THE DETERMINANTS OF ECONOMIC GROWTH IN IRAQ DURING THE PERIOD 2005-2021

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THE DETERMINANTS OF ECONOMIC GROWTH IN IRAQ EMPIRICAL STUDY (2005-2021)

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TABLE OF CONTENT

TABLE OF CONTENT 1
THESIS APPROVAL PAGE 4
DECLARATION 5
FOREWORD 6
ABSTRACT 7
ÖZ 9
ARCHIVE RECORD INFORMATION 11
ARŞİV KAYIT BİLGİLERİ xii
BACKGROUND OF THE PROBLEM 13
STUDY QUESTIONS 14
SIGNIFICANCE OF THE STUDY 15
BOUNDARIES AND CONSTRAINTS OF THE STUDY 16
INTRODUCTION 18
1. THEORETICAL FRAMEWORK OF ECONOMIC GROWTH 21
1.1. Introduction 21
1.2. Economic Growth and Development 21
1.3. Economic Schools of thought and Economic Growth 24
1.3.1. Mercantilists and Physiocrats 24
1.3.2. Classical Theory 25
1.4. Models of Economic Growth 28
1.4.1. Keynesian Growth Model 28
1.4.2. Harrod-Domar Model 31
1.4.3. Solow's Neoclassical Growth Model 32
1.4.4. Endogenous Growth Model (New Growth Theory) 34
1.5. Summary 36

2. OVERVIEW OF IRAQ'S ECONOMY 38
2.1. Introduction 38
2.2. Historical Overview 39
2.3. Key Variables Affecting Economic Growth in Iraq 42
2.3.1. Natural Resources Export (Oil) 43
2.3.2. Money Supply 45
2.3.3. Inflation 45
2.3.4. Trade Openness 47
2.3.4.1. Regional Framework 47
2.3.4.2. Voluntary and Compulsory 48
2.3.4.3. Progressive and Transitional 48
2.3.4.4. Surface and Deep 48
2.3.4.5. Production Specialisation 48
2.3.5. Foreign Direct Investment (FDI) 49
2.3.6. Gross Domestic Product (GDP) 50
3. MODEL SPECIFICATION AND METHODS OF STUDY 53
3.1. Introduction 53
3.2. Study Methodology 53
3.3. Model Specification and Analysis 54
3.4. Description of Variables and Conceptual Framework 55
3.4.1. Gross Domestic Product (GDP) (Y) 55
3.4.2. Money Supply (*MS*) 55
3.4.3. Exchange Rate (EXC) 55
3.4.4. Foreign Direct Investment (FDI) 56
3.4.5. Inflation (INF) 56
3.4.6. Government Expenditure (*GEX*) 56
3.4.7. Trade Openness (TOP) 57
3.4.8. Modelling Techniques and Data Sources 57
4. DATAPRESENTATION AND INTERPRETATION 59
4.1. Introduction 59
4.2. Data Presentation and Interpretation 59
4.2.1. Money Supply and Economic Growth 59
4.2.2. Exchange rate and Economic Growth 61

4.2.3. Foreign Direct Investment and Economic Growth 62
4.2.4. Inflation and Economic Growth 64
4.2.5. Government Expenditure and Economic Growth 66
4.2.6. Trade Openness and Economic Growth 67
CONCLUSION 70
REFERENCES 73
LIST OF TABLES 86
LIST OF FIGURES 87
APPENDICES 88
CURRICULUM VITAE 89

THESIS APPROVAL PAGE

I certify that in my opinion the thesis submitted by Hilbeen Anwer Taher TAHER titled "THE DETERMINANTS OF ECONOMIC GROWTH IN IRAQ EMPIRICAL STUDY (2005-2021)" is fully adequate in scope and in quality as a thesis for the degree of Master of Arts.

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DECLARATION

I hereby declare that this thesis is the result of my work, and all information included has been obtained and expounded following the academic rules and ethical policy specified by the institute. Besides, I declare that all the statements, results, and materials, not original to this thesis have been cited and referenced literally.

Without being bound by a particular time, I accept all moral and legal consequences of any detection contrary to the statement mentioned above.

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Signature:

FOREWORD

I would like to express my deep gratitude to my Advisor, Assist. Prof. Dr. Ömer Faruk ÖZYALÇIN throughout the process. My gratitude also goes to my university (Karabuk University) and its academic faculty. Last but not least important, none of this would have been possible without the love and patience of my husband.

ABSTRACT

The economic growth of Iraq from 2005 to 2021 has been influenced by various factors, with one key factor being the money supply, which refers to the amount of money circulating in the economy. Increases in the money supply can stimulate economic growth by encouraging higher levels of spending and investment Another factor is the exchange rate or the value of the Iraqi dinar relative to other currencies. A favourable exchange rate can make Iraqi exports more competitive and attract foreign investment, leading to economic growth. Foreign Direct Investment (FDI) is another significant factor of economic growth in Iraq. FDI refers to investment made by foreign companies in the Iraqi economy and can bring in capital, technology, and expertise that can boost economic growth. Inflation, or the general price increase, can also impact economic growth. If inflation is too high, it can discourage investment and lead to economic stagnation. Government expenditure is another factor that can influence economic growth in Iraq. Investment in infrastructure and other public goods can create jobs and stimulate economic activity. Finally, trade openness, or the extent to which the Iraqi economy is integrated with the global economy through trade, can also impact economic growth. An open economy can benefit from access to a broader range of goods and services, increasing productivity and growth.

The study primarily is tried to present data through tables and figures by interpreting clearly. Based on the figures and tables that have been designed from the data, the study found that there is a positive relationship between both money supply and government expenditure and economic growth. In contrast, the figures show that the relationship between trade openness and economic growth is inverse. However, the relationship between variables (exchange rate, FDI, and inflation) and economic growth is unclear.

The findings of this study are essential for policymakers and practitioners as they provide insights into the factors that contribute to economic growth in Iraq, enhancing the efficiency of the financial sector and increasing investment in human capital.

Keywords: Economic Growth; Iraq; Money Supply; Exchange Rate; FDI; Inflation; Government Expenditure; Trade Openness.

ÖZ

Irak'ın iktisadi büyümesi, 2005-2021 dönemi boyunca çeşitli faktörlerden etkilenmiştir. Kilit faktörlerden biri, para arzı veya ekonomide mevcut olan para miktarı olmuştur. Para arzındaki artışlar, artan harcama ve yatırım yoluyla ekonomik büyümeye neden olabilir. Diğer bir faktör de döviz kuru veya Irak dinarının diğer para birimlerine göre değeridir. Olumlu bir döviz kuru, Irak ihracatını daha rekabetçi hale getirebilir ve yabancı yatırımı çekerek ekonomik büyümeye yol açabilir. Doğrudan Yabancı Yatırım (DYY), Irak'ın iktisadi büyümesinin bir diğer önemli faktörüdür. DYY, yabancı şirketler tarafından Irak ekonomisine yapılan yatırım anlamına gelir ve ekonomik büyümeyi artırabilecek sermaye, teknoloji ve uzmanlık getirebilir. Enflasyon veya fiyatlardaki genel artış da iktisadi büyümeyi etkileyebilir. Enflasyon çok yüksekse, yatırımı caydırabilir ve ekonomik durgunluğa yol açabilir. Hükümet harcamaları, Irak'ta iktisadi büyümeyi etkileyebilecek başka bir faktördür. Altyapıya ve diğer kamu mallarına yatırım, istihdam yaratabilir ve iktisadi faaliyetleri canlandırabilir. Son olarak, ticari açıklık veya Irak ekonomisinin ticaret yoluyla küresel ekonomiyle ne ölçüde bütünleştiği de iktisadi büyümeyi etkileyebilir. Açık bir ekonomi, daha geniş bir mal ve hizmet yelpazesine erişimden fayda sağlayabilir, bu da artan verimlilik ve büyümeye yol açar.

Bu çalışmada analiz edilen veriler, tablo ve şekillerle yorumlanarak açık bir şekilde sunulmaya çalışılmıştır. Verilerden yola çıkılarak oluşturulan şekil ve tablolara dayalı olarak yapılan çalışmada, hem para arzı hem de devlet harcamaları ile iktisadi büyüme arasında pozitif bir ilişki olduğu tespit edilmiştir. Buna karşılık, rakamlar ticari açıklık ile iktisadi büyüme arasındaki ilişkinin ters olduğunu göstermektedir. Bununla birlikte, değişkenler (döviz kuru, DYY ve enflasyon) ile iktisadi büyüme arasındaki ilişki belirsizdir.

Bu çalışmanın bulguları, Irak'ta iktisadi büyümeye katkıda bulunan faktörlere ilişkin içgörü sağladıkları için politika yapıcılar ve uygulayıcılar için önemlidir.

Anahtar Kelimeler: İktisadi Büyüme; Irak; Para Arzı; Döviz Kuru; Doğrudan Yabancı Yatırım; Enflasyon; Kamu Harcamaları; Ticari Açıklık.

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BACKGROUND OF THE PROBLEM

The research problem arises from Iraq's status as a rentier country heavily reliant on oil resources as a strategic commodity. Consequently, other factors that could influence economic growth in Iraq often have a limited impact on the gross domestic product (GDP).Researchers in developing countries have begun to realise the importance of private investment in economic growth, employment opportunities, and macroeconomic stability. Iraq, an oil-rich nation with significant revenues, has seen consistent foreign exchange gains. The most urgently required capital was imported partly, with the remaining funds primarily going toward consumption. Over the past 40 years, the consequences of oil-driven state expansion, conflict, sanctions, and postponed reforms have greatly influenced the Iraqi economy and constrained the possibility of private-sector-led growth. The World Bank (2020) reported that " Iraq has a population of approximately 38.5 million people as of 2018, making it one of the most youthful populations globally. Nearly half of its inhabitants are below the age of 19, with around a third falling between 15 and 29 years old. The increase in youth unemployment is attributed to the challenging economic situation caused by the continuing conflict."

Undoubtedly, both governmental and private sector levels fall even further behind what is necessary to generate wealth or job prospects. The economy's overall level has been static for a while; there aren't enough incentives for innovation, and the projected return on investment is unpredictable due to political and macroeconomic unpredictability. Disturbingly, both private and state investments have experienced declines in terms of volume and proportion to GDP. In order to improve these two components as the long-term growth engine of Iraq, important contributing factors must be identified after a detailed analysis of the circumstances. Plenty of proof exists that manufacturing, building and construction, transportation, communication, and storage all have a lot of potential to help the Iraqi economy grow and become more diverse (The World Bank Group, 2020).

STUDY OBJECTIVES

- The current study addresses five main objectives, which include:To provide a comprehensive understanding of the economic environment in Iraq from 2005-

2021, including an analysis of key macroeconomic indicators and the impact of selected factors on economic performance.

- To investigate the specific factors that affect Iraq's economic growth and determine their impact on the country's economy.
- To identify the main drivers of economic growth in Iraq, focusing on factors that have not been extensively studied in the context of developing nations.
- To develop policy recommendations that promote and maintain the elements that positively impact economic growth in Iraq.

STUDY QUESTIONS

This research aims to fill a gap in the existing literature by investigating the impact of various factors, including money supply, exchange rate, foreign direct investment, inflation, government expenditures, and trade openness, on Iraq's economic growth. The study seeks to achieve the thesis objectives and analyze these factors empirically, emphasizing the significance of the results It wasn't until recent decades that the economic growth of developing nations began to receive more attentionThe interaction between the study variables, specifically whether these elements are complementary or substitutable, is considered crucial for economic growth in this study. The outcomes of this study will provide evidence specific to Iraq and contribute to settling the argument about the impact of the study factors on economic growth in the country. By examining the data from 2005-2021, the present research identifies the factors that have influenced economic growth in Iraq and provide insights that can inform policy decisions to promote sustained economic development.

Question: What are the determinants that influence the economic growth in Iraq during the period (2005-2021)?

The following specific questions can be split down concerning the examined hypotheses on the association between (research variables) and economic growth:

- How has the money supply in Iraq affected economic growth during 2005-2021?
- To what extent has the exchange rate influenced economic growth in Iraq from 2005 to 2021?

- How has foreign direct investment impacted economic growth in Iraq from 2005 to 2021?
- How has inflation affected economic growth in Iraq from 2005 to 2021?
- To what extent has government expenditure contributed to economic growth in Iraq from 2005 to 2021?
- How has trade openness impacted economic growth in Iraq from 2005 to 2021?

SIGNIFICANCE OF THE STUDY

The importance of this study lies in the fact that it could help us understand the factors that have affected Iraq's economic growth from 2005 to 2021. This information can be helpful for policymakers, businesses, and individuals in Iraq as they seek to understand the drivers of economic growth and how to foster a more favourable environment for economic development. Additionally, this study can contribute to the broader economic literature by adding how to figure out what makes the economy grow, especially in the context of a country like Iraq that has faced significant economic challenges and political instability.

It is noticeable that economic growth is one of the renewed vital issues that always need applied research and whose results may vary from country to country. The study can provide valuable insights into the factors that have influenced economic growth in Iraq during a period of significant political and economic change. This information can help policymakers, businesses, and individuals in Iraq to understand the drivers of economic development better and make informed decisions about how to foster a more favourable environment for economic growth.The study can contribute to the broader economic literature by adding how to figure out what makes the economy grow, especially in the context of a country like Iraq that has faced significant challenges and instability.The study can notify future research on economic growth by examining the relationship between the identified determinants and economic growth in Iraq.The study reports the development of policy recommendations and reforms that could improve the economic performance in Iraq and enhance overall economic growth.The study adds insight into the economic impact of different events or developments in Iraq over the period 2005-2021, such as changes in monetary policy, exchange rate

fluctuations, or shifts in foreign direct investment patterns.The study c provides a deeper understanding of how different determinants of economic growth interact in influencing economic growth in Iraq.The study highlights the importance of addressing various determinants to foster sustainable economic development in Iraq.

BOUNDARIES AND CONSTRAINTS OF THE STUDY

This study analyzes data on the variables of money supply, exchange rate, FDI, inflation, government expenditure, and trade openness from various sources, such as government statistics, central bank reports, and international organizations. However, there may be limitations to consider, such as limited data available for some of the determinants, potential issues with data quality, the impact of external factors that may have influenced economic growth, difficulty in establishing causal relationships between the determinants and economic growth, and the potential lack of generalizability of the findings of other countries or periods. The possible constraints are listed as follows:

- Data availability: There may be limited data available on some of the chosen factors, particularly for the earlier years of the study period. Therefore, it is difficult to assess the impact of these determinants on economic growth accurately.
- External factors: The study might be unable to completely seize the impact of external factors that may have influenced Iraqi economic growth throughout 2005-2021, such as global economic trends or events outside of Iraq.
- Causal relationships: The study may not be able to establish causal relationships between the determinants of economic growth and economic growth in Iraq. It may be challenging to determine the extent to which changes in these determinants directly cause changes in economic growth, as there may be other factors at play.
- Generalizability: The study's findings may not be applicable to other countries or periods, as the economic and political context in Iraq is unique.

- Limited scope: The research may have constraints in investigating a restricted set of economic growth determinants, which may not encompass the entire intricacy of the elements that impact economic growth.

INTRODUCTION

The factors that influence economic growth have drawn the attention of academics for many years, encompassing both theoretical and empirical investigations. The subject at hand, however, is characterised by a notable absence of consensus among scholars, thereby providing a relevant basis for further investigation and garnering increasing scholarly interest. From a theoretical standpoint, mercantilism, which first emerged in the 15th and 17th centuries, was followed by physiocracy in the second half of the 18th century as early conceptions of economic growth. Following this, the classical growth theories were developed by Adam Smith (1776), David Ricardo (1817), Karl Marx (1872), and Thomas Malthus (1925). Schumpeter's ground-breaking growth theory (1911) was followed by Keynes' Key Work (1936), which was further expanded upon in studies by Harrod (1939) and Domar (1946). “Keynesian and post-Keynesian growth theories” began with these studies. Neo-classical growth theories, based on the Harrod-Domar growth model, emerged as exogenous growth theories in the research of Solow (1956) and Swan (1956). Also, Romer (1986) and Lucas (1988) built on Arrow's (1969) research to make a new neoclassical growth theory called "endogenous."

Conventionally, this viewpoint was represented in the developed economies' "golden age" of the 1950s and 1960s, when it was thought that increased investment would spur economic expansion and lead to higher output and consumption per capita, as well as a higher capital-to-output ratio. The crucial role of investment, according to the Solow growth model, is restricted to the short run, meaning that even though investment boosts growth during the transition to the steady state, this rise relates to its impact on the “capital-output ratio.” Conversely, Solow (1956) says that the only thing that affects long-term growth is the rate of technological progress, which is thought to come from outside the economy. The critical role that capital accumulation plays in an economy's potential for economic growth and development is the pertinent topic at hand.

In the economics literature, there are several disagreements over what drives investment. It has been a major topic for a while, and economists have created a lot of models to explain this occurrence. Following empirical testing of these models, a substantial body of literature on industrialised and developing nations resulted. Indeed, there are many sophisticated models of investment determination in the literature, all of which have a high degree of theoretical plausibility. However, empirical research

appears to have done very little to identify which of these models best captures the factors that influence investment in an economy. Little information is provided for the limiting assumptions and problems that arise when the theoretical models are used in real life. The causes of economic growth, particularly in emerging and developing nations, have remained a controversial issue despite the rise of the theories mentioned above. Where Iraq's economic growth comes from and how long it will last have recently sparked a lot of debate, according to Abadi et al. (2022). Thus, commodity prices and mining are fundamentally driving Africa's growth boom. Furthermore, the World Bank (2022) emphasises that Iraq's lacklustre industrialization prospects have raised serious questions about the continent's future growth possibilities.

In this regard, studies on developing economies have given much thought to the investment patterns of nations that produce oil. Considering the investment trends in oil-rich nations, it is generally believed that these nations' high rates of public and private investment—and consequently, crucial capital accumulation—could be prompted by their oil wealth. Although most oil-exporting nations enjoy regular inflows of foreign money, these revenues have only enabled these nations to buy a portion of the essential capital goods and services and assisted them in meeting the rising demand for imported commodities for domestic consumption. So, among the fundamental causes of slow growth in developing nations are the fact that rates of investments remain unacceptably low, there aren't enough incentives for innovation, and returns on investment aren't always predictable in many oil-exporting nations like Iraq. For Iraq to diversify its economic foundation and develop through higher levels of international trade, more private investment will be needed. The Iraqi economy has weathered four decades of expensive militarization, three destructive wars, persistent governmental interference, and most recently, more than ten years of international sanctions. The country's “GDP per capita” decreased, as a result, falling from nearly US$3,600 in the early 1980s to US$1,000 in 2001. Although it hasn't yet reached pre-1980 levels, there has been a significant post-war economic and financial rebound since 2003; likewise, GDP has quickly recovered after the conflicts (White, 2012).

Diversification is the economy's most significant obstacle in Iraq. The oil industry has dominated the Iraqi economy, and Iraq has one of the highest ratios of oil exports to total exports among Middle Eastern oil-producing nations. Over 80% of foreign exchange gains, more than 90% of governmental revenue, and roughly 75% of

GDP come from oil exports. Since the 1970s, macroeconomic indicators in Iraq have demonstrated poor performance and insufficient investment, which have been worsened by the numerous wars. Between 1970 and 2010, the average gross fixed investment yield annually was only 3% of GDP, and in prosperous times, it never even reached 8%. (Hussein & Benhin, 2015).

The Iraqi government has recently implemented several structural reforms to increase private investment, but the country's economic growth is still subpar for one that is wealthy in oil. Iraq is still dealing with a lot of economic problems. These issues include a high inflation rate, political unpredictability, a lack of investment, and the failure to create enough productive jobs. The economy is not recovering; on the contrary, things are getting worse. Private investment was supposed to be a growth engine in Iraq, but this never happened. Private investment has yet to experience the significant growth that is required to maintain economic growth.

Based on the preceding information, this dissertation aims to conduct a comprehensive examination utilizing best-practice testing procedures, the crucial variables that influence economic growth in Iraq. As it permits incorporating diverse literary components, concentrating on a particular nation is more practical and ought to produce better results. Considering the issues with the existing literature, this research on Iraq is expected to be highly valuable.

1. THEORETICAL FRAMEWORK OF ECONOMIC GROWTH

1.1. Introduction

This chapter critically evaluates and assesses economic growth theoretically and empirically based on the existing and relevant literature in the context of developing and developed countries by focusing on the key determinants and factors.

In order to evaluate the emergence of oil-exporting nations like Iraq, it is imperative to consider the relevant growth theories. It would be helpful to explore the primary economic schools of thought and how they explain and model economic growth, given that the growth and the elements that influence it are the key themes of this research. Additionally, it provides a concise overview of the key developments in these theories' development; further thorough details are available in Hahn and Matthews (1964) and Johnson (1966), as well as more recently in Salvadori and Elgar (2003), Barro and Sala-i-Martin (2004), Harley (2004), Aghion and Howitt (2006), and Salvadori and Elgar (2007).

The chapter is structured into five distinct sections: an introductory segment, which highlights the concepts of economic growth and development, an exploration of various economic schools of thought, and a comprehensive examination of economic growth. A conclusion is found in the fifth and final sections.

1.2. Economic Growth and Development

One of the key indicators that any country aims to achieve is economic growth along with low inflation, full employment, and a better balance of payment.

As per Thomas Piketty's observations in 2014, economic growth is composed of two elements: a demographic component and an economic component. The latter is the sole factor enabling an enhancement in the standard of living. Economic growth is typically evaluated using a country's Gross Domestic Product (GDP), which can be deconstructed into population and economic constituents by expressing it as the product of population and per capita GDP. This framework is commonly employed to assess and analyze economic growth. The formula for economic growth is the sum of two factors:

population growth and the increase in per capita GDP when expressed as percentage changes (Peterson, 2017).

According to Boldeanu & Constantinescu (2015), "Economic growth is impacted by various direct factors, including human resources (such as expanding the working-age population and investing in human capital), natural resources (like land and underground resources), the augmentation of employed capital, and advancements in technology. Additionally, indirect factors, such as institutions (including financial institutions and private administrations), the scale of aggregate demand, rates of saving and investment, the effectiveness of the financial system, budgetary and fiscal policies, labor and capital migration, and the efficacy of government operations, also exert influence on economic growth."

Conversely, according to Contreras (2008), in contrast with a concept of economic growth, a concept of economic development is more comprehensive. It refers to the systematic and deliberate management of all facets of economic and social life within a specific community, aiming to transition the community into an optimal state economically, socially, and politically.

When examining the concepts of economic development and economic growth, it is important to establish a clear distinction based on specific criteria. The phenomenon of economic growth can be understood as a component or subset of the broader concept of development, with a more focused and potentially simpler process that provides itself to study. Contrarily, for economic development to have occurred, there must have been a thorough and ongoing economic transformation, followed by a rise in the standard of living. Before confirming the existence of economic development, comprehensive, and challenging research is required.

The income index (economic growth) and the human-development index are the basic methods for assessing economic progress (Anand and Ravallion, 1993). The World Bank, however, as well as several studies (Cypher and Dietz, 2004; Willis, 2008), claim that economic development may be evaluated primarily using economic parameters. In contrast, Tietenberg and Lewis (2010) questioned whether traditional measurements of economic growth, such as per capita income and GDP, are appropriate indicators of welfare changes and claimed that the change in welfare is a proper measure of development. Hence, multiple authors (Ranis et al., 2000; Kaushik et al., 2008) have

established that economic growth can serve as an indicator of development. This is because an upsurge in income provides the essential resources that can be equitably allocated to enhance education and health services, thereby fostering human development.

Therefore, it can be concluded that economic growth is a crucial sign of economic development. Thus, economic growth rather than economic development in general is the main emphasis of this review and the entire argument. This section of the research takes into account the principal theories of economic growth. While it is acknowledged that these theories cannot now be applied directly to both emerging and oil-rich nations, some application is still necessary to consider these ideas, which have been tailored to various categories of nations.

Although there isn't a comprehensive theory, there are a lot of ideas that discuss how many elements affect economic performance and growth (Arvanitidis et al., 2009). Those theories look at economic growth and its influencing variables; some have concentrated on external variables, while others have attempted to explain the various mechanisms using internal factors. Additionally, applied studies have expanded the production functions with various variables and used these to enhance the theoretical foundation of economic growth models. These theories are founded on the features of the economy and the particular variables that affect economic performance (Barro and Sala-i-Martin, 2004).

Beginning with the writings of the Mercantilists and Physiocrats, economists have shared their ideas about economic progress throughout history. Then, in the writings of Smith (1776), Ricardo (1817), Malthus (1820), Joseph Schumpeter, and others, these concepts started to take the form of economic growth theories (for a brief review, see Table 1.1). Through clearly defined economic models, it was possible to see how people thought about growth had undergone a significant transformation. These models included those of Keynes (1936), Domar (1946), Solow (1956), Harrod (1939), and followed by Romer (1986) and Lucas' theory of endogenous growth (1988).

In its early phases, the literature on economic growth regarded capital accumulation as the main factor influencing growth. The effects of additional elements on such growth were then examined. Therefore, examining endogenous growth models

follows the consideration of the Mercantilists' conceptions of economic growth in the chapter, which are both situated within the context of economic growth theories.

1.3. Economic Schools of thought and Economic Growth

1.3.1. Mercantilists and Physiocrats

The Mercantilists, like Samuels et al. (2008), held the belief that a nation's economic power could be determined by the possession of gold and silver, as well as by factors such as population growth, promotion of foreign trade, reduction of export tariffs, lower wages for the working class (poor), and the assumption of a constant global wealth distribution. These ideas can be seen as the foundation of the contemporary understanding of economic growth. As a result, the profits of any (Harley, 2004). This school of thinking has drawn a lot of criticism, primarily because of how it defines wealth; detractors believe that wealth must be measured regarding a country's production potential rather than by the accumulation of gold and silver. Critics such as David Hume and Adam Smith, both eminent economic historians, have criticized the theory. They argue that the unrestricted movement of money, as opposed to mere possession of money, is what brings about balance in the trade equilibrium. In contrast, hoarding money results in elevated domestic prices compared to foreign "deficit countries," thereby enhancing the competitiveness of other nations. This situation may lead to a sustained positive surplus in the trade balance. Nonetheless, it is essential to acknowledge that Mercantilist concepts are still somewhat relevant in the modern global economy. International business transactions demonstrate the connection between a state's economic might and its political clout. The ability of significant countries to maintain a consistent surplus in their trade balances and economic dominance 46 underpins their political authority. For instance, China has been charged with using mercantilist principles due to its enormous trade surplus. In the aftermath of the 2008 global economic crisis, Europe has also been accused of using neo-mercantilist concepts to address its current economic issues (Geeraerts, 2011).

Contrarily, Physiocrats—among them Quesna and Robert-Jacques Turgot (Muller, 1978)—advocated against state intervention in the economy and held that the agricultural sector was the only source of economic excess (Johnson, 1966). This policy contrasts the mercantilist approach, which aims to increase wealth by promoting exports

and limiting imports. In addition, according to the Physiocrats, economic progress in the agricultural sector must lead to expansion in the industrial and commercial sectors. One could argue that this perception results from the economic circumstances that prevailed in Europe at the time or that it is a reaction to the beliefs of Mercantilists, who place a high value on the industrial sector while placing the agricultural sector in a secondary position to the industrial sector. There are drawbacks to the Physiocratic school of thought. Numerous economists have criticised it, primarily for overemphasising production through agriculture and neglecting industry and trade (see, for instance, Formaini, 2001).

As an instrument for development, the industrial sector has recently attracted the attention of developing nations, notably oil-rich nations like Iraq, who prefer to ignore the agricultural and other sectors. Since the community's needs for food commodities are frequently unmet, this technique often results in significant bottlenecks in the development process.

1.3.2. Classical Theory

Adam Smith, David Ricardo, Thomas Robert Malthus, and Joseph Schumpeter, among other classical economists, proposed the fundamental elements of contemporary theories of economic growth (Barro and Sala-i-Martin, 2004). It is crucial to remember that the conditions in place at the time these Classical theories were created, i.e., the initial phase of the Industrial Revolution also had a noteworthy effect. The fundamental driver of economic expansion during the time, according to classical analysis, was capital accumulation from the capitalist class's earnings.

In his work published in 1776, Smith placed significant emphasis on the notion that labour serves as the fundamental driver of a nation's wealth. He specifically directed his attention towards the concepts of specialisation and the division of labour, positing that these factors contribute to heightened productivity within the industrial sector (Smith, 1776). Smith also claimed that the balance built up in society through savings earned from the capitalist class's profits, which determined economic growth and national wealth (Rosenberg, 1970). Additionally, Smith thought that the industrial sector was the most effective sector for accelerating the economic progress rate of economic in the neighbourhood because it could use the concepts of specialisation and the division

of labour while still being profitable (Gwartney and Stroup, 1993). According to Smith, diminishing profits were caused by rising wages and scarce resources, and economic growth would stop if there were a slow pace of technical progress. Additionally, Smith argued that capital accumulation was a prerequisite for the latter to materialize.

Landowners, the working class, and the capitalist class were the three tiers that Ricardo (1817) identified in society. According to Ricardo, the capitalist class was the most productive and crucial to economic expansion. Savings, as also argued by Adam Smith, were the primary force behind economic progress because they provided the basis for accumulating capital (Bagchi, 1982). Ricardo added that profits came from the manufacturing sector. He emphasised the potential for adopting the principles of specialisation and labour division, which improved overall output and hence economic growth, together with the country's openness to trade. However, Ricardo believed that the agricultural sector was experiencing declining income due to "diminishing returns." He concentrated on the significance of preserving low population growth (Barro and Sala-i-Martin, 2004).

Like Ricardo (1821), Malthus (1820) was concerned about rapid population expansion and was well-known for his dubious beliefs about the inevitable economic stagnation caused by an imbalance between the pace of population growth and the number of natural resources available. He contended that rising population expansion strained these resources and subjected them to the “law of diminishing returns”. Malthus, therefore, favoured limiting reproduction, delaying the marriageable age, and implementing more rigorous birth control measures to decelerate population growth. This Ricardo and Malthus policy appears to have been implemented in China as a reaction to concerns over the discrepancy between the population size and the available natural resources. The goal of China's one-child policy is to prevent the disastrous effects of overpopulation. The nation is attempting to modify this policy in light of the ageing population, which does not support sustainable economic growth.

The building up of capital is essential for achieving technical advancement, which boosts worker productivity and postpones the application of “the law of diminishing returns”. However, an economic recession results if population growth outpaces technological advancement. Malthus' principles regarding the function of

capital accumulation as a driver of economic growth align with those of David Ricardo and Adam Smith.

Finally, Schumpeter (1911) examined how inventions and entrepreneurs contribute to economic growth. An entrepreneur is someone who develops novel products and novel methods for combining and synthesising various industrial factors (Chou and Chin, 2004). Additionally, they might have developed a particular product or method of manufacturing. Entrepreneurs are the pioneers who create innovations that transform the industrial process, resulting in higher productivity and, consequently, faster economic growth (Schumpeter, 1947).

The idea of "saving," in Schumpeter's view, is consumption in the future. Saving is a behaviour that the working and capitalist classes share (Schumpeter and Lekachman, 1978)). In contrast to other classical opinions on the subject, such as Adam Smith's, Schumpeter believed that population increase was an autonomous force that was influenced by factors other than just economic ones (Dobb and Dobb, 1975; Chandra, 2019). In essence, capital accumulation was viewed by classical economists as the primary driver of economic expansion (Majumder, 2022). They focused on international trade freedom because it helped the division of labour specialisation be successfully applied. They urged governments to concentrate on organisational issues and called for a policy of governmental non-interference in market activities (Myint, 1958). According to Willis (2020), these Classical ideas have served to emphasise how the population, money, technological advancements, commerce, and natural resources all contribute to economic progress. The following table gives a concise overview of the most significant elements influencing economic growth, covering the Mercantilist era, the Physiocrats age, and finally, Classical theory.

Table 1: An overview of early and traditional theories

Theories	Years	Summary
Mercantilists	1700-1800	Growth results from the accumulation of precious metal (gold, silver), trade, industry, exports and increases in population.
Physiocrats	1800	Growth results from agriculture and free market.
Classical	1700-1900	Economic growth depends on the population, capital, technological advances and natural resources.
Smith	1723-1790	Growth results from the profits of the capitalist class, industrial sector, labour and economic resources.
Ricardo	1772-1823	Growth results from the capitalist class, the industrial sector, free trade, low population growth.
Malthus	1766-1834	Growth results from capital accumulation, low population growth.
Schumpeter	1934	The role of the entrepreneur and innovations in the process of economic growth.

1.4. Models of Economic Growth

Economic growth is a central issue in modern economics, and various models have been developed to explain its determinants and drivers. With the advent of technological advancements, economists have developed more sophisticated models using quantitative methods (Ayres, 1996). In this thesis, we will analyze four prominent models of economic growth, namely the Keynesian Growth Model, the Harrod-Domar Growth Model, Solow's Neoclassical Growth Model, and the Endogenous Growth Model. By comparing and contrasting these models, we aim to provide a comprehensive understanding of the key drivers of economic growth and their implications for policymakers.

1.4.1. Keynesian Growth Model

Keynes (1936) highlighted that savings cause unemployment and slow economic growth, whereas investment and consumption are the primary forces behind economic growth (Ayres, 1997). Contrary to what is often accepted in classical theories,

consumption—and not savings—is, for this school of thought, the primary driver of growth. Keynes believed that during economic downturns, low aggregate demand was a significant problem and that government spending played a crucial role in stimulating economic activity. In other words, insufficient aggregate demand was seen as a symptom of an economic recession rather than a cause, and Keynes argued that increasing government spending could help to raise demand and kickstart the economy. The Great Depression of 1929–1933 produced the circumstances that gave rise to the emergence of this concept. If the government did not intervene to fix the issue, there would be poor growth (or potentially recession and depression) (Lee, 2012). The theory proposed by Keynes was subject to criticism by a group of economists, with Friedman (1972) leading the charge. These economists argued in favour of the principle of self-equilibrium and emphasised the importance of minimising state intervention in economic activity. This stood in contrast to Keynes' proposition, which emphasized the expansion of the government's role in economic activities. Because of its user-friendly and comprehensible nature, the Keynesian model is well-liked. Various policy scenarios can be assessed using this model to determine their outcomes, such as lowering taxes, altering how consumers and producers behave in the economy and increasing government expenditure (Bhattarai, 2005). The equation that follows expresses Keynes' viewpoint:

$$Y = C + I + G + (X - IM) \tag{1.1}$$

Where:

Y: Economic growth (GDP)

C: Consumption

I: Investment

G: Government spending

X: Export

IM: Import

The multiplier impact on economic growth brought about by economic injections like greater government expenditure and investment is the central tenet of Keynes' theory (Cogan et al., 2010). Keynes thought that every increase in investment would have a multiplier effect on income, potentially leading to more employment.

Keynes also advocated for the redistribution of money, highlighting the rights of the underprivileged to their fair share. It went against classical theory, which argued that only the wealthy capitalist classes should benefit from allocating wealth. Keynes contended that the capitalism system caused people to save a sizable portion of their income, which sparked a decline in aggregate demand and restrained economic expansion. He emphasized that lower-income populations allocate a more substantial proportion of their earnings to consumption. As their income increases, it contributes to a higher total consumption, subsequently boosting aggregate demand and, in turn, driving the production cycle Consequently, new employment opportunities are generated, the end of unemployment, and higher economic growth (Keynes, 1936).

Numerous economists have defended and criticised Keynes' theory (see, for instance, Ahiakpor, 2001; Simpson, 2010) over the years. Practical Keynesianism, according to Schumpeter (1951), "is a seedling that cannot be transplanted into foreign soil, it dies there and becomes poisoned before it dies."

Keynes proposed solutions primarily to address the challenges industrialized nations face. However, his economic strategies and tools garnered widespread approval among individuals in developing countries who sought to implement transformative changes. It was particularly evident in his guidance on financing through budget deficits and recommendations regarding government spending to compensate for deficiencies in productive capacity. According to some economists, in advanced capitalist countries, financing public investments through budget deficits or inflation tends to boost employment and national income by reallocating idle production capacities (Tymoigne, 2021). However, some argue that these policies may have little impact on underdeveloped or oil-producing nations, and that the Keynesian model may only be helpful in analysing the economies of developed capitalist nations (Hamza et al., 2005; Itoh et al., 2016). For instance, in a study examining the applicability of the Keynesian model to oil-producing nations, Olayungbo and Olayemi (2018) found that fiscal policies had little impact on economic growth in such countries. Therefore, while the Keynesian model may be useful for understanding the dynamics of some economies, it may not be effective in predicting the economic future of developing or oil-rich nations like Iraq.

1.4.2. Harrod-Domar Model

Increased investment is widely recognised as the main driver of economic growth. This is because investment leads to a notable increase in both the effective demand and capacity for the productivity of the national economy. Additionally, investment also contributes to the expansion of the supply of goods and services. The Harrod-Domar model, among the earliest models of economic growth, is renowned for its simplicity, making it a popular choice for numerous developing nations to incorporate into their economic strategies (Gillis et al., 1992). According to Zhang (2018), the model is built on the premise that there is a closed economy and that long-term consumption represents a stable proportion of national income (i.e., long-term marginal propensity to consume is constant). The model also counts on the stability of the capital coefficient, which gauges the correlation between capital and income, and the overall price level (Modigliani, 1966). The investment function and the savings function in the Harrod-Domar model are defined as follows based on these presumptions:

$$g = \frac{s}{k} = \frac{\Delta Y}{Y} \tag{1.2}$$

Where:

g: Economic growth (GDP)

s: Savings rate

k: Capital coefficient

y: National product

It has been evident through subsequent attempts and additions to the literature on economic growth that the Harrod-Domar model has a substantial number of disadvantages even though it brings fresh, intriguing insights into growth (for example, Dwivedi, 2005; Hagemann, 2009).

The Marshall Plan of the United States, which was implemented in Europe following World War II, was a successful application of the Harrod-Domar concept (Pankaj, 2005; Mun Heng, 2015). However, this paradigm falsely presupposes that situations in developed and developing nations are comparable. The only ways that developing nations may close the savings gap are by accepting foreign investment or taking out loans from outside. However, other more significant issues like political

instability and social illiteracy also have a substantial part to play in the equation when it comes to the evolutionary process in developing nations and oil-rich nations. Additionally, the model focuses on one factor—capital—while ignoring others, including natural resources and humans, aside from non-economic factors like social and political variables. One may suppose that the development problem would not arise if this paradigm were implemented, for instance, by communities with access to finance like Iraq. However, making such an assumption would be false because other variables interact with capital and are all necessary for accomplishing comprehensive growth. The significance of these extra factors on the economic growth process, whether in developed, developing or oil-based nations, has been demonstrated by modern theories and actual studies. Additionally, the model assumes that an economy is closed, which is irrelevant for oil-rich nations that depend on the world economy.

Last but not least, the broad methodological framework of the Harrod-Domar model excludes the possibility of evaluating the impact of technological advancements, as well as the other crucial factors that the development of oil states depends on (Hagemann, 2009). Additionally, there is the issue of incomplete and inaccurate statistics and data that are necessary for the creation of effective development strategies, particularly information about capital in developing and oil-rich nations. Even in industrialised nations like the United States, let alone in developing and oil-rich nations like Iraq, these obstacles prevent the Harrod model from being successfully applied.

1.4.3. Solow's Neoclassical Growth Model

The Solow-Neoclassical Swan model, which is alternatively referred to as the exogenous growth model or the Solow-Swan model of economic growth, represents a significant advancement in enhancing the Harrod-Domar model. This is achieved by incorporating the labour variable as a crucial determinant of output. The model examines the potential impact of technological advancements on economic growth (Barro and Sala-i-Martin, 2004).

The Solow model is one of the most prominent models in contemporary economic growth theory. It seeks to quantify the essential determinants of economic growth. The model commences with a neo-classical production function that establishes a link between inputs and outputs. It presupposed input replacement, diminishing returns

and constant scale-related returns. Solow started with a standard production function that demonstrated the connection between the quantity produced and the production inputs “labour and capital” on the one hand and the following functional form on the other (Solow, 1956):

$$Y = Af(K, L) \tag{1.3}$$

Where:

Y: Output

A: Technology

K: Capital

L: Labour

Later, the Solow model was developed to consider additional factors, including population growth, investment, and technological advancements for enhancing living conditions and promoting economic expansion. The study went on to show that while population growth causes economic growth rates to decline, investment and technical advancements improve economic growth. The model also demonstrated how capital accumulation alone is insufficient to explain economic growth, as high growth is only temporarily and irregularly attained by high savings rates. The model offered a more precise understanding of the correlation between population expansion and steady economic growth and explained the disparities in living standards between nations. It showed that higher population growth rates result in lower capital stock levels, lower per capita income levels, and reduced standard of living.

The Solow model also emphasized the critical role played by technological advancement in raising living standards before economic expansion. It examined how advances in technology and technical know-how affected the manufacturing process. It concluded that technical progress was among the first vital aspects in any increase in economic growth. The well-being of society improves as a result of continuous gains in output brought on by technological advancement. Thus, it falls upon governments to prioritize technological progress and implement appropriate policies that can positively affect productivity by developing economic infrastructures such as transportation, communications, and other areas (Ibid, 1956).

Additionally, there are a sizable number of ways that technological advancement can help address issues related to resource depletion. According to Solow (1974), innovations that conserve resources can reduce the number of natural resources needed to produce one unit of actual output. The transition from coal to oil in the late 20th century is a more modern illustration of this. New technologies can also substitute by moving demand onto alternative resources. In the end, more advanced technology can lower extraction costs and ease exploration, increasing the availability of a particular resource (World Trade Organization, 2010).

Recent research on economic growth, research on emerging countries, and research on oil-rich countries have all found that the Solow model is the most used (Awokuse, 2007).

1.4.4. Endogenous Growth Model (New Growth Theory)

Long-term interpretations of productivity in economic growth models like the Solow model that rely on external sources of technological progress have failed to win over many economists (Barro and Sala-i-Martin, 2004). Romer (1986) and Lucas (1988) established an endogenous growth theory because they recognised the significance of human capital and technological advancements for economic growth cannot be overstated. Unlike the Solow-Swan model, which attributes growth and productivity to factors like labour and capital, this one attributes them directly to technological advancement. The following equation describes the endogenous growth model:

$$Y = F(K, L, A) \tag{1.4}$$

Where:

K = human and physical capital

L= Labour

A = technology

The importance of technological advancement in improving people's standard of living was the primary emphasis of the endogenous growth theory. Inventions, discoveries of novel items, or methods of production are all included here. Further, this idea affirms R&D spending and investment as primary drivers of technological

advancement (Romer, 1994). Continuous investment in R&D allows for rapid technical improvement, which in turn necessitates higher spending from countries and promoting private sector involvement in R&D. As a result, money must be spent on investments and present consumption must be reduced for technological advancement to be made.

While exogenous and endogenous growth models have limitations, they remain some of the most widely recognized models in economics due to their adaptability to various economic settings. Despite their flaws, these models can be modified to suit different economies, making them valuable tools for analyzing economic growth. Asheghian (2011) argues that the strength of Romer and Lucas' models lies in their assertion that long-term economic growth is shaped not solely by technological advancements but also by additional factors such as institutional frameworks and country-specific characteristics. The claim made in the statement is confirmed by the findings of Asheghian's research, which delves into the factors that contribute to the growth of the Canadian economy.

The simplicity of Lewis' idea (1954) has made it a widely-appreciated economic theory. It shifts the focus of economies, especially poorer ones, from agriculture to industry regarding their labour force. A vital tenet of the idea is that a rise in industrial output is necessary to complete the transition from agriculture to industry. It also suggests that wages in the manufacturing sector remain consistently higher than those in agriculture to attract and retain workers.

The proposal has been heavily criticised, especially regarding the transition between the two sectors, despite its overall usefulness for less developed countries. This idea contends that the number of individuals employed in agriculture is increasing, which could facilitate the movement of people into the manufacturing sector. Lewis' hypothesis is challenging to apply in developing and developed nations because of the high unemployment rates in big cities in less developed nations.

In addition, several elements, including the depreciation of natural capital and environmental deterioration (Thampapillai and Hanf, 2000), natural resources (such as oil), and government spending, have been incorporated into the neoclassical growth model. Exports, imports, tourism, and human capital are all included in the recent experimental research that adhere to the extended form of the neoclassical growth model

(Solow model) (Tiwari, 2011). The oil-based economies of Iraq would benefit greatly from this notion.

1.5. Summary

While many other models and theories have been recommended to describe economic growth, only the most influential ones have been covered in this paper. Even if the focus is narrowed to the same problem in the same economy, it is clear that different theories and models serve diverse purposes and there is no single definitive model or strategy (Zarmouh, 1998). The current chapter has discussed chiefly the theoretical aspects of economic growth, examining the various economic schools that have studied this topic at some point. The chapter commenced by distinguishing between economic growth and economic development and subsequently demonstrated how the former can substitute for the latter when measuring national advancement. In addition, a synopsis of the Mercantilist and Physiocratic perspectives on the reasons for economic growth was offered. As was highlighted, the Physiocrats' theory holds that agriculture is the key to economic growth. In contrast, the Mercantilists' theory has that enhanced economic growth is dependent on trade and, more specifically, on expansion in exports and government interference in trade.

The review then focused on the leading figures of classical economics, including Adam Smith, David Ricardo, Robert Malthus, and Joseph Schumpeter. These economists believed that the state should not meddle too much in the market and that the economy's expansion was contingent on the accumulation of capital, the dissemination of new technologies, and the discovery of new natural resources. According to their theory, rising stock prices were what pushed economies forward.

Keynes' theory of how investment and consumption contribute to economic growth was reviewed, as was the Harrod-Domar model, which centres on the double-edged nature of this investment's impact on the economy's expansion. Then, the Solow model's contribution was laid out, along with how it was expanded to account for savings, population expansion, and technological advancement. Furthermore, Romer and Lucas's hypothesis of internal growth was examined. It was revealed that Romer and Lucas emphasize the function of R&D in improving the degree of technical advancement

and economic growth. At the same time, the Solow model focuses on variables determined exogenously and not endogenously.

Thus, it is critical to emphasise that Adam Smith and the Classic economists who followed him developed their economic theories in response to the circumstances of their time. The prevailing conditions gave rise to such policies as the freedom of economic activity and the absence of state intervention. Keynes argued that state intervention in the market was a response to the economic conditions of his time. Iraq's oil-based economy shares similarities with the export-dependent economies prevalent during the Mercantilist era in Europe and the West. Their financial future is also frequently determined by government spending. The Solow-Swan growth model is, according to the assessment of earlier economic models, the one that is most comparable to and appropriate for oil-dependent nations like Iraq. The following chapter will explore the most well-known empirical studies on the factors affecting economic growth following a succinct outline of the critical theories and economic models.

2. OVERVIEW OF IRAQ'S ECONOMY

2.1. Introduction

Iraq is located in the Middle East region bordered to the west by Syria and Jordan, to the south by Kuwait, to the north by Turkey, and to the east by Saudi Arabia and Iran. With a population of around 42.25 million and a land area of 437,072 square kilometres, it is home to 97% Muslims, primarily Sunnis, Shias, and Kurds. In 2022, the country's per capita income was projected to be USD 6,700 (International Monetary Fund, 2022).

Up until the 1950s, the nation's economy was entirely dependent on agriculture, but following the 1958 revolution, significant economic progress started. Iraq's yearly economic growth rate in real terms was above 10% in the 1970s, and investment growth was also impressively high (Gal, 2013). The Oil resources had helped the nation achieve a modern infrastructure, middle-income status boasts adequate healthcare, and decent educational systems. After Saudi Arabia, it had the second-largest economy in the Middle East and the Arab world by 1980, Iraq has grown into a sophisticated, state-dominated, centrally planned economy.

However, three protracted wars and harsh international economic sanctions against Iraq between 1980 and 2003 essentially stopped the decade's favourable developments. Iraq's infrastructure, environment, and social services have been worse over the past 20 years, which has hurt the country's economy. The economy grew and developed in the 1970s, but this trajectory changed in the 1980s, causing a fall and collapse in 1987. Numerous significant social and economic indices suffered as a result. For instance, the rise in oil prices in the early 1980s caused the per capita income to soar to almost US$3,600. According to the World Bank's report (2003), it is said that by the early 1990s, it had decreased to as little as $200 before increasing once more to an estimated US$770 to 1,020 by 2001. Only 20 to 30 percent of the levels observed in the 1980s were reflected by the latter (World bank, 2022).

Hence, development mainly declined due to economic measures taken to oppose sanctions and support war activities, with little thought devoted to advancing development. Due to years of economic, social, and political unrest as well as security

concerns that still pose a danger to current development efforts, Iraq's economy was mired in a negative spiral., and investment activity significantly decreased. Even though, according to the report, the country's per capita income rose from US$770–1,020 in 2001 to US$6,900 in 2012, after 2012, the country experienced more instability, which might have destroyed those gains and brought the nation back to where it was in the early 2000s (Ibid, 2022).

The biggest issue, based on the World Bank report (2022), facing the Iraqi economy is diversification, in addition to political and economic instability. Iraq is widely recognised as among the nations with the highest reliance on oil as a primary source of economic sustenance. In the past ten years, the majority of export earnings, government budget allocations, and gross domestic product (GDP) have been derived from oil income, constituting nearly 99%, 85%, and 42%, respectively. The second figures are approximately 50–55 percent of the GDP in Saudi Arabia and Kuwait and 25 percent in Iran. The substantial oil exports give the Iraqi economy access to enough money to finance the massive investments required to foster expansion in the oil and gas industry. Conversely, non-financial challenges, such as political instability, are preventing the restoration and the country is focused on expanding its economic infrastructure and diversifying the economy beyond energy industries and the implementation of these investments.

Accordingly, it can be argued that Iraq needs to diversify its economic base and boost its foreign trade levels for long-term sustainable growth to improve its economic situation, which will necessitate more private investment. Although in Iraq, a crucial component of long-term sustainable growth, the private sector appears to have been underutilised.

2.2. Historical Overview

Until oil was discovered and drilling began in the 1950s, the only sector of Iraq's economy was agriculture. In contrast, Iraq gained a reliable stream of revenue after its oil industry was nationalised in the early 1970s, allowing expansionary fiscal policies that stoked business, energised the manufacturing sector, and piqued consumers' interest. Since then, Iraq's manufacturing, industrial development, and diversification have all gone through several stages. The government created food-processing enterprises in

smaller towns around the country in the mid-1970s as part of an import substitution policy that heavily emphasized the agricultural sector. Notwithstanding efforts to improve agricultural output, the cities of Basra and Kirkuk in the country's south and north, respectively, have seen the most growth thanks to their petrochemical and natural gas processing sectors. Likewise, the market for construction materials like cement and masonry tools grew exponentially (Brown, 1979).

By the 1970s, growth plans had turned their focus from oil to other industries. The French helped establish a steel mill in Khor al-Zubair, in the country's southeastern region, and the defence industry was given top priority. Strong economic growth rates throughout the 1970s were reflected in a rising standard of living and provided the foundation for the country's era of unprecedented economic and social prosperity. However, there were many problems brought on by the spending strategy of the 1970s, which led to things like inflation and trade imbalances. The ensuing parts go into more detail on the metrics mentioned above of economic and social progress, but in general, the results of the 1970s appear to have been positive (Alnasrawi, 1994).

Iraq's economy was severely impacted by three major conflicts during the 1980s, which caused significant damage. These conflicts included a prolonged war with Iran from 1980 to 1988, as well as two Gulf Wars with the United States and its allies in 1991 and 2003. Additionally, the country faced harsh international sanctions for nearly a decade between the two Gulf Wars. The combination of these factors substantially negatively impacted Iraq's economy. The lack of a challenge to the economy's over-reliance on oil as well as the country's vaguely defined goals likely contributed to the period's poor economic performance. The beginning of the Iran-Iraq War had an undoubtedly devastating impact on the manufacturing and industrial diversification sectors of the economy, and they never fully recovered and healed (Scholvin, 2009).

It is worth noting that after 2003, Iraq had unique difficulties in development and reconstruction, with a transformation that was not only profoundly political and social but also economic. The government significantly expanded investment in both the oil and non-oil sectors between 2005 and 2007. The implementation of the investment budget was slow in 2005 and 2006 due to ageing infrastructure, violence, and insufficient administrative capability (Grigorian and Kock, 2010).

Despite its significance, the Iraqi government has paid the least attention to the economy's potential to contribute to political, social, and security-related stability. Improving the economy in Iraq must be a component of a broader plan aimed at establishing a positive feedback loop in which increased security results in economic gains that support better governance and market reforms (Looney, 2004). He also suggest that, the framework for economic growth in Iraq during the past four decades has demonstrated five essential characteristics:

- The primary development funding source has been oil revenues. Other forms of funding, particularly taxes, have lost some significance due to this. Sectorial finance strategies cannot produce an economic surplus that can significantly aid in financing.
- At one time, the private sector in Iraq was given no say and even kept at arm's length from the economic arena, with the governmental sector performing an essential role in the growth process. The Saddam dictatorship actively promoted privatisation in the 1980s, although the process ultimately failed due to ongoing conflicts and a lack of government backing for private business owners.
- Transferring oil income into other economic sectors as fixed assets has allowed for capital build-up. Neither increased productivity nor technological progress has aided in the formation of capital.
- Financial resources cannot be allocated between investment and consumption based on any reasonable principle. As a result, process development has slowed in Iraq, and the quality of life-enhancing requirements for sustainable development has lowered.
- Economic policymakers have been working in silos, with little communication and cooperation. Unemployment, inflation, and public sector corruption have increased in Iraq. Fiscal, monetary, exchange rate and other financial policies have caused this downward trend. These measures have worsened unemployment, inflation, and public sector corruption, aggravating the country's economic problems.

2.3. Key Variables Affecting Economic Growth in Iraq

As highlighted in Chapter One, the Solow-Swan model and the New Growth Theory developed by Romer and Lucas have been the mainstays of economic growth studies. Of particular significance is the Solow model, which aims to identify and evaluate the key variables that impact economic growth. Initially, the Solow model relied on a standard production function involving labor, capital, and technological advancements. However, it evolved over time to:

- Incorporate additional factors such as population growth, investment, and technological advancement.
- Examine the impact of these additional factors on the rise in living standards and economic growth.

A theory of endogenous growth that focused on the stock of human capital, technological advancements, commerce, and governmental policies was also created by Romer (1986) and Lucas (1988). This model's key feature is how it directly connects technological advancement to economic growth and productivity rather than labour and capital. However, the enlarged Solow model is used in most studies in both wealthy and developing nations (Anaman, 2004). As was already said, Rao and Cooray (2012) determined that the enlarged Solow model was the best tool for analysing economic development in developing nations.

Much research has been conducted on economic growth in terms of empirical investigations. These investigations aimed to test theoretical hypotheses and determine the factors influencing economic growth. However, there are two significant issues with these analyses, as pointed out by Piazolo(Piazolo, 1995):

- The presence of numerous variables affecting growth
- Variations in circumstances among different countries

The current study concludes that money supply, oil income, inflation, investment, trade openness and FDI are the key elements of economic growth while also considering the preceding discussions concerning economic growth, as well as the examination of theoretical frameworks and empirical reviews. However, only some of these variables—as well as others—are appropriate for assessments in oil-based

countries, while others are only appropriate for advanced industrialised or non-oil countries.

Given Iraq's reliance on oil export and its derivatives, the following section of the chapter begins by analysing the primary factors determining economic growth in that country. The factors that affect economic growth are discussed in the section's conclusion.

2.3.1. Natural Resources Export (Oil)

Iraq ranks as the second-largest producer of crude oil in OPEC after Saudi Arabia. It holds the fifth-largest confirmed reserves of crude oil in the world, estimated at 145 billion barrels, accounting for 17% of Middle Eastern reserves and 8% of worldwide resources (Oil & Gaz Journal, 2021, December). All of Iraq's known significant fields are onshore and most of them are now producing or under construction (Iraq Oil and Gas Report, 2022, July).

Between 2013 and 2019, Iraq experienced a notable increase in crude oil production, with an upsurge of 1.7 million barrels per day (b/d) leading to a peak of 4.7 million barrels per day in 2019. However, in 2020, this output dwindled to under 4.1 million barrels daily as Iraq voluntarily curtailed its crude oil production in adherence to the OPEC+ agreement. By the first half of 2022, Iraq's crude oil production rebounded, averaging approximately 4.4 million barrels per day. These estimates incorporate the crude oil output from the semi-autonomous Kurdistan Regional Government of Iraq (KRG).

Much of Iraq's GDP comes from profits made from selling crude oil. As per the International Monetary Fund (IMF), Iraq's government received an estimated 92% of its 2019 income from crude oil exports (IMF). In 2021, Iraq's oil revenues increased to over $75 billion due to rising oil prices. In 2020, they dropped to $42 billion. Increased crude oil output in Iraq and higher oil prices in 2022 should significantly boost Iraq's oil export profits and help mitigate the effects of price hikes for gasoline and other goods and services that resulted from the collapse of the OPEC+ agreement (Energy Information Administration (EIA) (2022).

The data in the table below shows the annual crude oil exports of Iraq from 2005 to 2021. From 2005 to 2013, the country's crude oil exports remained relatively stable, ranging from 1.4 million to 2.4 million barrels per day. However, in 2014, the country's crude oil exports saw a significant increase to 2.6 million barrels per day, which continued to rise in the subsequent years, reaching a peak of over 3.7 million barrels per day in 2017. In 2020, there was a decline in crude oil exports due to the COVID-19 pandemic and global economic slowdown, with exports dropping to 3.4 million barrels per day. In 2021, the country's crude oil exports slightly increased to 3.4 million barrels per day. Overall, Iraq remains a significant player in the global oil market and heavily relies on oil exports for economic growth and development.

Table 2: Iraq's crude oil exports from 2005 to 2021

Year	Crude Oil Exports (Barrels per Day), Annual
2005	1418976.9208
2006	1443911.0231
2007	1642666.6667
208	1850000.0000
2009	1904166.6667
2010	1909250.0000
2011	2165750.0000
2012	2420083.3333
2013	2390521.5054
2014	2622577.8921
2015	3350709.5945
2016	3793250.7419
2017	3797761.7715
2018	3862000.0000
2019	3968250.0000
2020	3429479.5188
2021	3438693.4664

Source: CEICDATA (2021)

Therefore, Iraq must improve and promote non-oil exports to attain a more sustainable level of growth and development, given the country's reliance on oil and the volatility of global oil prices.

2.3.2. Money Supply

Economic growth has been proven to be significantly influenced favourably by the money supply in a recent study by Chinuba, Akhor, and Akwaden (2015) cited in Kunwar (2020) and Gatawa (2017), which estimated a time series data covering the period of 1981-2008 with basic OLS on the Nigerian economy. Results from an analysis of the long- and short-term effects of Nigeria's money supply on GDP growth using the VAR Model conducted by Omotor (2010) show that the former has a positive effect on income growth, but the latter has no effect. The impact of interest rates and a proxy for money supply in the form of bank loans on GDP were empirically examined by Adeyeye et al. (2006). Economic growth was found to suffer as a result of bank loans despite their apparent importance. The conclusion was reached using the ordinary least squares approach applied to secondary annual data from 1970 to 2003.

According to research conducted by Suleiman (2010), who used the ordinary least square approach to analyse secondary yearly data for the 37 years spanning 1970–2007, annual increases in the money supply harmed Nigeria's real GDP throughout that period. Isiaka et al. (2011) used a simple regression technique to study the connection between Nigeria's money supply and GDP growth over nine years (1995-2004), and their findings indicated a long-run but insignificantly positive association between the two variables. Amassona et al. (2011) investigated the impact of Nigeria's money supply on various macroeconomic factors and reached conclusions opposite to their hypotheses. Using a simplified version of OLS with annual data from 1986-2009, the researcher discovered a negative correlation between the two variables for this period. Taiwo (2012) used Ordinary Least Square (OLS) as an estimating technique across a period to analyse the effect of monetary stock injections and withdrawals on economic growth in Nigeria (1970-2008). Injections of monetary aggregates boosted GDP growth, although declines in the money supply had a detrimental impact on GDP.

2.3.3. Inflation

Growth and inflation have been studied extensively, with conflicting findings. Malla (1997) conducted a panel analysis to investigate the impact of inflation on growth across 11 OECD and Asian nations. The findings refuted the hypotheses linking inflation with growth, indicating an absence of substantial correlation between inflation and

growth in OECD countries. Conversely, in Asian countries, a negative correlation was identified between inflation and growth. In a similar vein, Bruno and Easterly (1998) utilized the threshold model in their study of 26 nations, revealing that higher inflation hampers economic growth, while lower inflation corresponds to reduced economic costs. Notably, when inflation reaches or exceeds 40 percent, a country is deemed to be in a state of high inflation crisis.

Even when analysing the same group of countries, the evidence is ambiguous as to what level of inflation is harmful or advantageous to economic growth. From 1980 to 2004, Abbott and De Vita (2011) reviewed the consequence of inflation on growth in 125 countries with varying exchange rate regimes. They used panel analysis to determine that emerging nations with more flexible exchange rate regimes had slower growth than those with fixed or intermediate exchange rate regimes. The relationship between inflation and growth is non-linear in Turkey was evaluated by Akgul and Ozedemir (2012). They determined that an inflation threshold of 1.26% is conducive to economic expansion. In other words, growth was hindered when inflation was above 1.26 percent and helped when it was below that level.

Implementing the dynamic panel threshold model, Kremer et al. (2013) conducted additional research for 124 industrialised and non-industrialized economies. They determined that a rate of 2 percent was alarming for industrialised nations, and a rate of 17 percent was detrimental for non-industrialized nations. At the same time, Vinayagathasan (2013) used a similar approach of dynamic threshold analysis to examine 32 Asian countries, arriving at a value of 5.43%. Any rate above the threshold hampered expansion, whereas rates below it had a little noticeable impact.

Using a two-stage least squares methodology and data from Vietnam spanning 1986 to 2013, Tung and Thanh (2015) determined that an inflation rate exceeding 7% adversely impacted economic growth. Similarly, employing the system-generalized method of moments, Baharumshah et al. (2016) investigated 94 emerging and developing nations. Their findings indicated that inflation contributes to GDP growth and only acts as a deterrent in countries not facing an inflation crisis. They noted that moderate inflation fosters positive growth, whereas excessive inflation leads to negative growth. In nations not facing an inflation crisis across all three scenarios, the adverse costs of uncontrolled inflation surpass the potential benefits of uncertainty. Furthermore,

they revealed that when inflation falls within intermediate ranges (5.6-15.9%), uncertainty regarding inflation has a beneficial impact on GDP owing to precautionary measures.

2.3.4. Trade Openness

First, it must be made clear that trade openness is a component of economic openness. In general, the term "openness" relates to two categories of concepts: the liberation of commerce and the economy and the elimination of barriers to foreign investment. One of the factors that affect how well the distribution of production factors is improved is openness. It significantly impacts rising rates of economic growth and prosperity because it leads to increased production and the emergence of economies of scale that increase market size and lower costs.

According to Hassen (2016), stated that the liberalisation of the external sector, as shown in the capital account and the trade balance, frees markets to move products, services, and capital with little or no constraints (customs duties and quantitative, administrative, and technical restrictions). Trade openness entails releasing trade from limitations, exchange rates, and a series of actions to change the foreign trade system to avoid interfering with exports and imports. According to Jamila (2017), a state is considered a commercially open country when it pursues a neutral export and import policy and gradually lowers customs duties until they are eliminated. It means that it has removed exchange rate and trade restrictions following several WTO measures.

Thus, various trade openness strategies can be employed to establish a single global market, including liberalizing the movement of capital and goods, transitioning to a market economy system, and reducing the government's role in the economy. These strategies encompass different approaches. (Al-din, 2017).

2.3.4.1. Regional Framework

International economic integration, including free trade zones, customs unions, common markets, and economic integration, is a term used to describe trade agreements. These trade agreements are based on regulations agreed upon by multiple parties for international commerce, covering areas such as anti-dumping measures, subsidies, and

providing a comprehensive framework for resolving trade disputes among participating nations (El-Agraa, 1996).

2.3.4.2. Voluntary and Compulsory

The majority of nations aim to liberalise their trade to increase their level of economic integration and meet their development objectives. While mandatory trade openness is typically carried out under rules set by international organisations like the "WTO" and the "IMF", this type of openness is generally associated with or tied to developed and industrialised countries (Thirlwall, 2000).

2.3.4.3. Progressive and Transitional

Unlike transitional openness, which involves the liberalisation of some agricultural products while maintaining restrictions on others, progressive openness is implemented in stages by a systematic plan. It is put into place at a specific time. An example is the switch from using quotas to tariffs as a form of protection (Cottier, 2006).

2.3.4.4. Surface and Deep

Extensive openness facilitates the unrestricted movement of individuals, the elimination of conventional barriers, integration, and a reduction in disparities in trade regulations, especially those concerning customs protocols. Surface openness concentrates on removing traditional barriers, such as tariffs, but it is insufficient to enjoy the benefit of commercial openness. However, any nation that adopts a trade-openness strategy aims to attain one of the following benefits (Esty & Geradin, 1997).

2.3.4.5. Production Specialisation

When countries are able to trade with one another easily, each one focuses on making the products at which it has a comparative advantage. It results in a rise in global output and more effective use of available resources (Deardorff, 2011).

2.3.5. Foreign Direct Investment (FDI)

In recent years, there has been a growing recognition of the crucial role that foreign direct investment (FDI) plays in economic development, especially in transitional economies attempting to keep pace with the rest of the developing nations. Foreign direct investment (FDI) helps develop host countries in several ways. For one, it facilitates the transfer of technology, skills, and more efficient managerial approaches and knowledge, together with the making of new jobs in the local labour market. It has been demonstrated that economies with a higher degree of openness and a greater volume of international trade appeal more to foreign capital than those with a lower degree of openness. Countries with flexible economic systems that provide regulatory incentives for foreign investors are comparable to those with highly regulated economies that restrict foreign capital (Abdulkhaleq & Abdulqadir, 2017).

According to the Organisation for Economic Co-operation and Development (OECD), the term "foreign direct investment" (FDI) pertains to an investment activity conducted by a business located in one country within the borders of another one. FDI can be differentiated from foreign indirect investment (FDII) based on two key factors. Firstly, FDI requires the investor to possess at least a 10% ownership stake in the investment, specifically in terms of voting shares. Secondly, FDI requires direct control over specific elements of the business process within the investee entity. The latter category, on the other hand, is limited to investments held in a portfolio, as well as overseas equities and stock exchange transactions in which only the ownership element is involved, irrespective of size. Foreign direct investment (FDI) inflows are crucial for emerging markets. Foreign direct investment (FDI) has several positive effects. The transfer of cutting-edge management expertise and technology, on the other hand, generates a positive feedback loop (Heshmati & Davis, 2007).

According to Ali & Jameel (2021), Foreign Direct Investment plays a critical role in globalisation by fostering closer cooperation between nations and their business communities. Increases in both FDI and FDI portfolio flows, as well as trade volumes, are all a part of this trend. For countries with slow economies, globalisation presents a once-in-a-lifetime chance to benefit from increased trade and investment. The value of all finished goods and services produced inside a country's borders is measured by its GDP within a specific time, and its definition is therefore vital. Gross domestic product

is typically computed once per year, but quarterly estimates are occasionally possible (For instance, quarterly and yearly annualised GDP estimates are made public by the US government.). Total private and public expenditures, private inventories, investments, paid-in construction expenses, and the positive or negative change in the international trade deficit are all components of GDP (imports are subtracted and exports are added).

The data above suggests that less developed nations should encourage FDI inflows by implementing proper FDI laws and regulations, as FDI is a valuable complement to local investment. For instance, in addition to encouraging FDI flows, host governments should impose limitations on foreign corporations to promote exports, investment in high-risk sectors, or investment in resource industries where domestic investment is scarce. The primary and secondary sectors, as well as underdeveloped areas, need to be pushed for FDI investment. Foreign enterprises operating in a host country may be subject to additional laws to encourage job creation.

2.3.6. Gross Domestic Product (GDP)

Among all countries, Iraq is exceptionally reliant on its oil exports. More than 99% of exports, 85% of the government budget, and 42% of GDP have come from oil earnings over the past decade (GDP). The country's macroeconomic stability is threatened by its reliance on oil exports, while budgetary rigidities hamper fiscal flexibility and opportunities for countercyclical policy. With a population of 40.2 million in January 2021, Iraq's unemployment rate was more than ten percentage points greater than it had been before the COVID-19 outbreak. Those who have lost their homes continue to have significant unemployment rates, people who have returned to look for work, women, and people who were self-employed before the pandemic (World Bank, 2022). The economy was jolted by the oil and COVID-19 shocks of 2020; however, it is now showing signs of improvement. We found that real GDP has increased by 1.3% in 2021, following a steep decline of 11.3% in 2020. With rising oil output and the loosening of COVID-19 limitations, domestic economic activity is on track to return to pre-pandemic levels, boosting growth in both the non-oil and oil sectors. In the first nine months of 2021 (9M21), the non-oil economy rose by more than 6% (year over year), mainly due to strong service sector performance as COVID19 containment restrictions

were relaxed. Even though the oil industry slowed down at the beginning of the year as Iraq readjusted to its OPEC+ quota, this uptick occurred faster (World Bank, 2022).

Table 3: Summary of the empirical studies on economic growth in Iraq

Authors (Year)	Title	Period of Study	Variables
Alhiti et al., (2010)	The Inflation in the Iraqi Economic in the Period 1990-2007 The Causes, Impacts, The Role of the Fiscal Policiesin its Treatments	1990-2007	Inflation, Fiscal policies, GDP
Al-Khazraji & Hasson (2016)	Analysis of the relationship between inflation and economic growth In Iraq for the period (1980-2010)	1980-2010	Inflation and GDP
Vartan (2016)	The impact of fluctuations in oil prices on economic growth in Iraq for the period (1995-2013)	1995-2013	fluctuations, oil prices, Iraq's economy
Abdulkhaleq & Abdulqadir (2017)	The Effect of Foreign Direct Investment on Economic Growth: Evidence from Iraq.	2004-2015	FDI,Capital Inflow, economic growth
AL-JEBORY (2017)	The Impact of Financial Development on Iraqi Economic Growth (1970-2015).	1970-2015	Financial Deepening, Economic Growth, Financial Development
Mohammed & Al-eqabi (2017)	Analysis of the Causal Relationship between The Government Expenditure on Health and Economic Growth in Iraq for 2004 – 2013.	2004-2013	Government Expenditure, GDP
Salih & Hatim (2017)	Economic growth within financial development in Iraq for 1990-2013.	1990-2013	Financial development, Investment, Causality analysis, Stationery and Co-integration.
Baher & Mudraka (2018)	The Role of Foreign direct investments in the economic growth in Iraq during the period 1980-2013.	1980-2013	FDI, GDP
Ziarah & Jindi (2018)	Fluctuations of global crude oil prices and their effect on inflation and economic growth in Iraq " A standard study for 1988– 2015."	1988-2015	Crude Oil, Inflation and GDP
Khalaf (2019)	Relationship between Unemployment Rates, Inflation and Economic Growth in Iraq for the Period (2003-2014)	2003-2014	unemployment, inflation, and GDP
Raad & Qutaiba (2019)	Measure and analyze the impact of trade openness on economic growth in Iraq for the period (2004-2014)	2004-2014	trade openness, economic growth
Shokat & Alkadher (2019)	Effective investment policies at the employment level and rates of economic growth in Iraq	2005-2017	investment policies, employment level,

			economic growth rates
Al-Sahlani & Al-Asadi (2020)	The effect of the expansion in liquidity on indicators of economic stability for the period (1991-2017)	1991-2017	Cash liquidity, GDP, General budget
Hussein & Hamdan (2020)	Financial Development and Its Impact on Economic Growth in Iraq	2004-2018	Financial Developing, Economic Growth, Common Integration, Money Supply
Hussen & Moslem (2020)	The effect of the Iraqi dinar exchange rate on inflation and economic growth using the joint integration methodology "a standard study."	2003-2018	exchange rate, inflation, GDP
Sulaiman & Abdulmalek (2020)	Inflation and its Determinants-Econometrics Study for Economy 2003-2013.	2003-2013	Inflation, GDP
Breghish & Ali (2021)	Iraq's foreign trade and its impact on some macro variables for the period (2003-2018)/An analytical framework	2003-2018	Circular flow of income, trade liberalization, measures of trade openness
Jassim et al., (2021)	Trade Openness and its Impact on the Industrial Sector of the Iraqi Economy.	2004-2017	Trade Openness in Iraq, Iraqi Economy, Industrial Sector
Mousa & Hussien (2021)	The role of macroeconomic policies in economic growth in Iraq	1990-2016	Macroeconomic policies, economic growth fiscal policy, monetary policy, central bank
Mousa & Hussien (2021)	Determinants of economic growth in Iraq: a standard study for the period (1970-2016).	1970-2016	Economic growth, growth determinants, capital stock, human capital, oil exports
Akshukri & Ali (2022)	Analysis of the relationship between the exchange rate and economic growth in Iraq for the period (2020 – 2004).	2004-2020	Exchange rate, GDP
Al- Khafaji & Altmau (2022)	Economic growth in the framework of critical average of public debt in Iraq.	2004-2020	Public debt, GDP
Al-khikani & Rahim (2022)	Financial Sustainability Economic Growth in Iraq.	2004-2019	Ratio of public debt to GDP, Size budget, Tax gap, GDP
Matasher et al., (2022)	The relationship between economic growth and consumption in Iraq for the period 1990-2014	1990-2014	Consumption Growth, Personal income, Circle GDP growth, Purchasing power

3. MODEL SPECIFICATION AND METHODS OF STUDY

3.1. Introduction

The primary goal of this study, as indicated previously, is to look into the factors that influence Iraq's economic growth. In terms of export, the oil sectors are those that are involved with petroleum and items that are related to it. The approaches employed are presented in this chapter. Any discipline's methodology is the part that calls for a strategy involving the choice and application of specialised methodologies, such as economics. The approaches used to collect and analyse data, whether qualitative or quantitative, are referred to as methods (Crotty, 1989). Deductive and inductive methodologies are the two categories (building theory). The deductive method (testing theory) will be implemented, using a quantitative rather than a qualitative approach. The description of the variables and the study's methodology comprise the chapter's four main components. A conclusion and a plan outlining the stages of the research process are included in the last section.

3.2. Study Methodology

The first step in planning a research study is to settle on a subject to investigate and a theoretical framework on which to base the study. Creswell (2009) defines a qualitative study as an investigative process aimed at comprehending a social or human issue. It involves constructing a comprehensive, holistic depiction using language, presenting intricate perspectives of individuals providing information, and taking place within a natural environment. Conversely, a quantitative study entails the investigation of a social or human issue through the testing of a theory formulated based on variables. These variables are measured using numerical data and analysed using statistical methods to determine the validity of the theory's predictive generalisations.

As a fore mentioned by Guba and Lincoln (1994), A paradigm is a worldview that directs researchers toward appropriate ontological and epistemological positions and appropriate research strategies. Besides, the research inquiry's ontology, epistemology, and technique may all be traced back to the inquiry paradigm (Creswell, 2009). A set of presumptions about the nature and shape of reality is called ontology

(Eriksson and Kovalainen, 2008). Meanwhile, the epistemological method clarifies what sorts of knowledge can be trusted (Maeno et al., 1997). There are two possible perspectives on the ontological world: an objective one and a subjective one. A subjective ontology claims that reality is linked to and dependent on human beings, while an objective ontology sees the universe and reality as different from the persons inside it (Eriksson and Kovalainen, 2008).

3.3. Model Specification and Analysis

The current study consisits of a descriptive analysisthat aims to provide a comprehensive overview of the relationship between money supply, exchange rate, FDI, inflation, trade openness, and GDP in Iraq during the period (2005-2021). The data have been analysed using descriptive statistics such as mean, standard deviation, and correlation coefficients to explore the nature of the relationships between the variables. The study results are presented in tables and figures to facilitate easy understanding and interpretation of the data. As the study focuses solely on describing the data, it will not include any regression or other hypothesis-testing techniques.

Countries with large oil reserves, such as Iraq, implement monetary policies depending on global oil prices. Given the preceding, we have used an updated version of the neoclassical growth model as our theoretical framework for this investigation. Numerous studies have noted the theory's applicability to economies dependent on natural resources like oil, so there's little room for question that it would work in a country like Iraq (e.g., Asseery and Al-Sheikh, 2004). Oil-producing countries, like Iraq, often invest much of their wealth in higher education and scientific research. Under the exogenous growth hypothesis, these factors serve as growth catalysts.

Extensive investigation, encompassing both empirical and theoretical approaches, has revealed a multitude of variables that affect the expansion of a country's GDP. The determinants encompass a range of characteristics, such as natural resources (such as oil and gas), investment, human capital, innovation, technology, economic policies, governmental factors, trade openness, foreign direct investment, political features, social-cultural factors, and various other components. This study seeks to investigate empirical evidence regarding the determinants of economic growth in a resource-rich nation like Iraq, and thus takes into account the majority of these

dimensions. However, in oil-rich societies, the oil-economic sector's supremacy (which is very different from that of the non-oil sector) necessitates the separation of the economy into these two distinct halves.

3.4. Description of Variables and Conceptual Framework

3.4.1. Gross Domestic Product (GDP) (Y)

In this study, the dependent variable is Iraq's Gross Domestic Product (GDP), denoted as (Y). GDP represents the total monetary value of all the finished goods and services produced by the nation within a specific time frame. It stands as one of the most crucial factors in assessing and understanding economic growth (Monakhisi, 2009).

3.4.2. Money Supply (*MS*)

Recent research suggests that money supply exerts a robust positive influence on economic growth, as indicated in an estimation utilizing time series data over a specific period through ordinary least squares (OLS) analysis of the economy (Ufoeze et al., 2018). Findings derived from an analysis of the long- and short-term implications of money supply on GDP growth employing the VAR Model demonstrate that the former yields a favorable impact on income growth, whereas the latter does not have any significant effect. The effects of interest rates and a proxy for money supply in the form of bank loans on GDP were empirically examined.

3.4.3. Exchange Rate (EXC)

The exchange rate is another macroeconomic indicator that can have an effect on growth in an economy that is open. It is because it affects the circulation of capital, products, and services within a country. Additionally, it puts a significant amount of pressure on the balance of payments, inflation, and other macroeconomic indicators. A currency's worth in terms of another is determined by the exchange rate, which is the ratio at which one currency is exchanged for another. The degree of competitiveness, stability and macroeconomy growth is primarily determined by the exchange rate regime that is chosen and managed (Amadi, 2019).

3.4.4. Foreign Direct Investment (FDI)

In recent years, foreign direct investment (FDI) has come to be seen as a crucial part of economic development, especially in transitional economies that are attempting to catch up to other developing nations (Moran, 1998). Foreign direct investment (FDI) helps develop host countries in several ways. For one, it facilitates the transfer of technology, skills, and more efficient managerial approaches and knowledge, in addition to new job creation in the local labour market (Adams, 2009). It has been demonstrated that economies with a higher degree of openness and a greater volume of international trade appeal more to foreign capital than those with a lower degree of openness.

3.4.5. Inflation (INF)

Inflation can either benefit or hinder GDP growth, depending on the economic conditions. It tends to boost GDP in certain situations but can slow it down in countries where inflation is not a significant concernLow inflation encourages strong growth, while excessive inflation encourages negative growth. In countries not facing an inflation crisis under all three scenarios, the detrimental consequences of unregulated inflation surpass the potential benefits of uncertainty. Moreover, the research revealed that when inflation reaches moderate ranges (5.6-15.9%), uncertainty regarding inflation has a beneficial effect on GDP owing to precautionary motivations (Baharumshah et al, 2016).

3.4.6. Government Expenditure (*GEX*)

In oil-rich countries, the government's expenditures are substantially influenced by fiscal policy. It can boost economic growth and sustainability, improve social welfare, and raise living standards if it is handled correctly. It is capable of doing all of these things. Expenditure by the Iraqi government encompasses not just the acquisition of goods but also a variety of services, including those related to defence and safety, health, and education, in addition to paying public sector employees' salaries. According to Kogid et al. (2010), it is anticipated that government expenditures will contribute favourably to the economy's expansion.

3.4.7. Trade Openness (TOP)

To begin with, it is important to clarify that trade openness is a constituent of economic openness. In a broader sense, "openness" pertains to two key categories of ideas: the promotion of trade and economic liberalization, as well as the elimination of impediments to foreign investment. Openness is one of the factors that influences the enhancement of the distribution of production factors (Edwards, 1993). It notably influences the acceleration of economic growth and prosperity by fostering heightened production and the emergence of economies of scale, which contribute to an expanded market size and reduced costs.

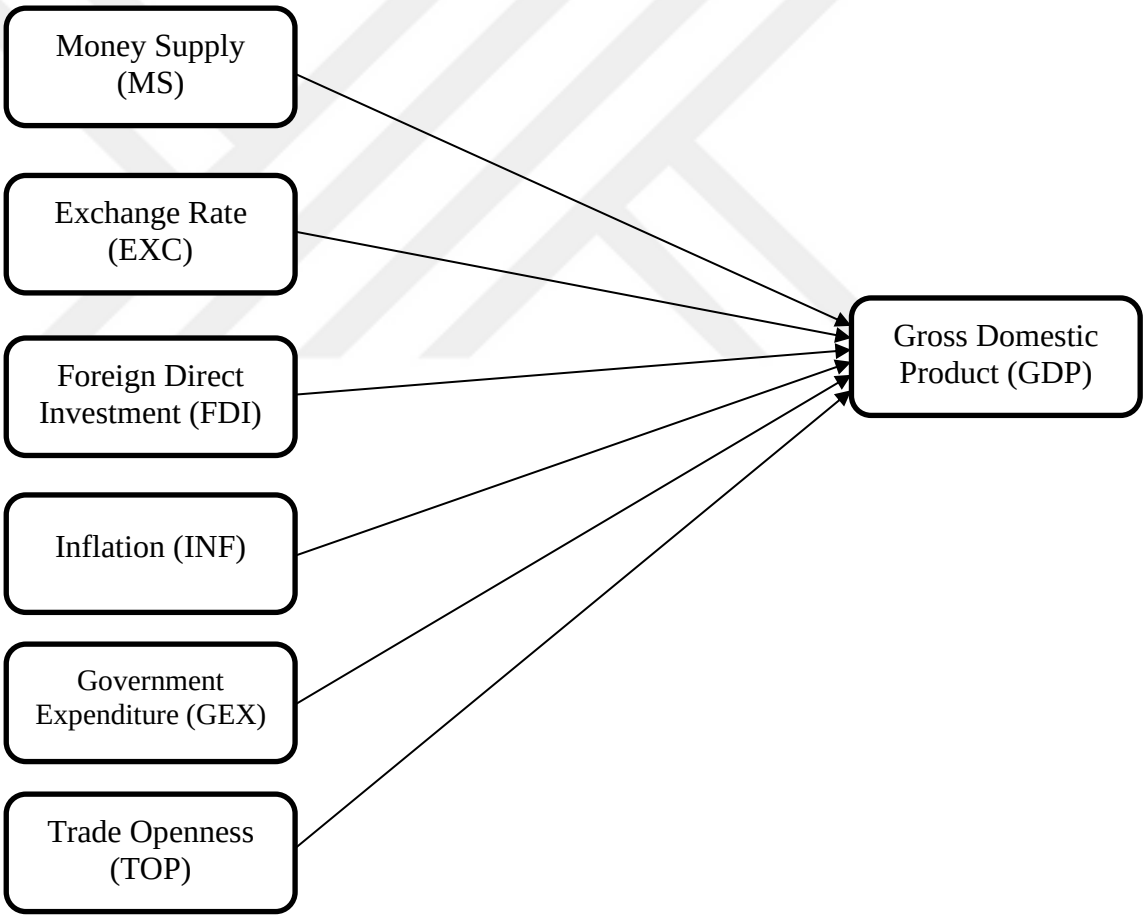


Figure 1: Conceptual framework

3.4.8. Modelling Techniques and Data Sources

The methods used to implement the models empirically are explained in this section of the chapter. In conclusion, econometric methods are used to identify the key

factors influencing economic growth in both the short- and long-term. Descriptive statistics are employed to ascertain the characteristics and nature of the relationship between economic growth and its fundamental determinants over the long term.

Regarding time series data, this study relied on two primary sources, namely the Central Bank of Iraq (CBI) and the World Bank (WB).

For this study, we adjusted all the numbers to the natural logarithm and calculated all the variables in nominal US dollars adjusted for inflation using the GDP-deflator. According to Gujarati (2014), time series data have multiple issues, the most significant being autocorrelation. Another problem is that the data themselves may not be stationary. Transferring time series data to a natural logarithm or calculating square roots are two well-known approaches to overcoming these difficulties (Chatfield, 2013). Which analysis is appropriate is determined by both the characteristics of the data and the outcomes.

The research relies solely on information gathered from official, recognised international organisations, as shown in the below table, to ensure its accuracy. Other studies that used the same or similar data sources provide more evidence of the data's validity.

Table 4: Data and Data Sources

Variable	Variable Description	Source of Data
GDP	Gross Domestic Product	CBI
INF	Inflation	WB
MS	Money Supply	CBI
EXC	Exchange Rate	CBI
FDI	Foreign Direct Investment	WB
GEX	Government Expenditure	CBI
TOP	Trade Openness	WB
CBI	Central Bank of Iraq	
WB	World Bank	

4. DATAPRESENTATION AND INTERPRETATION

4.1. Introduction

In this chapter, the data collected from the research study are presented and interpreted in a manner that provides a clear understanding of the research findings. The chapter starts by describing the research design and methodology employed in the study, followed by a discussion of the data analysis techniques used to derive the results.

The main focus of this chapter is on the presentation and interpretation of the research findings, which are presented descriptively. The data are analysed and presented in a way that allows the reader to understand the patterns and trends observed in the data. The interpretation of the results will be based on the research questions and objectives and are supported by the relevant literature reviewed.This chapter provides a detailed description of the data collected from the study, including graphs and charts that illustrate the results. The data is presented in a way that is easy to understand and interpret, and will be accompanied by a discussion of the main findings.

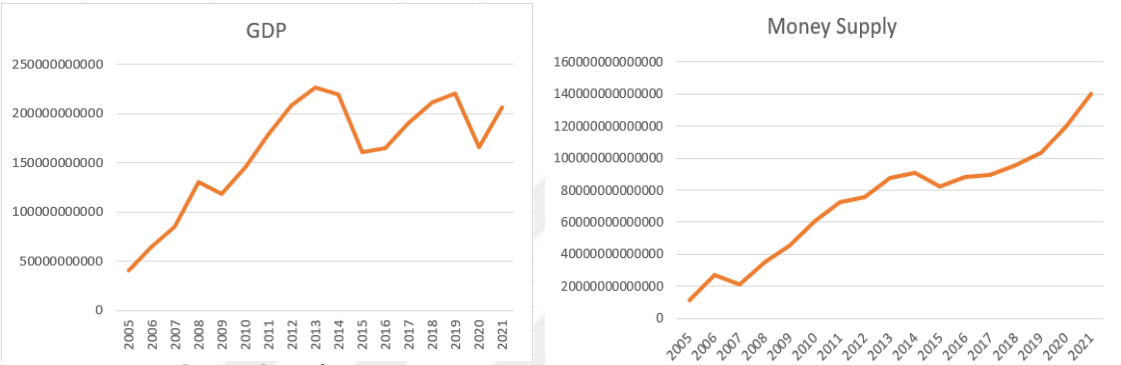
Overall, this chapter provides a comprehensive overview of the research findings as an essential part of this thesis. The descriptive analysis of the data enables the reader to gain insights into the research topic and provide a basis for further research in the future.

4.2. Data Presentation and Interpretation

4.2.1. Money Supply and Economic Growth

The relationship between money supply and economic growth is a topic of ongoing debate among economists. The basic theory is that an increase in the money supply, all else being equal, should lead to a rise in economic activity, as there is more money available to be spent and invested. However, there are some factors that can complicate this relationship, such as inflation, interest rates, and the behaviour of consumers and businesses.In contemporary macroeconomic thought, there exist divergent views regarding the role of money in economic growth. Specifically, Keynesian economists believe that monetary policy is largely irrelevant in influencing

growth, whereas monetarists maintain that it is crucial. However, the new Keynesian perspective posits that in the short run, changes in the money supply have an impact on actual variables such as gross domestic product (GDP) (measured by billion US dollars) and employment levels due to the prevalence of price rigidity and information asymmetry in markets. Supporting this notion, Steve (1997) and Domingo (2001) argue that an appropriate level of money supply, credit, and favourable financial conditions are necessary for the attainment of economic growth (Dingela & Khobai, 2017).



Source: Central Bank of Iraq, Statistics and Research Directorate, Economic Reports (https://cbi.iq/news/view/463)

Figure 2: Money Supply (IQD trillion) and GDP (IQD trillion)

The figure above shows that the money supply data shows a consistent upward trend from 2005 to 2021. The values increase almost every year, with a few exceptions where the values decreased slightly or remained relatively stable. The money supply has nearly doubled from 2005 to 2021, with the highest value being 139,886 billion in 2021. On the other hand, the chart illustrates that GDP data also shows an upward trend from 2005 to 2021, but with a more volatile pattern. The values increase in most years, but there are some years where the values decrease or experience slower growth. The GDP experienced a significant increase from 2005 to 2008, then a sharp decline in 2009 during the global financial crisis. Since then, the GDP has steadily increased, with the highest value being 226,802 billion in 2019.

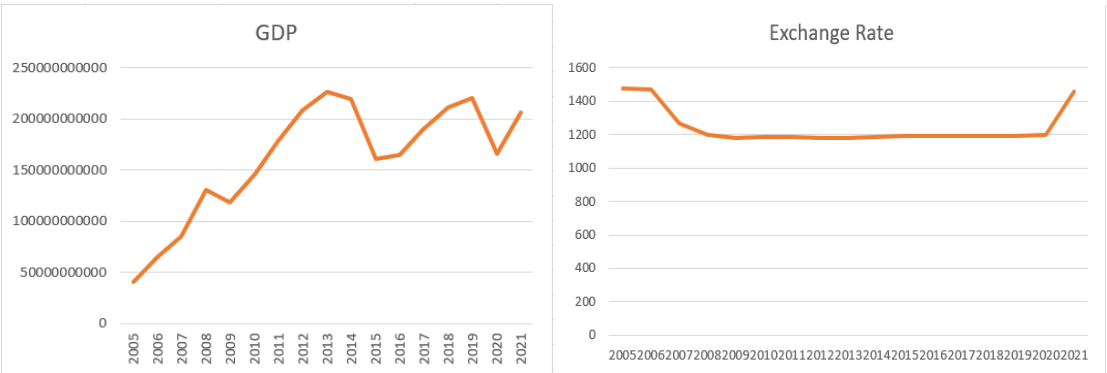
The data shows that there is generally a positive relationship between the money supply and GDP. When the money supply increases, it can provide more liquidity to the economy, which can stimulate spending and investment and ultimately lead to an increase in GDP. However, the relationship is not always straightforward, as other

factors can affect the GDP growth besides the money supply, such as productivity, trade, government policies, etc. Looking at the data, we can see that the money supply and GDP both increased significantly from 2005 to 2021, although the GDP grew at a slower pace than the money supply. Overall, while the relationship between money supply and GDP can be complex, a growing money supply generally indicates a growing economy, although other factors may come into play.

The positive relationship of this study is consistent with the findings of (Tariq et al., 2022), who reached the same conclusion after they examined the impact of money supply on the economic growth of Pakistan from 1980 to 2014. However, they also state that this positive relationship is restricted with inflation, i.e. inflation has to be controlled so as money supply can see its role in stimulating economic growth.

4.2.2. Exchange rate and Economic Growth

The connection between exchange rates and economic growth has been a focal point of extensive academic research and discussion. Broadly, two primary theoretical perspectives govern the discourse on the relationship between exchange rates and economic growth: the "expenditure-switching" perspective and the "expenditure-changing" perspective (Islam & Ale, 2017). In practice, the relationship between exchange rate and economic growth is complex and can be influenced by various factors, including government policies, economic conditions, and global events. The following flow chart illustrates the relationship between exchange rate and economic growth in Iraq:



Source: Central Bank of Iraq, Statistics and Research Directorate, Economic Reports (https://cbi.iq/news/view/463)

Figure 3: Exchange rate (IQD thousands) and GDP (IQD trillion)

Based on the data you provided, the trend of the exchange rate appears to be quite volatile, with fluctuations both upwards and downwards over time. It started at 1474 in 2005, decreased to a low of 1180 in 2008, and then gradually increased to a high of 1460 in 2020.

In contrast, the trend of GDP appears to be mostly upward, with some fluctuations. It started at 41,115,700,000 in 2005, peaked at 226,802,374,894 in 2019, and then decreased slightly to 206,438,356,164 in 2021.

Based on the data provided, it is difficult to draw definitive conclusions about the relationship between the exchange rate and GDP. There are some instances where the two variables appear to be moving in opposite directions (e.g., in 2019, GDP increased while the exchange rate decreased), while in other instances, they seem to be moving in the same direction (e.g., in 2020, both GDP and exchange rate decreased).

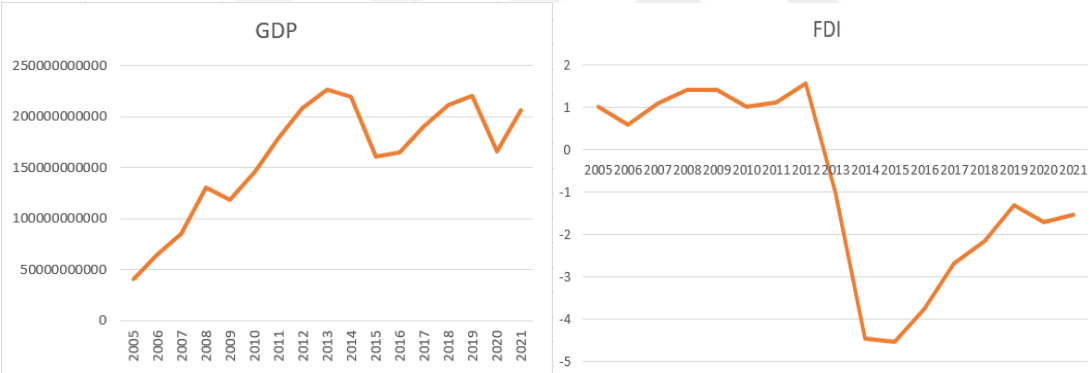
The common belief holds that a rise in the exchange rate promotes economic growth by increasing net exports. However, this view does not support the case of Iraq because most of the goods and inputs in the Iraqi economy are provided by imports. In this situation, the depreciation of the Iraqi Dinar will make these products more expensive in the local market. Hence, it will harm the Iraqi economy. It is supported by Karahan (2020), who states that devaluation strategy, according to structuralist economists, will have harmful consequences on developing countries economies because economic dependence on foreign countries is a major structural issue in many developing nations. Most of the inputs that these countries use, especially for the production process, come from other countries. Therefore, when the exchange rate increases, it escalates the cost of imported inputs and materials used in production. Consequently, the surge in production costs due to the devaluation of the domestic currency can adversely impact economic output.

4.2.3. Foreign Direct Investment and Economic Growth

FDI can significantly impact economic growth in both the short and long term. FDI refers to investment made by a foreign company in a domestic economy, typically by establishing a new business, purchasing an existing business, or investing in joint ventures with local companies.

In contemporary academic discussions, significant focus has been dedicated to exploring the impact of FDI on the economic growth of host countries. Theoretical examinations, including those within the neoclassical growth model, suggest that FDI has the potential to bolster economic growth by amplifying the level of investment and improving its efficacy. On the other hand, the endogenous growth model argues that FDI can stimulate economic growth by facilitating the transfer of technological advancements from developed countries to the recipient economy. FDI is a significant combination of capital stock, knowledge, and technology. It has the potential to enhance the existing expertise in the host economy by providing labour training, acquiring new skills, and spreading alternative management practices and organisational structures (Li & Liu, 2005).

The following figure provides the data for FDI in Iraq with an illustration of GDP data from 2005 to 2021:



Source: Central Bank of Iraq, Statistics and Research Directorate, Economic Reports (https://cbi.iq/news/view/463) & World Bank, Data Bank, World Development Indicators, Iraq (https://databank.worldbank.org/source/world-development-indicators/Series/BX.KLT.DINV.WD.GD.ZS)

Figure 4: FDI and GDP (IQD trillion)

Looking at the FDI data, we can see that it fluctuates considerably from 2005 to 2021. There are several years where FDI is positive and increasing, such as in 2007, 2010, and 2013. However, there are also several years where FDI is negative and decreasing, such as in 2015, 2016, and 2017. Overall, the trend for FDI appears to be volatile and unpredictable.

On the other hand, the GDP data shows a more consistent increase over the same period. While there are some fluctuations from year to year, the overall trend for GDP is upward, except a dip in 2009 during the global financial crisis.

The connection between FDI and GDP is complex and can vary depending on many factors, such as the type of investment, the industry, and the country's economic policies.

The above figure shows no effect of the FDI factor on economic growth in Iraq. It implies that the Iraqi economy does not benefit from foreign investment in Iraq. In this regard, Chaudhury et al. (2020) state that FDI is seen to be a major determinant of economic growth in developing countries, but its influence differs by country. The presence of additional drivers (such as domestic investment, inflation, infrastructure, and external trade) may increase or impede the potential influence of FDI on economic growth. They also state that due to the heterogeneous nature of sectoral FDI, the sectoral composition could have varying effects on economic growth. The outcomes are consistent with the study (Belloumi, 2014) who reached the same result. The study argues that one explanation for having no relationship between FDI and GDP is because FDI is highly dependent on the proper features of the host country. As a result, it could be said that FDI is not regarded as a determinant of GDP in Iraq in the long run.

4.2.4. Inflation and Economic Growth

Inflation and economic growth are two of the most important macroeconomic indicators that affect the overall health of an economy. While there are different views on the relationship between inflation and economic growth, it is generally accepted that high inflation can harm economic growth.

There is significant interest in understanding the correlation between price stability and economic growth, especially in countries that enforce price stability policies, and the impact of inflation on growthEmpirical investigations conducted in this area have demonstrated that the connection is inversely proportional in nations that cannot sustain price stability in the context of high inflation. On the other hand, in circumstances of high inflation, studies have established a positive relationship between inflation and economic growth. It should be noted, however, that such research is

frequently predicated on the assumption of a linear relationship between these variables (Ekinci et al., 2020). In Iraq, the data is illustrated in the following figure:

Source: Central Bank of Iraq, Statistics and Research Directorate, Economic Reports (https://cbi.iq/news/view/463)

Figure 5: Inflation (%) and GDP (IQD trillion)

Looking at the inflation data for Iraq, we can see that it fluctuates considerably from 2005 to 2021. There are several years where inflation is relatively high, such as in 2006, 2011, and 2021. However, there are also several years where inflation is relatively low, such as in 2013, 2014, and 2015. Overall, the trend for inflation appears to be volatile and unpredictable.

On the other hand, the GDP data shows a more consistent increase over the same period. While there are some fluctuations from year to year, the overall trend for GDP is upward, except a dip in 2009 during the global financial crisis.

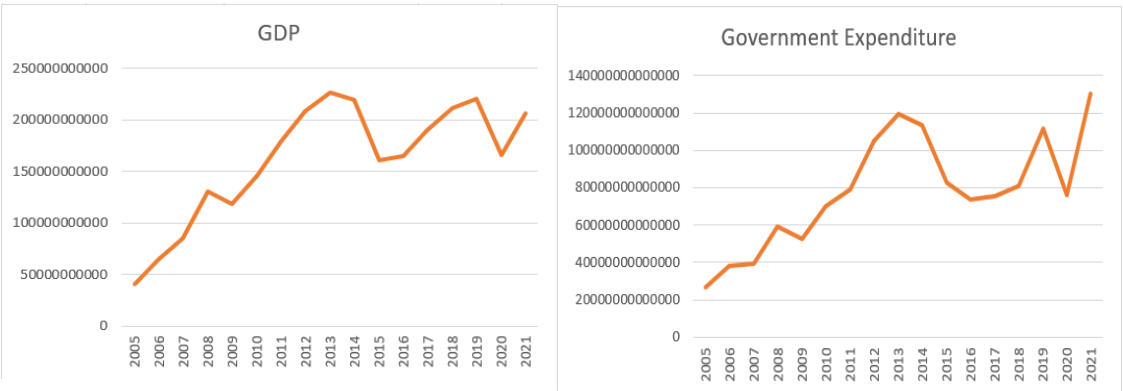
The connection between inflation and GDP is complex and can vary depending on many factors. In general, moderate inflation can positively affect GDP growth as it encourages consumption and investment. However, high inflation can lead to economic instability and negatively impact GDP growth.

In the case of Iraq, it is worth noting that the country has experienced significant political instability and conflict over the period in question, which can contribute to economic volatility and uncertainty. Inflation can also be affected by external factors such as oil prices, which can be a major source of income for Iraq.

Overall, the relationship between inflation and GDP is complex, and it's essential to consider various factors when analysing their connection. In the case of Iraq, the country's political and economic context can have significant impacts on both variables.

4.2.5. Government Expenditure and Economic Growth

Considerable research has examined the consequences of public expenditure on economic growth, leading to various contentions. The Classical school of thought, originating in the 1970s, argues that government spending can have an adverse impact on long-term economic growth. According to this viewpoint, an upsurge in government spending funded by a budget deficit can result in the displacement of private investment, ultimately impeding long-term economic growth. Conversely, the Keynesian perspective and the endogenous growth model, as formulated by Barro and Sala-I-Martin (1992), advocate for the influence of fiscal policy on economic performance. The Keynesian theory proposes that expansionary fiscal policy, particularly an increase in government spending, can stimulate real GDP through the multiplier effect. On the other hand, the endogenous growth theory posits that government expenditure can induce private investment, thereby promoting long-term economic growth (Chen et al., 2020). For Iraq, the following figure can help to evaluate the role of government expenditure on economic growth in more detail:



Source: Central Bank of Iraq, Statistics and Research Directorate, Economic Reports (https://cbi.iq/news/view/463)

Figure 6: Government Expenditure (IQD trillion) and GDP (IQD trillion)

Looking at the data, we can see that government expenditure and GDP in Iraq have been increasing over time, although not at the same rate.

Starting with government expenditure, we see that it has been increasing consistently over the years, with occasional dips, from 2005 to 2021. It began at 26,375,175,000,000 and reached its highest point in 2021 at 129,993,009,000,000. It indicates that the government spends more money each year to provide public goods and services.

On the other hand, GDP in Iraq also shows an upward trend, but the increase is not as significant as that of government expenditure. It started at 41,115,700,000 in 2005 and reached its highest point in 2019 at 220,924,369,748. The GDP experienced a slight decline in 2020 due to the COVID-19 pandemic, but it is expected to recover in the coming years.

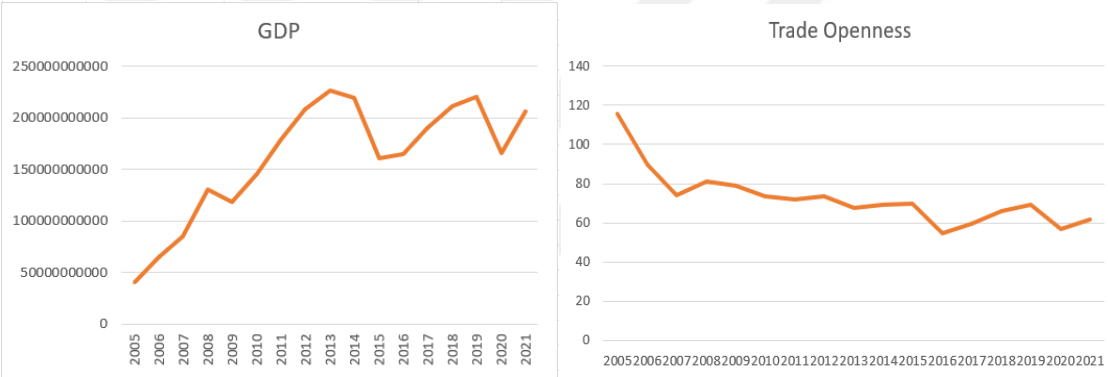
The relationship between government expenditure and GDP could be said that be positive. Broadly, augmenting government spending can invigorate economic growth by fostering demand for goods and services, subsequently leading to heightened production and income. Nevertheless, an overabundance of government expenditure may contribute to inflation, a decline in private investment, and a reduction in GDP growth.

Accordingly, it could be said that the findings show that government expenditures positively impact GDP. This outcome indicates that when general spending by the government increase, it causes a boost in economic growth in Iraq in the long run. The outcomes also provide pieces of evidence that the Iraq government takes advantage of the general expenditures and use them efficiently. The findings regarding this factor are consistent with the study by Nguyen and Bui (2022), who reached the same conclusions. However, they argue that for many nations to achieve sustainable economic growth, the quantity of government spending and the extent of corruption control are two crucial elements.

4.2.6. Trade Openness and Economic Growth

The relationship between trade openness and economic growth has been an essential topic of research and policy debate in economics for several decades. The

concept of trade openness refers to the extent to which a country participates in international trade, including imports and exports. The fundamental idea is that greater openness to international trade can promote economic growth by allowing for more efficient allocation of resources, stimulating competition, increasing access to foreign markets, and facilitating technology transfer. This subject has garnered increasing attention, particularly in light of the persistent and widespread disparities in economic outcomes among countries, particularly developing countries, in the context of an ever-expanding integration of international trade (Silajdzic & Mehic, 2018). The trade openness index is computed by dividing the arithmetic mean of imports and exports of merchandise by GDP. However, the following figure can illustrate more detail about the relationship between trade openness and economic growth in Iraq;



Source: Central Bank of Iraq, Statistics and Research Directorate, Economic Reports (https://cbi.iq/news/view/463) & World Bank, Data Bank, World Development Indicators, Iraq (https://databank.worldbank.org/id/a16d7265?Report_Name=trade-openness-long-serie)

Figure 7: Trade Openness (%) and GDP (IQD trillion)

Trade openness is measured through exports plus imports as a percent of GDP. The data for trade openness fluctuates over the given period, indicating varying degrees of openness in the economy. There is no clear upward or downward trend in the values, but there are some noticeable changes. The values range from a high of 115.74 to a low of 54.59, showcasing the variability in trade openness.

On the other hand, the GDP data shows a positive trend over the years, with values increasing from 41.11 billion in 2005 to 226.80 billion in 2021. The increase in

GDP has been gradual over the years, with a few exceptions where there was a significant increase or a minor decline.

From the data and the accompanying figure, it appears that there exists a negative correlation between trade openness and economic growth. This is evident as a decrease in trade openness coincides with an increase in economic growth in Iraq. This suggests that heightened levels of trade openness correspond to lower levels of economic growth in the country. In this context, Keho (2017) argues that the effect of trade openness on economic growth is related to the financial development of the country. For countries with underdeveloped financial systems, it is more likely that trade openness will have an adverse impact on GDP.

In contrast, having developed a financial system, openness to trade could not influence economic growth. It is also supported by (Jin, 2003), who believes that the inverse relationship between trade openness and economic growth is due to the negative relationship between financial markets and macroeconomic performance. This is obvious when looking at the financial system of Iraq as a strong basement does not characterize it, and it has no considerable effect on the Iraqi economy. It is the reason why the outcomes of the analysis have revealed this kind of relationship.

In summary, this analysis has provided the effect of (MS, EXC, FDI, INF, GEX, and TOP) on GDP in the long run in Iraq. It has been noticed that the variables namely (MS and FDI) do not affect GDP. However, the variables (EXC and TOP) harm economic growth in Iraq. On the other hand, (INF and GEX) have a positive relationship with GDP.

CONCLUSION

The study of economic growth is of great importance from an academic perspective as it provides valuable insights into the factors that drive economic development in countries worldwide. Understanding the determinants of economic growth is essential for policymakers, economists, and other stakeholders who seek to promote sustainable economic development and improve living standards.

This study demonstrates that macroeconomic considerations play a significant role in understanding economic growth in Iraq. Consequently, the study aims to investigate the key factors that have influenced economic growth in Iraq from 2005 to 2021. The study looked at the links between GDP as a dependent factor and other economic factors such as (Money supply, Exchange rate, Foreign direct investment, Inflation, Government expenditure, and Trade openness) over the long and short terms.

Following an extensive examination of critical macroeconomic metrics and the effects of specific determinants, this research has provided insights into the influences shaping Iraq's economic trajectory during the examined period. The study has identified a favorable correlation between money supply and economic growth, whereas no definitive association has been established between the exchange rate and economic growth. Furthermore, the data has failed to demonstrate any impact of Foreign Direct Investment (FDI) on Iraq's economic growth. The relationship between inflation and GDP appears intricate, subject to fluctuations based on various factors. Additionally, the study has revealed a positive connection between government expenditure and GDP, while highlighting a negative correlation between trade openness and economic growth in Iraq.

The findings of this study are important for policy makers and practitioners as they provide insights into the factors that contribute to economic growth in Iraq. Based on these findings, the study formulates appropriate policy recommendations for fostering and maintaining elements that positively impact Iraq's economic growth. Such policies could include promoting trade diversification, enhancing the efficiency of the financial sector, and increasing investment in human capital.

To sum up, this research aims to offer a thorough comprehension of the factors influencing economic growth in Iraq. By providing valuable insights into the primary catalysts of economic development and proposing policy suggestions, this study

contributes significantly to the current body of literature on Iraq's economic progress. It is hoped that the findings of this study will inform policy decisions and contribute to the long-term economic development of Iraq.

Recommendations

The following suggestions have been made in light of the study's findings:

- The central bank of Iraq has to reconsider when increasing the money supply. The quantity of money has to go directly into production sectors so that these sectors can contribute more effectively to economic growth and therefore, the Iraqi economy can take more advantage of this monetary tool.
- To prevent the Iraqi economy from succumbing to a Dutch illness, the Iraqi government should invest in the manufacturing and agricultural sectors so that they can flourish by utilizing oil revenues.
- To benefit from the variety of financial products that will serve as a hedge against its future export profits, the government should work to improve the local financial sector and promote its integration into the global financial system.
- In order to enhance the contribution of foreign direct investment, the government should reconsider the criteria and instructions for the foreign companies who intend to invest in Iraq so that the economy can benefit more from these companies and the Iraqi economy can boost.
- The central bank of Iraq should reconsider the status of the Iraqi Dinar against the US Dollar. It can be done by the revaluation of the Iraqi so that the exchange rate can contribute more significantly to the economic growth of Iraq.
- This study did not expect the effect of inflation or the sign of that effect. However, moderate inflation is essential for economic growth because it makes more goods and services available or creates new ones. Therefore, the government ought to preserve the level of inflation as much as possible.
- The government must balance its spending with the level of economic growth. A high level of government expenditure relative to GDP can be a cause for concern, especially if the government is financing its spending through

borrowing, as it can lead to high levels of debt and interest payments, which can negatively affect the economy in the long run.

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LIST OF TABLES

Table 1: An overview of early and traditional theories 28
Table 2: Iraq's crude oil exports from 2005 to 2021 44
Table 3: Summary of the empirical studies on economic growth in Iraq 51
Table 4: Data and Data Sources 58

LIST OF FIGURES

Figure 1: Conceptual framework 57
Figure 2: Money Supply (IQD trillion) and GDP (IQD trillion) 60
Figure 3: Exchange rate (IQD thousands) and GDP (IQD trillion) 61
Figure 4: FDI and GDP (IQD trillion) 63
Figure 5: Inflation (%) and GDP (IQD trillion) 65
Figure 6: Government Expenditure (IQD trillion) and GDP (IQD trillion) 66
Figure 7: Trade Openness (%) and GDP (IQD trillion) 68

APPENDICES

Annually Data (2005-2021)

Years	MS	EXC	GEX	FDI	INF	TOP	GDP
2005	11399125000000	1474	26375175000000	1.03153064	0.37	115.7425403	41115700000
2006	26953000000000	1467	38076795000000	0.587963056	0.532	89.65052049	65158827539
2007	21080000000000	1265	39031232000000	1.093912892	0.005	74.09285311	85239920949
2008	34920000000000	1196	59403375000000	1.409951741	0.027	81.05554327	130130016722
2009	45438000000000	1180	52567025000000	1.431429891	-0.028	78.68737882	118076440678
2010	60400000000000	1183	70134201000000	1.00796494	0.024	73.49747962	145356720203
2011	72300000000000	1183	78757666000000	1.120863398	0.056	72.17132822	178613693998
2012	75500000000000	1179	105139576000000	1.559615273	0.061	73.60868459	207972858355
2013	87707000000000	1179	119127556000000	-0.99527921	0.019	67.41001841	226802374894
2014	90728000000000	1188	113473517000000	-4.455211245	0.022	68.98248686	219360269360
2015	82595000000000	1190	82813611000000	-4.541592226	0.014	69.5917686	161092436975
2016	88100000000000	1190	73571003000000	-3.754985923	0.005	54.58832019	165126050420
2017	89400000000000	1190	75490115000000	-2.687994284	0.002	59.78091239	189915966387
2018	95400000000000	1190	80873189000000	-2.148548348	0.004	65.80179177	211008403361
2019	103400000000000	1190	111723523000000	-1.316406167	-0.002	68.98993842	220924369748
2020	119900000000000	1200	76082443000000	-1.706678667	0.006	56.65488154	165666666667
2021	139886000000000	1460	129993009000000	-1.5242322	0.06	61.82135355	206438356164

- Money supply (trillion Iraqi dinars) from Central Bank of Iraq
- Exchange rate (Iraqi Dinar Against US Dollar) from Central Bank of Iraq
- Government Expenditures (trillion Iraqi dinars) from Central Bank of Iraq
- Inflation (%) from Central Bank of Iraq
- GDP (Billion Iraqi Dollar) from Central Bank of Iraq
- FDI (% of GDP) from World Bank
- Trade Openness from World Bank

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