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Abstract

This study aims to identify the trends of fluctuations of Iraqi dinar exchange rate along with diagnosis the factors that influencing it. The importance of this study is that it attempts to examine the mechanisms of impacts some economic variables on the exchange rate fluctuations of Iraqi economy as a result of the use of the Iraqi Central Bank's policies. This study based on a hypothesis that states: Iraqi dinar exchange influenced by several factors and variables, some are fact and some are because the hard cash that led to the occurrence of fluctuations. Since the cash supply has a positive as well as a significant impact on creating and finding these fluctuations. This study comprises three sections: first section presenting the theoretical framework of the exchange rate. Second section focuses on the trends of Iraqi dinar fluctuations exchange rate in addition to the factors influencing it. Finally, the third section analyzes the results of impacts some economic variables on the Iraqi dinar fluctuations exchange rate for the period of (1995-2015). The study found a set of results, and based on the outcomes of the study a number of recommendations has been presented.

Keywords: Iraqi Dinar Exchange, Economic Variables, exchange rate.
Introduction

Exchange rate represents the number of units of foreign currencies which are exchanged to units of the local currency. It is a style or method whereby can convert all prices from a foreign language to the local language. The Iraqi dinar is a local currency that national economy depends on it in dealings with the internal business. The dollar in addition plays an important role in the Iraqi economy, whether at the local or at international levels which related to the price of the Iraqi dinar exchange. Iraqi dinar exchange rate has faced a continuous decline against the dollar in the value of the parallel market during the nineties due to the exhaustion of foreign exchange reserves, block the assets in abroad that deposited with the correspondents of central bank and Iraqi government banks that allocated to cover the value of documentary credits and guarantee letters for the import of country.

The significance of this study is to determine the mechanism impact of some economic variables in the exchange rate fluctuations of the Iraqi economy as a result of the use of the Iraqi Central Bank policies. Hence, the study problem is the emerge of fluctuations in Iraqi dinar exchange rate as a result of extraordinary circumstances which Iraq's economy is going through, that led the central bank to intervene in the supply and demand of foreign currency including the American dollar in order to control it as well as not leave any spaces for other banks in the private sector to control it, thereby reducing the impacts of these fluctuations.

This study aims to identify some of the economic variables that impacts the Iraqi dinar exchange rate as well as to understanding the Iraqi dinar exchange rate along with its different systems. Furthermore, to present a set of suggestion to determine the appropriate exchange rate of the Iraqi dinar system. Moreover, this study based on a hypothesis that states: Iraqi dinar exchange influenced by several factors and variables, some are fact and some are cash that led to the occurrence of fluctuations. Since the cash supply have a positive as well as a moral impact on creating and finding these fluctuations. In addition, to the existence of an inverse relationship between the index of consumer prices and the exchange rate.

The study method has been adopted through the link between two approaches. Firstly, descriptive analytical method, that depends on the economic theory studies that related to the ethics of exchange rate fluctuations and the factors influencing it. Secondly, quantified method, based on the estimating and analyzing the impact of some economic variables in the fluctuations of the Iraqi dinar exchange rate. Then the interpretation of the results to assess of the practical side of the exchange rate of the Iraqi economy.

Chapter one: the theoretical framework of the exchange rate

The exchange process appears when the various currencies exchange among it selves. Each country has its local currency, which is used in the internal payment operations. The necessity to use the foreign currencies is emerging during making relations or financial trade between companies operating in the country with companies operating abroad. This companies need to a market to exchange in order to buy the currency of the exporting country to complete this process. Furthermore, each individual moves abroad needs to currencies of countries that it travels especially the tourists that find him/her self obliged to carry out currency exchange (Abu-Ahmad, 2002, 17).

There are two types of exchange: cash exchange, and exchange on credit. The first means cash exchange in extending period up to 48 hours from the moment of conducting the contract. The exchange rate is constantly changing during the day depending on the currencies supply and demand. Furthermore, there are two types of prices. First is the purchase price
which represents the number of units of the national currency paid by the bank for the purchase of one unit of foreign currency. Second is selling price, which represents the number of units of the national currency required by the bank to sell one unit of foreign currency. It should be noted that the sale price is always greater than the purchase price, and the difference between them represents the margins of the bank (Cordenm, 1994, 39). In contrast, forward exchange which it is the second type of exchange, the process of delivery and receipt of the currencies emerge after a certain period from the date of conducting the contract. Applying the price of the exchange rate is calculated based on the prevailing exchange rate for the moment of contract. The operations of forward exchange use by companies in foreign trade in order to avoid the risks arising from potential unanticipated fluctuations in currency exchange rates. Since the applied exchange rate at the delivery and receipt is the prevailing exchange rate for the moment of conducting the exchange contract whatever the price of prevailing exchange rate for the moment execution of the contract (Sami, 2007, 189).

As well, exchange market is a place which foreign currency swaps in a certain period of time. This market is describes by all the features that characterizes by goods market. The reaction forces of supply and demand is determined the exchange rate. In the same context, exchange market is not different from other markets only in one subject which it is dealing with foreign currencies. In other words, the required for a currency can be seen at the same time as a display of the currency or other currencies (Al-Sadq, 1997, 5). In addition, the exchange market is a market that can buy and selling different national currencies. Since the essential function of this market is transformation of purchasing power among nations which means exchange facilitate of local currency into foreign currency.

The foreign exchange market is considered to be one of the most united markets in the world, where immediate means of communication is available. Each has its arrangements which facilitate the transfer of capital from market to another market. Furthermore, it granting of credit, adjudication, budgeting or coverage against the risks of exchange, and is facilitate the settlement of external payments in a clearing manner (Idgman, 1999, 506). Foreign exchange markets can be characteristic in two types. Firstly, the spot exchange, where the process of buying and selling of currencies become visible according to the current price "the spot rate". Secondly, the forward exchange, where the process of buying and selling of currencies become visible accords to the forward rate, which means is not determined initially, it will leave for a later time (Al-Any, 2002, 126).

Therefore, the exchange rate is the number of units of a particular currency to be paid in order to obtain units of another currency. The exchange rate is also means the rate, or a currency swap price into another currency. Thus, one of the operations is become the goods, while the other is its cash price. It defined also as the percentage that is on the basis of national monetary swap units into foreign monetary units in a given time. Foreign currency here means all deposits, accreditations, outstanding payments in any currency as well as money orders, checks and bills of exchange (Al-Abas, 2003, 5). There are two types of exchange rate; the first is nominal exchange rate which represents the price of a foreign currency in terms of units of local currency. It can be changes daily, whether there is an improvement or deterioration. The improvement means increase in the local currency against the foreign currency. However, the deterioration means increase in the foreign currency against the local currency. The second type of exchange rate is the actual exchange rate which reflects the foreign prices against to the local prices. (Al-Abas, 2003, 6).

The functions of the exchange rate include the following: (Al-Husseini, 1999, 147):
Measurement function: the local producers depend on the exchange rate for the purpose of measuring and compare the local prices for a particular commodity with the global market prices. This represents the exchange rate that these serve as a connection between local prices and global prices.

Developments function: the exchange rate uses in the development of certain exports to certain areas through its role in encouraging those exports. On the other hand, the exchange rate can lead to dispense or disable certain industrial branches, or replaced by imports that their prices are lower than local prices. While it can rely on an appropriate exchange rate price to encourage of specific imports, and thus the exchange rate impacts on the composition of goods geographical of countries foreign trade.

Distributions function: the exchange rate is practiced as distributive function on the international economics levels, that due to its connection with external trade. It re-distributed global national income, and national wealth among the nations of the world.

The regimes of exchange rate:

The regimes of exchange rate include fixed exchange rate, and floating exchange rate. The monetary authorities setting the local currency at a certain level, or it placed higher and minimum limits for exchange rate but it will be limited. The monetary authority attempts to keep the exchange rate at that level through intervention in the foreign exchange market, buying and selling foreign currency used international reserves (Dagher & Atwan, 2012).

The fixed exchange regime characterized by exchange rates pegged to a single currency, or a set of currencies or other forms of pegged. The pegged can be direct peg "country A linking its currency with the currency of country B. Or country B linking its currency with the currency of country A.". Furthermore, it can be indirect peg "countries A and B linking their currencies to a common currency for instance currency S". Seven types of fixed exchange regimes can be distinctive through divided into two categories as follows (Dagher & Atwan, 2012, 4):

1. **Hard peg**: that divides into the follows:
   A. **Monetary Union**: any country based on this regime is a member of a monetary union, such as monetary union for the euro area. That there will be a single currency all member countries are relying on it along with the absence of an independent monetary policy for any country (Hindawi, 2011, 9).
   B. **Dollarization**: according to this regime, the legal currency that is used should be the currency of another country. With this regime the dealing with local currency will be abandon completely to benefits of a foreign currency such as the "dollar". The monetary authorities give up its right of local independence monetary policy (Hindawi, 2011, 9).
   C. **Currency board**: this regime is based on an obvious legal obligation that determines the local currency exchange rate against specific foreign currency imposing restrictions on the orders authority to cover exporting currency with gold or foreign currency. As a result, any increase or decrease in international reserves will lead to the expansion or contraction in money supply (Hindawi, 2011, 10).

2. **Intermediate Exchange Rate**: includes the following:
   A. **Basket peg**: with this regime the local currency of a country linking to a basket of currencies that reflect the most important financial and trading partners of that country. The peg may be standard currencies such as special drawing rights. It allow exchange rate to fluctuate about a (±1%) to a balance price par value of a currency, as this system allows a limited amount of flexibility for the monetary policy (Dagher & Atwan, 2012, 5).
B. **Target Zone**: it suggested by "Williamson" that requires a setting a targeted zone, that determines the exchange rate at a specific level allows fluctuate about a (±% 10). It prevents instability outside the target zone by intervention in the exchange market. The target zone should be flexible that facilitate any changes in case of moving the exchange rate outside of this zone (Dagher & Atwan, 2012, 5).

C. **Crawling Peg**: with this regime, the local currency will peg with a main currency or a basket of currencies along with determine a specific value equivalent. The currency value adjusted under this regime a regular slight adjustment. It is a suitable system for developing countries that facing real shocks and unsteady inflation rates. (Dagher & Atwan, 2012, 6).

D. **Crawling Band**: this regime represents a crawling peg but it different from the above that the change in the equalizer value crawls within the high and low limits (Dagher & Atwan, 2012, 6).

On the other hand the second regime is floating exchange rate regimes that can be categories in to three as following (Atish, 2014, 4-5):

1. **Pure Floating**: exchange rate will be determined according to the conditions of supply and demand of foreign currency without any intervention from the monetary authority.
2. **Impure Floating**: this regime represents a pure floating, but there is the intervention of the monetary authority to reduce only the high volatility.
3. **Managed Floating**: monetary authority intervened to identify a particular exchange rate level, then price flexibility given in order to the moves of supply and demand forces. The monetary authorities intervene in the exchange market to reduce the undesirable fluctuations. The majority of economists classify the above-mentioned three departments under the title of a "Floating exchange rate". However, the International Monetary Fund (IMF) describes this three types shows a significant difference. In Managed Floating, the exchange rate is determined by the central bank as well as the government. While, in Pure Floating, and Impure Floating the exchange rate is determined through the market.

Chapter Two: Trends of exchange rate fluctuations of the Iraqi dinar and the factors influencing it:

Economic conditions of Iraq from the nineties of the twentieth century contributed to impact on all economic indicators including the exchange rate of the Iraqi dinar against the US dollar. The value of Iraqi dinar began decline and continued because of several reasons, some external and some are internal. External reasons included economic sanctions imposed on Iraq in 1991 that led to the loss of Iraq's foreign exchange resources, especially the dollar as a result of oil exports stopped. In addition to depriving Iraq to take advantage from his money that deposited in foreign banks along with interest owed to it. On the other hand, internal reasons included increase the supplied quantity of money through unlimited monetary issuance, high inflation rates, failures of monetary policy, and decrease the gross domestic product, all of these conditions have led to a decline in the value of the Iraqi dinar against the dollar (Atto, 2002, 160-162). However, in the period after the year 2003 several factors emerge that contributed to the improvement and stability of the exchange rate of the Iraqi dinar such as the issuance of Central Bank Law No. 56 of 2004 makes the bank availability to achieve full autonomy in formulating and implementing monetary policy through indirect methods. For instance, organizing a public auction for dollars in order to improve the stability in the exchange rate of the Iraqi dinar against the dollar. As well as carrying out the issuance of a new Iraqi currency substitute for the old currency. This gave the central bank the possibility of full control on the issuance process and reduces operations of counterfeiting.
which was leaving a negative impact on the value of the dinar (Annual Iraqi economic reports of Central Bank for the year 2004). Thus, there has become a central bank policy allowed the bank to preserve the Iraqi dinar exchange rate through foreign currency auctions that adopted since October 4th 2003. The auctions have contributed to achieving the desired goals of it as it considers one of the indirect means adopted by the Bank in the formulation and implementation of new monetary policy. The exchange rate decreased from (2000) dinars per a dollar in year 2003 to about (1117) dinars per a dollar at the end of the year 2008 this means a decline rate of 44.2%. This is one of the procedures used by the central bank to preserve the stability of the value of the Iraqi dinar (Abdul-Nabi, 2009, 4). The table below (Table 1) illustrates some of the macro-economic variables in the Iraqi economy.

Table (1) trends of the Iraqi dinar exchange rate development and some economic variables for the period (1995-2015)

<table>
<thead>
<tr>
<th>Years</th>
<th>Gross domestic product Value = billion</th>
<th>Exports as a percentage of Gross domestic product %</th>
<th>The exports amount Value = billion</th>
<th>The growth money rate % (M1)</th>
<th>Annual inflation rates%</th>
<th>The parallel exchange rate</th>
<th>Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>32.230 6.1</td>
<td>1.963</td>
<td>195.1</td>
<td>151.4</td>
<td>1674.5</td>
<td>1995</td>
<td></td>
</tr>
<tr>
<td>1996</td>
<td>30.999 8.9</td>
<td>2.764</td>
<td>36.2</td>
<td>15.4</td>
<td>1170.0</td>
<td>1996</td>
<td></td>
</tr>
<tr>
<td>1999</td>
<td>28.046 46.6</td>
<td>13.067</td>
<td>9.8</td>
<td>12.6</td>
<td>1972.0</td>
<td>1999</td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>26.826 69.9</td>
<td>18.742</td>
<td>16.5</td>
<td>4.9</td>
<td>1930.0</td>
<td>2000</td>
<td></td>
</tr>
<tr>
<td>2001</td>
<td>25.659 50.2</td>
<td>12.872</td>
<td>24.9</td>
<td>16.4</td>
<td>1929.0</td>
<td>2001</td>
<td></td>
</tr>
<tr>
<td>2002</td>
<td>24.544 49.8</td>
<td>12.219</td>
<td>39.6</td>
<td>19.3</td>
<td>1956.0</td>
<td>2002</td>
<td></td>
</tr>
<tr>
<td>2003</td>
<td>23.464 41.4</td>
<td>9.711</td>
<td>91.6</td>
<td>32.6</td>
<td>1936.0</td>
<td>2003</td>
<td></td>
</tr>
<tr>
<td>2004</td>
<td>33.700 52.8</td>
<td>17.810</td>
<td>75.8</td>
<td>26.9</td>
<td>1453.0</td>
<td>2004</td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>32.116 73.8</td>
<td>23.697</td>
<td>12.3</td>
<td>36.9</td>
<td>1472.0</td>
<td>2005</td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td>42.620 71.6</td>
<td>30.529</td>
<td>35.6</td>
<td>53.2</td>
<td>1475.0</td>
<td>2006</td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>69.556 56.9</td>
<td>39.587</td>
<td>40.5</td>
<td>30.8</td>
<td>1267.0</td>
<td>2007</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>109.100 58.4</td>
<td>63.726</td>
<td>29.8</td>
<td>2.6</td>
<td>1203.0</td>
<td>2008</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>98.987 39.8</td>
<td>39.430</td>
<td>32.3</td>
<td>2.8</td>
<td>1182.0</td>
<td>2009</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>121.335 42.7</td>
<td>51.764</td>
<td>38.7</td>
<td>2.5</td>
<td>1185.0</td>
<td>2010</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>153.032 52.1</td>
<td>79.681</td>
<td>20.7</td>
<td>5.6</td>
<td>1196.0</td>
<td>2011</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>184.192 51.1</td>
<td>94.209</td>
<td>4.6</td>
<td>6.5</td>
<td>1233.0</td>
<td>2012</td>
<td></td>
</tr>
</tbody>
</table>
Depending on the table above (1) economic variables will be analyzed for the period (1995-2015):

1. **Iraqi dinar exchange rate:**

   It can be noticed from Table (1) that there is a continuing deterioration in the Iraqi dinar exchange rate as a result of external and internal factors, especially the export of oil that is the source of foreign currency on one hand, and insist to work on exchange rate fixed regime by the government along with multiple official exchange levels that can be characterized as multiple fixed exchange system. This founded a non suitable exchange regime because of results the official pluralism on the other hand. Consequently, this leaded to fluctuations in the exchange rate of the dinar during the years (1995-2000). The value of the dollar in 2000 was equal to (1930) dinars, compared to the year 1995 which was (1647.5) dinars. This is despite the signing of a Memorandum of Understanding with the United Nations (oil for food) in that period. Then the exchange rate of the dinar continued deterioration during the period (2000-2003) it reached (1936) dinars to one dollar for the year 2003. From the above facts, it is clear that during the nineties and until 2003 along with economic conditions Iraq experienced it must be stressed on the economic reality which shows that monetary policy can not alone achieve the desired stability for exchange rate of the local currency because that would result in depletion of foreign currency of the central bank treasuries. Economic policies must be directed consistently with monetary policy to support national currency by encouraging investment as well as raise productivity. (Annual Iraqi economic reports of Central Bank for the year 2003)

   However, after the year 2003 the independence of the Central Bank Law has been issued that led to raising the value of Iraqi currency after administrated the foreign currency auction and adoption of managed floating regime that the exchange rate is determined according to supply and demand mechanism but under the control and supervision of the Central Bank (Dagher & Atwan, 2012, 8). This led to an improvement in the exchange rate of the Iraqi dinar against the dollar.

   A single dollar reached (1453) dinars year 2004, then deterioration continued in 2005 to reach (1472) dinars as a result of the instability of the security situation in that period. However, in years 2007 and 2008 an improvement came back, as it reached (1267) and (1203) respectively. The years between (2009-2012) the dinar exchange rates achieve remarkable stability in the central market for exchange and the parallel market exchange as it reached (1182-1233) dinars respectively. Besides, the improvement that has occurred in the value of the Iraqi currency during this period increased the people confidence in Iraqi dinars. However, for the period (2013-2015) became the dinar exchange rate in (1226) as an average for that period. (Annual Iraqi economic reports of Central Bank for the year 2015)
It is noteworthy to declare that this improving in the Iraqi dinar exchange rate it was a direct result for the increase international reserves of the Iraqi Central Bank (Salih, 2011, 5). The international reserves of the Iraqi Central Bank amounted to 66 billion dollars at the end of year 2012 which is consider being the Iraqi currency cover and supports its value when tracing trends the evolution of the dinar exchange rate after the year 2003 as the figure below (1) illustrates these trends.

Figure (1)
Trends of the Iraqi dinar exchange rate development against the dollar for the period (1995-2015)

Source: - researcher work based on the data in table (1)

2. The annual inflation rate:
It represents increasing in the general level of prices. It can obtain this important economic indicator through Consumer Price Index (CPI), the level of individual welfare along with individual living standards. It can also define as the rate of change in the general level of prices (Samuelson& Nordhaus, 2010, 609). Dealing with inflation is the primary goal of monetary policy stems from the theory and practices expressions linked with the essence of economic stability especially in the income economy depending of its oil wealth as revenues in total financing activities. Therefore, the stability of inflation means the stability of the monetary policy that effort on the stability of the exchange rate which is one of the most important indicators of monetary policy. Inflation rates affects and is affected by changes in exchange rate as it consider a tool that connects the national economy to international economy through the commodity market "imported and exported goods" (Al-Anzi, 2006, 3).

The phenomenon of inflation is not new on the Iraqi economy, since the inflation appeared in the seventies after the oil prices revolution; along with apply the five-year development plan in that period. Furthermore, issuing cash, employees' salaries, and financing of projects has been increased, as well as openness to imports from abroad to cover the gap of demand increasing with a stable exchange rate of the Iraqi dinar equivalent of $ 3.3 dinar in that time helped to emerge inflation. The inflation rates aggravated in the eighties during the Iran-Iraq war. In the nineties the imposition of economic sanctions on Iraq happened, Iraqi oil exports abroad stopped. Iraqi assets of foreign currencies immobilized. Consequently, this contributes to aggravate the inflation as well as the general level of prices increased (Saleh, 2011, 9).
From table (1) it notes rising in annual rates of inflation at the beginning of the nineties, which reached to a great level (151.4%) in 1995. With expected of this result in such conditions along with following erroneous in economic policies continued all the siege period. The inflation rates marked dissimilarity followed the military operations and the imposition of economic blockade on country led to a rise in the dollar rate against Iraqi dinar on one hand and the inflation reduced the purchasing power of the dollar exchange rate against dinars on the other hand. In addition to excessive money supply in that period where the inflation rates have seen a marked decline during the period (1996-2000) with a rate of (% 15.4 to 4.9%), because of Iraq's agreement to implement a memorandum of understanding (oil for food), (Saleh, 2001, 10), which resulting improvement in the exchange rate. However, between (2001-2003) inflation rates rising and reached between (% 16.4 to 32.6%) because of the continuing rise in the general level of prices as a result of the devaluation of the Iraqi dinar, as well as during the years 2005 and 2006, with a clear rose reached (36.9% to 53.2%). In spite of the violation of the monetary and fiscal authorities' actions to reduce the high rates of inflation because of the resulting of heavy legacy and bequeathed by the government with the policies erroneous that are followed at the time. The monetary policy moved positively since the inflation rate has seen a clear decline reached 2.6% in 2008. In the years after 2008 the inflation rate faced slight fluctuations at the level of 1.6% in 2014. However, it rose to 3.5% in 2015 as a result of the security deterioration Iraq suffered in that year. (Annual Iraqi economic reports of Central Bank for the year 2015)

Figure (2)

3. Annual money supply growth rate:
It is determined by central bank and the private banks system of the country. The central bank of the country through open market operations and some other mechanisms providing reserves to the banks system. The commercial banks after that making deposit from reserves of Central Bank through the control of the reserves that central bank can determine the money supply (Samuelson& Nordhaus, 2010, 477).

This study will depend on the money supply (M1). The "M1" selected for the level of money supply as it is suitable for the Iraqi economy, which means the currency in circulation among the individuals, in addition to demand deposits since it is appropriate to determine the

Source: researcher work based on the data in table (1)
money supply. The money supply is considered one of the most important indicators affecting the exchange rate because the increase in it will make a significant change in the exchange rate through the changes caused by the general level of prices as well as through the mechanism of supply and demand change in the exchange rate (Alondaou, 2010, 148). Money supply expands through the weak exercise of monetary policy by linking money supply expansion to budget deficit. The country turned to released cash as a result of stopped oil exports and lack of foreign currency which led significantly to rise in monetary growth rate reaching (195%) in 1995 as a result of the increase the rates of budget deficit, and borrowing from the central bank to return the deficit that led to the devaluation of the Iraqi dinar along with unprecedented increase in general price level. In other words, the significant impact of the money demand by the government because of its oil revenue to finance the general budget. However, the years between 1996-2001 (see Table 1) fluctuations of monetary growth rates continued, but less as it reached (36.2-24.9) as a result of the continuing stalemate in the financial policy against deficit, and to provide a part of the overall supply opposite stimulating aggregate demand about supply cash excessive on one hand, and stumbled monetary policy in its legislation in order to activation the rate of interest to attract deposits on the other hand. However, in 2003, the exchange rate rose to (91.6%) because of the excessive of monetary mass as a result of the war that Iraq experienced in that year (Alondaou, 2010, 158).

In spite of the monetary authority under its new legislation attempts to activate the interest rate to attract various deposits especially individuals savings, that allowing banks freedom to make decision about payable and receivable interest rates along with depending on the auction in order to control monetary mass. However, the achieved was reducing money supply growth ratio from (75.8%) in 2004 to (29.8%) in 2008. The decline continue in money supply to reach (20.7%) in 2011. Moreover, a significant decrease in the growth of money supply appears, for the years 2013 and 2014 rated (16.2% and 3.5%) respectively. While, in 2015 it rose slightly, reaching 8.1% as a result of the deterioration of the country political situation as illustrated in the figure (3). (Annual Iraqi economic reports of Central Bank for the year 2015)

**Figure (3) Trends of Iraq's annual monetary growth rate for the period (1995-2015)**

![Figure 3](https://example.com/figure3.jpg)

Source: - researcher work based on the data in table (1)
4. **Gross domestic product:**

Represents the sum of the values of goods and services produced by a country in one year. Which include all economy productive sectors such as oil, industry, agriculture, etc (Edgman, 1999, 23).

The Iraqi economy in the nineties faced a continues deteriorate as a result of economic policies erroneous, wars experienced, and the economic blockade that halted most of its business and economic sectors (production and service) partially or entirely. This led to the depletion of the financial resources of the country, as well as destroy infrastructure. These factors led to a decline in economic activity of the country, this in turn led to a decline in gross domestic product. In 1995 a slight improvement occurs after signing a memorandum of understanding. This allows Iraq to export limited amounts of crude oil as the gross domestic product reaches (32.230 billion dollars) in that year. Then gross domestic product began declined (Table 1) during the period (1996-2003) that reached (30.999-23.464) billion dollars(Atto, 2002, 166-168). In 2004 a positive change occurred in gross domestic product, this improves continued to reach (109.100) billion dollars in 2008 as a result of raise the oil prices, reaching 150 dollars per barrel in that year. After 2008, Iraq's economy has been affected by the global fallout of the financial crisis through the worldwide decrease in oil prices. This became obvious in the decline in gross domestic product rates (98.987) in 2009 compared to the previous year. Years between 2010 to 2012 there was a marked improvement in the value of gross domestic product, reached (153.032 to 184.192 billion dollars). In the years (2013-2014) the gross domestic product was continues constant (195.382-196.493) billion dollars(Iraqi central bank, the annual economic report, 2014). However, in 2015 a decline appear in gross domestic product, reaching 192.022 billion, because Iraqi economy face political and economic challenges that led to the deterioration of the security situation because of the control of terrorist groups on a number of cities in Iraq. It led to the destruction of Iraqi infrastructure especially in those cities that have the most important oil fields in Iraq along with the globally rapid decline of oil prices. Consequently, this led to a decline in oil export earnings particularly that the Iraqi economy depend about 90% on oil exports, in addition to lack of diversification of income sources, that led to a decline in gross domestic product as explains in the figure below. (Iraqi central bank, the annual economic report, 2015)

**Figure (4)**

*Figure (4)*

Exports are considering the base element in the economy of any country, since it the main source to obtain the foreign currency needed to achieve progress in country economy. Exports acts a significant and positive role in raising the economic development in developing countries levels since it represents a high percentage of national incomes that may be causing economic fluctuations as well as economic crises lead at the end to the deterioration of the economic environment in several areas. It is obvious that the structure of exports in Iraq suffers from imbalances since its exports depend on single commodity goods or limited goods in number. Thus, these goods prices are subject to constant fluctuations as a result of changes in demand, or as results of other factors often it out its control (Al-Anzi, 2006, 45). Making revenue from oil exports unstable and causing negative impacts on levels of economic activity. Therefore, the stability of the proceeds of exports will certainly reflect on raising the level of economic activity in various aspects, especially the exchange rate. This means providing an appropriate environment for achieving distinctive activity in various sectors and economic units. On the contrary, the occurrence of deterioration and instability in export earnings, it causes a negative impact on economic activities. Furthermore, the Iraqi economy mainly depends on oil exports covers its revenue approximately 90% of the treasury expenses, and when the oil supply markets face shocks because of changes in oil prices, the shock is directly transferred to the Iraqi economy that affect the state general budget. The result of this shock and its impact on the state general budget, effects on emerge the increasing inflation, along with influenced negatively the local currency (dinar) (Al-Any, 2002, 156). Moreover, individuals turn to use other currencies as a value store instead of the dinar since the prevailing trend in Iraq is the use of the US dollar as value store, or sometimes uses as an intermediate for the exchanges, since Iraq's economy is characterized that depends on dollar. Here another challenge highlights to the challenges that face the monetary authorities represented by the central bank in charge of finding solutions to it with the limited effectiveness of monetary policy from the period before 2003, and the poor results at the time (The annual economic report of the Central Bank of Iraq, 2003).

Foreign Trade of Iraq suffered almost entirely during the nineties as a result of the economic blockade that halted the Iraqi abroad dealing. Consequently, it stopped oil exports and

Source:

- researcher work based on the data in table (1)

5-Exports size as a percentage of gross domestic products

Exports are considering the base element in the economy of any country, since it the main source to obtain the foreign currency needed to achieve progress in country economy. Exports acts a significant and positive role in raising the economic development in developing countries levels since it represents a high percentage of national incomes that may be causing economic fluctuations as well as economic crises lead at the end to the deterioration of the economic environment in several areas. It is obvious that the structure of exports in Iraq suffers from imbalances since its exports depend on single commodity goods or limited goods in number. Thus, these goods prices are subject to constant fluctuations as a result of changes in demand, or as results of other factors often it out its control (Al-Anzi, 2006, 45). Making

decreases the size of exports as a percentage of gross domestic products reached low levels (6.1%) in 1995. Then an improvement in the exports emerges after Iraq signed a memorandum of understanding. It allowed Iraq to export limited amounts of oil in exchange for amounts of food and medicine. Therefore, the volume of exports rose to reach (46.6%) in 1999. In 2000 the size of exports rose reached (69.9). Nevertheless, it began to decline to reach (41.4%) at the year 2003 As a result of the deterioration of the situation of the country because of the war in that year (The annual economic report of the Central Bank of Iraq, 2003). While in 2004 an improvement occurred in the size of exports to reach (52.8%) as well as for the year 2005 where it was (73.8%) as a exports size of Gross domestic product. In 2009 the size of exports decline as a result of the financial crisis at the time to reach (39.8%). For the period (2010-2015) the volume of exports declined because of the unusual circumstances (Previously reported) that the Iraqi economy experienced and this is shown in figure below (5).

Chapter Three: Analyze the results of the assessment for the impact of some economic variables on Iraqi dinar exchange rate fluctuations for the period (1995-2015):

In analyzing the impact of some economic variables in the foreign exchange rate fluctuations, this study will depend on economic theory in addition to focusing on the impact of these changes in the Iraqi dinar exchange rate. Thus, study variables can be illustrated as follows:

- Dependent Variable: Yi = Iraqi dinar exchange rate.
- Independent Variables:
  X1 = Consumer prices index (CPI).
  X2 = Money supply (M1).
  X3 = Exports size   as a percentage of gross domestic product.
  X4 = Gross domestic product.

Multiple linear regression model has been used in assessment of the impacts of the above independent variables The Iraqi dinar exchange price, using the statistical software (Minitab.
V., 16). Furthermore, Farrar-Glauber test has been administrated in order to examine the interference of multiple linear among the independent variables in addition to using (T, F) test to determine the significant levels of the independent variables as well as for the whole model. Moreover, Durbin-Watson test has been used to investigates the presence or absence of autocorrelation problem between the variables (Greel, 2011, 20-29).

In order to estimate the impact of the independent variables that mentioned above on Iraqi dinar exchange rate (dependent variable) several formulas to determine the estimate has been selected. The linear formula given best results, as follows:

\[
Y = 1528 - 0.04 X_1 + 0.002 X_2 + 7.87 X_3 + 0.63 X_4
\]

\[
t(*) = 9.50 \quad -3.38 \quad 0.12 \quad 2.85 \quad 0.16
\]

\[
S.E = 160.9 \quad 0.01 \quad 0.009 \quad 2.7 \quad 3.93
\]

\[
R^2(adj) = 65\% \quad F(*)_{(0.05)} = 10.35 \quad D.W = 1.73
\]

\[
dl_{(0.05)} = 1.12 \quad du_{(0.05)} = 1.62 \quad F_{(0.05)} = 4 \quad t_{(0.05)} = 1.72
\]

The model indicates the estimated explanatory power that 65% ongoing changes in the Iraqi dinar exchange rate are interpreted by the changes in (X1 "Consumer prices index", X2"Money supply", X3 "Exports size as a percentage of gross domestic products", and X4 "Gross domestic product". However, the low percentage of 35% explains the presence of other quantity variables not included in the model, or may be the quality variables within the random variable.

In order to test the significance of independent variables and its ability to interpret the changes in the dependent variable (Iraqi dinar exchange rate) the value of (t (*)) calculated for variables X1, X3 greater than their tabulated at the 5% significant level which means its significant. However, it was not significant for the variables X2, X4. As the value of \(F(*)_{(0.05)} = 10.35\) calculated greater than it's tabulated at the 5% significant level. Consequently, this result illustrates that there is a significant linear relationship between the dependent variable and the independent variables on the whole model. Furthermore, the value of the Durbin-Watson estimated was \(D.W = 1.73\) which it is greater than both the minimum and maximum for Durban Watson (dl, du) and it located outside the critical area. Therefore, this indicates lack of problems for the relationship between random variables of the model (Gujarati, 2009, 43-45).

In addition, concerning the analysis results of the values and parameters signal of the estimated model along with the impact of the independent variables on the dependent variable (the Iraqi dinar exchange rate) the parameter signal of consumer prices index (X1) was negative which means in other words that the relationship between them is reciprocal. This result refers to the lack of improvement in the value of the exchange rate of the Iraqi dinar against the dollar, and in case of happening resulting in a negative impact between them during that period.

The other independent variables namely: X2"Money supply", X3 "Exports size as a percentage of gross domestic products", and X4 "Gross domestic product" has a positive impact and a positive relationship with the Iraqi dinar exchange rate within that period. Consequently, these variables impacted the exchange rate of the Iraqi dinar as well as this result came in conformity with the study hypothesis.

**Discussion the results and conclusion:**

This study comes out to a set of results and as follows:

1. The study found that the fluctuations of the Iraqi dinar exchange rate will lead to fluctuations of goods prices especially imported in the market that leads to raise the general level of prices
and consequently to the deterioration of Iraqi dinar value since increase of imported goods lead to increased prices of goods that produced locally which this called imported inflation.

2. The fluctuations in exchange rates operating in losing the confidence in the local currency (Iraqi dinar) which impacts the consumers behaviors and their convictions, this increases their demand on goods in the market that basis on trade-off between money and consumer goods.

3. The study found that Iraqi economy applies managed floating exchange rate regime, as well as having several functions of the exchange rate namely: measurement, development, and distribution.

4. The study found depends on analysis of the development trends of the Iraqi dinar exchange rate towards foreign currency that there is a steady deterioration in the price for the period of 1995-2000 as a result of internal and external factors especially the export of oil in addition to the exceptional circumstances experienced by Iraq. However, in 2003 until 2015 there was a rise in Iraqi currency value and improved its disbursed toward foreign currency as a result of the project of Iraqi Central Bank that applied foreign currency auction, in addition to its entry as a seller and buyer that supplies and demand foreign currencies, especially the US dollar, and the EURO, which increased the confidence of individuals in their own currency which is the Iraqi dinar.

5. Declines in inflation emerge in the Iraqi economy for the period of (2008-2015) as a result of central bank intervention in open market operations as well as controlling the money supply and determine the money supply expansion.

6. The study based on analysis of assessment results of the impacts of some economic variables on Iraqi dinar exchange rate for the study period found that the consumer prices index was impacted negatively and significantly. However, the money supply, exports size as a percentage of gross domestic products, and gross domestic product, was impacted positively and has a positive relationship with the Iraqi dinar exchange rate during that period.

7. The explanatory power of the estimated model is expressed as the coefficient of determination 65%. Which illustrates that 65% changes of the Iraqi dinar exchange rate attributed to changes in the independent variables above within the model and the remaining 35% because other variables that not included in the model.

8. The significant of independent variables that explaining changes in the exchange rate of the Iraqi dinar for the period of study apparent through value (t *) Calculated. The values were significant for the consumer prices index, and money supply variables. On the other hand, it was not significant for exports size as a percentage of gross domestic products, and gross domestic product. Furthermore, for the whole model depending on results of (F) test the model was significant.

9. The calculated value of Durbin Watson it was outside the critical area, this means the lack of problems for the relationship between random variables of the model to the estimated and specific impacts of some the changes in the Iraqi dinar exchange rate during the period of this study.

**Recommendation:**

1. The necessitate to the exchange rate policy to include sufficient flexibility to face the economic changes caused by dealing with other countries within foreign trade to reduce the fluctuations of the local currency exchange rates (Iraqi dinar) against foreign currencies.

2. Expansion the procedures to support the committees and integrity departments along with the reduction of administrative and financial corruption that represents a restriction on the
fluctuations in foreign exchange rates (particularly the dollar and euro) and its reflection on the prices of various goods in the Iraqi market.

3. The need for coordination between the exchange rate policy with the general economic policies, and the exchange rate policy require intervention by the Iraqi Central Bank in order to reduce the fluctuations of the exchange rate of the Iraqi dinar along with their impacts on local and foreign prices of goods.

4. Contribute to the reduction of the monetary policy surplus in the Iraqi economy through Iraqi devaluation in circulation to the total money supply. In addition to working on increasing the proportion of fixed deposits, and the savings of the total money supply.

5. Conduct studies in the future about foreign exchange rates along with their relationship to changes in the economies of countries (developed and developing), such as the European euro exchange rates and its impact on foreign trade of the countries in the European Union. Furthermore, conducts studies in order to analysis the changes in exchange rates currency and its impact on the economies of the Arab gulf countries (Gulf Cooperation Council).
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