Model

We observe from Figure 9 that the inverse unit roots of the model fall within the unit circle at the selected lag length. Consequently, the optimal lag length is determined to be 2. Following the satisfaction of the VAR model prerequisites, a Granger Causality test is conducted.

1.5. Granger Causality Test

This study uses the Granger causality test to investigate causal relationships between the economic indicators. Granger causality, developed by Clive Granger, is a statistical hypothesis test designed to assess the predictive power of one time series on another. This approach does not establish a direct causal link but rather investigates whether historical data from one variable can be used to forecast future values of the other variable.

In the Granger causality test, we begin by specifying a model in which lagged values of one variable (X) are included in the equation for another variable (Y). The null hypothesis assumes that X does not Granger-cause Y, which means past values of X do not contain predictive information about Y. If the test statistic for the lagged values of X exceeds a critical value or if the p-value is below a chosen significance level (e.g., 5%), we reject the null hypothesis and conclude that X Granger-causes Y. Conversely, if the null hypothesis is not rejected, we interpret it as X not Granger-causing Y.

Table 18 :GDP Growth

From	To	Chi-square	P-value
FDI	GDP growth	1.819587	0.4026
OP	GDP growth	4.875173	0.0874
Import	GDP growth	6.452562	0.0397
IR	GDP growth	2.501073	0.2864

Table 19 :FDI

From	To	Chi-square	P-value
GDP	FDI	3.832323	0.1472
OP	FDI	1.042585	0.5938
Import	FDI	0.310551	0.8562
IR	FDI	4.789874	0.0912

Table 20 :OP

From	To	Chi-square	P-value
GDP	OP	0.690583	0.7080
FDI	OP	0.986094	0.6108
IMPORT	OP	3.284814	0.1935
IR	OP	3.556859	0.1689

Table 21: Import

From	To	Chi-square	P-value
GDP	Import	0.980838	0.6124
FDI	Import	1.778295	0.4110
OP	Import	1.906845	0.3854
IR	Import	1.655800	0.4370

Table 22: IR

From	To	Chi-square	P-value
GDP	IR	2.646588	0.2663
FDI	IR	0.458104	0.7953
OP	IR	1.709252	0.4254
Import	IR	3.297760	0.1923

Based on the findings presented in Tables 18, 19, 20, 21, and 22, it is observed that there is unidirectional Granger causality from Interest Rates (IR) to Foreign Direct Investment (FDI) and from Trade Openness (OP) to GDP at the 10% significance level. Additionally, there is unidirectional causality from Imports to GDP at the 5% significance level. These results suggest that changes in IR have a predictive impact on FDI, while movements in OP and Imports significantly influence GDP.

On the other hand, no evidence of Granger causality is found among the other tested variable pairs, such as from GDP, FDI, OP, and Imports to IR; from GDP, OP, Imports, and IR to FDI; from GDP, FDI, Imports, and IR to OP; or from GDP, FDI, OP, and IR to Imports. This indicates that, apart from the mentioned relationships, the variables largely evolve independently over time within the studied framework.

The absence of detected causality among most pairs might suggest that predictive linkages are either weak, non-linear, or driven by external factors not incorporated into the model. Furthermore, these findings are sensitive to the selected lag structure and the transformations applied during the analysis; different model specifications might produce alternative results.

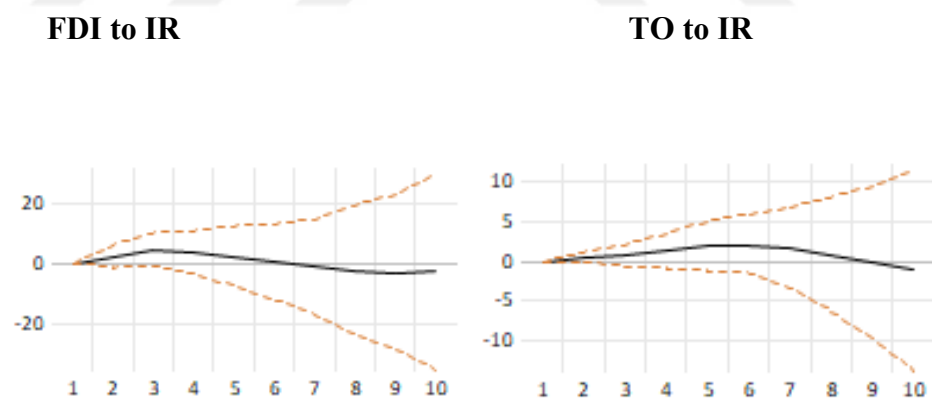


Figure 10: Impulse – Response Functions

Figure 10 presents the reaction of FDI to a one standard deviation shock in the Interest Rate. The results indicate that FDI responds positively to the shock up until the 7th period, after which it begins to decline steadily in the subsequent periods. Regarding Trade Openness, its response to a one standard deviation shock in the Interest Rate shows a continuous increase up to the 6th period. Furthermore, the empirical analysis includes a Variance Decomposition Analysis. Table 23 reports the results of the Variance Decomposition for the FDI variable.

Table 23: Variance Decomposition Results for FID Variable

Period	S.E.	FDI	GDP	TO	IMPORT	IR
1	1.004506	100.0000	0.000000	0.000000	0.000000	0.000000
2	1.655791	82.41389	2.595924	3.960414	0.251257	10.77851
3	2.113086	57.78020	3.189171	13.78518	7.005697	18.23975
4	2.711568	35.35773	2.733213	10.79009	19.57753	31.54144
5	3.571252	20.79930	2.094588	6.243905	26.88076	43.98144
6	4.362629	15.03819	2.105671	5.086320	27.26420	50.50562
7	4.810544	13.45571	2.141775	5.798852	25.40089	53.20278
8	4.946654	13.50572	2.141775	7.196008	24.13146	53.11029
9	5.009833	13.53337	2.139696	8.110056	24.31644	51.90043
10	5.205064	12.58409	2.533203	7.787608	25.14723	51.94787

During the initial period, the FDI variable solely accounts for 100% of its own forecast error variance. By the second period, FDI explains 82% of its own variance, while GDP contributes 2.59%, Trade Openness 3.96%, Import 0.25%, and Interest Rate 10.77%. Over the span of ten periods, the proportion of FDI's own contribution to its prediction error variance steadily decreases. The influence of GDP on FDI's forecast error variance remains relatively constant throughout the periods. Meanwhile, the Interest Rate demonstrates a persistent and positive effect on FDI's variance across all periods examined. In contrast, the impacts of Trade Openness and Import fluctuate, alternating between increases and decreases over time. By the tenth period, only 12% of the variation in FDI is attributed to itself, whereas 51.94% is explained by the Interest Rate, 25% by Import, 7.78% by Trade Openness, and 2.53% by GDP. These findings are in alignment with the outcomes obtained from the impulse-response function analysis.

1.6. Comparison of Previous Studies and the Current Study

This section provides a comparative analysis of prior research findings and the current study, highlighting similarities, differences, and contributions to the existing literature.

The current study builds on and extends the findings of previous research while addressing unique aspects specific to Egypt. Below is a comparative analysis of the key similarities and differences between the reviewed literature and the current study.

The empirical findings of the current study present both convergences and divergences with established literature on macroeconomic relationships in developing economies. Regarding foreign direct investment, while numerous studies including those by (Morabet, 2017) and (Belkhabat, 2015) have consistently demonstrated a direct positive relationship between FDI and economic growth, the present analysis reveals a more complex transmission mechanism. Rather than observing the conventional FDI-growth nexus, the results indicate that interest rates serve as a significant predictor of FDI inflows in the Egyptian context. This finding extends the theoretical framework proposed by (Fadil, 2004), who noted the limited effectiveness of FDI in Arab economies, by introducing monetary policy as a critical mediating factor.

Concerning trade openness, the study's results partially confirm earlier findings while introducing novel contextual insights. The identification of trade openness as a determinant of economic growth aligns with the conclusions of (Bibi & Jalil, 2019), yet the temporal dimension of this relationship - showing delayed rather than immediate effects - provides empirical support for (Yanikkaya, 2003) proposition about context-dependent trade impacts. More significantly, the study uncovers the substantial influence of import levels on GDP growth, a relationship largely overlooked in previous African studies such as (Menyah, Nazlioglu, & Wolde-Rufael, 2014) and (Keho, 2017). This finding suggests that in import-dependent economies like Egypt, trade openness operates through distinct channels that warrant separate analytical consideration.

The examination of interest rate effects yields particularly noteworthy contributions to existing knowledge. While confirming the inverse relationship between interest rates and growth established by (Uodka, 2012) and (Saymeh, 2013), the current analysis reveals an additional dimension: the predictive capacity of interest rates over FDI flows. This dual transmission mechanism - whereby interest rates influence both direct economic activity and investment patterns - represents a significant departure from the

unidirectional models prevalent in prior North African research. The results particularly challenge the infrastructure-centered framework proposed by (Pradhan, Norman, Badir , & Samadhan, 2013), suggesting instead that in certain developing economies, financial variables may supersede physical capital in shaping growth trajectories.

Methodologically, the study addresses several limitations identified in previous research approaches. The vector autoregression technique employed here overcomes the constraints of cross-sectional designs prevalent in earlier work by (Zhang K. H., 2001A) and panel studies such as (Liu, 2005), allowing for more nuanced analysis of country-specific dynamics. The extended temporal scope encompassing Egypt's post-reform period provides unique insights into policy interdependencies that were not captured in earlier single-equation models like those of (Borensztein, De Gregorio, & Lee, 1998). Furthermore, the identification of import-related constraints offers empirical resolution to theoretical ambiguities in the capital formation literature, particularly the mediation model proposed by (Sheng & Fatima, 2019).

These collective findings suggest that Egypt's economic transmission mechanisms represent a distinct paradigm that diverges from both the Asian export-led model documented by (Zhang K. H., 2001B) and the resource-driven patterns observed in other African economies by (Ebaidalla, 2013). The primacy of monetary policy channels, coupled with the significant role of import structures, necessitates a reevaluation of conventional policy frameworks for developing economies sharing similar structural characteristics with Egypt. In conclusion, while the current study aligns with many findings from previous research, it also addresses gaps in the literature by focusing on Egypt's unique context and providing contemporary insights. This enhances the understanding of the relationships between key economic variables and offers practical guidance for achieving sustainable growth.

CONCLUSION

This study provides an in-depth analysis of the dynamic relationships between foreign direct investment (FDI), trade openness, interest rates, and economic growth in Egypt during the period 1993-2023 using VAR methodology. The results reveal unique causal pathways that differ significantly from conventional literature while offering valuable insights for economic policymaking.

Regarding the first hypothesis concerning the FDI-growth relationship, the findings demonstrate the absence of direct causality between these variables, contrasting with previous results from studies such as (Morabet, 2017) and (Belkhabat, 2015). Instead, the analysis uncovered unidirectional causality from interest rates to FDI, indicating that monetary policy plays a pivotal role in directing investment flows within the Egyptian context.

For the second hypothesis on trade openness, the results confirmed unidirectional causality from trade openness to economic growth, partially supporting the conclusions of (Bibi & Jalil, 2019). However, the absence of reverse causality suggests that the benefits of trade openness in Egypt materialize through indirect channels and require longer time horizons than conventional literature anticipates.

Concerning the third hypothesis about interest rates, the findings demonstrated that interest rate changes possess predictive power for both economic growth and FDI, expanding the traditional understanding of monetary policy's role. This discovery goes beyond previous results from (Uodka, 2012) and (Saymeh, 2013) by revealing a dual transmission channel for interest rates.

The study also highlighted imports as a significant variable influencing economic growth - a relationship that has received insufficient attention in prior research. This finding reflects the distinctive import-dependent structure of Egypt's production system and suggests the need to incorporate this dimension in analytical models for import-reliant developing economies.

Methodologically, the application of VAR modeling helped overcome limitations in previous studies that relied on traditional regression models or panel data. The focus on Egypt during its economic transformation period enabled observation of dynamic interactions between variables within a structural reform context.

These results yield several policy recommendations:

1. The necessity for coordination between monetary policy and FDI attraction

strategies.

2. Adoption of trade strategies that address import dependency constraints.
3. Development of mechanisms to maximize the economic benefits of trade openness in medium and long terms.
4. Design of integrated policy packages that account for macroeconomic variable interdependencies.

Despite its contributions, the study faces several limitations:

- Data availability constraints for certain influential variables.
- Challenges in generalizing findings to other economies.
- Inability to measure some informal aspects of economic activity.

The study proposes several future research directions:

1. Analysis of technological advancement and digital transformation impacts on the studied relationships
2. Examination of human capital's role in maximizing FDI benefits.
3. Assessment of environmental dimensions in Egypt's growth context.
4. In-depth analysis of the relationship between import structure and competitiveness.

In conclusion, this study makes a qualitative contribution to economic literature by revealing unique transmission mechanisms in Egypt's economy, while emphasizing the importance of flexible analytical models that account for structural characteristics of developing economies. The findings underscore the need for context-specific approaches in macroeconomic analysis and policymaking for countries with similar economic profiles to Egypt. Future research should build on these findings to develop more nuanced frameworks for understanding growth dynamics in import-dependent, reforming economies.

References

- Delong, B., & Martha L. , o. (2009). *Macroeconomic*. International edition 2nd edition.
- Hatem, S. A. (1993). *Foreign trade between theory and regulation*. Cairo: Egyptian Lebanese House.
- Mercurio, F., & Brigo, A. (2001). *interest rate models theory and practice*. London: springer finance.
- Abdel-Khalek, G. (2017). *Trade Agreements and Economic Growth in Egypt*. Routledge.
- Abdelqader, A. M. (2010). *Economics of Money and Banking*. Amman: Dar Al Fikr .
- Abdul-Mawla. (2005). The New Customs Tariff: A Step on the Road to Customs Reform. *Contemporary Egypt Magazine, Egyptian Society for Political Economy, Legislation and Statistics*, 706.
- AbdulReda, N. J. (2012). *The Development of Economic Thought from Plato to Friedman*. Lebanon: Arab History Foundation for Publishing.
- Abdulwahab, S. (2020). Measuring and analyzing the relationship between trade openness and economic growth in Türkiye. *Regional Studies*, 75-80.
- Abu Al-Ayoun, M. (2003). Developments in Monetary Policy in the Arab Republic of Egypt and Future Directions. *Central Bank of Egypt*, pp. No. 78, p.4.
- Acemoglu, D., & Guerrieri, V. (2008). Capital deepening and nonbalanced economic growth. *Journal of political Economy*, 116(3), 467-498.
- Agata, A., & Freni. (2003). The structure of growth models: a comparative survey. *The Theory of Economic Growth, United Kingdom*, 30-40.
- Aghion, P., & Bunel, S. (2021). The power of creative destruction: Economic upheaval and the wealth of nation. *Harvard University Press*.
- Ahmad, A. Y. (2001 A). *The development of economic thought*. Alexandria: Aldaar Ajameia.
- Ahmad, Y. A. (2001B). *International Economics*. Alexandria: Aldaar Ajameia.
- Ajami, M. A. (2001). *Development and Planning*. Alexandria: Alexandria University Publications.
- Al-Assar, R. (2010). *Money and Banks*. Amman : Safa Publishing and Distribution House.
- Al-Habib., F. I. (1985). *Theories of Development and Economic Growth*. Riyadh: King Saud University Publications.
- Al-Hajj, T. (1998). *Economics and Its Theories*. Amman: Safa Publishing Dar .
- Al-Hawari, B. (1999). Financial Liberalization in Morocco and its Impact on the Macroeconomy. *Sidi Ben Abdellah University, Morocco*, 75-76.
- Al-Huwaij, H. (2022). The impact of trade openness on economic growth in Libya. *University of Qasdi Merbah, Warqala.*, 24-30.

- Alnajjar, S. (1989). *Investment policies in Arab countries*. Cairo: Diwan.
- Al-Najjar, S. (1973). *History of Economic Thought from the Mercantiles to the End of the Traditionalists*. Beirut: Dar Alnahdat Alearabia.
- Al-Qatari. (2011). *The Role of Monetary Policy in Stability and Economic Development*.
- Al-Quraishi, M. (2008). *The Development of Economic Thought*. Amman: Wael Publishing House.
- Al-Rafai, A. H. (2014). The effect of interest rates on investment certificate sales and redemptions in the Popular Credit Bank. *Tishreen University Journal for Scientific Research and Studies*, 176-177.
- Al-Sayed, A. M. (1986). *Economics of Money and Banking*. Baghdad: Al-Diwani Press.
- Awad Allah, Z. H., & Adly, S. (2005). *Principles of Political Economy*. Lebanon: Al-Halabi Publications.
- Balwafi, A., & Balabbas, A. (2009). The Reality of Zero Interest Rate Policy. *Second International Forum*, (p. 11). Algeria.
- Barro. (1991). Economic Growth in a Cross Section of Countries. *The Quarterly Journal of Economics*, 407-443.
- Barro, R. J., & Becker, G. S. (1989). Fertility choice in a model of economic growth. *Econometrica. journal of the Econometric Society*, 4(16)481-501.
- Belazoz, B. A. (2003). The Impact of Interest Rate Changes on the Economies of Developing Countries. *Faculty of Economics and Management Sciences, University of Algiers*, 151-153.
- Belkhabat, J. (2015). The Feasibility of Foreign Direct Investments in Achieving Economic Growth: A Comparative Study between Algeria and Morocco. *Faculty of Economics*, 45-46.
- Bibi, & Jalil . (2019). Revisiting the Link between Trade Openness and Economic Growth Using Panel Methods. Pakistan Institute of Development Economics. *Economic Visiones*, 27-28.
- Blaug, M. (1999). *Economic Theory in Retrospect*. University of Exeter, fifth edition.
- Boglionni, C. (1979). *Economic Thought in the Twentieth Century*. Baghdad: Dar Al-Thawra for Press and Publishing. Oil and Development Publications.
- Borensztein, E., De Gregorio, J., & Lee, J. W. (1998). *How does foreign direct investment affect economic growth?*
- CBOE. (2017). *The Central Agency for Public Mobilization and Statistics*. Cairo: The Central Bank of Egypt, Monthly Statistical Bulletin,.
- Danladi, J. D., & Uba, U. P. (2016). Does the volatility of exchange rate affect the economic performance of countries in the West African Monetary zone? A case of Nigeria and Ghana. *Journal of Economics, Management and Trade*, 6-10.
- Does foreign direct investment promote economic growth? Evidence from East Asia and Latin America. (2001). *Contemporary economic policy*, 19(2), 175-185.

- Ebaidalla. (2013). the impact of exchange rate fluctuations on the performance of the macroeconomy in Sudan, with a focus on three key indicators: foreign direct investment, the trade balance, and economic growth during the period 1979-2011. *Journal of Financial Research*, 78-80.
- Ebdjman, M. (1992). *Macroeconomics Theory and Policy*. Dar Al-Marikh Publishing House.
- Economic and Social Commission for Western Asia. (2002). *Survey of Economic and Social Developments in the ESCWA Region*. New York: (2000-2002), United Nations, p. 22.
- Egypt, C. B. (2024). Economic. *Economic Magazine*, 46-49.
- Elkan, W. (1983). *Introduction to Economic Development*. . Benghazi : Garyounis University.
- El-Megharbel, N. (2020). Economic Reforms and Social Impacts in Egypt. *Journal of Economic Studies*, 45(2), 150-172.
- El-Sayed, S. (2003). *Introduction to Economic Theory*,. Egypt: Itrak Publishing.
- Fadil, F. (2004). The importance of foreign direct investment in Arab countries with a comparative study between Algeria, Egypt and the Kingdom of Saudi Arabia. *Faculty of Economics and Management Sciences, University of Algiers*, 35-36.
- Farid and others, M. (2013). An Overview of the Egyptian Economy. *General Authority for Investment and Free Zones*, 5.
- Friedrich, A. (2009). *The Theory of Interest Rate*. second edition ,Aldine Transactio.
- Galal, A. (1996). *Economic Reforms in Egypt: Challenges and Opportunities*. Cairo: AUC Press.
- Galbraith, J. (2000). *History of Economic Thought: The Past as an Image of the Present*. Kuwait: National Council for Culture, Arts and Letters.
- Geronilam, F. (1991). *International Economics*. Benghazi: Garyounis University.
- Hack-Polay, D., & Rah. (2022). Barriers to the effective exploitation of migrants' social and cultural capital in hospitality and tourism: A dual labour market perspective. *Journal of Hospitality and Tourism Management*, 50, 168-177.
- Hamadi , Y. T. (2007). Theories of traditional, classical and modern international trade and regional blocs with special reference to the European Common Market. *Arab Economic Research Journal*, 7-24.
- Hamid, A. M. (1997). *Economic policies, micro and macro analysis*. Cairo: Zahraa Al Sharq Library.
- Harrison. (1996). Openness and growth: A time-series, cross-country analysis for developing countries. *Journal of development Economics*, 419-447.
- Hashad, N. (1996). *GATT and WTO*. Cairo: World Trade Organization.
- Heller, P. S., & Porter, R. C. (1978). Exports and growth : An empirical re-investigation. *Journal of Development Economics*, 191-193.
- Heller, R. (1987). *International Trade: Theory and Practical Evidence*. Benghazi: Garyounis University.

- Héraud, A. J. (2021). A new approach of innovation: from the knowledge economy to the theory of creativity applied to territorial development. *Journal of Knowledge Economy*, 12(1), 201-217.
- Hermes, & Lensink. (2003). Foreign Direct Investment Financial Development and Economic growth. *The Journal of Development Studies*, 142-143.
- Hilb, M. (2021). Circular capitalism: unlocking the power of ownership and citizenship through stewardship. *SN Business & Economics*, 1(1), 1-7.
- Hood, & Young. (1997). *The International Firms*. London: Routledge.
- Hubbard, G. (2008). *The Financial System and the Economy*. Columbia: Columbia university 6th edition.
- Hudson, John, & Harinder Mark. (1987). *International Economic Relations*. Riyadh: Dar Almiriykh.
- Hyint, H. (1977). Adam Smith's theory of international trade in the perspective of economic development. *Economica*, 231-248.
- Jameh, A. (1976). *Economic Theory - Part Two: Macroeconomic Analysis*. Cairo: Dar Al Nahda Al Arabiya.
- Jamil, H. E. (1999). Private Foreign Direct Investment in Developing Countries. *Emirates Center for Economic Studies and Research*, 10.
- Kamin, S. B., & Rogers, J. H. (2000). Output and the real exchange rate in developing countries: an application to Mexico. *Journal of development economics*, 61(1), 85-109.
- Kandil, M. (2004A). The asymmetric effects of exchange rate fluctuations: Theory and evidence from developing countries. *International Monetary Fund, IMF Institute.*, 16(8), 156-160.
- Kandil, M. (2004B). Exchange rate fluctuations and economic activity in developing countries: Theory and evidence. *Journal of Economic Development*, 29, 85-108.
- Keho, Y. (2017). The impact of trade openness on economic growth: The case of Cote d'Ivoire. *Cogent Economics & Finance*, 5(1), 133-134.
- keynes, J. M. (2008). *The General theory of employment -interest and money.*. Ghosh.
- Khalil, K. M. (1994). Foreign Direct Investment and Development. *Contemporary Egypt*, 149-151.
- Kohler, M., Manalo, J., & Perera, D. (2014). Exchange rate movements and economic activity. *RBA Bulletin*, 47-54.
- Kuznets, S. (1966). *Modern Economic Growth*. New Horizons Publications.
- Linjouom. (2007). The impact of the real exchange rate on manufacturing exports in Benin. *The World Bank*, No. 44874, 1-46.
- Liu, X. (2005). Foreign direct investment and economic growth: an increasingly endogenous relationship. *World development*, 33(3), 393-407.
- Lizondo, J. S. (1993). *Foreign direct investment. Readings in international business: A decision approach*. Cambridge, Mass: MIT Press.

- Mallak, W. (2011). *The Development of Economic Thought from Mercantilism to Classicism*. Lubnan: Part One, Dar Al-Manhal Al-Lubnani.
- Mankiw, Romer, & Weil. (1992). A contribution to the empirics of economic growth. *The quarterly journal of economics*, 407-437.
- Masadeh, M. A. (2019). Impact of the creative demolition management in improving of the business organizations performance in the Jordanian Hashemite Kingdom :A case study of Jordanian Phosphate Mines Company. *Advances in Management and Applied Economics*, 9(4), 95-120.
- Menyah, K., Nazlioglu, S., & Wolde-Rufael, Y. (2014). Financial development, trade openness and economic growth in African countries: New insights from a panel causality approach. *Economic Modelling*, 37, 386-394.
- Morabet, M. (2017). An Analysis of the Determinants of the Decision to Localize Foreign Direct Investment in Algeria in Light of Current Local and Global Economic Variables. *Arab Journal of Research in Humanities and Social Sciences*, 26.
- Mustafa, I. (2014). *The Intermediate Dictionary*. Beirut: Dar Ihya' Al-Turath Al-Arabi for Printing, Publishing and Distribution.
- Najafi , & Qurashi. (1988). *Introduction to Development Economics*. Mosul: Mosul University Publications.
- Nasif, Q. (2003). *Modern trends in development*. Alexandria: Aldaar Aljamieiatu.
- Parker, M. (1998). Foreign Direct Investment and the Middle East Experience. *Saudi Economic Journal*, 123-124.
- Parliament, E. (1999). *The Determination of interest rate*. Directorate General for research.
- Pradhan, R., Norman, N., Badir , Y., & Samadhan, B. (2013). Transport infrastructure, foreign direct investment, and economic growth interactions in India: The ARDL bounds testing approach, *Procedia. Social and Behavioral Sciences*, 104-105.
- Qahf, A. A. (2002). *Internationalization theories and the feasibility of foreign investments*. Alexandria: Kitaby.
- Qahf, A. S. (2001). Internationalization Theories. *University Youth Foundation*, 14-15.
- Rochon, L. p., & Sergio rossi. (2003). *modern theories of money*. USA: Edward Elgar.
- Romer. (1994). The origins of endogenous growth. *Journal of Economic perspectives*, 3-22.
- Romer, A. (1990). Endogenous technological change. *Journal of political Economy*, 72-102.
- Ross. (1997). *Corporate Finance*. New York: McGraw-Hill.
- Ruttan, V. W. (1998). The new growth theory and development economics: A survey. *The Journal of Development Studies*, 1-26.
- Salam, S. A. (2006). Global Trade Organization and Foreign Direct Investment. *Security and law*, 134-135.
- Saqr, O. (2001). Globalization and Contemporary Economic Issues. *Dldaar Aljamieiu*, 47-48.

- Saymeh, A. F. (2013). THE EFFECT OF INTEREST RATE, INFLATION RATE, GDP, ON REAL ECONOMIC GROWTH RATE IN JORDAN. *Asian Economic and Financial Review*, 36-38.
- Scherer, F. (2002). *A New Look at Economic Growth and Its Impact on Technological Innovation*. Riyadh: Obeikan Library.
- Senior, N. W. (2000). *Economic Thought Past Image of the Present*. Kuwait: Series The World of Knowledge.
- Sheikh, R., & Mahran, H. (2022). Egyptian foreign trade: a standard analytical view. *Scientific Journal of Business and Environmental Studies*, 69-71.
- Sheng, & Fatima. (2019). Impact of Openness on Economic Growth in Developing Economies An Empirical Analysis . European Online Journal of Natural. *Economic Visions*, 47-48.
- Shukri. (2006). Financial Liberalization and its Impact on Economic Growth. *Abu Bakr Belkaid University*, 33-34.
- Simonen, J., & Svento, R. (2020). Creative destruction and creative resilience: Restructuring of the Nokia dominated high-tech sector in the Oulu region. *Regional Science Policy & Practice*, 12(5), 931-953.
- Solow. (1957). Technical change and the aggregate production function. *The review of Economics and Statistics*, 312-320.
- Solow, R. (2003). *Growth Theory*. Beirut: Publications of the Arab Organization for Translation.
- Sunanda. (2010). *International Trade Theory and Policy*:. Bard : Levy Economics Institute of Bard College.
- The General Authority for Investment. (2024). *Economic agreements*. Retrieved from The General Authority for Investment and Free Zones:
<https://www.gafi.gov.eg/arabic/Pages/default.aspx>
- Thomas, M. (2002). *Money, Banking and Economics*. Riyadh: Dar al-Marikh Publishing, .
- Toward, D. J. (1980). An Eclectic Theory of International Production,Some Empirical Tests. *Journal of International Business Studies*, 10-25.
- Tülüce, N. S., & Yurtkur, A. K. (2015). Term of strategic entrepreneurship and Schumpeter's creative destruction theory. *Procedia-Social and Behavioral Sciences*, 207, 720- 728.
- Uodka, C. (2012). The Effect of Interest Rate Fluctuation on the Economic Growth of Nigeria. *International Journal of Business and Social Science*, 3 No. 20, 58-60.
- Welch, P. J., & Gerry, F. (2010). *Economics –theory and practice*. Boston, MA: Pearson Education.
- Weston j.fred. (1996). *essentials of managerial finance*. NEW YORK: The Dryden press.
- Word Bank . (2020). *The development of trade openness*. Word Bank Group:
<https://www.worldbank.org/ext/en/hom> adresinden alındı
- World Bank. (2020). Database: <https://www.worldbank.org/ext/en/home> adresinden alındı

- World Bank. (2024). *GDP of Egypt*. World Bank:
<https://data.worldbank.org/indicator/NY.GDP.PCAP.KD.ZG?locations=EG> adresinden alındı
- world bank. (2024). *World Development Indicators*. world bank:
<https://databank.worldbank.org/reports.aspx?source=2&series=NY.GDP.MKTP.KD.ZG&country=EGY#> adresinden alındı
- World Bank Data. (2024). *Inflation rate data of EGYPT and Middle East&North Africa*.
<https://databank.worldbank.org/embed/Egypt-Inflation-Rates/id/71d34048?review=y>
 adresinden alındı
- World Bank, D. (2020). *World Bank*. World Bank:
<https://archive.doingbusiness.org/en/data/exploreconomies/egypt> adresinden alındı
- Yanikkaya, H. (2003). Trade openness and economic growth: a cross-country empirical investigation. *Journal of Development economics*, 72(1), 57-89.
- Zaki, R. (1999). *Farewell to the Twentieth Century Farewell to the Twentieth Century*. Cairo: Dar Almustaqbal Alearabiu.
- Zhang, K. H. (2001A). Does foreign direct investment promote economic growth? Evidence from East Asia and Latin America. *Contemporary economic policy*, 19(2), 175-185.
- Zhang, K. H. (2001B). How does foreign direct investment affect economic growth in China? *Economics of transition*, 9(3), 679-693.
- Zhang, W.-B. (2008). *International Trade Theory, Capital, Knowledge, Economic Structure, Money, and Prices over Time*. Berlin: Springer-Verlag Berlin Heidelberg.
- Zweig, F. (2001). *Economic Thought*. Cairo: Aldaar Alqawmiat for Printing and Publishing.