BINGOL UNIVERSITY

SOCIAL SCIENCES INSTITUTE

BUSINESS ADMINISTRATION DEPARTMENT

ESTIMATING FUNCTION OF DEMAND FOR THE DOLLAR IN THE IRAQI ECONOMY (FOR THE PERIOD 2003-2014)

BY STUDENT

SHIVAN MOHAMMED SALIH MOSTAFA

MASTER THESIS

SUPERVISOR

Assist. Prof. Dr. Yavuz TURKAN

Co. Supervisor. Dr. Haider SALAHAL-DIN

BINGOL – 2018

BİNGÖL ÜNİVERSİTESİ

SOSYAL BİLİMLER ENSTİTÜSÜ

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IRAK EKONOMİSİNDE DOLAR İÇİN TALEP FONKSİYONUNUN TAHMİN EDİLMESİ (2003-2014 DÖNEMİ İÇİN)

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CONTENTS

CHAPTER TWO

THE ANALYSIS AND MEASUREMENT OF THE DEMAND FUNCTION FOR THE DOLLAR IN THE IRAQI ECONOMY

CHAPTER THREE

ESTIMATING AND ANALYZING THE DEMAND FUNCTION FOR THE DOLLAR IN THE IRAQI ECONOMY FOR THE PERIOD (2003-2014)

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This work I have prepared in accordance with the thesis writing rules, which I have achieved in the framework of scientific ethics and tradition within the scope of all the information in the thesis, which I have met with the scientific ethics and academic rules carefully until the conclusion of the proposal phase of the master thesis [ESTIMATING FUNCTION OF DEMAND FOR THE DOLLAR IN THE IRAQI ECONOMY (FOR THE PERIOD 2003-2014)] I declare that the works I have shown and utilized for each quotation consist of those shown at the source.

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This thesis has been accepted by the jury determined in the / / 2018… Session of the Board of Directors of the Institute of Social Sciences of Bingol University.

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Director of the Institute

PREFACE

[Estimating function of demand for the dollar in the Iraqi economy for the period 2003-2014] has been highlighted in the context of “Iraqi economy".

The supervisor who does not spare his help in the preparation of this works [Assistant Professor Dr. Yavuz Turkan]; and he did not spare their contribution in the writing and correction of the thesis and who contributed to my education throughout my life.

I offer my relief gratitude to help keep my morale and motivation at a high level in completing my work.

/ /2018

SHIVAN MOHAMMED SALIH MOSTAFA

ABSTRACT

Title of the Thesis: Estimating Function of Demand for the Dollar in the Iraqi Economy for the Period 2003-2014

Author: shivan mohammed salih mostafa

Supervisor: Assistant Professor Dr. Yavuz Turkan

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Demand for money is one of the economic variables that aim at achieving monetary balance in society to achieve the goal of sustainable economic growth.

Therefore, tracking the behavior of the function of demand for money and knowledge of their determinants and the size of the impact of each of the factors that determine the nature and degree of stability increases the effectiveness of economic policies followed.

The stability of the function of the demand function of money and the possibility of anticipating changes that can occur are the basis of the monetary policy formulation process. At the same time, the sensitivity of each specific interest rate will affect the effectiveness of economic policy. The smaller the elasticity of demand for money to the interest rate increases the effectiveness of monetary policy.

The study aims to analyze the behavior of demand for money in Iraq for the period 2003-2014 to enable the monetary authorities to use the tools of monetary policy to achieve the goal of economic growth, and aims to determine the dynamic relationship of the demand for money in Iraq.

It should be noted there is a difference between the real exchange system and the nominal exchange system issued by the official documents of the Central Bank.

Therefore, in order to estimate the demand function of foreign currencies in dollars, macroeconomic analysis and empirical work should differentiate between the declared disbursement systems and the systems actually implemented.

The study shows that the central bank monopolizes the basis of selling the dollar, through which the general budget is financed by liquidating oil revenues.

The central bank of Iraq also finances the budget deficit; this increases the demand for the dollar in the Iraqi economy, leading to a decline in foreign exchange reserves.

As a result, the current international reserve is not a credit, and it rises and falls depending on that relationship; through this process, the exchange rate and demand for the dollar are maintained.

Key Words: Monetary Policy, Demand of Money, Financial Economics

TÜRKÇE TEZ ÖZETI

TezinBaşlığı:Irak ekonomisinde doların talep fonksi yonunun tahmini 2003-2014

TezinYazarı: shivan mohammed salih mostafa

Danışman: yrd. doç. dr. yavuz turkan

Anabilim Dalı: işletme ana bilim dali

Bilim Dalı:

Tarih: / / 2018

Para talebi, sürdürülebilir ekonomik büyüme hedefine ulaşmak için toplumda parasal dengeyi sağlamayı amaçlayan ekonomik değişkenlerden biridir.

Bu nedenle, para talebi işlevinin davranışlarını ve belirleyicilerinin bilgisini ve istikrarın doğasını ve derecesini belirleyen faktörlerin her birinin etkisinin boyutu takip edilerek izlenen ekonomik politikaların etkinliği artar.

Paranın talep işlevinin işlevinin istikrarı ve ortaya çıkabilecek değişikliklerin tahmin edilmesi olasılığı, para politikası formülasyon sürecinin temelini oluşturmaktadır. Aynı zamanda, her spesifik faiz oranının hassasiyeti, ekonomik politikanın etkililiğini de etkileyecektir. Para talebinin faiz oranına ne kadar az esnek olduğu para politikasının etkinliğini arttırır.

Çalışma 2003-2014 döneminde Irak'ta para talebinin davranışını analiz etmeyi amaçlamakta ve para otoritelerinin para politikasının araçlarını ekonomik büyüme hedefine ulaşması için kullanmalarını sağlamakta ve bu talebin dinamik ilişkisini belirlemeyi amaçlamaktadır. Irak'taki para.

Dikkat edilmelidir ki, Merkez Bankası'nın resmi belgeleri tarafından verilen reel değişim sistemi ile nominal döviz sistemi arasında bir fark vardır.

Dolayısıyla, yabancı paraların dolar cinsinden talep fonksiyonunu tahmin etmek için makroekonomik analiz ve ampirik çalışma, beyan edilen ödeme sistemleri ile fiilen uygulanan sistemler arasında ayrım yapmalıdır.

Çalışma, merkez bankasının doları satmanın temelini tekelleştirdiğini ve bunun da genel bütçenin petrol gelirlerini tasfiye ederek finanse edildiğini gösteriyor.

Irak merkez bankası bütçe açığını finanse ediyor; bu, Irak ekonomisinde dolar talebini artırarak döviz rezervlerinde bir düşüşe neden oldu.

Sonuç olarak, mevcut uluslararası rezerv bir kredi değildir ve bu ilişki üzerine yükselir ve düşer; Bu süreç sayesinde dolar için döviz kuru ve talep korunur.

Anahtar Kelimeler: Para Politikası, Para Talebi, Finansal Ekonomi

ABBREVIATIONS

GDP	Gross Domestic Product
PPP	Production Power Parity
IT	Inflation Targeting
BNM	Bank Negara Malaya
FDI	Foreign Direct Investment
IMF	International Monetary Fund
GNP	Gross National Product
MTM	Monetary Transmission Mechanism
GNI	Gross National Income
QTM	Quantity Theory of Money
OLS	Ordinary Least Squares
NEP	New Economic Policy
NDP	New Development Plan

LIST OF TABLES

LIST OF DIAGRAMS

LIST OF GRAPHICS

INTRODUCTION

There is no doubt that the demand for the dollar is the central element in the Iraqi financial economics because of the characteristics of the Iraqi economy. It is also significant in addressing the imbalances that occur in the budget of payments through the exchange rate, which is one of the priorities of the monetary policy of the Central Bank, noting that the demand for the dollar plays a role in the stability of the prices in general. This is due to the fact that the Iraqi State has a rental economy (sources of income depend on external demands) and its dependence on oil revenues by a large margin in the formation of the country's reserves of the inflows of foreign currency.

These revenues compose about 85% of the general budget, and about 60% of GDP composition. This mechanism has created a strong correlation between the components of money supply of the local currency and the one derived from the demand for foreign currency represented in terms of increased imports of consumer goods. The demand for the dollar is one of the variables that contribute to the establishment of economic policies aimed at achieving the cash balance in the Iraqi economy (Waeli, 2013, 12).

Therefore, tracking the behavior of the demand function for the dollar and knowing its determinants and the size of the impact of each determined factor and the nature and degree of stability, increases the effectiveness of the current economic policies. So, the stability of the demand function for the dollar, and the possibility of precise prediction for the changes that can happen to it, is the basis of the process of drafting one of the pillars of monetary policy.

Chapter one, Conceptual and theoretical framework of the demand of money.

Chapter two, The analysis and measurement of the demand function for the dollar in the Iraqi economy.

Chapter three, Estimating and analyzing the demand function for the dollar in the Iraqi economy for the period (2003-2014)

CHAPTER ONE

CONCEPTUAL AND THEORETICAL FRAMEWORK OF THE DEMAND OF MONEY

Demand of money is an economic variable that helps policy-making economic objectives aimed at achieving monetary balance in society, to achieve the goal of economic growth Sustainable development. Therefore, it follows the behavior of the function of demand for money and the knowledge of its determinants and the magnitude of the effect of each factor of the factors that determine the nature and degree of stability increases the effectiveness of economic policies followed.

The stability of the demand function for money and the possibility of the changes that can occur are a basis. (Dagim, 1989, p.22)

The process of monetary policy formulation, while at the same time the sensitivity of each interest rate will be affected the more effective the economic policy, the smaller the elasticity of demand for money relative to the interest rate Increase the effectiveness of monetary policy. (Al-Masri, 1998, p.59)

1.1. The Concept and Characteristics of the Monetary System

The monetary system, like any other economic organization, is the set of relationships and organizations that characterize the monetary life of a society over a given period of time and a specific range. The monetary system has three main characteristics.

The concept of the monetary system, it is defined on two levels, domestic and international,

1. At the local level, (Ghoneim, 2007, p.56)
   - **a.** A narrow concept, a set of procedures and rules that include the appointment of a monetary accounting unit, i.e., those that regulate the issuance and withdrawal of the (primary) cash from trading.
   - **b.** Broad concept, in addition to the narrow concept, it is also considered the rules governing the creation and cancellation of other types of cash (optional cash) deposits.

2. International level, the group of international monetary relations emanating from the international agreements in which there are means of payment that can settle international accounts (providing international liquidity).

The monetary system can thus be defined as, "A set of monetary regulations and institutions for the circulation of cash in a particular economic environment according to the types of money used, and the issuing party, and the rules of monetary account that achieve the various functions of cash," adds Dr. Ahmed Hussein as well as the package of regulatory procedures governing the process of cash circulation in the community time period, and regulating their susceptibility to other species.

Through this definition we can recognize that every monetary system has a set of basic elements that are the building blocks of this system that will serve the development of the swap economy (Ismail, 2009, p.45)

We can distinguish a monetary system from another monetary system is the rules it includes in determining and defining the monetary accounting unit for a particular commodity, foreign currency or currency. (Abdel Mawla, 1998, p.26)

1. A social system, the monetary systems, he says, are not created for themselves, but are economic instruments that are used to facilitate the production and exchange of products. They necessarily reflect the economy that is found to serve it, and it only refers to it. The monetary system in the capitalist economy is different from the monetary system in the socialist system or in the different economy. It cannot be imagined, for example, that money, institutions or monetary relations in a particular national economy follow Islamic values, in their forms and functions with those of other systems. (Abdullah, 2008, p.59)

Every particular economy is suited to a specific monetary and banking system, and when we know its type of criticism and affiliation, this is the true meaning of the social property of the monetary system. The latter is a part of the whole fact that society is a society.

2. A historical system, that is, it develops and changes with the development and change of the economic and social system, the monetary system like any other system generated from a vacuum or take a static position. But is born through the conditions prevailing in a certain period of time and develops with the evolution

of those conditions. The monetary system represents the special form of money trading in the capitalist swap economy. The latter, despite the fact that it retains its basic values and objectives, underwent many changes during its development stages when monetary relations changed. As the capitalist economy developed from the competitive stage to monopoly, The stage of the large production units, the development of the monetary system from the stage of the base of looting to the stage of paper money base and from the stage of monetary liberalism to the stage of monetary intervention. (Al-Sharah, 1999, p.26)

3. Composite system, the monetary system as any economic system has a compound property in the sense that it consists of a set of elements, including one main element and the rest a set of secondary elements. The basic element is playing the dominant role in the process of regulating the circulation of money and the Secondary elements are derived from it or subordinate to it.

The key element of the monetary system is the criterion that society takes as a basis for calculating economic values and comparing them to each other.

The main function of the monetary base is to maintain the economic value of money at home and abroad and any fluctuations in the monetary base that affect the purchasing power of money, its ability to perform its temporal functions (temporal status as a medium of exchange and future as a store of value and spatiality) Foreign. This is due to the fact that the monetary base is a real change from the seminar phenomenon in the monetary resources. The efficiency of the monetary base is measured by its ability to control the supply of legal money through the cover of issuance and credit money by controlling the creation of deposits and the protection of the central bank on commercial banks. As well as the core element of the monetary base.

There are also secondary elements, which should have two basic characteristics, Legal status,

a. In other words, the state intervenes with its money by giving the monetary unit the power of absolute absoluteness in fulfilling all the obligations so that the debtor or the creditor has no choice in accepting or rejecting it. The creditor is forced to accept them in fulfillment of his religion. The fulfillment of them would mean the expiry of the debt.

b. Final status, it is intended to have a mandatory price that is not allowed to be transferred to any other type of money.

Consequently, the basic money as legal and final money represents the top of liquidity, while other payment instruments have varying degrees of liquidity as they become sooner or later essential money according to the cycle of economic activity. The assets of each of these assets (credit, treasury bills, securities) differ in basic money depending on their ability to convert to legal and final money with the lowest possible expense and in the shortest period of time. According to the economic development of the exchange, all production is directed to the market and is the place where all economic activities are carried out. Thus, the production and specialization of monetary exchange becomes dominant and the market is the main factor regulating this kind of economic life. The monetary trading process to support the development of production in terms of monetary units and types of traded and how to issue each, and the terms of this issuance, and adjust the geographical space of the authority of this money to oblige the public to accept the payment of the value of purchases and discharge of debtors and the possibility to convert them to other money rolling (League, 2006, p.36)

1.2. Characteristics of the Monetary System

1. The monetary system is a social system, defining the parameters of a monetary system of a society that requires consideration through the social and economic environment in which it operates. Monetary systems, as "Petricks" says, have not been created for themselves but are economic instruments that are used to facilitate production and exchange of products. They necessarily reflect the economy that they have found to serve them, but they only follow according to them. The monetary system in the capitalist system is different from that of the socialist system and the Islamic community. (Awadallah, 2007, p.69)
2. The monetary system is a historical system, that is, it evolves and changes according to the evolution and change of the economic and social system that the capitalist system belongs to. It evolves from the stage of competition to the stage of competition, from the stage of small production units to the stage of large productive units. In contrast, the monetary system develops from the

stage of the gold base system to the credit base stage, A liberal stage to the stage of monetary intervention. (Leather, 2008, p.25)

1.3. The Concept of the Monetary Base

The concept of monetary rule, Means the last measure taken by members of the community mainly to calculate the economic values to compare each other, and has known the concept of development in two stages, (Al-Luzi, 1997, p.68)

- **a.** Stage of the rule of coins, the monetary base represents the weight of the pure metal of the monetary unit, and then the concept develops to mean the same metal from which this unit is made. It was said, for example, England on the base of gold and France on the base of metals (gold and silver).
- **b.** Stage of paper and banking money, the concept of the monetary rule has become limited to the value attributed to the national currency unit (exchange rate), such as the dinar to measure the economic values locally, and the dollar internationally in the monetary system. (AL- Foley, 2003, p.59)

1.4. Functions of the Monetary Base

Its primary function is to maintain the economic value or purchasing power of money (its ability to perform its functions) and that any fluctuations in the monetary base affect the purchasing power of the currency and its position among other foreign currencies. (Abdul Aziz, 1986, p.89)

1. The function of the monetary rule in the monetary system is to identify the changes in the value of the monetary unit by comparing its purchasing power with its own weight of gold (the intrinsic value of the cash) with the value of that weight in the gold market.
2. The function of the monetary rule in the monetary credit system is to determine the exchange rate between foreign currencies for foreign exchange. (Shehab, 2000, p.35)

1.5. Types of Monetary Systems

1. **Commodity Monetary System,**

The basis of dealing is gold or silver or both, and money takes the strength of the needle according to the metal used, we find, the system of one metal (gold or silver) and the system of metal (gold and silver). (Hassan, 2001, p.78)

The system of the single metal, under this system, the basis of the monetary unit is one gold or silver, but the most important and common is the gold base system because gold has the characteristics of natural scarcity (high cost), non-corrosion, non-damage with the ability to hold the first dish of this system is England. This system takes several forms, (Al-Amin, 1991, p.98)

a. Gold Coins System,

The first form of the gold base and the oldest (continued from the 17th century to 1925), where gold coins were traded alone or beside it were optional checks or coins, but in all cases the coins were the basic or final coins (Mandatory money). (Qirisa, 1984, p.102)

The terms of application of this system, (Abdul Rahim, 2008, p.96)

- ✓ Set a fixed ratio between the unit of cash used and a certain amount of gold with a certain weight and caliber (such as 1 pound = 7.3 g gold).
- ✓ There must be full freedom to pack gold at no charge or at a small cost.
- ✓ Full freedom to melt gold coins.
- ✓ The conversion of other currencies traded to gold money at the fixed legal price of gold.
- ✓ Full freedom to import and export gold.

Advantages of the gold coins system,

- ✓ Allows the circulation of other money in addition to gold coins (expansion of the volume of cash).
- ✓ Includes all countries of the world for a longer period.
- ✓ Its obligation to equal the purchasing value of money and gold. (Ghazali, 1987, p.154)

Disadvantages of the gold coins system,

- ✓ This system means the unity of the global market, which is developing towards the monopoly on gold and control of the market.
- ✓ Gold production has not expanded in line with the expansion of the productivity of goods and services, leading to higher prices. (Abdulmutallab, 2001, p.158)

b. Gold Bullion System (1925-1936),

In the face of growing needs of the community, their demand for coins increased, forcing banks to issue money with relative cover. With the advent of World War I, expenditures for arms purchases and war financing increased. Fuad turned gold into coins. This was not possible because gold reserves were insufficient, and gold could not be transferred from England to other countries. All these circumstances led England, France, Italy and America to hold a conference in Genoa, Italy, in 1921, the most important of which was the following, (Hanafi, 1997, p.99)

- The abolition of the gold coins system and the adoption of the gold bullion system starting in 1925.
- Setting conditions for currency exchange.
- Setting conditions on the process of converting paper money to gold (for example, 1300 pounds for one gold alloy).

With the advent of the global recession of 1929, characterized by a rise in prices by more than 60%, the collapse of exchange rates, the rise in unemployment rates, the bankruptcy of companies... In front of this situation decreased confidence of individuals in money and increased demand for gold, Gold reserves in most countries. (Abdul Hamid, 2010, p.136)

The Gold Rule (Coins and Bullion) system ended with the 1929 global crisis, when England announced its abandonment in 1931, America in 1933, France, Switzerland, Belgium and other countries in 1936. (Ali, 2004, p.148)

c. Gold Exchange System,

In this system, the value of the currency of a weak country is linked or does not have or does not have a gold in the currency of a country running on the gold base system. This was evident among colonial states. The essence of this system is to follow the gold hall without gold by dealing in the local currency internally, i.e., the mandatory paper currency without gold, while externally it is treated on the basis of gold using the currency of the country followed. In this system, the role of gold is limited to being the last measure of the external transactions. (Rady, 2001, p.125)

Advantages of gold exchange system,

- ✓ The state is dependent on the privileges of the state and followed the rule of gold even if it did not have gold.
- ✓ The currency of a dependent country is always strong.
- ✓ The existence of a fixed exchange rate between the currency of the dependent country and the receiving country.
- ✓ The economy in the use of money through the permissible use of the surplus money of the country followed.
- ✓ Gain the cost of storage of gold and his custody and his brother-in-law.

Disadvantages of gold exchange system,

- The state may be subject to crises and this will be reflected in the dependent state.
- Affecting the sovereignty of the dependent country, where it becomes linked to the economically and politically dependent country. (Gerbi, 2009, p.176)

d. METAL SYSTEM,

Is the system in which the value of monetary unit is determined for the two gold and silver, where the relationship between them is determined on the basis of a legal price that connects between them 1 unit of gold = 16 silver coins. It must be emphasized that the main factor in the stability and continuation of the circulation of the two metals together is the continued equalization of the ratio between their market value and the proportion of their legal value. This system was applied in France, followed by several countries such as Italy, Belgium, Switzerland, Spain and England. (Abdullah, 1999, p.69)

This system was used for a certain period, but England abandoned it to hide the gold from the deal, and interpreted it by the law "Gresham" bad money expels the good money from circulation to vary the ratio between the market value and the proportion of their legal value, A metal whose market value is higher than its legal

value tends to disappear from circulation and replace the cheap metal instead. (Khalaf, 2006, p.98)

And England has become dealing with gold, which led to the decline in the commercial price of silver for the legal price, which prompted foreign speculators to buy silver from England at the commercial price (market)

1.6. The Evolution of the Global Monetary Systems

In response to the worst financial crisis since the 1930s, policy-makers around the globe are providing unprecedented stimulus to support economic recovery and are pursuing a radical set of reforms to build a more resilient financial system. However, even this heavy agenda may not ensure strong, sustainable, and balanced growth over the medium term. We must also consider whether to reform the basic framework that underpins global commerce, the international monetary system. My purpose this evening is to help focus the current debate. (Shehab, 2002, p.158)

While there were many causes of the crisis, its intensity and scope reflected unprecedented disequilibria. Large and unsustainable current account imbalances across major economic areas were integral to the buildup of vulnerabilities in many asset markets. In recent years, the international monetary system failed to promote timely and orderly economic adjustment. (Rahwan, 2000, p.96)

This failure has ample precedents. Over the past century, different international monetary regimes have struggled to adjust to structural changes, including the integration of emerging economies into the global economy. In all cases, systemic countries failed to adapt domestic policies in a manner consistent with the monetary system of the day. As a result, adjustment was delayed, vulnerabilities grew, and the reckoning, when it came, was disruptive for all. (Carney, 2009, p.6)

Policy-makers must learn these lessons from history. The G-20 commitment to promote strong, sustainable, and balanced growth in global demand – launched two weeks ago in St. Andrews, Scotland – is an important step in the right direction. (Boraie, 1977, p.103)

The international monetary system refers to the conduct and management of monetary relations between the countries in a manner that supports the effectiveness of multilateral international trade. It is characterized by having featured models of the money used in the exchanges and a degree of flexibility of the exchange rate. Through surveying the history of international economic relations, we can define three different monetary systems which the modern world has witnessed. (Dwidar., 2003, p.159)

The monetary system that prevailed before 1914, known as the Golden Rule, which was based on the exchange rate stability, and depended on the gold and the use of the Sterling Pound in determining the value of money (currencies). However, during the period between the two world wars, the British currency has lost its former role. At the end of World War II, "Bretton Woods" system, which was based on the stability of the exchange and the use of the US dollar in all transactions, was established and lasted from the end of World War II until the beginning of the 1970s. (Malak, 2001, p.367)

1.7. Financial Globalization

The first seeds of financial globalization began in the 1960s and 1970s, and then accelerated in the 1980s. It can be said that the world on the outskirts of the nineties became one financial village and the financial activity in many countries merged into the global economy, financial markets, what do we mean by financial globalization, and what are their means, stages and objectives?

1.7.1. The Concept of Financial Globalization

Is the abolition of all restrictions on the movement of capital in the world, and financial globalization is the result of financial liberalization, and the transition to the so-called financial openness, which led to the integration and interdependence of financial markets, and increase the flow of capital across the border into the global financial markets?

1.7.2. The Concept of Financial Liberalization

Financial liberalization has two main things,

1. Broad meaning, it refers to the set of methods and measures taken by the State to abolish or reduce the degree of restrictions imposed on the functioning of the financial system, with a view to enhancing its efficiency and overall reform.
2. Narrow, means the process of liberalization of financial market operations from the restrictions imposed on them, which hinder the circulation of securities at the local and international levels.

1.7.3. Factors that Led to the Globalization of Financial Activity

There are several factors that have led to the globalization of financial activity, but they are in stages,

1. European Currency Market, began with the emergence of the euro and dollar market, a currency market beyond its national borders, not subject to restrictions and controls imposed by the national monetary authorities, and several factors helped to grow this market.
   - The role of the Soviet Union stocked from the dollar for development during the Cold War, without putting it on the US financial market.
   - the balance of payments deficit of the United States of America in the 1960s, and the consequent exit of the dollar.
   - The expansion of the activity of the multinational companies that maintained their liquid assets in the Euro-Dollar market due to their flexibility and advantages.
   - Governments and banks also kept their foreign exchange reserves in this market, to benefit from free dealing and lack of restrictions.
2. European Bond Market, the international bond market continues to be the most liberalized capital market, accessible for long-term loans by international borrowers, and the secondary market has improved considerably in recent years. This market achieved depth and liquidity in the late 1970s, The European international bond market has become an integral part of financing operations and international banking operations, which has helped to form the long-term capital market.
3. Removal of restrictions on transferability for current account purposes, The removal of restrictions and barriers to the transfer of capital, Europe

removed these barriers for purposes of the current account in 1959-1958, followed by the United States of America in 1959, followed by a number of States, has emerged that developing countries that removed the restrictions on the exit and entry of heads Funds, have seen an increase in inflows and not vice versa.

4. Liberalization of the financial and banking sector,

Not only did developing countries remove restrictions on capital flows, they liberalized their financial sector, and many countries expanded interest rate movements, removed interest rate ceilings, reduced legal reserve, and reduced state intervention. The privatization of banks and insurance companies, and the removal of many institutional barriers separating the domestic and international markets, resulting in the integration of local markets into global markets, which led to a strong impetus for the acceleration of the globalization process.

5. Widening the base of syndicated loans, an important innovation in the European international credit market was the floating interest rate concept, which practically eliminated for banks the risk of fluctuations in the costs of converting medium term loans. In addition, in order to ensure a profit margin for existing banks, to distinguish between different credit ratings of borrowers, various increases are added to the LIBOR, as well as general renewals in the European loan market. One borrower without increasing the credit risk in that bank, so the loan makes a joint venture among dozens of international banks.

6. Branches of foreign banks, these branches play an active and vital role in the process of globalization of financial activity. The importance of these branches is that they carry out most of their operations in foreign currencies, for the benefit of non-residents or for multinational companies. This helps to transfer financial developments among the various financial centers in the world Information revolution and technological development. The information revolution and the accompanying expansion of the use of computers, the revolution of programs and the tremendous technological development in the means of communication were factors that contributed to the globalization of financial activity, the integration of markets, and had a significant impact on the

global financial markets. With the possibility of billions of dollars or any other process that crosses borders in a matter of seconds, this sophisticated technology is leading to more pressure for further liberalization and removal of barriers.

1.7.4. Objectives of Financial Liberalization

There are several objectives of the strategy of financial liberalization, most notably, Greater efficiency and greater efficiency of the functioning of financial markets with a view to mobilizing domestic and foreign savings, capitalizing on their economies and increasing investment rates;

1. Increasing the access of the investor and the local borrower to investment and international sources of finance, leading to increased interdependence between the domestic and global financial markets.
2. The strategy of financial liberalization coincides with the strong tendency towards liberalization of international trade and the internationalization of financial transactions, as well as in commercial transactions, especially after the introduction of the trade of financial banking services into multilateral trade negotiations and subjecting them to the mandate of the World Trade Organization.
3. The large number of economic changes that have swept the capitalist economies from changes in the exchange rate, foremost of which is the dollar and international interest rate changes, which have changed the monetary and financial system of the countries. This led them to give more freedom to foreign remittances.

In short, financial liberalization aims to make the financial market more effective, as it has the ability to compete, with the rest of the international financial markets, to provide investment opportunities and sources of borrowing.

1.7.5. The Procedures for Financial Liberalization

The procedures for financial liberalization are summarized as follows,

1. the abolition of exchange controls, by adopting a variable exchange rate, determined according to changes in supply and demand forces;

2. Liberalization of capital account transactions. This means freedom of movement of funds from and to the economy, specifically from and to financial markets. This freedom increases the possibility of those with real assets, financial and foreign cash, and allows non-residents to own and trade local assets;
3. Liberalization of interest rates in the financial sector;
4. allowing foreign joint stock companies to enter the financial market; The success of the liberalization process can be inferred by two indicators,
5. The evolution of cross-border transactions, in equities and bonds in developed countries.
6. Development of foreign exchange trading.

1.8. The International Role of the Dollar

The dollar formed the main pivot of the international monetary system established by the "Bretton Woods" conference as the dollar has become the first reserve currency and a major component of liquidity components along with the gold (Amin 2010, 289). The dollar base has reached its peak during the 1950s and the 1960s, as Mc Kinnon has pointed to the following conclusion, (Halood, 2007, pp.549-550)

$M^w = A / \beta (\Delta S^e)$

When,

M^w, Refers to the monetary base of the world.

A, Local assets of the Federal Reserve Bank.

β, Dollar's share of the monetary base of the world.

And β has an inverse relationship with the expected rate of the depreciation of the dollar ΔS^e.

During the 1960s, the value of β was approaching the integer 1, meaning that the dollar, as a matter of fact, was the only currency that is used as a reserve, and had been slightly affected under the implemented exchange rate system. So, the value of

β was not only close to the integer 1, but it was also stable around that value, and the U.S. was accordingly determining the monetary base of the world. During the last three decades of the twentieth century, the value of β suffered a sharp decline and the share of the dollar in the foreign exchange reserves has fallen to about 55% in the early 1990s due to the successive crises that have occurred in Southeast Asia. This has signified that the multiplier for the world's monetary base β/1 has increased in this period compared to what it was during the 1960s. Furthermore, special expectations were referring to the fall of the dollar value significantly, meaning that not only the multiplier of the monetary base has become larger, but also there is a greater degree of instability in that period.

1.9. Exchange Rate Regimes in the Monetary Systems

Exchange rate regimes are divided into the following:

1.9.1. Fixed Exchange Rate Regimes

When the monetary authorities adopt fixed exchange systems, they do not allow the exchange rate to be reversed in the foreign exchange market in response to the forces of demand and supply of the foreign currency. Fixed exchange rate systems are divided into two categories as follows, (Boukhari, 2010, pp.140-141)

1. Hard peg system
   - **a.** Monetary Union, a group of countries using a common currency issued by one central bank (as the West African CFA franc organization), or what is known as the Economic Community of West African States.
   - **b.** Dollarization, under this system, the local currency is being completely abandoned for the benefit of a foreign currency (dollar) and the monetary authorities give up its right of an independent monetary policy.
   - **c.** Currency board, a monetary system based on linking the currency of a country with the currency of another country. It depends on an explicit legislative commitment to swap the local currency with a specific foreign currency at a fixed exchange rate, with having restrictions on the issuing authority in order to ensure the fulfillment of its legal obligation. This leads to the cancellation of the traditional functions of the Central Bank such as monetary control and the role of lender of last resort.

2. Intermediate Exchange Rate (Soft peg)

These systems allow a variety of flexibility degrees, including, (Dagher, 2015, p.5)

- **a.** Basket peg, the central bank selects a group of currencies to form a basket and links the local currency with the basket. The link could be with standard currencies such as the Special Drawing Rights (SDR), allowing the exchange rate to fluctuate slightly (± 1%) from the equilibrium price of the currency. This system gives the monetary policy a limited amount of flexibility.
- **b.** Target Zone, it is a proposed by (Williamson)[*]. It requires setting a target range and determines the exchange rate at a certain level, allowing it to fluctuate around (± 10%). Its volatility outside this targeted range is prevented by intervening in the exchange market. Therefore, the Target Zone should be flexible for changes in case the exchange rate moves outside this range.
- **c.** Crawling peg, under this system, the local currency is linked with a major currency or a basket of currencies, defining a specific equilibrium value for it. The value of the currency, under this system, is slightly modified on a periodical basis. This system is suitable for countries that face real fluctuations and variable inflation rates. Exchange rate arrangements applied by (Nicaragua) at the beginning of the new millennium (2000s) serve as a good example for Crawling peg.
- **d.** Crawling Band, this system is, to a large extent, similar to Crawling peg. However, it differs from its predecessor in that, the change in the equilibrium value crawls within higher and lower limits.

1.9.2. Floating Exchange Rate Regimes

These regimes are divided into three sections, namely,

a. Pure Floating, the exchange rate in such a system is determined in accordance with the conditions of supply and demand for the foreign currency without any intervention from the monetary authority.

[*] *Oliver E. Williamson: is an American economist and recipient of the 2009 Nobel Memorial Prize in Economic Sciences.*

b. Impure Floating, it means that the monetary authority declares to implement an official policy which implies floating the exchange rate; however, it frequently intervenes in the foreign exchange market for the management of the exchange rate (Halood, 2007, p.497).
c. Managed Floating, exchange rates are determined in the market by the convergence of supply and demand, and the monetary authorities intervene when necessary to maintain the exchange rate (Boukhari, 2010, p.142).

1.9.3. Classification of Exchange Rate Regimes According to Levy- Yeyati and Sturzenegger (LYS)

The researchers used a statistical method for the classification of exchange rate regimes on a sample of 183 countries during the period 1974 to 2000, using annual data. According to this classification, the effective exchange rate is recognized through a set of variables including the change in exchange rate, volatility in the nominal change rate, and fluctuations in foreign exchange rate reserves (Mohammed, 2013, 140). With regard to the changes in the nominal exchange rate (S_E), they can be realized by calculating the absolute monthly value average of the nominal exchange rate. While the volatility in the changes of the nominal exchange rate (ΔS_E) is the standard deviation of the percentage of the changes in the nominal exchange rate. Finally, the measurement of fluctuations in reserves (r_t) requires a special attention and being as close as possible to the international reserves volatility, which reflects the level of intervention in the foreign exchange market by the monetary authorities. This can be achieved through two steps, (Dagher, 2015, p.6)

1. Determining the net foreign reserves as follows,

a. Rt = (Forigon Assests – Forigon Liblites – Government Deposite) / E_t

When,

R_t, Represents Net Reserves.

Gov. Deposits, Represent Government Deposits at the Central Bank.

E_t, Reflects the Foreign Exchange Rate.

b. Calculating the monthly change in international reserves r_t in order to realize the extent of the monthly intervention by the monetary authority in the foreign exchange market. This can be achieved by using the following formula,

$$r_t = (R_t - R_{t-1}) / (\text{Monetary Base}_{t-1} / E_{t-1})$$

Table 1.1., Classification of Exchange Rate Regimes according to Levy- Yeyati and Sturzenegger (LYS)

The adopted exchange rate regime	S_E	$S_E\Delta$	r_t
Unclearly defined[*1]	lower	lower	lower
Floating exchange rate	upper	upper	Lower
Managed floating	upper	upper	upper
Crawling fixed	upper	lower	upper
Fixed exchange rate	lower	lower	upper

Source, Dagher, Mahmoud Mohammed, and Hussein Atwan Mahus, The Iraqi Dinar Exchange Rate between the Real System and the Declared System for the Period (2004 - 2012), the Central Bank of Iraq, 2015, p.7.

Table (1) shows the upper and lower central limits for the group of the three classification variables for each of the floating exchange rate system, managed floating exchange rate system, Crawling fixed system, the fixed exchange system. The comparison was based on the central value.

Table 1.2., Change Limits of the Classification of Exchange Rate Regimes according to Levy- Yeyati and Sturzenegger (LYS)

Exchange rate system	Changes in the nominal exchange rate			Volatility in the nominal exchange rate			Volatility in international reserves		
	Min	Centroid	Max	Min	Centroid	Max	Min	Centroid	Max
Floating	0.72	1.18	2.73	0.36	0.96	1.37	0.25	3.19	6.46
Managed Floating	0.16	0.95	1.77	0.33	0.86	1.58	5.38	7.86	10.63
Crawling fixed	0.02	0.53	1.05	0.24	0.50	1.44	0.35	4.29	7.53
Fixed	0.00	0.00	0.63	0.00	0.00	0.66	5.65	7.51	11.02

Source, Dagher, Mahmoud Mohammed, and Hussein Atwan Mahus, The Iraqi Dinar Exchange Rate between the Real System and the Declared System for the Period (2004 - 2012), the Central Bank of Iraq, 2015, p.8.

[*] It refers to the inability to clearly identify the applicable exchange system through the conduct and the direction of the used variables used.

1.10. The Theories Analyzing the Demand for Money

There are conflicting theories regarding the interpretation of the demand for money and this has created different factors for its definition and interpretation. To begin with the classical theory, which has made the demand for money as a function in the level of monetary income, it did not clarify the role of the interest rate in the demand for money. This has aroused the interest of Keynes through his analysis of the demand for money for the purpose of speculation, as he introduced a model to be chosen between money and the financial assets through the bonds. While Friedman, the pioneer of the Modern Quantity Theory of Money, has found that the demand for money is only a function among the total resources available to individuals, i.e. the income and wealth, and that the rational expectations theory assumes that individuals' predictions are based on accurate and appropriate information available during the period in which these expectations are made. This information includes data and knowledge about all its relations and the economic impacts that are likely to be obtained.

1.10.1. The Classical Theories of Demand for Money

The classical school sought to analyze the determinants of the value of money and the price level. Some tried to sum up the causes of price volatility in money supply change, while some viewed the part of money that individuals traded as income. Two theories emerged in the interpretation of the value of money, Income theory, the first drew attention to money supply, and second, the demand for money, both when it was acquired and spent. (Jawda, 1996, p.99) The classic model is based on the following assumptions:

1. All markets (commodity and labor markets) are fully competitive and the economy is in full operation.
2. Employers and workers are not subject to monetary deception in the sense that they build their decisions, not on the basis of the absolute level of prices or on the basis of the rate of monetary remuneration, but their decisions are based on the relative prices of commodities and factors of production. When workers decide the amount of work they offer, on the real wage and not on the absolute level of monetary remuneration.
3. Full flexibility of monetary and commodity prices.

4. Say’s low for markets guaranteed (supply creates demand for it).
5. Growth automatically without state intervention in economic life (neutrality of the state). (Hani, 1999, p.56)

1.10.1.1. The Theory of the Quantity of Money, Irving Fisher

This theory has some assumptions, the most important of which are,

1. Demand for money is a demand derived from the demand for goods and services and the function of money as an intermediary in exchange.
2. Real size stability at full operating level.
3. The speed of money circulation is stable and independent of the amount of money traded, as well as the real volume of exchanges and are considered as independent factors slow change.
4. Looking at the general level of prices as a dependent variable is a result and not a reason for the change in other factors, and there is a direct relationship between the issuance of cash and the price level, and this explains the rise in the general level of prices (inflation). (Belzouz, 2003, 98)

The theory of the quantity of money is based on a set of assumptions regarding the importance of changes in the amount of money relative to other factors in influencing the level of credit. The proponents of this theory believe in the amount of money that is effective and influential in determining the general level of prices and their proportion is inversely proportional. This theory is equivalent to an analytical exchange tool to illustrate their views as follows, (Shafi'i, 1986, p.89)

MV = PT

M, Amount of money circulating and includes paper money, cash assistance and current deposits.

V, the speed of circulation (the average number of times the unit moves from one hand to another).

P, General price level.

T, Volume swaps.

Thus, the equation determines all the factors that interact directly in determining the level of prices. Another equation, called the economic exchange equation of Fischer, was also introduced. (**Bo Shama**, 2004, p. 36)

$MV + M\not{c}\ V\not{c} = PT$

M, Legal money.

V, the speed of circulation.

M ¢, bank money.

V ¢, the speed of circulation.

The purpose of separating M and M ¢ is to show the importance of each in achieving a certain level of exchange. Despite this presentation, the conclusion does not change. Every change in monetary element has an effect only on prices.

The monetary policy of the classic is therefore a neutral policy whose role is to create money for the execution of transactions, that is, the volume of transactions determines the amount of money to be met.

This theory has been criticized in many ways,

1. The lack of theoretical hypotheses in many respects.
2. Ignoring the effects of interest rates on the overall level of prices.
3. The theory did not explain the reasons for the changes in the value of money and the forces that govern it.
4. Assuming that prices change depending on the amount of money offered and cannot be changed by other factors. This is not true. Prices may change due to non-monetary reasons such as the failure of an agricultural season.
5. Pay attention to the role of intermediary in exchanges and neglect of other functions. (Shehab, 2000, p.98)

Despite these criticisms, this theory is considered a valuable step. It has succeeded in focusing attention on some of the important total quantities that reflect economic activity, such as the amount of exchanges and the quantity of money, and it has prepared to study the other aspects of the economy that control the course of money and the speed of circulation.

1.10.1.2. Income Theory and the Cambridge Equation

In addition to the previous theory, another theory tries to explain the fluctuations in the value of money. Some writers have tried to explain the marginal value. They have declared that money does not affect prices except by entering and demonstrating the behavior of the individual towards his income.

Income theory is linked in the analysis between the ideas of income and benefit to explain the fluctuations in the value of money. She sees that price fluctuations depend on the movements of cash income and income from goods and services, which affects prices is the amount of money that reaches the markets.

This trend has paved many theories, Cambridge theory.

Alfred Marshall believes that economic agents tend to maintain liquid cash balances to meet what they buy from goods and services, which Marshall called "monetary preference." This analysis is based on the factors that individuals demand for money to keep in the form of idle cash balances and the equation is formulated from the form,

Md = KY

Md, Demand for money.

Y, Cash income.

K, the monetary preference of the community is a percentage of the national income that individuals wish to keep in liquid cash form, which is the cornerstone of the Marshall equation., Considering that K is inverted Y, any change in the quantity of money will have an effect at the price level ie P = f (M) and thus the same equation of the exchange equation

This means monetary policy neutrality. The effect of money change is only on the general level of prices, which means that it is ineffective in influencing income, interest rates and the real side of the economy.

1.10.2. Modern Critical Theory (Ecclesiastical School and Monetary Preference)

We have presented previously the components of traditional monetary theory, and showed that this analysis supports the principle of "monetary neutrality", but the inability of this economic philosophy emerged in the events of the Great Depression

in 1929, and necessitated these events a real revolution in economic thought, changing the field of study and analytical tools used, this is what happened in the Keynesian theory. Keynes examined the effect of money on various aspects of economic activity, rather than limiting the scope of theoretical research to the interpretation of the value of money (which governs the change in the overall level of prices), which according to Keynes is merely a reflection of another, Level of employment and income and thus the level of effective demand, which is "a part of the total expected demand that achieves the greatest possible profit for organizers." Total effective demand acquires the status of an independent primary variable that determines the levels of operation, production and income as dependent variables. Three main independent variables are the inclination to consume, the marginal adequacy of capital and the interest rate, making Keynes an effective tool and an essential tool of economic analysis.

Benny Keynes's theory is based on the following hypotheses,

1. Rejection of Say's market law and its consequent rejection of the rule of permanent and continuous equilibrium at the level of full employment, and the refusal of equal savings and investment.
2. Money is a commodity like the rest of the goods.
3. Money supply is an external variable determined by monetary authorities.
4. State intervention in economic activity to address imbalances.
5. Lack of faith in full operation, the economy can know the condition of less or more than full operation.
6. Saving and investment depends on income rather than interest rate.
7. It is difficult to distinguish between monetary and in-kind aspects of the economy.
8. Keynes analysis is a complete analysis.

1.10.3. The Rational Expectations Theory and the Demand for Money

During the 1970s, the neoclassical school, led by "Robert Lucas" from the University of Chicago and "Thomas Sargent", has given further analysis on the arguments presented by the Keynesians and monetarists about the neutrality of

money hypothesis. Perhaps, the most important characteristics of this analysis are the following, (Abdulqadir, 2009, p.260)

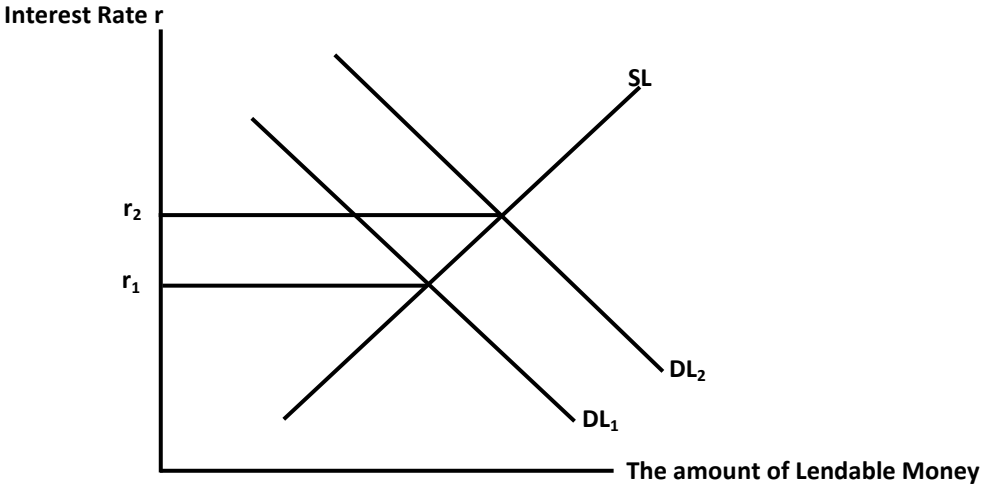
a. The assumption that the economic decision makers have rational expectations based on the collection of available information.

b. Their use of a dynamic general equilibrium model, which takes into account the time overlap of economic decisions, acknowledging that changes may interact with each other immediately and over time.

c. The theory believes in the flexibly of price changes including interest rates, which had been originally assumed by the classical theory and was rejected by the Keynesian theory, as there is no (liquidity trap) in the demand for money for loans and the interest rate is able to achieve a balance in the financial markets.

According to this theory, the interest rate cannot deviate too much from the equilibrium interest rate for a long time because the new information will be random and short-termed. Besides, the new information from the quick deviation of the interest rate up and down is balanced by the adjustment of dealers' expectations in the financial market, which gets the interest rate back to equilibrium as illustrated in the following figure,

Diagram 1.1.: The Rational Expectation Theory for the Interest Rate



Source: Shindi, Adeeb Qasim, Money and Banks, Dia' House for Press, Publication and Design, Iraq, 2010, pp.111-113.

It can be noticed from Figure (1) that the market is in equilibrium and that the equilibrium interest rate is r, and that the government has announced its need for borrowing to finance the general budget deficit. This leads to the expectation of an increase in interest rates in the future because the government demand will increase the overall demand for the lendable money which increases the interest rate while having stable supplies. Thereby, these expectations create an increase in demand from DL to DL_1, raising the current interest rate rises to (r_1).

If we assume that the government's need to borrow will not be entirely materialized in the future due to higher revenues from taxes, and that the level of the actual demand in the future will not rise to the expected level (DL_1), the increase in government loan volume will lead to an overall demand for lendable money between DL and DL_1.

This theory criticizes many Keynesians and others in that it would be unrealistic to assume that persons or facilities are dealing with the information accurately and with a supposed degree of intelligence that is unbiased and obtained from the most accurate forecasts. It is also unrealistic that people use the information on all the relevant variables in the formation of their expectations because the collection of such information is difficult and of high costs. (Canterbury, 2011, p.420).

CHAPTER TWO

THE ANALYSIS AND MEASUREMENT OF THE DEMAND FUNCTION FOR THE DOLLAR IN THE IRAQI ECONOMY

Monetary policy is an important part of macroeconomic policy where monetary policy leads no matter how good it is in regulating money supply and controlling cash and credit.

In order to study the demand for money in Iraq, it is necessary to present an overview of the Iraqi economy, as follows,

2.1. **The Size of the State and the Extent of its Intervention**

Since the establishment of the modern Iraqi state (1921), the state has introduced itself in Iraq as an alternative to private activity. Even when private activity in the fields of industry, trade and services increased, government activity was also growing at a steady pace. 1973. If we reach the eighties, the Iraq-Iran war, which was characterized by opening up areas to the private sector, the state has "remained the same weight". (Abdullah, 2001, p.114).

It was clear that the Second Gulf War of 1991 produced an exceptional situation. During the years of siege, the state re-discovered the importance of the market, not only its advantages, but also its advantages, and as the most important tactics to be relied on during the siege. And found within Iraq multiple markets, the largest of which is based on the principle ((Let him work without a link or officer)), which includes the activities of many white and black, legitimate and illegal.

The state abruptly withdrew from intervention, but from time to time pursued arbitrary policies, which stopped the market or some of its sectors to come back again.

But the state and the oil-for-food deal have become a strong competitor to this market by adopting policies that were based on the use of this program to increase its foreign exchange reserves, especially the dollar, which was collected by government and non-government brokers and funds that came from two sources, The

second is the sale of goods purchased through the memorandum to individuals in local or foreign currencies depending on the type of the commodity and the buyer's identity, which can be explained as follows,

1. The State's continued adoption of the new monetary policy despite the improvement in its financial position after the conclusion of the agreement.
2. The presence of amounts and foreign currencies in the treasury of the Central Bank of Iraq and the homes of some senior officials.
3. The continued devaluation of the local currency, which resulted economically from the increase in the local currency, although improved before reaching the conclusion of the agreement, but returned to the deterioration again.
4. The rise in prices of some goods imported by the private sector. The state during the siege era was adopting an extreme financial base based on public expenditure at the lower level and local currency. Revenues are at the highest level and are denominated in foreign currency. There was no balanced budget or normal concept of surplus, but there was a surplus equivalent to the total value of the total expenditure.

Which imposed on the economy constraints to the recession, although inflation is pushed by the other, which prevailed over the conduct of the economic state during the era of the memorandum.

The government has resorted to a policy of real wage pressure and maintaining nominal wage growth at a rate well below the rate of inflation in order to maintain low public expenditure, despite the state's commitment to employ increasing numbers of the labor force. Therefore, the state was able to cope with increases in employment and nominal wages. The salaries of employees decreased in real terms, which resulted in the low quality of government work, the withdrawal of specialized and skilled staff from government work, and the tendency to travel abroad or to work in the private sector, even in their fields of specialization. General to recruit the reward of its employees.

Given the link between growth in output and low levels of productivity, the government's adoption of a new policy that included incentives and earnings

ratios for workers in public productive enterprises was not taken into account. Which is deep in the imbalance and imbalance between the middle and working classes, while the university professor receives a salary is supposed to be the highest gets an unskilled worker in the Ministry of Industry on the incentives equivalent to twice or twice that salary after the policy changed the sale of goods produced by the public sector to emulate Market prices.

But the situation changed after April 9, 2003, when the coalition authorities allowed the market to replace the state that was undermined by the occupation. Iraq became a rare case worthy of reflection and study. The borders were opened wide and the goods flowed without any supervision from any side and imported thousands of goods. Even with the formation of the state and the formation of its institutions, the previous situation has not changed. The state is still far from exercising its proper role for the stage. With the establishment of national government, the national state must establish a new social contract and assume the tasks of preparing for reconstruction and economic recovery. For this work, and should take the economic planning and work according to a plan formulated according to Iraq's potential and needs

2.2. **Alternative Policies and the Quality of Economic Philosophy**

Iraq struggles with two views, one calling for the adoption of economic liberalism and the initiation of a broad privatization program involving the 129 state-owned enterprises and acceptance of foreign investment and foreign imports. There are those who believe that the Bush administration should "provide the next Iraqi government with leadership and guidance for deep economic reform." Reform should include the broad and transparent privatization of state-owned enterprises, particularly the restructuring and privatization of the oil sector. To attract more foreign capital, American support is needed to urge international organizations to provide expertise and technology to the process, including the International Monetary Fund and the World Bank, and perhaps non-governmental organizations such as the National Foundation for Democracy Support and the World Center To the private sector, the Bar Association and the Federation of Trade Unions of America. (Al- Najafi, 2004, p.96)

The second vision warns against these policies and emphasizes the importance of maintaining the public sector to maintain employment and social stability. Apart from the theoretical arguments and arguments presented by either side, the choice of policies that have profound implications for shaping the future of Iraq should not take place under exceptional circumstances and by authorities that lack legitimacy and support the people. Therefore, the formation of the national government should wait, and until then international law should be adhered to, which would not allow for major structural economic reforms. As for the oil sector, its specificity and the Iraqi people's need for its resources, which should be distributed equitably, do not allow it to be the scene of privatization policies. (Nasrawi, 2004, pp.85-90)

Whatever the case, some economists emphasize that the future conditions of the Iraqi economy require the presence of a force from outside ((the market)) to control the course to activate the model of economic development in light of the changing economic conditions of Iraq. This role is determined by the state in its changing form according to economic understanding and away from ideological extremism. Moreover, this role is not an eternal necessity, it is of a progressive nature whose dimensions are determined according to the development of the economy and its development towards economic welfare. The function of scarcity of resources in the economic community is on the other hand, and the economic activity of the State is dominated by the goods (basic needs) and (human development) which improve the level of welfare mentioned. (Al- Najafi, 2004, p.96)

The monetary authorities use intermediate objectives such as money supply and interest rates to reach a final goal to be adopted as a price stability and reduce inflation, which is one of the most important objectives of all the economies of the world Including the negative effects reflected on the economy and economic growth, so the challenge faced by the monetary authorities in Iraq after 2003 is inflated inflation, but must not be controlled by the formulation of monetary policies independent of any political decision and the need to be the authorities Cash has flexibility and freedom to use its various tools to combat rampant inflation.

The Central Bank of Iraq worked after 2003 with different tools and tools than before, this difference; there are several reasons behind it,

1. Independence by the Central Bank under its new law No. Acquired by 56 of 2003.
2. Iraq on the resources of foreign exchange access (Iraqi oil export revenues) after the cessation of these revenues since 1990s because of the siege.
3. Consolidation of Iraqi currency categories (dinar) after issuance of the new Iraqi currency with international specifications and the use of this currency throughout the country to the north and south uniformly. (Sadiq, 2006, p.11)

These subjective and objective reasons have helped to some extent pave the way for the new monetary policy to start the pace to achieve the goals set for them.

2.3. The Relationship between Interest Rates and Inflation and their Reflection on the Demand for the Dollar in the Iraqi Economy for the Period (2004-2014)

Fisher, an economist, has introduced a theory in his book "The Theory of Interest," in 1890, in which he has explained the impact of inflation on the interest rate, also called the impact of Fisher. He has also illustrated that the nominal interest rate in a country is determined by the real interest rate and the expected inflation rate in that country which can be calculated according to the following formula, (Sundqvist, 2002,11)

1. **r = R + INf**

   in which,

   r, is the nominal interest rate,

   R, is the real interest rate,

   INf, is the expected inflation rate,

The nominal interest rate is affected by the real interest rate and is also affected by the expected inflation rate in the future; accordingly, the real interest rate will be in the following format,

2. **R = r – INf**

In which the real interest rate is a function in both the nominal interest rates and the expected inflation rate. Hence, the nominal interest rate is in a positive relationship with the real interest rates, while the inflation is in an inverse relationship with real interest rate. The economic actors make their decisions based on the real interest rates, not the nominal one.

So, if the savers are aware of the negative interest rate phenomenon (a case in which the local inflation rate is greater than the nominal interest rate on saving deposits in local currency), they will be convinced to abstain from savings in their local currency, and they will rush to convert their savings from local currency into foreign currencies which are more stable in value and in interest rate.

Consequently, there is an inverse relationship between the demand for the dollar and real interest rates. The Central Bank of Iraq (CBI) has focused in its monetary policy on the role of the interest rate reference and its adoption in restoring the economic balance and imposing stability, putting the inflation rate under control, especially after 2004, when the central bank has gained its independence. It has been found in studies conducted by the Central Bank of Iraq that the difference between the real interest rate and the nominal interest rate relied on by the monetary policy is higher and, therefore, a part of the inflationary pressures can be absorbed by increasing the real interest rate through increasing the nominal interest rate.

Whereas the success of the monetary policy in the face of inflation, and the use of the interest rate reference in the monetary policy have had the greatest impact on confronting a case of inflationary expectations. With the inflation basically falling from (31.7%) per annum for 2006 to (2.4%) and (1.6%) per annum for the years 2013 and 2014 respectively, the interest rate reference adopted by the Central Bank has also fallen (with the inflation falling) from (53.1%) in 2006 to (2.33%), after the interest rate reference monetary policy has achieved its objective in bringing about strong returns to the Iraqi dinar and turning it into an attractive currency (Qasim, 2011, pp.6-7).

The inflation equation can be compensated by the exchange rate equation due to the specificity of the Iraqi economy, in which imports compose a large proportion of the commodity supply priced in the dollar. So, the inflation can be referred to (the general level of prices) through changes in the value of the currency. If the Central

Bank's goal which is represented by the monetary policy is to maintain the real interest rate equilibrium, when the parallel exchange rate increases by one unit, the nominal interest rate should rise by an inverted exchange rate in the official market in order to maintain the real interest rate equilibrium at a fixed point. This can be proved through the following derivation, (Waeli, 2013, p.21)

The real interest rate equilibrium represented by the equation,

3. $$R = r - \frac{E_t - E_0}{E_0}$$

in which,

R, represents the real interest rate,

r, represents the nominal interest rate,

$\frac{E_t - E_0}{E_0}$, is the amount of change in the value of local currency,

E_0, is the exchange rate in the official market, and

E_t, is the exchange rate in the parallel market.

The nominal interest rate equilibrium represented by the equation,

4. $$r = R + \frac{E_t - E_0}{E_0}$$

By taking the partial derivative of the nominal interest rate to the exchange rate in the parallel market, we get,

5. $$\frac{\partial r}{\partial E_t} = \frac{1}{E_0} = E_0^{-1}$$

In other words, when the exchange rate in the parallel market increases by one unit (the value of local currency falls), the nominal interest rate in the financial market should increase by the inverted official exchange rate, so that the stability of the real interest rate can be maintained.

2.4. The Analysis of the Determinants of the Demand for Dollar in the Iraqi Economy

During the conduct of research, the reasons explaining the increase in the demand for dollar in the Iraqi economy have been multiplied. The reasons behind the tendency for the demand for dollar can be explained through analyzing the properties

of the economic environment in Iraq, and through the response of monetary policy tools by the monetary authorities within the economy.

In this part of the study, we will present the most important main reasons and determinants that are considered to be motivating for the demand for dollar in the Iraqi economy. The most important determinants of the demand for dollar in the Iraqi economy and for the period (2004-2014) include each of the following,

2.4.1. Changes in the Value of Local Currency

The related literature suggests that the study of the exchange rate aims at searching for the means and measures that would stabilize the value of the local currency against various foreign currencies as much as possible.

After 2004, the monetary policy has focused significantly on stabilizing the exchange rate, which is consistent with the rentier nature of the Iraqi economy and the flow of foreign currencies generating activity in the economy. Whereas the monetary authority has turned to daily foreign currency auctions style in order to control the levels of liquidity on the one hand and to maintain the stability of the national currency on the other hand. (Al-Nabi, 2015, pp.3-4)

During the period (2004-2008), it can be argued that the disparity between the official exchange rate and the parallel exchange rate is fading as the difference between the two values is small due to the abundance of oil revenues which finance the public budget through daily auctions of the Central Bank through buying and selling the dollar. This auction method has put an end to the deviations and volatility of prices, and the foreign currency auction operations were used as an instrument of the balance between cash supply and demand of the local currency and the cash supply and demand of the foreign currency, something which has helped in controlling the levels of liquidity of the local currency. (Shabibi, 2007, pp.26-27)

The nominal exchange rate in the official market remained stable against the dollar up to 2009, while the price in the parallel market has increased after 2009. The Central Bank of Iraq is following a policy of dealing with the US dollar as a de facto, which provides a nominal mainstay of the economy.

However, in 2011, the fiscal expansion which is resulted from the increased public spending and political instability in Iraq and the region, has led to an increase in the demand for foreign currency. In late 2011, the Central Bank of Iraq has introduced new restrictions in response to the concerns involved with money laundering and illegal inflows of foreign exchange abroad. As a result, the difference between the official price and the price in the parallel market began to grow, which was (2%), has given rise to the practice of multiple exchange rates and reached to more than (8%) in April 2013. This will, of course, lead to an increase in the demand for dollar as a result of currency devaluation. (IMF, 2013, p.10)

We can conclude, from the above, that the relationship between the demand for the dollar and changes in currency value is positive. The decline in the latter means increasing expectations for higher value local currency which pushes the individuals towards the local currency as deposits and savings or as cash, which means a decrease in the demand for the dollar.

The appendix (1) shows the trends of change in the exchange rate in the Iraqi economy and changes in the value of the local currency. It is noted that in 2004, there was no changes in the local currency value due to the lack of difference between the parallel and official exchange rate. While during the period (2005-2008), the difference between the two prices began to appear leading to changes in the value of local currency.

It is also evident from the data of table (14) that during the period (2009-2014) the changes in the value of the currency have entered into a decimal place and this is due to the discrepancy between the price at the parallel exchange rate and the official exchange rate.

In 2012, the space between the parallel exchange rate and the official exchange rate has scored (67) points, resulting in a high rate of currency changes, which amounted about (5.434%) during 2012. This will naturally lead to an increase in the demand for the dollar which is illustrated in appendix (1).

2.4.2. The Gross Domestic Product (GDP)

The gross domestic product (GDP) is considered as the most important indicator for the illustration of the economic development and the percentage of the

contribution of economic sectors in the components of the GDP in the country which is expressed in statistical numbers.

The GDP represents the final value of goods and services, produced within a country during a certain period of time, usually a year, and reflects the resulting structure of the extent of contribution or relative importance of each productive sector in the gross domestic product, compared with other sectors.

As for the Iraqi economy, which is suffering since a long time from structural imbalance in the productive machine, it has witnessed a state of lack of proportionality of the economic sectors which represent the most important domestic supply sources of goods and services. This has reflected in the disruption of the real productive capacity generated in the economy, as the statistical data in appendix (2) indicate, an increase in the value of the gross domestic product with the ongoing prices of 2007 by (16.6%) as compared to 2006.

The increase in the value of the GDP in 2007 is due to the relative improvement in the security and economic situations of the country and the increase in oil exportation revenues which is resulted from higher global oil prices. The GDP per capita has risen from (2230) dollars in 2006 to (2847) dollars in 2007, an increase of (27.6 %). As for 2009, the statistical data show a decrease of (16.8%) in the rate of the gross domestic product at current prices as compared to 2008. This is because of the decline in the oil prices due to the global financial crisis. In 2014, the GDP at current prices was declined by (3.9%) as compared to the year 2013, and the gross domestic product per capita at current prices was decreased from (6603) dollars in 2013 to (6060) dollars in 2014.

Appendix (2) shows that the commodity sectors are affected by the rise and fall of crude oil prices globally, sometimes positively and sometimes negatively for the period (2004-2014). This is basically due to the rise and decline in mining and quarries output, as the average contribution percentage of the commodity sector in the gross domestic product was amounted (63.19%) during the period 2004 to 2014.

While the distributive sectors have witnessed rising and falling, which were mainly determined by the outcome of transportation and communications sectors and

single and wholesale, and the average contribution percentage of the distributive sector in the GDP scored (15.24%) for the period 2004-2014. While the increase and decrease of the output of service sectors is the result of an increase or decrease of social and personal development services, and the percentage of the contribution of the service sector in the GDP has amounted (21.57%) during the period 2004-2014.

The data of appendix (2) refers to the extent to which the Iraqi economy is relying on foreign markets in meeting its needs of various commodities, where the average proportion of imports in the GDP amounted up to (28.4%).

This is ascribed to the limitedness of domestic production of commodities due to the inability of this production to keep pace with the increased demand for goods and services as a result of an increase in the real per capita income. In addition, the countries exporting various goods and services to Iraq adopt a policy of dumping commodity.

Accordingly, there is an inverse relationship between the demand for the dollar and the GDP, as the rise in the GDP in the economy refers to the spread of a state of macroeconomic stability, which is reflected in decreasing the likelihood of the volatility of the domestic price levels and exchange rates of the local currency, and then leads to a lower demand for the dollar.

Appendix (2) indicates that the demand for the dollar is growing up during the period 2004 to 2013, and shows the proportion of imports for the public and private sectors in the gross domestic product (GDP), in comparison with the GDP growth, which is supposed to grow at a rate higher than the imports, causing a decline in the demand for the dollar for the purposes of consumption. Table (16) refers to the contribution of the oil sector in the commodity sector with a percentage of more than (50%) in the GDP.

Appendix (3) shows the relative importance of the commodity activities for the gross domestic product in the Iraqi economy. It can be noted that agriculture, forestry and fishing contribution to the GDP amounted (5.40%) during the period (2004-2014) and mining and quarrying contribution reached (50.46%) during the period (2004-2014). While the percentage of manufacturing industry's contribution to

the GDP was (2%); as for electricity and water, the percentage contribution was (1.23%), and the percentage of construction's contribution amounted (4.4%). In total, the contribution of the commodity sector to the GDP was (63.49%) during the period (2004-2014).

2.4.3. Oil Revenues

Iraq's economy depends significantly on oil. It is a rentier economy at first place as the oil revenues compose a great deal of the Iraqi government's budget reaching (90-98%) and contribute to building a foreign cash reserve for the economy.

The political and economic conditions played a major and influential role in the variation of oil revenues' contribution in public revenues. Appendix (4) illustrates the share of oil revenues in public revenues for the period (2004-2014). It can be noted from the table that after the lifting of the economic sanctions on Iraq and lifting the ban on the export of crude oil in 2004, the share of oil revenues in public revenues began to increase. This is because of the exacerbation of the problems in other economic sectors, such as agriculture and industry which has led to a decrease in their contribution proportions to public revenues.

However, the rise of Iraq's oil exports, which amounted to approximately (1,850) million barrels per day in 2008, had a significant impact on the rise of oil revenues percentage, as well as the rise in oil prices since 2004, which had increased Iraqi oil revenues. In 2010, the price of a barrel of crude oil on average has recorded (75.6) US dollar and this has led to an increase of oil revenues by (36.8%) as compared to 2009.

These developments have resulted in an increase in the contribution of oil revenues in overall revenues to (96%). In 2011, the price of a barrel reached (103) US $ and (107) US dollars in 2012, which has led to an increase of the share of oil revenues in overall revenues amounting (98.4%) and (97.3%) for the years 2011 and 2012 respectively. As for 2014, the oil revenues recorded a percentage of (92.1%) from the total revenues because of the continuation of the Iraqi economy on depending on oil resource in financing its budget.

Finally, there is a direct correlation between the demand for the dollar and oil revenues. Due to the specificity of the Iraqi economy, the public spending is financed by oil revenues, and widening the spending can be accommodated by widening oil revenues. The biggest bulk of spending is consumer, thus, the shift of spending into the demand for imports in foreign currency leads to an increase in the demand for dollar.

Therefore, the increase and decrease in oil revenues are considered to be important indicators affecting the demand function for the dollar in the Iraqi economy during the period of research. Appendix (4) indicates the contribution of oil revenues to overall revenues and it can be noted from the analysis of the table that there is a positive and significant correlation between oil revenues and public revenues. The correlation coefficient has reached (0.99); this link is clear through the percentage of oil revenues contribution to the overall revenues indicating to a defect represented by the characteristics of the rentier economy which is dependent on the external demand in the formation of incomes and is also an indication of a very large dependency of Iraq in the establishment of its budgets during the period of research.

2.4.4. Real Interest Rates

The real equilibrium interest rate is considered as a relatively equilibrium price depending on changes in the local currency value.[*] Therefore, it focuses on analyzing the current equilibrium in the commodity, monetary and financial assets markets, assuming that changes in the real equilibrium interest rate is determined, in the medium and long term, through expecting the changes in exchange rate of the local currency against the foreign currency.

The latter depends on the local currency supply, which is derived from the demand for the foreign currency, as well as the demand for the local currency, which is derived from the foreign currency. So, the explanatory variables specifying the real equilibrium interest rate include both the exchange rate in the official market, the exchange rate in the parallel market, and the nominal interest rate (Waeli, 2013, pp.7-8).

[*] The changes in the value of local currency reflect the price changes and the real per capita income average because of their link with the inflation, expressed through the general level of prices.

It can be noticed from appendix (5) that the real interest rate has reached its highest level in 2007 and 2008 due to the increase in the average nominal interest rates, with the parallel exchange rate getting closer to the official exchange rate. It can be observed that the real interest rate has reached its lowest level in 2012 due to the decrease in the average nominal interest rate with a large deviation of the parallel exchange rate from the nominal one. Accordingly, there is an inverse relationship between the demand for the dollar and the real exchange rates in Iraqi dinars.

The increase in real interest rates in dinars means an increase in the interest rates on deposits in Iraqi dinars as compared to those in the US dollar. This makes the economic actors prefer not to do a replacement, and to keep deposits in Iraqi dinars, which is considered more attractive in this case, leading to a decrease in the demand for the dollar, and vice versa.

Appendix (5) refers to the real interest rates in the Iraqi economy for the period (2004-2014). It is noted that in the years 2012 and 2013, the real interest rates have been decreased in spite of the stability of the nominal interest rate due to the changes in the local currency referring to an increase in the demand for the dollar as a result of pessimistic expectations towards the local currency.

2.4.5. Inflation Rates

Inflation is the continuing rise in the general level of prices. The index of general consumer prices is considered as one of the most commonly used indicators in measuring inflation in Iraq because the consumer basket represents the supply of goods and services produced domestically and imported. "Inflation"[*] can also be referred to as "too much money is chasing few goods" in the sense that the average cash income growth rate is greater than the average production growth rate.

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[*] The inflation is measured by the percentage of the increase in the general price level in a given period of time, usually a year as it was in the previous period. If the comparison was for a previous period of time (several years), the annual compound growth rate for the general level is taken as a measure of the mode of inflation, and the annual inflation rate is calculated through a range of indicators:

1. The implicit Reducer of the GDP= $\frac{\text{the nominal GDP}}{\text{the real GDP}} * 100$
2. The index of consumer prices.

In other words, the rate of change in the total demand (consumer spending + investment spending) is higher than the rate of change in the total supply (domestic production + imports + inventory). Hence, the prices rise on average in the short term (the period in which the volume of production is fixed or semi-fixed) and there are different points of view in that regard, some financial and other monetary. (Doski, 2011, p.99)

When following up the inflation rate through table (19), it can be noted that the prices have moved upward for the years (2004-2007) in a balanced manner with an increase in the money supply and the stimulation of public spending and weakening the local supply of tradable goods and growing the limitations on non-tradable goods (such as modern management services, accommodation, real-estate, housing, infrastructure, etc.) dramatically to meet the total demand which is stimulated by public spending. (Dagher, 2014, p.34)

It is obvious from appendix (6) that the inflation rate was (26%) in 2004, and has risen to its highest level in 2006, reaching (53.1%). Then it has fluctuated between high and low, to hit its lowest level (1.22%) in 2010, then began to rise gradually to reach (6.86%) in 2012. The inflation rate fell to (1.83%) at the end of 2013, which was mostly due to the lower prices of imported food. When comparing inflation rates (general index of prices) with the Iraqi Central Bank sales of foreign currency in auction which is one of its goals is the absorption of liquidity, we find out that there is a positive relationship between them, i.e., the increase of inflation rates means low value of local currency and, thus, leading to an increase in the demand for the dollar.

Appendix (6) refers to the inflation rates that are based on the index of the general level of prices. Despite the increase in the sales of the Central Bank's foreign currency, inflation rates are fluctuating between relatively high and relatively low. But the contractionary monetary policy behavior through their tools was able to move from decimal to unilateral places and this is considered to be an achievement because of its reflection on the decline in dollarization ratios in the Iraqi economy.

2.4.6. Foreign Reserves

The reserve of foreign currency is resulted basically from the movement of the balance of payments or the external sector of the economy of the country and is subject to increase or decrease in the light of those ongoing external movement. This reserve has a central key function which is standing as a barrier to absorb major shocks, in a manner that keeps the stability of exchange rate of the national currency against the foreign currency. Therefore, the accumulation of the foreign currency at the Iraqi Central Bank, which represents its international reserves, is carried out through the Ministry of Finance when it exchanges its revenues in dollars, which are made mainly from Iraq's oil exports, to meet its need of the Iraqi dinar issued from the Iraqi Central Bank. Since the Central Bank of Iraq's mission is to maintain the stability of the value of the Iraqi dinar at official exchange rates, this has determined the orientations of the monetary policy of the Central Bank and has restricted it in how to use the available dollar as foreign reserves (Qasim, 2012, 120).

However, the Central Bank organizes currency auctions in order to achieve a real balance between the demand and supply of foreign currency in the exchange market, which is resulted from the lack of flexibility in the production machinery. The Central Bank's sales of foreign currency were (6,108) million dollars in 2004, and increased to (10,463) million in 2005, an increase of (71.29%). The increase of the Central Bank's sales of foreign currency has continued until it reached to approximately (51.728) million in 2014, an increase of (746%) as compared to 2004.

Appendix (7) clarifies the ratio of Iraq's Central Bank sales of foreign currency at the auction to that of the foreign reserves in its possession. The average of this ratio for the period (2004-2014) has reached to approximately (68%). The ratio was at its highest level in 2005 and 2009, and reached to approximately (77%). These high percentages illustrate the extent of the depletion of foreign reserves at the Central Bank to defend the stability of the exchange rate of dinar in order to achieve price stability to preserve the value of the local currency and then the average of the real per capita income which expresses the welfare of society.

This will naturally be reflected on the demand for the dollar in the Iraqi economy. Appendix (7) shows the foreign reserves of the Central Bank of Iraq and its sales at currency auction for the period (2004-2014). Because of the specificity of

the Iraqi economy in general, and the general budget in particular, we note that the overall revenues in the budget are very largely related to oil revenues.

This refers to the dependency of public spending on oil revenues greatly. By observing the table, we can see that at the beginning of 2004, the foreign reserves (dollar) have annually increased until 2013, covering the money supply by more than (100%).

The above indicators suggest that the dollar reserves, when evaluated in local currency, can cover the debt of the money supply in the broad sense and in different rates. The difference depends on the balance of foreign reserves held by the Central Bank. As confirmed in 2014 and expected at the end of 2016, these reserves do not cover the money supply in the broad sense because of the collapse in oil prices, a source on which Iraq's economy depends greatly.

2.4.7. The Structure of the Public Budget

The public budget represents as one of the state's tools by which it holds the management of its financial policy including the expenses and revenues in order to achieve the goals they seek. The disruption of the public budget structure often reflects the absence of diversity or the disruption of output structure in the economy. This would mean that the state has little or no diversity in revenue sources and this has negative effects on the state budget as well as other effects on economic variables.

The public budget basically consists of two aspects. The first part is that of public revenues, what the state gets as income, as Iraq depends on oil as the main source of funding, and the public revenues are estimated based on identifying the volume of oil exports and expected price levels during the financial year.

While the other side is the public spending, this includes all state's expenditures and consists of two types. The first type embodies the current expenditures (Operating Expenses), which cover the expenses for running the ministries and units, i.e., the expenses that are necessary for the function of the public utilities of the state. The second one includes investment expenditure, which covers the expenses of investment projects (Shani, 2011, 56-57).

It can be noted from appendix (8) that the public revenues have reached their highest level in 2012, which amounted (119,817) billion dinars. This increase in public revenues was due to the increase of oil revenues. However, public revenues in 2014 fell to (105 386) billion dinars with a negative annual growth rate of (7.42%).

As for the public expenditure, the operating expenses composed a proportion of (78%) of the total public expenditure during the period 2004-2014. Investment expenditure, on the other hand, composed about (22%) of the total public expenditure and this is due to directing most of the hard currency from the dollar to the operational budget to be spent on items, paragraphs and purposes of consumer nature, particularly the allocations of salaries and wages and providing the types of support, subsidy and the supplies of goods and services to departments, institutions and government ministries (the Ministry of Planning, the Iraqi economy report, 2014, 27).

Accordingly, government spending is funded by oil revenues and consumer spending represents the bulk of those revenues. These spending turn into a demand for goods, which are often imported, and are widening by widening the oil revenues. Turning these spending into the demand for imports in foreign currency (dollar) leads to an increase in the demand for the dollar.

CHAPTER THREE

ESTIMATING AND ANALYZING THE DEMAND FUNCTION FOR THE DOLLAR IN THE IRAQI ECONOMY FOR THE PERIOD (2003-2014)

In this chapter, the study will attempt building a model for the interpretation and analysis of the behavior of demand function for the dollar in the Iraqi economy. It will also try to explain the form, direction and the strength of the relationship between the demand function for the dollar as a dependent variable within the model, and some explanatory variables (Independent variable) which are expected to contribute to the interpretation of the behavior of this function in the light of the economic theory, taking advantage of the most widespread literature to this thread.

3.1. The Significance of the Study

There are very few studies that have addressed the subject of the demand function for the dollar in the Iraqi economy and the identification of the most important variables of this function. This study derives its importance from attempting to analyze, measure and establish an estimated model of the demand for the dollar in the Iraqi economy for the period from 2003 until 2014, to find out the reality of this indispensable variable which has an impact on the internal balance, represented by the general level of prices, and the external balance of payments through the exchange rate.

3.2. Purpose of the Study

The study attempts to achieve the following basic goals,

1. Analyzing the behavior of the demand function for the dollar in order to enable the monetary authority to use its tools to achieve monetary stability, hence contributing to economic growth by controlling the levels of liquidity.
2. Evaluating the establishment of an estimated model of the demand for the dollar in the Iraqi economy quantitatively and measuring the specific and effective factors of the demand function for the dollar for the period 2003-2014.

3.3. Hypotheses

The study aims at testifying the following hypotheses,

1. There is a direct correlation between the demand for the dollar and the changes in the local currency value as the official exchange rate of the Iraqi economy is fixed. So, the further the distance between the parallel exchange rate and the official one, the lower the value of the currency, leading to the emergence of the so-called the negative real interest rate. This naturally leads to a decrease in the demand for the local currency, which is derived from the decrease in the foreign currency supply, increasing the demand for the dollar.
2. Low dollarization rates increase the effectiveness of monetary policy, the liquidity control and the stability of the demand function for the dollar.

3.4. Problem Statement

The core problem of the study is centered on identifying the main factors affecting the exact estimation of the demand function for the dollar in the Iraqi economy because of the complexity of the constraints that control this function, which is owing to the specificity of the Iraqi economy of which imports constitute the largest proportion in the total components of supplies. This is, however, due to the lack of flexibility in the production machinery which is resulted from the low percentage of the contribution of other economic sectors, beside oil, in the GDP components, causing structural imbalance and a decrease in the movement of the output element. Here, the semi-direct relationship between the general budget and international reserves has emerged, causing the instability of the exchange rate in the domestic market (parallel market), which generates price rising and difficulties leading to the increase of the money supply through issuing bonds to cover the deficit in the public budget. This, in return, increases the inflationary pressure, which acts upon the difficulty of estimating the demand function for the dollar in the Iraqi economy.

3.5. Methodology

The study adopts an inductive and analytical approach in determining the theoretical framework of the subject. The current study will apply Unit Root Tests

like Augmented Dickey- Fuller and Philips- Perron, to testify the containment of time-based series adapted in this study on the root of the unit. The study seeks to attain a static time series at integrity level determined by the tests. This research also uses Johansen- Juselius procedure of co-integration analysis to testify the hypothesis of the stability of demand function for the dollar in the long term, and the error correction model to estimate the dynamic demand for the dollar in the short-term. The study has also been relying on the Jarque- Bera test to examine the normal distribution of the model, and model quality tests including test correlation between errors from the second-class "LM" and testing autoregressive conditional heteroskedasticity "ARCH".

3.6. Literature Review

1. **Leventakies, 1993,** the study was conducted with the objective of testifying the effect of the open economy on the behavior of the demand function for money for seven major industrial countries namely, Canada, France, Germany, Italy, Japan, United Kingdom, and United States, using a time series of the years (1962-1983) and the error correction model. The researcher used the real value of the definitions of money (M1 and M2) as a dependent variable, while the explanatory variables were,
    - Short-term interest rates are calculated based on the quarterly average interest rates on Treasury bonds for each of Canada, the United Kingdom and the United States.
    - Short-term interest rates are calculated based on the quarterly average interest rates in the money market of France, Germany, Italy and Japan.
    - Effective exchange rate is known on the basis of units of local exchange / unit of foreign exchange.
    - Real permanent income is the real GNP for Germany, Canada, Japan and the United States, and the GDP for each of France, Italy and the United Kingdom.
2. **Arize, 1994,** the study assessed the demand function for money in a broad sense (M2) for the United States, using quarterly data during the period (1953-1987), utilizing the Dynamic error correction models. The dependent variable in the real cash balances represents M2, while the explanatory variables are,

a. The real GDP.
b. Interest rate on commercial paper rate.
c. Changes in the interest rate.

The study came up with the following findings,

- The estimated general statistical indicators for the model designate that the estimated model is of high quality in the interpretation the behavior of the demand function for money in the United States.
- The real gross domestic product (GDP) is the best income variable in influencing the behavior of the demand function for money in the long run, while the real consumption expenditures is the best income variable in influencing the behavior of the demand function for money in the short term.

3. **Alain Ize and Eric Parrado, 2002,** the study is titled "Dollarization and Monetary Policy." The study has found that an increase in the dollarization rate decreases the control over the monetary policy as the ability of monetary authorities in liquidity control is reduced. This is due to the fact that the local component, on which the authorities have a direct and definite influence on, is small, leading to the reduction of the stability of demand function of money. Accordingly, monetary aggregates become more sensitive to expectations with regard to the low value of the currency, the effectiveness of interest rates reduces, and the effectiveness of the exchange rate, used as a policy tool to cope with the shocks that the economy might be exposed to, declines. Even in the countries that experience low rates of dollarization, reducing the value of the currency will exert a negative impact on the banks and the companies in these countries since they receive large loans denominated in foreign currencies and, therefore, should consider balancing the currency risks in their accounting records.
4. **Irfan civcir, 2005,** the study is titled "Dollarization and Its Long-run Determinants in Turkey." The study is aimed to interpret the phenomenon of dollarization in Turkey, by providing the model-based portfolio of financial assets on the time series, using a monthly series of data for the period (1986-2000).

   The study has used the following sample,

$$DR = DR\ (s^e, (r^d - r^f), s^r, CR, D)$$

When,

DR, dollarization rate

s^e, prediction of the direction of the exchange rate.

$(r^d - r^f)$, the difference in interest rates, which is the difference between the real domestic interest rates on deposits for 3 months and the real foreign interest rates.

s^r, the risk of exchange rate.

CR, the credibility of economic policies.

D, random error term.

Then, time-series for the above-mentioned variables have been set in the time period (1986-2000), finding out that the results were consistent with the economic theories and literature.

The model acknowledged the inverse relationship between the dollarization rate on one hand, and the differences in interest rates, on the other, in addition to the reverse response of dollarization rate for the credibility of economic policies. It has also proved the positive relationship between the dollarization rate and the decline rate in the exchange rate and exchange rate risks, which is reflected on the demand for the dollar whenever the exchange rate declines, indicating to an increase in the proportion of dollarization in circulation.

3.7. Models Variables Description

The description phase is considered as the most important stage of the preparation of the standard economic model. Through this stage, the relationship between the approved economic variables and illustrative variables is determined within the economic model in the light of economic theory data. Hence, the data were transferred from a heterogeneous form to standard numbers in a homogeneous manner as shown in the appendix (10) for the purpose of building a standard model clarifying the role of the explanatory variables that have been confined to certain

economic variables, which are expected to have an impact on the demand function for the dollar in the Iraqi economy.

These variables will be expressed as follows when demand for the dollar which is symbolized by the acronym (DFD)*, is the approved variable that is explained through some of the following explanatory variables,

1. Changes in the value of the currency which is symbolized by the acronym (EX).
2. The gross domestic product (GDP).
3. Oil Revenues (RO).
4. Real interest rates (RD).
5. Inflation rates expressed by index of consumer prices (CPI).
6. Foreign reserves (TFA).
7. The structure of public budget expressed by public spending (G).

3.8. A Summary of Test Results for the Stability of Time Series

The results of time-series analysis were clarified for the purpose of testifying their stability over time through the unit root testing and determining the degree of their stability using both Dickey Fuller and Phillips–Perron tests. This is executed through using the first equation which is the estimation of the decline of Dickey Fuller and Phillips-Perron, which contains a fixed extent and the general trend. This is the broadest model. Table (3) shows the test results of the unit root of the dependent variable, which is the demand for the dollar, and the explanatory variables, that have an effect on the dependent variable, after excluding other variables with least influence and which are not directly linked with the demand function for the dollar, such as an interpretative variable (public spending) before preprocessing tests and joint integration.

* The demand for dollars can be seen within the frame of the Iraqi Central Bank sales of foreign currency.

Table 3.1, A Summary of the Results of Unit Root Test for the Stability of Time-Series.

Variables		ADF test (fixed extend and general trend)	PP test (fixed extend and general trend)	Result
Demand for the Dollar	DFD	(-3.38)***	(-3.35)***	Stable
Changes in the Value of Currency	EX	-3.29	-2.60	Unstable
	EXΔΔ	(-4.16)*	(-6.13)*	Stable
Gross Domestic Product	GDP	-2.79	-2.88	Unstable
	GDPΔ	(-6.2)*	(-6.2)*	Stable
Oil Revenues	RO	-3.50	-2.02	Unstable
	ROΔΔ	(-7.44)*	(-4.66)*	Stable
Real Interest Rates	Rd	-1.72	-3.46	Unstable
	RdΔΔ	(-10.71)*	(-10.41)*	Stable
Inflation Rates	CPI	0.38864-	0.09965	Unstable
	CPIΔΔ	(-5.0805) **	(-5.11244) **	Stable
Foreign Reserves	TFT	-2.51	-3.44	Unstable
	TFAΔΔ	(-4.40)**	(-4.44)**	Stable

Source, The researcher, by 0.8 Eviews program.

The symbol (Δ) refers to the first differences of the variables, whereas (ΔΔ) are the second differences of the variables. The symbol (*) refers to the level of significance (1%), the symbol (**) to the level of significance (5%), and the symbol (***) refers to the level of significance (10%). It is evident in the table (3.1.) that, according to ADF and PP tests with a fixed extent and a general trend, the time series of the demand for the dollar are stable at the level of significance (10%) in accordance with the standard analysis. In the meantime, the time series of the GDP do not give a still degree identical in the level; they become identical after taking the first difference of them. While the changes in the value of the currency, oil revenues, the real interest rates, foreign reserves and inflation rates, are identical after taking their second differences, which indicate that they are second-class complementary.

3.9. Test Results of the Joint Integration of Johansen–Jceleos

Given the results of the unit root tests, we will estimate the common integration model using the Johansen method – Jceleos. Table (4) shows the impact tests and the maximum value of the proposed model.

Table 3.2., A Summary of the Result of Johansen-Jceleos' the Common Integration Test in Iraq for the Period (2003-2014)

Date, 04/05/17 Time, 16,15 **Sample (adjusted), 2004S1 2014S2** **Included observations, 22 after adjustments** **Trend assumption, Linear deterministic trend** **Series, DFD EX CPI GDP RD RO TFA** **Lags interval (in first differences), No lags** **Unrestricted Cointegration Rank Test (Trace)**				
Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None*	0.997668	262.5267	125.6154	0.0000
At most1*	0.943920	129.1843	95.75366	0.0000
At most2	0.825417	65.80286	69.81889	0.1003
At most3	0.513519	27.40501	47.85613	0.8385
At most4	0.275815	11.55275	29.79707	0.9463
At most5	0.161784	4.453174	15.49471	0.8638
At most6	0.025605	0.570638	3.841466	0.4500
Trace test indicates 2 cointegrating eqn(s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized		Max-Eigen	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None*	0.997668	133.3424	46.23142	0.0000
At most1*	0.943920	63.38142	40.07757	0.0000
At most2*	0.825417	38.39785	33.87687	0.0135
At most3	0.513519	15.85226	27.58434	0.6783
At most4	0.275815	7.099573	21.13162	0.9499
At most5	0.161784	3.882536	14.26460	0.8715
At most6	0.025605	0.570638	3.841466	0.4500
Max-eigenvalue test indicates 3 cointegrating eqn(s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				

Source, The Researcher, by 0.8 Eviews Program.

Table (3.2.) summarizes the test results of the joint integration between the demand for the dollar, changes in the value of the currency, the GDP, oil revenues,

the real interest rates and inflation rates, based on the semi-annual period results (2003-2014). The results showed the rejection of null hypothesis of integration tendencies (means having long-term relationships). The results have also revealed the rejection of the hypothesis which states that there is no common integration, and that the presence of a complementary tendency at least suggests the presence of a long-term relationship between the variables.

The test effect results (λ trace), described in table (4), indicate that the calculated value average of the greatest possibility (262.5267) is greater than the critical value (125.6154) at a level of (5%). This implies the possibility of the rejection of null hypothesis ($H_0 = B_0 = 0$) which states that there is no any vector for the joint integration ($r = 0$). Therefore, it signifies the acceptance of the alternative hypothesis ($r = 1$) which states that there is a number of vectors for the joint integration and, thus, there is no existence of the pseudo-gradient problem. In that manner, the test (λ trace) shows that there is no third vector for the joint integration, and the null hypothesis cannot be rejected, as the value of the calculated rate possibility (65.80286) is less than the critical values (69.81889) at the level of (5%).

The test results of the maximum value (λ max) as described in table (3.2.), demonstrate the presence of joint integration vectors, as the calculated rate for the greatest possibility (133.3424) is greater than the critical value (46.23142) at the level of (5%). The (λ max) test also illustrates that there is no fourth vector for the joint integration, and, therefore, the null hypothesis cannot be rejected, as the potential value of the calculated rate (15.85226) is less than the critical values (27.58434) at a level of (5%).

3.10. The Results of Error Correction Model

After making sure that the time-series variables of the study model are not stable in level and stable in the difference, and then verifying that it is a joint integration complementary, it becomes clear that there is a long-run equilibrium relationship between the dependent variable and the explanatory variables. Then, it should be represented by error correction model. Table (3.3.) shows the results of error correction model.

Table 3.3., A Summary of Results for the Error Correction Model.

Dependent Variable, D(DFD) **Method, Least Squares** **Date, 04/05/17 Time, 16,51** **Sample (adjusted), 2004S1 2014S2** **Included observations, 22 after adjustments**				
D(DFD)=C (1) *(DFD (-1)-0.0787937647058*TFA (-1)-97.9311237114+C (2) *(EX) (-1)-0.24824384381E-07*TFA (1) +0.00802086098713) +C (3) *(CPIS) (1).00277870496191* TFA (-1) (126.728593132) +C (4) *(GDP) (-1)0.00525712597407*TFA (-1) +10.8413482191) + C (5) *(RD) (-1) +0.000747799538837*TFA (-1)-179.394260727) +C (6) *(RO) (-1)-0.00552876443655*TFA (-1)-196.819255894) +C (7)				
	Coefficient	Std. Error	t-Statistic	Prob.
C (1)	-0.927542	0.346176	-2.679395	0.0172
C (2)	-6325.460	36292.50	-0.174291	0.8640
C (3)	8.139592	10.74655	0.757414	0.4605
C (4)	-7.658759	10.52211	-0.727873	0.4779
C (5)	-15.68955	14.58220	-1.075939	0.2990
C (6)	4.933189	5.445564	0.905910	0.3793
C (7)	822.3605	335.4460	2.451544	0.0270
R-squared	0.439102	Mean dependent var.		822.3605
Adjusted R-squared	0.214743	S.D. dependent var		1775.530
S.E. of regression	1573.381	Akaike info criterion		17.81321
Sum squared resid	37132921	Schwarz criterion		18.16036
Log likelihood	-188.9453	Hannan-Quinn criter.		17.89499
F-statistic	1.957141	Durbin-Watson stat		1.759587
Prob(F-statistic)	0.136550			

Source, The Researcher, by 0.8 Eviews Program.

It is evident from table (3.3.) that the error correction factor is worth (0.92-) and has a value of probability (0.0172) which is less than (5%). Therefore, it refers to a long-run equilibrium relationship within this model in the case of the inclusion of the dependent variable for a single variable as an explanatory variable, and shows that the extent of adaptation and reaching a state of equilibrium in the long term can

happen quickly (0.92) for the demand for the dollar. This means avoiding the equilibrium can correct (92%) of it through each phase, as the data are semi-annual.

3.11. Estimation Models

After the completion of the first phase which is to verify the stability of the time series for the dependent variable and the explanatory variables and the conversion of the unstable time series into stable time series.

Table 3.4., A Summary of Results for the Estimation Model.

Dependent Variable, DFD **Method, Least Squares** **Date, 04/05/17 Time, 17,03** **Sample, 2003S1 2014S2** **Included observations, 24**				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDP	-9.495373	6.635314	-1.431036	0.1696
RD	-27.66514	7.424543	-3.726174	0.0015
RO	3.913367	3.109574	1.258490	0.2243
TFA	0.042593	0.020463	2.081500	0.0519
CPI	21.98539	7.900469	2.782795	0.0123
C	584.8532	1184.626	0.493703	0.6275
R-squared	0.968208	Mean dependent var		9307.120
Adjusted R-squared	0.959377	S.D. dependent var		6039.970
S.E. of regression	1217.372	Akaike info criterion		17.25909
Sum squared resid	26675901	Schwarz criterion		17.55361
Log likelihood	-201.1091	Hannan-Quinn criter.		17.33723
F-statistic	109.6350	Durbin-Watson stat		2.303371
Prob(F-statistic)	0.000000			

Source, The Researcher, by 0.8 Eviews Program.

Following the conversion of all independent variable data and the dependent variable into record figures because of the homogeneity of the data and the adoption of a linear sample in the estimation for gaining accurate and unbiased information,

comes the second step, which is the formulation of the model that takes the following form,

1. $DFD_t = a + \beta_1 EX_t + \beta_2 GDP_t + \beta_3 RO_t + \beta_4 rd_t + \beta_5 CPI_t + \beta_6 TFA + \varepsilon_t$

By applying the model, depending on the data contained in appendix (10), and after taking the differences of the unstable time series, we have come up with the following assessment results

Given the results of the assessment contained in the above table (6), it can be noted that all explanatory variables were not significant except the variable of real interest rate and variable of inflation rates. Therefore, we will try to edit the previous model to gain access to one of the dynamic models aimed at overcoming the problem of autocorrelation between the residuals, and as follows,

After entering the autocorrelation coefficient (ρ) in the previous model to identify the correlation degree between errors, the value of autocorrelation coefficient is between (-1, +1). If the value of (ρ=-1), the real autocorrelation is negative. But if the value of (ρ=+1), the real autocorrelation is positive. By writing the previous model with one slow period, one can get the following,

2. $DFD_{t-1} = a + \beta_1 EX_{t-1} + \beta_2 GDP_{t-1} + \beta_3 RO_{t-1} + \beta_4 rd_{t-1} + \beta_5 CPI_{t-1} + \beta_6 TFA_{t-1} + \varepsilon_{t-1}$

By multiplying the equation (2) byρ , we can get the following,

3. $\rho\, DFD_{t-1} = \rho\, a + \rho\, \beta_1 EX_{t-1} + \rho\, \beta_2 GDP_{t-1} + \rho\, \beta_3 RO_{t-1} + \rho\, \beta_4 rd_{t-1} + \rho\, \beta_5 CPI_{t-1} + \rho\beta_6 TFA_{t-1} + \rho\, \varepsilon_{t-1}$

By taking the equation (3) from the main equation (1), we get the following,

4. $DFD_t - \rho\, DFD_{t-1} = a\ (1-\rho) + \beta_1 (EX_t - \rho\, EX_{t-1}) + \beta_2 (GDP_t - \rho\, GDP_{t-1}) + \beta_3 (RO_t - \rho RO_{t-1}) + \beta_4 (rd_t - \rho\ rd_{t-1}) + \beta_5 (CPI_t - \rho\, CPI_{t-1}) + \beta_6 (TFA_t - \rho TFA_{t-1}) + (\varepsilon_t - \rho\, \varepsilon_{t-1})$

Through this amended model, we can overcome the problem of autocorrelation between errors. After applying this model, we can get the following,

Table 3.5., A Summary of Estimation Results after Amendment.

Dependent Variable, DFD **Method, Least Squares** **Date, 04/05/17 Time, 15,52** **Sample (adjusted), 2004S1 2014S2** **Included observations, 22 after adjustments**				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDP	-18.61834	4.555434	-4.087062	0.0010
RD	-31.38893	6.295388	-4.986021	0.0002
RO	8.943705	2.401867	3.723646	0.0020
TFA	0.051374	0.009365	5.485994	0.0001
CPI	19.13796	4.628111	4.135155	0.0009
EX	0.762292	0.229981	3.314582	0.0047
C	1309.573	1050.665	1.246423	0.2317
R-squared	0.976260	Mean dependent var		10144.04
Adjusted R-squared	0.966763	S.D. dependent var		5581.240
S.E. of regression	1017.511	Akaike info criterion		16.94148
Sum squared resid	15529942	Schwarz criterion		17.28863
Log likelihood	-179.3563	Hannan-Quinn criter.		17.02326
F-statistic	102.8055	Durbin-Watson stat		2.173241
Prob(F-statistic)	0.000000			

Given the assessment results mentioned in table (3.5.), the following points can be highlighted,

1. When testing the regression equation, it can be noted that the value of the

Source: The Researcher, by 0.8 Eviews Program.

significant level. This emphasizes the value of P-Value, which is equal to zero, something through which we can reject the null hypothesis in favor of the alternative hypothesis, which states that at least one of the regression coefficients is significantly different from zero. Therefore, the equation is fundamental as a whole in having an influence on the dependent variable and in accurately describing the demand function for the dollar in the Iraqi economy.

2. As for each of the moral regression coefficients separately, it can be noted that the value of the calculated t-Statistic for each regression coefficient was substantial and significant. This confirms the value of the P-Value, which is less than (5%) for each factor, something through which we can reject the null hypothesis in favor of the alternative hypothesis, which states that each regression coefficient is significantly different from zero. This means that the explanatory variables have a moral and real effect on the dependent variable which is the demand for the dollar.
3. The contribution of the explanatory variables in determining the behavior of the dependent variable becomes clear through the value of the coefficient of determinant R2, which is equal to (0.97). This means that (97%) of the changes in the dependent variable (the demand for the dollar) are due to the explanatory variables; the rest are due to variables which cannot be measured or to errors in assessment.
4. The statistical value of Durbin-Watson statistic, which is amounted (2.17), a value close to (2). This means that this amended model may overcome the autocorrelation problem between the residuals. Accordingly, this will lead to the acceptance of the null hypothesis and the rejection of the alternative hypothesis which states that there is no autocorrelation problem as the value of DW amounting (2.17) is smaller than the value of the minimum (4-dl).
5. There is an inverse relationship between the demand for the dollar and the GDP. The rise in the GDP in the economy shows the prevalence of a state of stability in the economy in general. This is reflected in decreasing the likelihood of the volatility of the price levels domestically and the exchange rate of the local currency, and then results in a decrease in the demand for the dollar.
6. There is an inverse relationship between the demand for the dollar and real interest rates in Iraqi dinars. An increase in the real interest rates in dinars means a higher average of interest rates on deposits in Iraqi dinars as compared to its counterparts in the US dollar. This makes the economic actors prefer not to do a replacement, and keep deposits in Iraqi dinars, provided that exchange rates are stable through the stability of other variables in the analysis, which are

considered more attractive in this case, pushing to a lower demand for the dollar.

7. There is a positive relationship between the demand for the dollar and oil revenues, due to the specificity of the Iraqi economy as government spending is funded by oil revenues and consumer spending represents the bulk of those expenses. This spending turns into a demand for goods, which are often imported, and these spending are widening by widening oil revenues. Thus, the shift of the spending into the demand for imports in foreign currency leads to an increase in the demand for the dollar.
8. There is a positive relationship between the demand for the dollar and the foreign reserves. The increase in oil revenues leads to an increase in foreign reserves. Therefore, an increase in the money supply leads to an increase in public spending which results in an increase in the demand for the dollar.
9. There is a positive relationship between the demand for the dollar and inflation rates which are expressed by the index of consumer prices. An increase in the latter means higher local inflation rates, which leads to increasing the rate eroding the purchasing power of the national currency. This brings about a reduction in the real value of cash holdings of economic units denominated in local currency, leading the individuals to head toward retaining foreign currency as value storage, therefore, leading to an increase in the demand for foreign currency (US dollar).
10. There is a moral positive relationship between the demand for the dollar as a dependent variable and changes in the value of the currency as an explanatory variable. The rise in the latter means increasing the expectations of a decline in the value of local currency. This drives the individuals toward the acquisition of foreign currencies and retaining them as saving deposits, or keeping them as cash, which means an increase in the demand for the dollar.
11. Noting that, through following up the explanatory variables affecting the demand for the dollar and due to the specificity of the Iraqi economy through the fiscal policy restrictions on the monetary policy, we have reached to the most important of these explanatory variables, excluding many other variables with the least influence or non-significant and non-direct ones. Then, this estimated model can be written as follows,

$$DFD_t = 1309.573 - 18.61834\, GDP_t - 31.38893\, rd_t + 8.943705\, RO_t + 0.051374\, TFA_t + 19.13796\, CPI_t + 0.762292\, EX_t$$

This model assumes a set of hypotheses perhaps the most important of them are,

12. There is no autocorrelation between the errors,

$$cov\ \varepsilon_t\ , \varepsilon_s\ = E\ \varepsilon_t\ \varepsilon_s\ = 0$$

Table (3.6) shows that the value of F has reached (0.236), which has a statistically non-moral significance as Prob. F = 0.6343. The same for the value of Chi-Square, which has amounted (0.3654), and is also non-moral as the probability values reached Prob. Chi-Square = 0.5455. In both cases, we accept the null hypothesis H0=B0=0 and reject the alternative hypothesis H1= B1≠0. This means that there is no autocorrelation with the random error.

Table 3.6., Test Results of Autocorrelation between Errors LM

Breusch-Godfrey Serial Correlation LM Test,				
F-statistic	0.236497	Prob. F (1,14)	0.6343	
Obs*R-squared	0.365465	Prob. Chi-Square (1)	0.5455	
Test Equation,				
Dependent Variable, RESID				
Method, Least Squares				
Date, 06/05/17 Time, 17,11				
Sample, 2004S1 2014S2				
Included observations, 22				
Presample missing value lagged residuals set to zero.				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDP	-0.449360	4.766416	-0.094276	0.9262
RD	-0.396172	6.513142	-0.060827	0.9524
RO	0.297270	2.540082	0.117032	0.9085
TFA	-0.000455	0.009658	-0.047095	0.9631
CPI	0.354691	4.806255	0.073798	0.9422
EX	-0.024015	0.241177	-0.099572	0.9221
C	-47.02543	1082.797	-0.043430	0.9660
RESID(-1)	-0.180658	0.371487	-0.486310	0.6343
R-squared	0.016612	Mean dependent var		5.30E-12
Adjusted R-squared	-0.475082	S.D. dependent var		859.9541
S.E. of regression	1044.440	Akaike info criterion		17.01564
Sum squared resid	15271958	Schwarz criterion		17.41238
Log likelihood	-179.1720	Hannan-Quinn criter.		17.10910
F-statistic	0.033785	Durbin-Watson stat		2.000610
Prob(F-statistic)	0.999926			

Source, The Researcher, by 0.8 Eviews Program.

13. Stability of random error contrast,

$$var\ \varepsilon_t = E\ \varepsilon_t{}^2 = \sigma_\varepsilon^2$$

Table (9) shows that the value of F has reached (0.7429), which has a statistically non-moral significance as Prob. F = 0.3995, which is greater than

(0.05%). The same for the value of Chi-Square, which has amounted (0.7902), and is also non-moral as the probability values reached Prob. Chi-Squar = 0.3740. In both cases, we accept the null hypothesis H0=B0=0 and reject the alternative hypothesis H1= B1≠0. This means the stability of any discrepancy series of errors.

Table 3.7., Test Results of Autoregressive Conditional Heteroskedasticity Assuming the Variance of the Current Error ARCH.

Heteroskedasticity Test, ARCH				
F-statistic	0.742972	Prob. F (1,19)		0.3995
Obs*R-squared	0.790277	Prob. Chi-Square (1)		0.3740
Test Equation,				
Dependent Variable, RESID^2				
Method, Least Squares				
Date, 06/05/17 Time, 17,21				
Sample (adjusted), 2004S2 2014S2				
Included observations, 21 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	876875.1	241844.6	3.625780	0.0018
RESID^2(-1)	-0.195193	0.226453	-0.861958	0.3995
R-squared	0.037632	Mean dependent var		732742.2
Adjusted R-squared	-0.013019	S.D. dependent var		795514.9
S.E. of regression	800676.4	Akaike info criterion		30.11469
Sum squared resid	1.22E+13	Schwarz criterion		30.21417
Log likelihood	-314.2043	Hannan-Quinn criter.		30.13628
F-statistic	0.742972	Durbin-Watson stat		2.047582
Prob(F-statistic)	0.399459			

Source, The Researcher, by 0.8 Eviews Program.

14. There is no problem of linear multiplicity.

To clarify the relationship between the independent variables according to Klein test, the multi-link (multiple linear) in a non-serious case when a square of the simple correlation coefficient is smaller than the determining coefficient between the independent variables in the model. Then, according to Klein test, the case of linear

multiplicity is not serious in the model and it can be accepted. Table (10) illustrates this situation where we note that the highest square correlation coefficient in the matrix of correlations was between CPI inflation rates and the gross domestic product (GDP) and is equal to (0.88). Consequently, the highest square correlation coefficient is simple in the matrix and is equal to (0.77), which is less than the value of the determining coefficient (0.97). Therefore, it is considered to be acceptable statistically, economically and according to the standards.

Table 3.8., The Relationship between the Independent Variables according to the Correlation Matrix.

	GDP	RD	RO	TFT	CPI	EX
GDP	1.000000	-0.027291	0.241130	0.033219	0.889761	-0.236609
RD	-0.027291	1.000000	-0.568937	-0.549599	0.075096	-0.026618
RO	0.241130	-0.568937	1.000000	0.730796	0.111436	0.064159
TFT	0.303219	-0.549599	0.730796	1.000000	0.185351	0.123753
CPI	0.889761	0.075096	0.111436	0.185351	1.000000	-0.251928
EX	-0.236609	0.026618	0.064159	0.123756	-0.251928	1.000000

Source, The Researcher, by 0.8 Eviews Program.

4. Normal distribution of residuals.

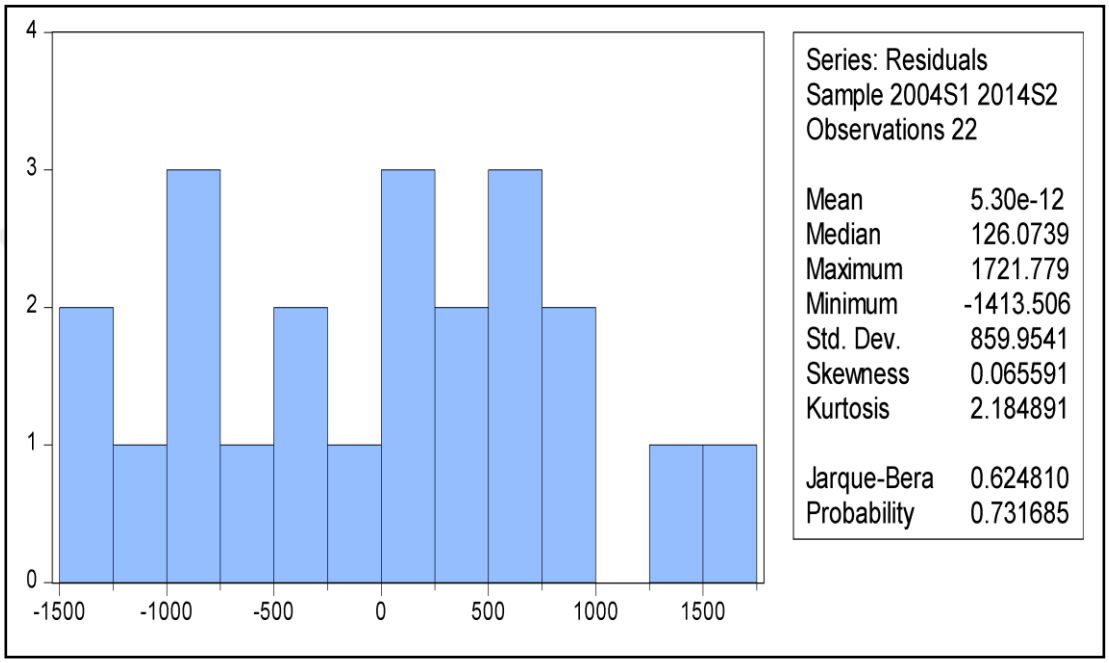
$$\boldsymbol{\varepsilon_t \sim N(0, \sigma_\varepsilon^2)}$$

$$\mathbf{JB = 0.624810}$$

$$\boldsymbol{\chi^2_{0.05} = 33.924}$$

Jarque - Bera test shows that the statistical value (0.731685) is greater than (5%), which is the value of JB< χ^2_a. So, the graph took the shape of a bell, and the statistical Skewness is close to zero which is about (0.06). However, the value of the broaden coefficient Kurtosis has amounted (2.2), which is close to (3). So, we will accept the null hypothesis which states that the residuals of regression equation are normally distributed.

Graphic 3.1, Jarque–Bera tests results Source, The Researcher, by 0.8 Eviews Program.



CONCLUSIONS AND SUGGESTION

CONCLUSIONS

1. Through the study of the categories of exchange systems, it can be noted that there is a conflict and divergence between the actual exchange system and the declared exchange system issued through the official documents of the Central Bank. So, in order to estimate the demand function for foreign currency in dollars, the macro economic analysis and experimental work should differentiate between the declared exchange systems and the actually implemented one.
2. The determining factors for the demand for money are considered as one of the pillars of the formulation of monetary policy because they have an impact on the effectiveness of this policy. The lower the elasticity of the demand for money to the exchange rate and interest rate through their determinants, the higher the effectiveness of monetary policy of the Central Bank.
3. The central bank has fundamentally a monopoly over selling the dollar, and through which the state budget is funded by the monetization of oil revenues, noting that the Central Bank is financing the budget deficit. This increases the demand for the dollar in the Iraqi economy, causing a decline in foreign currency reserves. As a result, the international reserve is current and not a balance, rising and falling depending on that relationship. Through this process, the maintenance of the exchange rate is achieved and the expectation of the demand for the dollar is made.
4. According to the standard analysis for the demand for the dollar, the time series are stable at a significant level of (10%) and the time series for the GDP do not give a still degree that is identical in level by Dickey Fuller and Phillips Perron tests; they become identical after taking their first differences. While the changes in currency value, oil revenues, real interest rates, foreign reserves and inflation rates, are identical after taking their second differences, which means they are second-class complementary. This shows that the extent of adaptation and reaching a state of equilibrium in the long run can happen quickly (0.92) for the demand for the dollar. This means avoiding the equilibrium can correct (92%) of it through each phase.

5. The relationship between the demand for the dollar and the explanatory variables (changes in value of the currency, the gross domestic product, real interest rates, inflation rates, oil revenues, and foreign reserves) using the method of Ordinary Least Squares (OLS) in order to get the best estimates of the parameters. Therefore, the assessment results were consistent with the economic theory, as the independent variables were able to interpret (97%) of the changes in the demand for the dollar, as well as exceeding all first and second-class tests.
6. Verifying the study hypotheses which state that the relationship between the demand for the dollar and changes in the value of the local currency is positive. So, when the changes in the local currency increase by (1%), the demand for the dollar will increase by (0.76%). Besides, the relationship between the demand for the dollar and inflation is positive; when the latter increases by (1%), the demand for the dollar will increase by (19.13%). While there is an inverse relationship between the demand for the dollar and real interest rates; when the real interest rate increases by (1%), whether by rising the nominal interest rate or falling the inflation, the demand for the dollar will decrease by (31.38%).

SUGGESTION

Through the study and analyze the data and results of the study, a number of suggestions can be proposed that could increase the stability of the demand function for the dollar in the Iraqi economy. They include the following,

1. Developing the domestic production through the contribution of economic sectors (agricultural and industrial) in the GDP to encounter the increase in imports which causes an increase in the demand for the dollar. This has a positive impact on the current account of the balance of payments so as to reduce the pressure on the hard currency in order to reduce inflationary pressures, which are reflected by increasing the total supply of goods and services.
2. The interest rate and the exchange rate play a significant influence on the stability and predictability of the demand function for the dollar in the Iraqi economy through the monetary policy. Therefore, we recommend following up the impact of the relationship between the two prices, as the demand function for the dollar is related to the price disparity between interest rates on deposits in local currency and interest rates on deposits in foreign currency. This is sufficient to

compensate the savers during the deterioration of the value of local currency and to overcome the problem of volatility in the exchange rate as well as enabling the government to borrow with real equilibrium interest rates. Besides, through these predictions, the unwanted financial effects of the monetary policy can be avoided. In the meantime, the latter can enjoy price stability in order to add credibility to the new monetary system by absorbing excess liquidity through this follow-up.

3. Based on the prediction and assessment of the demand function for the dollar as one of the important economic policies aiming at containing inflation, it is hard to generalize the determination of an appropriate exchange rate in developing countries. This is due to the differences in the economic conditions and characteristics of each country. But, generally, developing countries like Iraq, which suffers from instability in the exchange rate, can predict the demand function for the dollar in advance in order to maintain acceptable inflation rates. This helps in providing credibility to achieving economic stability and being adapted to absorb shocks and contain their effects.
4. Controlling the levels of domestic money supply that is derived from the increasing demand for the dollar, so as to ease inflationary pressures through making a radical monetary reform. This is aimed at getting rid of the surplus money liquidity which is due to a higher deficit in the public budget, developing the work of the banking system and increasing the proportion of fixed and saving deposits, and directing credit towards areas of real investment in order to contribute to the increase of commodity supply that bring about more stability in the demand function for the dollar.
5. Coordinating between the fiscal and monetary policies which can be manifested through the following,

a. Diversifying the sources of public revenues and reducing dependency on oil exports as a major source of revenue by resorting to other sources of revenue such as taxes, fees and fines, and other means that help in stabilizing the generated revenues.
b. Adopting a realistic policy to rationalize public spending and reduce the unnecessary expenditures. The Iraqi economy is characterized by an increase of current expenditure, which is often headed to consumption, with the need of

focusing on investment spending and directing investments toward areas that serve the development process, and working on the rational use of resources.

c. Paying attention to the control of public spending in order to reduce the phenomenon of financial and administrative corruption that has spread out dramatically as Iraq has been ranked in bottom positions in that regard according to Transparency International (TI).

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Appendixes

Appendix (1)

Change trends of the Exchange Rate in the Iraqi Economy for the Period (2004-2014) (Iraqi Dinars)

Years	the Average Official Exchange Rate Against the Dollar (1)	the Average Parallel Exchange Rate Against the Dollar (2)	Changes in The Value of the Currency % $\frac{2-1}{1} * 100 = (3)$	the Demand for Dollar (Billion Dollars)
2004	1453	1453	0	6,108
2005	1469	1472	0.204	10,463
2006	1467	1475	0.542	11,175
2007	1255	1267	0.947	15,980
2008	1193	1203	0.831	25,869
2009	1170	1182	1.015	33,992
2010	1170	1185	1.266	36,171
2011	1170	1196	2.174	39,798
2012	1166	1233	5.434	48,649
2013	1166	1232	5.357	53,231
2014	1188	1214	2.142	51,728

Source, the Central Bank of Iraq, the General Directorate of Statistics and Research, the Annual Reports (2004- 2014).

Appendix (2)

Progress of GDP and the Volume of Imports and the Demand for the Dollar in Iraq for the Period (2004–2014)

Years	GDP at Current Prices (Million Dinars)	GDP at Fixed Prices (2007=100)	GDP Per Capita (Current US$)	the Relative Importance of the Commodity Sector in GDP %	the Relative Importance of the Distribution Sector in GDP %	the Relative Importance Of the Service Sector in GDP %	the Proportion of Government and Private Sector Imports of GDP %	the Demand For Dollar (Billion Dollars)
2004	53,235,358.7	1,462,509.8	1178	68.4	14.9	16.6	58.1	6.108
2005	73,533,598.6	1,473,619.2	1470	70.1	14.4	15.5	40	10.463
2006	95,587,954.8	1,251,151.2	2230	66.9	14.3	18.7	28.7	11.175
2007	111,455,813.4	1,114,558.1	2847	64.7	14.2	21.1	18.7	15.980
2008	157,026,061.6	1,393,310.2	4162	65.2	15.4	19.4	22.9	25.869
2009	130,642,187	1,069,960.5	3764	53.5	20	26.5	29.3	33.992
2010	167,093,204.4	1,351,886.7	4466	54.9	21.7	23.4	26.1	36.171
2011	217,327,107.4	1,664,066.6	5435	67	12.7	20.3	20.9	39.798
2012	254,225,490.7	1,821,490.9	6146	65.4	12.5	22.1	21.9	48.649
2013	271,091,777.5	1,907,350.8	6603	60.6	12.1	27.3	21.7	53.231
2014	260,610,438.4	1,791,752.7	6060	62.1	15.5	26.4	24.2	51.728

Source, the Central Bank of Iraq, the General Directorate of Statistics and Research, the Annual Reports (2004- 2014).

Appendix (3)

The Relative Importance of the Activities of the Commodity Sector in Iraq's GDP for the Period (2004-2014)

Years	Agriculture, Forestry and Fishing %	Mining and Quarrying %	Manufacturing %	Electricity and Water %	Building and Construction %
2004	6.9	57.7	1.8	0.8	1.3
2005	6.9	57.5	1.3	0.8	3.6
2006	5.8	55.2	1.5	0.8	3.6
2007	4.9	52.9	1.6	0.9	4.4
2008	3.6	55.4	1.5	0.8	3.8
2009	4.4	40.4	2.4	1.2	5.0
2010	5.0	43.0	2.3	1.1	3.5
2011	4.1	54.7	1.8	1.3	4.9
2012	4.1	52.8	1.7	1.3	5.6
2013	6.9	41.8	3.0	2.1	6.8
2014	6.9	43.7	3.1	2.5	5.9

Source, the Central Bank of Iraq, the General Directorate of Statistics and Research, the Annual Reports (2004- 2014).

Appendix (4)

The Share of Oil Revenues in the Public Revenues for the Period (2004-2014)

Years	Oil Revenues (Billion Dinars)	Public Revenues (Billion Dinars)	the Contribution of Oil Revenues in Public Revenue %	the Annual Growth Rate of Oil Revenues %	the Demand For the Dollar (Billion Dollars)
2004	24.160	32,982	73.3%	-	6.108
2005	36.020	40,502	88.9%	49.1	10.463
2006	43.160	49,063	88%	19.8	11.175
2007	48.810	54,599	89.4%	13.1	15.980
2008	70.124	80,252	87.4%	43.7	25.869
2009	43,309	47,112	91.9%	-38.2	33.992
2010	59.269	61,736	96%	36.9	36.171
2011	107.090	108,807	98.4%	80.7	39.798
2012	116.597	119,817	97.3%	8.88	48.649
2013	110,678	113,840	97.2%	-5.08	53.231
2014	97,072.4	105,386	92.1%	-12.3	51.728

Source, the Central Bank of Iraq, the General Directorate of Statistics and Research, the Annual Reports (2004- 2014).

Appendix (5)

The Real Interest Rates in the Iraqi Economy for the Period (2004-2014)

Years	Changes in the Value of the Currency % (1)	Nominal Interest Rates % (2)	Real Interest Rates % 2-1= (3)	the Demand for the Dollar (Billion Dollars)
2004	0	8.5	8.5	6.108
2005	0.204	9.5	9.3	10.463
2006	0.542	18.5	18	11.175
2007	0.947	22.5	21.6	15.980
2008	0.831	19.25	18.4	25.869
2009	1.015	11.33	10.3	33.992
2010	1.266	8.75	7.48	36.171
2011	2.174	8.5	6.33	39.798
2012	5.434	8.5	3.07	48,649
2013	5.357	8.5	3.14	53.231
2014	2.142	8.5	6.36	51.728

Source, the Central Bank of Iraq, the General Directorate of Statistics and Research, the Annual Reports (2004- 2014).

Appendix (6)

Inflation Rates and Iraq's Central Bank sales of Foreign Currency in the Auction for the Period (2004-2014)

Years	Inflation Rate %	General Index of Prices (2007 = 100)	Central Bank Sales of Foreign Currency (Billion Dollar)
2004	26	36.4	6.108
2005	37.08	49.9	10.463
2006	53.1	76.4	11.175
2007	30.9	100	15.980
2008	12.7	112.7	25.869
2009	8.34	122.1	33.992
2010	1.22	123.6	36.171
2011	5.66	130.6	39.798
2012	6.86	139.57	48.649
2013	1.83	142.13	53.231
2014	2.33	145.45	51.728

Source, the Central Bank of Iraq, the General Directorate of Statistics and Research, the Annual Reports (2004- 2014).

Appendix (7)

Iraqi Central Bank's Foreign Reserves and Sales of Foreign Currency for the Period (2004-2014)

Years	Foreign Reserves (Billion Dollar) (Balance) (1)	Central Bank Sales of Foreign Currency (Billion Dollar) (Stream) (2)	Sales Ratio of Foreign Reserves % (3)	Foreign Reserves Are Denominated in Local Currency (4)	Broad Money Supply M2 (5)	Narrow Money Supply M1 (6)	Coverage* for (M2) 100*5/4 (7)	Coverage** for (M1) 100*6/4 (8)
2004	9,395	6.108	65%	10,954,570	6953420	10.148.626	1.6	1.1
2005	13,519	10.463	77%	15,763,154	11498148	11.399.125	1.4	1.4
2006	18,012	11.175	62%	21,001,992	14659350	15.460.060	1.4	1.4
2007	30,163	15.980	53%	35,170,058	21050249	21.721.167	1.7	1.6
2008	48,809	25.869	53%	56,911,294	26919996	28.189.934	2.1	2
2009	43,884	33.992	77%	51,168,744	34861927	34.300.030	1.5	1.5
2010	49,939	36.171	72%	58,228,874	45305289	51.743.489	1.3	1.1
2011	59,707	39.798	67%	69,618,362	60289168	62.473.929	1.2	1.1
2012	66,505	48.649	73%	77,544,830	6953420	10.148.626	1.1	1.2
2013	78,601	53.231	68%	91,648,766	11498148	11.399.125	1.2	1.2
2014	65,120	51.728	79%	75,929,920	14659350	15.460.06	0.9	1

Source, the Central Bank of Iraq, the General Directorate of Statistics and Research, the Annual Reports (2004- 2014).

*, ** Coverage for (M1) and (M2) is composed of foreign reserves multiplied by the official exchange rate and divided by the money supply in the broad and narrow sense, multiplied by 100.

Appendix (8)

The General Budget Structure of Iraq for the Period (2004-2014) (Billion Dinars)

Years	Public Revenues	the Contribution of Oil Revenues in Public Revenue	Public Expenditure		Total Public Expendutere	Relative Importance of Operational Expenses to Public Expenditure	Relative Importance of investment Expenses to Public Expenditure
			Operational Expenses	Investment Expenses			
2004	32,982	73.3%	29,102	3,014	32,116	%91	%9
2005	40,502	88.9%	21,803	4,572	26,375	%83	%17
2006	49,063	88%	32,778	6,027	38,805	%84	%16
2007	54,599	89.4%	31,308	7,723	39,031	%80	%20
2008	80,252	87.4%	47,522	11,880	59,402	%80	%20
2009	47,112	91.9%	42,053	10,513	52,566	%80	%20
2010	61,736	96%	64,351	19,472	83,823	%77	%23
2011	108,807	98.4%	60,926	17,832	78,758	%77	%23
2012	119,817	97.3%	69,619	20,756	90,375	%77	%23
2013	113,840	97.2%	78,747	40,381	119,128	%66	%34
2014	105,386	92.1%	58,625	24,931	83,556	%70	%30

Source, the Central Bank of Iraq, the General Directorate of Statistics and Research, the Annual Reports (2004- 2014).

Appendix (9)

The demand for the dollar, changes in the value of the local currency, real interest rates average, oil revenues, the GDP and CPI in Iraq for the Period (2003-2014)

Years	the Demand for Dollar (Billion Dollars)	Changes in the Value of the Local Currency	Real Interest Rate Average	GDP 2007=100	Oil Revenues (Million Dollars)	CPI (Million Dinar) 2007=100
Jan-Jun 03	145	0.3597%	11.24%	26.54	7864194	28.7
Jul-Des 03	148	2.1097%	9.49%	26.98	15728387	32.55
Jan-Jun 04	1548	-0.1381%	8.64%	47.77	24160699	36.4
Jul-Des 04	4560	0.137%	8.46%	48.05	32593011	43.15
Jan-Jun 05	4802	0.2051%	9.29%	65.97	36020763	49.9
Jul-Des 05	5660	0.2714%	9.72%	66.2	39448514	63.15
Jan-Jun 06	5782	0.2706%	18.23%	85.76	43160884	76.4
Jul-Des 06	5823	0.755%	17.93%	85.9	49873253	88.2
Jan-Jun 07	7760	1.0978%	21.4%	100	48810192	100
Jul-Des 07	8220	0.8921%	21.44%	100.29	50747131	106.35
Jan-Jun 08	10662	0.9959%	18.25%	140.98	64939442	112.7
Jul-Des 08	15207	0.6774%	17.87%	140.77	79131752	117.4
Jan-Jun 09	16834	0.8547%	10.48%	117.21	65425406	122.1
Jul-Des 09	17161	1.1966%	9.86%	117.43	51719052	122.85
Jan-Jun 10	17709	1.282%	7.47%	149.92	59269365	123.6
Jul-Des 10	18460	1.453%	7.3%	150.15	66819670	126.77
Jan-Jun 11	18664	1.6239%	6.88%	194.99	82454942	130.6
Jul-Des 11	21134	2.735%	5.77%	195.14	98090214	133.47
Jan-Jun 12	20867	6.2607%	2.24%	228.09	107090214	139.57
Jul-Des 12	27782	5.1458%	3.35%	228.15	116597076	140.65
Jan-Jun 13	23770	7.0326%	1.47%	243.23	113637309	142.13
Jul-Des 13	19461	2.5295%	5.97%	243.2	110677542	143.4
Jan-Jun 14	25347	2.8668%	5.63%	238.51	103874976	145.45
Jul-Des 14	26381	1.5993%	6.9%	233.82	97072410	146.42

Source, the Central Bank of Iraq, the General Directorate of Statistics and Research, the Annual Reports (2004- 2014).

Appendix (10)

Indexes of the Demand for the Dollar, Changes in the Value of the Local Currency, Real Interest Rates Average, Oil Revenues, the GDP and CPI in Iraq for the Period (2003-2014)

Years	the Demand for Dollar (Billion Dollars)	Changes in the Value of Local Currency	GDP 2007=100	Oil Revenues (Million Dinars)	CPI (Million Dinars) 2007=100	Foreign Reserves	Real Interest Rate Average
Jan-Jun 03	100	100	100	100	100	100	100
Jul-Des 03	102.07	586.5	101.66	200	113.41	799.767	84.43
Jan-Jun 04	1067.6	-38.4	179.99	307.2241	126.83	6746.99	76.87
Jul-Des 04	3144.8	38.09	181.05	414.4482	150.35	22625.2	75.27
Jan-Jun 05	3311.7	57.02	248.57	458.035	173.87	43415.5	82.65
Jul-Des 05	3903.4	75.45	249.43	501.6218	220.03	44114.8	86.48
Jan-Jun 06	3987.6	75.23	323.13	548.8278	266.2	58544.1	162.2
Jul-Des 06	4015.9	209.9	323.66	634.1814	307.32	64854.1	159.5
Jan-Jun 07	5351.7	305.2	376.79	620.6636	348.43	71917.2	190.4
Jul-Des 07	5669	248	377.88	645.2935	370.56	87613.3	190.7
Jan-Jun 08	7353.1	276.9	531.2	825.7609	392.68	109785	162.4
Jul-Des 08	10488	188.3	530.41	1006.228	409.06	128303	159
Jan-Jun 09	11610	237.6	441.64	831.9404	425.44	135559	93.24
Jul-Des 09	11835	332.7	442.46	657.6523	428.05	140850	87.72
Jan-Jun 10	12213	356.4	564.88	753.661	430.66	139628	66.46
Jul-Des 10	12731	403.9	565.75	849.6697	441.71	144487	64.95
Jan-Jun 11	12872	451.5	734.7	1048.486	455.05	159212	61.21
Jul-Des 11	14575	760.4	735.27	1247.302	465.05	170189	51.33
Jan-Jun 12	14391	1741	859.42	1361.744	486.31	178620	19.93
Jul-Des 12	19160	1431	859.65	1482.632	490.07	192785	29.8
Jan-Jun 13	16393	1955	916.47	1444.996	495.23	207674	13.08

Jul-Des 13	**13421**	**703.2**	**916.35**	**1407.36**	**499.65**	**227062**	**53.11**
Jan-Jun 14	**17481**	**797**	**898.68**	**1320.86**	**506.79**	**240576**	**50.09**
Jul-Des 14	**18194**	**444.6**	**881.01**	**1234.359**	**510.17**	**233254**	**61.39**

Source, the Central Bank of Iraq, the General Directorate of Statistics and Research, the Annual Reports (2004- 2014).

PERSONAL INFORMATION

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UNDERGRADUATE EDUCATION INFORMATION

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Faculty	ECONOMIC

WORK EXPERIENCE

Institution He is Working at	I.T.
Duty / Position	
Experience Time	2 YEWRS

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