

The Reality Of International Reserves In Iraq For The Period (2004-2021) Batool Matar Ibady

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Abstract : Most countries relied on maintaining international reserves in the optimal size because of their important role in facing internal and external shocks, and the problem of the study was what is the size and components of international reserves in the Iraqi economy for the period (2004-2021), One of the most important objectives of the research is measuring and analyzing the size of international reserves for the period (2004-2021), and the the research relied on the analytical method.

The study reached a set of conclusions, including: During the research period, we note that Iraq has succeeded in make and international reserves, as in most years, during the research period, we find that international reserves have exceeded the standards of adequacy of international reserves, except in some years, and this is due to the drop in oil prices for several years because Circumstances including the global financial crisis of 2008, terrorist attacks, and the Corona pandemic. so that foreign currencies that are one of the components of international reserves in Iraq are mostly US dollars, if their percentage for some years is (60-70%) and what remains is for other currencies

The study recommended: supporting the private sector by directing the surplus of international reserves for internal investment, and this in turn leads to economic growth that contributes to supporting the Central Bank in foreign currencies instead of the private sector's dependence on foreign currency derived from oil revenues only, and setting a financial ceiling for imports and limiting smuggling and dependence On locally manufactured goods, especially luxury.

INTRODUCTION: With the increase in global financial crises that afflicted all economies of countries, as they have a stronger impact on rentier countries that depend on the export of a unilateral commodity, such as Iraq, which depends on the export of crude oil, these reasons have led to an increase in recent times keep international reserves of an appropriate size. Because it is considered one of the elements of safety to face internal and external shocks, and it is also considered an investment tool and it has an important role in covering the support of the local currency, as well as providing external liquidity and achieving economic stability, and maintaining an appropriate level of international reserves increases the confidence of foreign investors in that country, and international reserves are formed Of the basic elements (leading currencies, gold, special drawing rights, and the reserve position of the International Monetary Fund, other assets), and the Central Bank of Iraq called the reserves at the International Monetary Fund and special drawing rights the designation of other assets, while the assets of foreign currencies are all that it owns of foreign currencies, whether they are in governmental and private banks, as well as the Central Bank of Iraq, and that the investment of these reserves is beneficial to the economy and is considered another resource added to the economic resources of the state through which it can reduce dependence on the oil source, which witnesses fluctuations in its revenues, and this investment It reduces the opportunity cost of holding international reserves.

Research importance :-

It begins by studying the reality of international reserves in Iraq through standards that match the Iraqi economy during the research period, because international reserves have a role to maintain the internal and external financial position of the economy and address structural imbalances

Research aims :-

- 1- Measuring the volume of international reserves for the period (2004-2021).
- 2- Analysis of the components of Iraq's international reserves for the period (2004-2021).

Research problem: By answering the following questions:

- 1- What is the size of international reserves in Iraq for the period (2004-2021).
- 2- Did the international reserves in Iraq exceed the specified standards during the period (2004-2021)?
- 3- Have the international reserves in Iraq achieved benefits, including safety and liquidity?

Research hypothesis:

The research hypothesis starts (that Iraq possesses an amount of international reserves that exceed the standards specified in the Iraqi economy for the period (2004-2021), which has a major role in achieving economic stability.

Keywords: International Reserves , Special drawing rights, Indicators for determining the optimal size of international reserves

The first topic

First: The concept of international reserves

The International Monetary Fund defined international reserves in the Guidelines for the Management of Reserves approved by the Executive Board of the Fund on September 20, 2001 as consisting of liquid or rapidly negotiable assets denominated in foreign currency and subject to the control of the monetary authority and available for its disposal on a permanent basis, and it must be kept on Form of entitlements for non-residents written in foreign currency and subject to transfer (Yusef 10:2008)

International reserves are defined as those foreign assets that are available at any time and are also subject to their control of the monetary authorities for purposes related to direct financing of payment imbalances or to indirectly adjust their size by interfering in the exchange markets to influence the currency exchange rate (Belgasesem 2008: 9).

It is also known as what the monetary authorities possess of gold and foreign currencies that are used to face fluctuations that affect the balance of payments, or it is a set of financial and technical means to finance the country's foreign trade and settle payments (Al-Khafaji 2016: 545)

It is also known as "the external assets subject to the control and control of the monetary authorities and at their disposal, and they include gold, the leading currency, deposits abroad, special drawing rights, debt instruments issued by foreign entities, and the reserve position with the International Monetary Fund, which means participation in the fund's capital, and the Fund's loans (Ali 2021:263).

It is also known as monetary financial assets denominated in foreign currencies owned by the government, and it consists of a group of foreign financial instruments owned by the government and which it verified from its transactions, as these foreign assets are like rights over other countries (Rifak, Talib 67: 2019).

It was also defined as those assets that the monetary authorities wish to keep because the governments of other countries accept them in debt settlement and international transactions. Based on the acceptability of these assets in international transactions, the governments of different countries always seek to build assets from these assets and keep them to be used as reserves in Periods in which there is an emergency or temporary deficit in its balance of payments in order for the state to maintain a fixed policy (Mwakni, Zidane 131: 2020).

There are also many researchers who use the terms international reserves and international liquidity as synonyms, but there is a difference between these two terms that became clear after searching and examining the content and components of each of them independently, and the opinion that prevailed in general is that the concept of international liquidity is broader than international reserves and there are two dimensions to liquidity (Al-Mamouri 2018: 36-37):

1- The first dimension: refers to the sources of foreign currency that are under the control of the monetary authority and that can be easily mobilized to meet the demand for foreign exchange.

2- The second dimension: refers to the internal and external cash flows of foreign currency sources stemming from short-term liabilities in foreign currency and monetary authorities' dealings outside the general budget, and that the concept of international liquidity is broader than international reserves in at least three aspects:

Table (1) the difference between the concept of international liquidity and international reserves

	International liquidity	International reserves
1-	The international liquidity is the foreign exchange resources and leakage channels of the monetary authorities and the central government. International liquidity represents the liabilities of resident and non-resident monetary authorities	The foreign assets of the monetary authorities are international reserves
2-	The concept of liquidity includes cash inflows and outflows of foreign currencies resulting from activities inside and outside the budget	International reserves represent the liabilities of non-resident monetary authorities
3-		The concept of international reserves is based on the central bank's balance sheet

• Prepared by researchers based on (IMF 2013: 4).

The importance of international reserves: From the previous presentation, the national importance of international reserves can be deduced:

1- The presence of international reserves gives confidence in the ability of the monetary authorities to pay their external obligations on time (Al-Shazly 2014: 8).

2- The international reserves are considered as part of the monetary cover of the local currency, whether it is gold or foreign currencies.

3- Facing the shocks that the monetary authority is exposed to from the international financial markets and increasing the ability to withstand those shocks that afflict the local financial system (Al-Shammari, Hamza 373: 2015).

4- Reducing external effects by providing liquidity in foreign currency to absorb external shocks to which the economy is exposed during crises or when it is not possible to obtain borrowing from abroad.

5- Foreign reserves help provide confidence to central banks in implementing their monetary policy, and also provide confidence in the exchange rate through the ability of the central bank to enter and control the foreign exchange market (wijnholds 155:1977-156).

6- Insurance in the event of stopping the country's exports from which the general revenues of the state come, especially for rentier countries (Rodriguez, Funk: 2012,2).

7- It is considered a speculative tool for the monetary authorities and can be used for the purpose of achieving the greatest return with the least risk

8- International reserves have a major role for countries that have achieved high degrees of economic openness, as they gain confidence from external investors, as foreign capital moves inward (Al-Shazly 9: 2014-10).

9- Securing the country's imports of goods and services (Zarari 65: 2016).

Second: Components or elements of international reserves:

International reserves consist of financial assets and internationally accepted means of payment, which address imbalances and are acceptable to remove the deficit when the sum of the debtor side is On the part of the creditor in the balance of current and capital transactions, that is, the arithmetic settlement of that deficit that was recorded in the balance of payments of a country, and the components of international reserves developed through the development of international economic relations under the gold standard system, as the volume of international liquidity depends on an essential element, which is monetary gold available to them, as this system included the conditions to achieve a balance between the two countries, (Abdul Qader, Belkacem 223: 2018), we can indicate the elements of the reserves as follows:

- 1- **Gold:** It is considered one of the basic elements of international reserves and was used in monetary exchange and settlement of international payments for the period (1870-1914) (Al-Shammari and Hamza 375: 2015) and what the monetary authorities own or any entities under the direct and actual control of the authorities and keep as a reserve asset. As for other non-monetary gold, owned by any party, which may include any commercial gold balance owned by merchants or companies for the purpose of trading in it, it is not included in the international reserves, and transactions are made in monetary gold only between the authorities and the corresponding authorities in the economies or other organizations. International monetary gold is considered a reserve asset and there are no corresponding financial liabilities (Yusuf 2008: 12).
- 2- **Special Drawing Rights(SDR) :-** They are book loans used by the International Monetary Fund that are granted to members of this new system optional. It is an account unit that has a legal basis and is not a metal or paper currency. The issuance of Special Drawing Rights (Ajam 236: 2013), also known as paper gold, and the emergence of these rights came in the monetary crisis that was ravaging the monetary system that was established under the Bretton Woods Agreement during the period (1965-1971) if it meant the dollar from an actual crisis and its cause The inability of the United States of America to fix the dollar internationally is the reason for the emergence and creation of these new reserve units, which were considered among its elements (Al-Issawi 110: 2012), as the International Monetary Fund in 1970 allocated special drawing units with member countries and in agreement with the major industrial countries that are members of the Fund And consider it as a reserve currency, and these countries are the United States, Germany, France, Japan and the United Kingdom, (Hosni, Abdel-Al 2010: 77).
- 3- **Foreign Currencies:-** Foreign currencies have become a percentage of the monetary cover, and it means strong, convertible foreign currencies such as the dollar, the euro and the Japanese yen (IMF 2013), and what the world witnessed towards economic openness, global transformation and market liberalization, the importance of dealing in currencies emerged and became one of the necessities of operations International trade, which is foreign currencies between countries of the world that are required to receive part of the value of their exports of these goods and capital in specific foreign currencies. (Fates 25: 2017)
- 4- **Reserves with the International Monetary Fund:** It is defined as the amounts in foreign currency that a member state of the International Monetary Fund may withdraw in a specified period under the loan agreement in the account of public resources readily available to the member state and which are readily available to the monetary authorities to meet balance of payments financing and other needs (IMF2013: 21-22), and reserves are considered International is one of the tools to implement monetary policy and control and control the local exchange rates, and it is mainly done in countries that fix exchange rates and use reserves through purchases or sales of the leading currency in the exchange market in order to stabilize exchange rates at the target level, and this policy is used in Countries that follow a floating or managed exchange system. Therefore, international reserves are considered essential in the work of the currency selling window in countries whose economies are characterized by unilateralism. The public sector is the basis for the formation of international reserves. This, in turn, generates pressure on the reserves in order to continue the work of the window to control the stability of exchange rates and maintain local liquidity.

However, continuing with this procedure may cause the international reserves to risk declining and the failure of the monetary authorities' ability to achieve their goals (Al-Mayahi, Shendi 184 :2022).

5- Other reserve assets: It includes all liquid, available and placed assets at the disposal of the monetary authorities, but it is not included in other asset and reserve categories and includes the following (IMF 23: 2013):

A- The total net market value of financial derivatives, including forward contracts, future contracts, swaps and options contracts with non-residents.

B- Financial derivatives complementing the evaluation of the assets available to the Monetary Authority, which enjoy high liquidity and depend on foreign currencies.

C- Short-term loans in foreign currencies to non-residents that are due for repayment from the Monetary Authority.

D- Long-term loans that can be recovered easily to meet imbalances in the balance of payments (Al-Fatlawi 17: 2017).

C- Other unsecured financial assets that are available for immediate use (such as shares of non-tradable investment funds).

H- Buying back liquid and available assets on demand that are controlled by the monetary authorities (Al-Araji, Al-Mamouri 499: 2021).

The components or elements of international reserves can be clarified in the form of equations (Kathryn ,other 2011: 4-16):-

$$IR = \text{Forex R} + \text{Nonc R} \dots\dots\dots(1).$$

$$\text{Forex R} = \text{SEC R} + \text{DEPO R} \dots\dots\dots(2).$$

$$\text{Non R} = \text{Gold} + \text{SDR} + \text{IFM} + \text{Othre R} \dots\dots\dots(3).$$

where the letter indicates(IR) : International Reserves

(Nonc R) -:Gold + (SDR) + (Balance of the Central Bank with the International Fund IMF + (other).

Forex R -:It includes securities and currencies (SECR) + deposits(DEPO)

With all equations (2) and (3), we get equation No. (4)

$$IR = (\text{SEC R} + \text{DEPO R}) + (\text{GOLD} + \text{SDR} + \text{IFM} + \text{other R}) \dots\dots\dots(4)$$

If Equation No. (4) shows the components of the international reserves, the international reserve storage may change for four main reasons (Al-Araji, Al-Mamouri 500: 2021)

1- Purchases and sales of reserve assets in leading currencies.

2- Changes in the valuation of assets

3- Changes in the reserves components, except for the base currency.

5- Interest received on existing assets.

The actual changes in international reserves are the sum of changes in the balances of all its components:

$$IR = (\Delta PS \text{ SE} \Delta R + PS \text{ DEP} \Delta R) + (r^s \text{ SECR} + r^d \text{ DEPOR}) + (\text{val} \text{ SECR} + \text{val} \Delta \text{DEPOR}) + \Delta \text{Nonc R} \dots\dots\dots(5)$$

(ΔPS) : It indicates the change in purchases and sales of foreign currency reserve assets

(r^s) : interest rates on securities

(r^d) : Interest rates on deposits

(Δval) : Indicates evaluation changes

Third:

Indicators for determining the optimal size of international reserves

The issue of the optimal size or the optimal level of international reserves has received great attention, in order to know the criteria that can be relied upon to determine the optimal size or level that the monetary authorities should have, as many studies focused on them and tried to establish those criteria on the basis of which the optimal size of reserves is determined. The international monetary authorities possessed, which must be in a safe and sound position to immunize them against emergency shocks and allow them to correct the imbalance in the balance of foreign payments (Idan, Kazem 2022: 27-28) and are divided into:-

A- Ratio of international reserves to imports (R/IM): Triffin suggested in 1974 the ratio of international reserves to imports (R/IM) as an indicator of the adequacy of international reserves. Variables in the items of the balance of payments due to its close connection with the levels of domestic consumption, current production and economic growth. Supporters of this formula (IMF1990) believe that resorting to the use of international reserves in crises or emergency situations guarantees the monetary authorities the flow of necessary imports and keeps them away from undesirable economic and social policies that are forced to It should be applied in the event that these reserves are insufficient (Ahmed 122: 2019). This ratio is considered the most appropriate for countries exposed to current account shocks and restriction of access to capital markets. The standard is coverage of potential imports for three months. For emerging economies, the

standard indicator is determined at the level of coverage for a period of four months for imports. (Biljana10: 2017), or imposing a percentage of about 30% of the value of imports per year (Dagher et al. 6: 2019) that the main result of using this indicator leads to the proportionality of the demand for international reserves with the value of imports, meaning that the demand for reserves increases with the increase in the value of Imports, where the state sometimes increases the volume of reserves if the volume of its revenues increases, and in the event that the impact of revenues on the reserves is positive, this effect is called (safety reserves) ‘ Therefore, we find that the state announces a cover to cover imports for a period of time depending on what it owns Reserves (Zarari 95:2016).

$$IR= R/M \dots\dots\dots(6)$$

B- The ratio of international reserves to GDP: Studies indicate that the ratio of reserves to real GDP should not be less than 10-20% in developed countries, but in developing countries the ratio is 20-40% necessary for the purpose of achieving internal stability and absorbing external shocks. This indicator reflects the strength of the local economy and its productive structure., (Ismail, Al-Shuwaili 28:2018)

$$AR= RA/GDP \dots\dots\dots (7)$$

C- The ratio of international reserves to the balance of payments deficit: Brown proposed in 1964 an indicator to measure the ratio of international reserves to the deficit in the balance of payments, which determined the change in the foreign exchange reserves, meaning that this changes in the same ratios in the balance of payments deficit, so if this ratio was (1) Correct counting, this indicates the ideal situation, which means that there are sufficient reserves to face the imbalance in the balance of payments (Zarari 96: 2016) .

D- Ratio of coverage of international reserves to money supply in the broad sense (R/M2): This indicator is the most appropriate for countries with managed exchange rates as it works to monitor the risks of capital flight and enhances confidence in the value of the local currency. It may also be seen as A measure of the potential need to support the banking sector during or after crises, and the coverage ratio of international reserves to the money supply is in the range of coverage of 5%-20% of money (Biljana, Jovanonvikj 10:2017), and this indicator may decrease for reasons not related to external crises such as increasing confidence in the currency Domestic or monetary policy to use the interest rate to achieve the target inflation rate, and thus will lead to an increase in demand for money. An optimization of international reserves may be insufficient (Al-Shazly 15: 2014-16).

$$RA= Rs/M2 \dots\dots\dots(8) (Ogunleye AND Oputa2010:P6-7)$$

E- The ratio of coverage of international reserves to short-term external debt (R/STD):

This indicator is considered one of the economic indicators commonly used to judge the strength of the financial position of the state, through the fulfillment of its foreign obligations by the monetary authorities in a timely manner for those obligations Therefore this indicator plays an important role in determining the period of time available to the local authorities for the purpose of making adjustments in their economic policy or taking care and caution against entering into a stumbling spiral if it finds it difficult to access the global financial markets through what is related to developments in those markets, and not The impact of the size and components of external debt on the size of international reserves only, but also extends to its components and management, and here it is focused on the ratio of reserves to short-term maturity, which measures the country's ability to fulfill its external obligations, and the International Monetary Fund proposed, based on some empirical studies, a guiding standard for an indicator that determines the percentage of reserves International to short-term foreign debt should be equal to one (Al-Shazly 18: 2014), as for the (Brown) proposal in 1964, it reflects the country's ability to finance its foreign debt from what it owns from international reserves, and that 40% is the optimal ratio (Al-Hamdi, Kazem 84: 2017).

$$RA = Rs / M + Dt \dots\dots\dots(9)$$

F- Heller index: - The economist Heller published a famous article in the Egyptian Economic Journal in 1966, in which he tried to reach a measure to determine the optimal size for the level of international reserves, which took into account the factors that affect the demand for these reserves, and Heller considered that international reserves Which the monetary authority owns is only part of the capital resources of the national economy, where they are used in a rational manner and raise their productivity, and he believes that the opportunity expense in order to maintain international reserves is the difference between the social return on investment and the expected return that the monetary authorities obtain from investing those Reserves as short-term deposits or investing them in treasury bills and short-term bonds. For example, for gold that is kept as international reserves, the alternative opportunity expense is the social return that the national economy sacrifices to keep gold as an international reserve, as it does not generate any return, and it also applies to the components of international reserves. Where central banks, especially in developing countries, invest in those reserves in short-term assets in order to achieve the liquidity condition in them and in order to

reduce the opportunity expense, as Heller formulated the opportunity expense to maintain international reserves as follows (Zaki 1994: 35-38)

$$TCf = r.R \quad \dots\dots\dots (10)$$

TCf = The opportunity expense of holding international reserves

r = The difference between the social return of capital and the return generated by the investment of these reserves.

$$R.opt. = h \frac{\log(r.m)}{\log 0.5} \dots\dots\dots (11)$$

At the optimal level, the marginal cost is equal to income, but the cost of adaptation is a matter of probabilities and is borne by the national economy if a deficit is achieved in the balance of payments and there are no reserves. Therefore, it is necessary to know the degree of probability or expect the occurrence of a deficit during the period, which is something that can be known through a study The behavior of the historical years of the state of the balance of payments in those years, taking into account considerations for future expectations. In light of this, Heller formulated the equation for the optimal level of reserves:

Ropt. = The optimum level of international reserves

h = The change that occurs in the level of reserves

r = The marginal cost of reserves, which is the difference between the social return on capital and the return generated by the investment of these reserves

m = border propensity to import

0.5 = Possibility of a deficit in the balance of payments

Where Heller used this formula to calculate the optimal level of international reserves for sixty different countries, and they varied between industrial and developing, as this equation was explained as follows:

- 1- Ropt = 1 The country has achieved the optimum level of reserves.
- 2- Ropt > 1 There is a deficit in the optimum level of reserves.
- 3- Ropt < 1 There is an excess of the optimum level of reserves.

G- Agarawal index: - The economist J.P. Agarawal presented a measure to estimate the size or the optimal level of international reserves by building a model that reflects the structural and institutional differences in seven developing countries in the continent of Asia and the group of industrialized countries to determine the optimal level of international reserves according to Aggarwal's theory. Chan Heller and that there are fundamental factors that must be taken into account, namely:

- 1- The opportunity cost of holding reserves.
- 2- The cost incurred by the national economy in dealing with the emergency deficit in the balance of payments, and there are no actual reserves to face this deficit.
- 3- Possibilities of using these reserves.

If the economist Agarwal believes that developing countries maintain international reserves in order to address the expected and emergency deficit in the balance of payments, which arises from an unexpected shortage in export earnings or an emergency increase in import prices, he formulated the equation for the optimal level of reserves in the following form (Iman 2022: 334)

$$Ropt = \frac{m}{q1} = Ropt \frac{(\pi)Ropt/D}{q2} \dots\dots\dots (12)$$

$$Ropt = \frac{D}{\log \pi} (\log m + \log q2 - \log p) \dots\dots\dots (13)$$

π = Possibility of a deficit in the balance of payments

P = The degree of possibility of using the reserves to finance the deficit in the balance of payments.

q 2 = The ratio of imported investment goods to the gross domestic product.

D = deficit in the balance of payments.

m = Reciprocal of the capital coefficient.

q 1 = Percentage of the import component in the local import.

The second topic:

1- :The development of international reserves in Iraq for the period (2004-2021)

The international reserves at the Central Bank consist of cash deposits, foreign currency and risk-free bonds, as well as gold, special drawing rights, and the reserve position of the Central Bank of Iraq with the International Monetary Fund and it has a role in supporting the local currency, Table (1) shows the Iraqi reserves owned by Iraq for the period (2004). -2021)

Table (2) International reserves and annual growth rate for the period (2004-2021)

The year	International Reserves Billion dollar	The annual growth rate of reserves %	The exchange rate of the Iraqi dinar against the dollar	compound growth rate %
2004	9.395	-----	1453	10.604
2005	12.25	30.39	1469	
2006	17.96	46.61	1467	
2007	30.451	69.55	1255	
2008	49.321	61.97	1193	
2009	44.335	(10.11)	1170	
2010	50.642	14.23	1170	
2011	61.034	20.52	1170	
2012	70.326	15.22	1166	
2013	77.743	10.55	1166	
2014	65.120	(16.24)	1188	
2015	53.366	(18.05)	1190	
2016	44.216	(17.15)	1190	
2017	48.173	8.95	1190	
2018	63.879	32.60	1190	
2019	67.158	5.13	1190	
2020	53.995	(19.60)	1450	
2021	63.374	17.37	1460	
MAX	77.743			
MIN	9.395			

- Source: Prepared by researchers based on
- 1- The Central Bank of Iraq, the annual economic report, the annual statistical report, the annual monetary report, for different periods from (2004-2021).

2- The international reserves were converted from the Iraqi dinar into dollars according to the official exchange rate for each year

4- The annual growth rate, relative importance and compound growth rate were calculated by the researcher.

A- Annual growth rate = $\frac{(\text{previous year} - \text{current year})}{(\text{previous year})} * 100$

B- Compound growth rate = $1/n \left(\frac{A1}{A0} \right) - 1 * 100$

A 1 = the value of the phenomenon for the last year

A0 = apparent value for the first year

5- The value in brackets () means negative.

Table (2) shows the development of international reserves at the Central Bank of Iraq for the period (2004-2021), international reserves amounted to (9.395) billion dollars, which is the lowest reserves during the research period, then rose in 2005 to (12.25) billion dollars, which was taken to grow In 2006, it amounted to (17.96) billion dollars, at an annual growth rate of (46.85%), then it began to grow in the subsequent years. In 2009, international reserves decreased and became (44.335) billion dollars, at a negative rate of (-10.11). This is due to the global financial crisis in 2008. In 2010, it witnessed an increase of (50.642) billion dollars, and in 2013 international reserves amounted to



(77.743) billion dollars, which is the highest value of international reserves during the research period, thanks to the adoption of a monetary policy that contributed to building international reserves, which helped On economic stability and the strengthening of foreign currency balances and also the promotion of economic growth * And during the years (2014-2015-2016) the international reserves of the Central Bank of Iraq decreased due to the deterioration of security and instability due to terrorist organizations, if the economy tended to equip the military forces, and they amounted, respectively (53.366, 44.173, and 48.173) billion dollars, while the years (2017, 2018) witnessed an increase, as international reserves reached (48.173 and 63.879) billion dollars, and a growth rate in 2018 reached (32.60%), while in 2020 the international reserves of the Central Bank decreased Iraq, where it reached (53.995) billion dollars, with a negative growth rate of (-19.60%) due to the Corona pandemic that ravaged the global economy, and in 2021, due to the receding of Corona, it rose to (63.374) billion dollars.

- Figure (1) represents the Iraqi international reserves for the period (2004-2021).
- Prepared by researchers based on table (2)

2- Components of international reserves in Iraq for the period (2004-2021)

The international reserves of the Central Bank of Iraq consist of international reserve investments in Iraq with foreign central banks and international financial institutions, gold, special drawing rights (SDR), and foreign exchange in the treasury of the Central Bank of Iraq (of Economic Modeling and Forecasting 2018), and the Central Bank of Iraq adopted the method of diversification In accordance with the criteria for ensuring profitability and liquidity to enhance monetary stability and adherence to limits and standards for investing in reserves in order to mitigate potential risks and achieve acceptable returns. These reserves also contributed to stabilizing the exchange rate of the Iraqi dinar. Diversification of investments, currencies and tools. It is worth mentioning here that the foreign reserves of the Central Bank of Iraq consist of foreign currencies, deposits and financial bonds with central banks, where the contribution of the US dollar was (61%) of the total reserves, followed by the euro by (26.65%) and the pound sterling by (12%) and the Australian dollar by (0.4%) in 2015 (Annual Economic Report 2015: 34-35).

Table (3) The main components of international reserves in Iraq for the period (2004-2021)
(Billion dollar)

The year	Foreign cash in bank vaults	Special drawing rights (SDR)	gold reserves	Balances in foreign banks (investments)	Foreign reserves
2004	1.92	0.736	0.079	6.66	9.395
2005	2.687	0.666	0.097	8.8	12.25
2006	2.623	0.635	0.108	14.594	17.96
2007	1.32	0.129	0.152	28.85	30.451
2008	3.20	0.399	0.162	45.56	49.321
2009	1.634	2.087	0.208	40.406	44.335
2010	1.31	2.037	0.265	47.03	50.642
2011	1.32	2	0.294	57.42	61.034
2012	1.98	1.986	1.59	64.77	70.326
2013	4.58	1.822	1.631	69.71	77.743
2014	5.12	0.96	3.4	55.64	65.120
2015	1.78	-----	3.046	48.54	53.366
2016	1.96	-----	3.316	38.94	44.216
2017	1.46	-----	3.723	42.99	48.173
2018	2.06	-----	3.940	57.88	63.880

2019	0.98	-----	4.678	61.50	67.158
2020	3.37	-----	5.855	44.77	53.995
2021	1.68	-----	5.774	55.92	63.374

• Source: Prepared by researchers based on

1- The Central Bank of Iraq / statistics and research / annual statistical report, annual monetary policy report for different years (2004-2021).

2- The Central Bank of Iraq / basic financial indicators.

3- The percentage is calculated by the researchers.

We note from Table No. (3) the fluctuation of international reserves, if the total international reserves in 2004 amounted to (9.395) billion dollars, and the foreign exchange record in bank vaults amounted to (1.92) billion dollars, and the balances foreign banks record (6.66) billion dollars, while the record of gold reserves (0.079) billion dollars and the SDR was (0.736) billion dollars, And international reserves developed in 2005 and amounted to (12.25) billion dollars, and the balances in foreign banks amounted to (8.8) billion dollars, and gold reserves recorded (0.097) billion dollars, and the special drawing rights decreased and amounted to (0.666) billion dollars, And international reserves grew, in 2006 recording (17.96) billion dollars, and this growth led to an increase in the balances in foreign banks and recorded (14.594) billion dollars, and this was reflected in the gold reserves, which rose and reached (0.108) billion dollars, while foreign exchange decreased in safes The bank amounted to (2.623) billion dollars, and the special drawing rights amounted to (0.635) billion dollars, In 2007, international reserves rose to (30.451) billion dollars, which led to an increase in the balances in foreign banks, amounting to (28.85) billion dollars, gold reserves increased to (0.152) billion dollars, foreign exchange in bank vaults decreased to (1.32) billion dollars, and special drawing rights decreased. To (0.129) billion dollars, And international reserves began to grow, as international reserves reached in 2008 (49.321) billion dollars, the balances in foreign banks increased (45.56) billion dollars, and foreign exchange rose in the bank's coffers, amounting to (3.20) billion dollars, While gold reserves amounted to (0.162) billion dollars, and the special drawing rights were (0.399) billion dollars, In 2009, due to the global. financial crisis, foreign exchange and bank treasuries decreased, amounting to (1.634) billion dollars, and the balances in foreign banks decreased (40.406) billion dollars, and gold reserves recorded a slight increase (0.208) billion dollars, and the special drawing rights recorded (2.087) billion dollars, which is the highest balance in the search period, International reserves rose in 2010 (50.642) billion dollars, as was the value of gold (0.265) billion dollars, and the special drawing rights were (2.037) billion dollars, and foreign exchange in the bank's coffers was recorded at (47.03) billion dollars, In 2011, international reserves recorded (61.034) billion dollars, and this increase was a slight increase for each of the foreign cash exchange treasuries, and gold reserves, respectively (1.32 and 0.294), while the balances in foreign banks amounted to (57.42) billion dollars, and the special drawing rights decreased and amounted to (2) Billion dollar, In the years 2012 and 2013, the international reserves in Iraq began to grow due to the increase in oil revenues, as they recorded respectively (70.326 and 77.743) billion dollars, which is the highest value of international reserves for the research period in 2013, and this was reflected in the rise in foreign exchange in the bank's coffers if it rose From (1.98) in 2012 to (4.58) billion dollars in 2013 Also, the balances in foreign banks increased from (64.77) to (69.71) billion dollars, which is the highest balance during the research period in 2013. Gold reserves also increased from (1.59) to (1.631) billion dollars, while the special drawing rights decreased from (1.986) to (1.986) (1.822) billion dollars, Dollars, and because of the terrorist attacks that the Iraq was subjected to in 2014, international reserves decreased, reaching (65.120) billion dollars, and foreign exchange in the bank's coffers recorded (5.12) billion dollars, which is the highest balance during the research period. Also, gold reserves increased (3.4) billion dollars, while they decreased The balances in foreign banks for the year 2013 amounted to (55.64) billion dollars, and the special drawing rights decreased and amounted to (0.96) billion dollars., as Iraq ranked (37) among (100) countries possess international reserves of gold, according to the World Central Bank's report on reserves, and the Central Bank of Iraq announced during the month of March 2014 the purchase of (36) tons of gold to achieve its reserve capacity, as well as achieving financial safety in Iraq in diversifying its reserves (Fahd, Odeh 132:2022) . And the decline continued for the years 2015 and 2016, as the total international reserves recorded, respectively, (53.366 and 44.216) billion dollars, and that foreign exchange in the central bank's coffers decreased and amounted to (1.78) billion dollars, then it rose again in 2016, a slight increase and amounted to (1.96) billion dollars. Gold reserves decreased from the year 2014 and reached (3.046) billion dollars, and rose again in 2016 (3.316) billion dollars, And in the years 2017-2018-2019, the components of international reserves began to grow if the international reserves were recorded (48.173, 63.880 and 67.158) billion dollars, respectively, if the foreign exchange in the bank's coffers fluctuated if it was recorded in the years above (1.46, 2.06 and 0.98) billion dollars respectively and it was in 2019 It is the lowest amount during the research period, while the balances in foreign banks witnessed an increase, reaching (43.99, 57.88, and

61.50) billion dollars, and gold reserves also developed, if they reached (3.316, 3.723, and 3.940) billion dollars. As for the year 2020, international reserves decreased and amounted to (53.995) billion dollars, and this was reflected in the components of the reserves, as the balances in foreign banks recorded (44.77) billion dollars. The reason for this decrease is attributed to the Corona pandemic and its impact on the global economy, The global foreign exchange in the bank's coffers amounted to (3.37) billion dollars, and it witnessed an increase in gold reserves, amounting to (5.855) billion dollars, which is the highest value reached during the research period. And in 2021, due to the receding of the pandemic, international reserves increased and amounted to (63.374) billion dollars, and the balances recorded Existing in foreign banks amounted to (55.92) billion dollars, and the gold reserves amounted to (5.774) billion dollars, and the foreign exchange record in the bank's vaults amounted to (1.68) billion dollars.

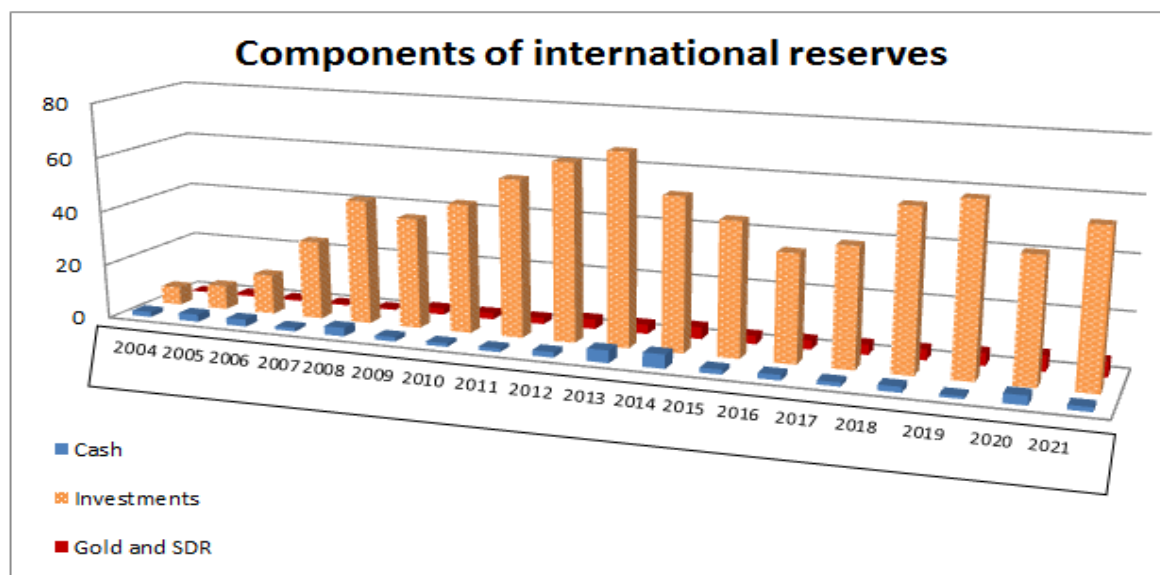


Figure (2) Components of the international reserves of the Central Bank of Iraq for the period (2004-2021)
 • Prepared by the researcher based on Table (3).

Table (4) shows the ratios of the components of the international reserves of the Central Bank of Iraq for the period (2004-2021)

The year	Foreign cash in bank vaults %	Balances in foreign banks (investments) %	gold reserves %	Special rights(SDR) % drawing
2004	20.436	70.889	0.841	7.834
2005	21.935	71.837	0.792	5.437
2006	14.605	81.258	0.601	3.536
2007	4.335	94.742	0.499	0.424
2008	6.488	92.374	0.328	0.809
2009	3.686	91.138	0.469	4.707
2010	2.587	92.868	0.523	4.022
2011	2.163	94.079	0.482	3.277
2012	2.815	92.100	2.261	2.824
2013	5.891	89.667	2.098	2.344
2014	7.862	85.442	5.221	1.474
2015	3.335	90.957	5.708	----
2016	4.433	88.068	5.7	----
2017	3.031	89.241	7.728	----
2018	3.225	90.607	6.168	----
2019	1.459	91.575	6.966	----
2020	6.241	82.915	10.884	----
2021	2.651	88.238	9.111	----

• Source: Prepared by researchers based on Table (3)

The third topic: Criteria for the adequacy of the international reserves of the Central Bank of Iraq for the period from (2004-2021)

Despite all the manifestations and challenges surrounding the monetary and financial economic reality, the Central Bank of Iraq still maintains international reserves in accordance with international standards; As the guidelines for the management of international reserves issued by the International Monetary Fund in 2001 identified a set of economic indicators through which they indicate the appropriateness or optimization of the size of international reserves maintained by the Central Bank of Iraq (Ismail 5: 2017) according to internationally approved scientific methods and as the following:-

- A- **Reserves for months of imports (R/IM import coverage):** It is one of the criteria for measuring the size of international reserves, as it shows through this criterion the ability of international reserves to cover imports, as some say that the ratio of covering reserves to three months of imports; As for Iraq, as it is one of the countries that depend on these reserves to cover imports, because it imports everything it needs from abroad, here the ratio is six months of imports, and the more imports a country has the greater it must keep reserves (Dagher et al. 17: 2019).

Table (5) reserves to imports for the period (2004-2021) (covering months of imports)

The year	Foreign reserves	Imports (Billion dollar)	import average Every month a billion dollars	Number of months of coverage (months)	needs to cover (6 months) Billion dollar
2004	9.395	21.302	1.775	5.3	10.65
2005	12.25	20.002	1.667	7.3	10.002
2006	17.96	18.707	1.559	11.5	9.354
2007	30.451	19.556	1.630	18.7	9.78
2008	49.321	30.012	2.501	19.7	15.006
2009	44.335	41.512	3.459	12.8	20.756
2010	50.642	43.915	3.659	13.8	21.958
2011	61.034	47.803	3.983	15.3	23.902
2012	70.326	59.006	4.917	14.3	29.503
2013	77.743	63.320	5.276	14.7	31.660
2014	65.120	58.602	4.884	13.3	29.304
2015	53.366	47.467	3.955	13.5	23.733
2016	44.216	34.208	2.850	15.5	17.104
2017	48.173	37.866	3.156	15.3	18.936
2018	63.880	45.736	3.811	16.8	22.866
2019	67.158	58.138	4.845	13.9	29.07
2020	53.995	48.150	4.012	13.5	24.075
2021	63.374	40.736	3.394	18.7	20.368

From the work of researchers based on:

- 1- Table (2) was adopted.
- 2- Data on imports based on the Central Bank of Iraq, the economic report for several years and on the statistical website of the Central Bank
- 3- The average import was calculated by dividing the imports by 12 months.
- 4- The number of months of coverage was calculated by dividing the international reserves by the average amount of imports.
- 6- Needs were calculated to cover six months by multiplying the average import in six months.

We note from table (5) in 2004 that the imports are by (21.302) billion dollars and the international reserves can cover the imports for five months in total reserves which is the lowest coverage during the research period, as the Bank of Iraq was able to raise the international reserves to increase the number of months of coverage as we note In 2008, the highest amount of coverage for the number of months was recorded, as it reached for a period of (19.7) months, and this is due to the increase in international reserves compared to the annual import amounts for the same year. In 2009 that coverage decreased to (12.8) months and because of the global economic and financial crisis, then it rose again

until it reached In 2011 (15.3) months while in 2014-2015 international reserves decreased and thus affected the coverage of the number of months for imports, as it rose again in the years 2016-2017 and recorded the amount of coverage by 15.5 and 15.3 months, respectively, as we note the fluctuation of the number of months of coverage for each years, and this reason is due to the fluctuation to which international reserves and annual imports are exposed. In 2020, coverage of (13.5) months was recorded, which is the lowest coverage since 2015 due to the decrease in international reserves and excessive imports due to the Corona pandemic. In 2012, the coverage standard returned to an increase. (18.7) months, which is the second amount of coverage after 2008, and it is concluded that the percentage of coverage of imports from the foreign cash reserves of the Central Bank of Iraq is described as good according to international standards compared to other countries, and Iraq is located in the first ranks among the Arab countries, measured by the number of months covered by those reserves (Aidan, Kazem 98:2020).

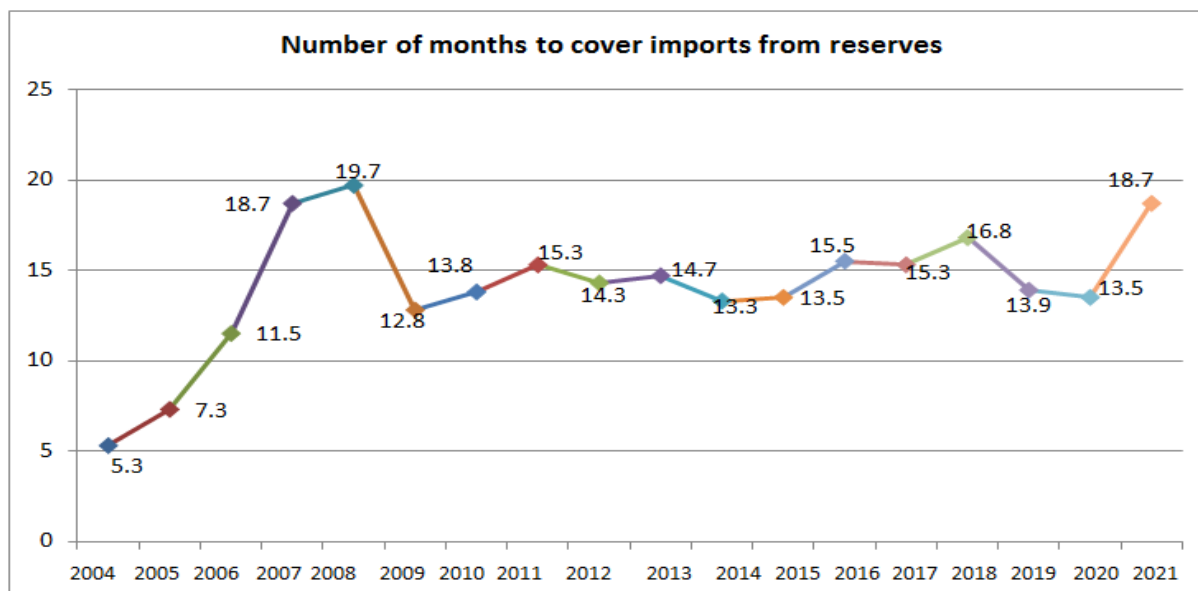


Figure (3) Number of months covering imports from international reserves for the period (2004-2021)

• Prepared by researchers based on Table (5)

B- The ratio of international reserves to gross domestic product (GDP):

It is considered one of the ratios or international standards that measure the optimal size of international reserves at a rate of no less than (9%-20%) of the gross domestic product, as well as the ratio for developing countries specified by the International Monetary Fund (20%-40%). This standard is used to determine the structure The productive economy of the economy, and to show facing external shocks as well as internal shocks, as the ratio was (30.9) in table (5) as an average during the research period, and this ratio indicates that the output still covers twice the international reserves, as it is considered a drain on the international reserves and its inability to face the external crisis due to the weak output and its inability to cover the needs of the local market due to its weak productivity. The approved ratios and criteria, due to the rentier nature of the Iraqi economy and the existence of structural imbalances in that economy (Qasim 2012: 169-170).

Table (6) International Reserves and Iraqi Gross Domestic Product for the period (2004-2021)

The year	Foreign reserves	Gross Domestic Product (Billion dollar)	foreign reserves ratio gross domestic product %
2004	9.395	33.007	28.464
2005	12.25	43.567	28.118
2006	17.96	52.738	34.055
2007	30.451	88.810	34.288
2008	49.321	130.748	37.722
2009	44.335	119.085	37.23
2010	50.642	138.517	36.56
2011	61.034	185.75	32.858
2012	70.326	261.044	26.940
2013	77.743	229.327	33.901
2014	65.120	228.491	28.5

2015	53.366	171.136	31.183
2016	44.216	166.321	26.585
2017	48.173	190.967	25.226
2018	63.880	212.407	30.074
2019	67.158	225.204	29.821
2020	53.995	219.769	24.569
2021	63.374	207.889	30.485
the average			30.9

From the work of researchers based on:

1- Table (2) was adopted.

2- Data on gross domestic product based on the Central Bank of Iraq, economic report for the years (2004-2021)

1- The ratio is calculated by the researcher by dividing the international reserves by the gross domestic product.

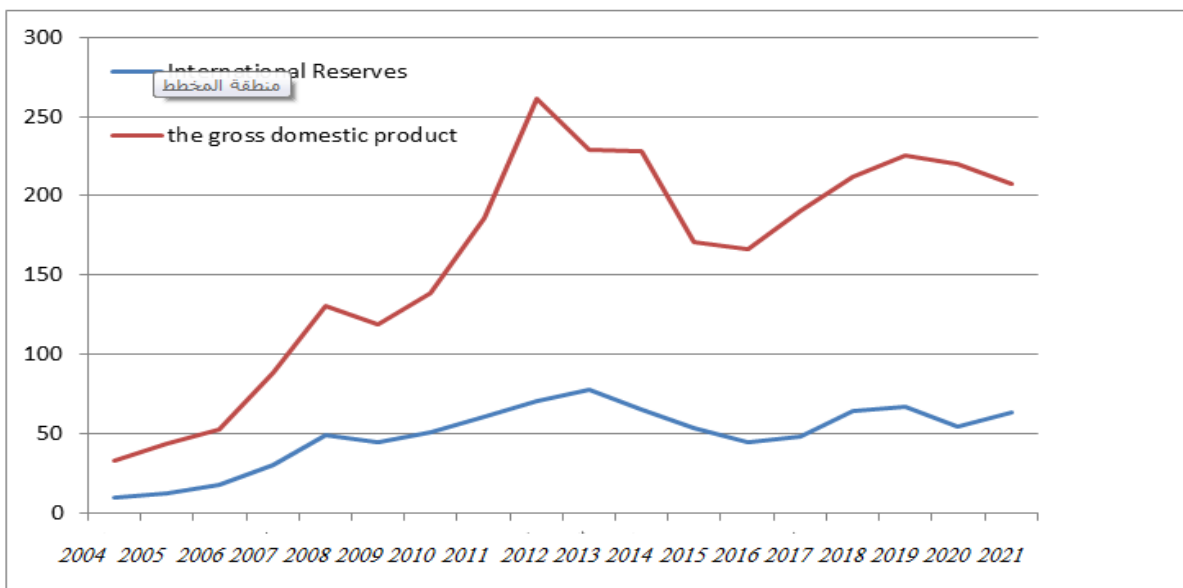


Figure (4) International reserves with GDP for the period (2004-2021)

Prepared by researchers based on table (6)

B- The ratio of coverage of international reserves to money supply in the broad sense, M2 (R/M2):

The size of the large money supply must be matched by a large amount of international reserves, especially for those countries that depend on a fixed exchange rate system, due to the weakness of the banking system, where the percentage of this indicator ranges between (10%-20%) in the country that depends on the fixed exchange rate system. (Idan, Kazem 43: 2019), while in countries that rely on the floating exchange rate system, the rate ranges from (5%-10%) (Al-Hamdi, Kazem 2017: 84).

Table (7) International reserves and money supply in the broadest sense

The year	Foreign reserves	Presentation of criticism broadest sense M2 Billion dollar	Ratio of international reserves to money supply in the broad sense (R/M2)%
2004	9.395	6.985	134.51
2005	12.25	9.996	122.55
2006	17.96	14.369	124.99
2007	30.451	21.480	141.76
2008	49.321	29.271	168.50
2009	44.335	38.836	114.16
2010	50.642	51.612	98.12
2011	61.034	61.691	98.94
2012	70.326	64.722	108.66
2013	77.743	74.939	103.74
2014	65.120	76.370	85.27
2015	53.366	69.408	76.89
2016	44.216	76.022	58.16
2017	48.173	78.031	61.74
2018	63.880	80.161	79.69

2019	67.158	86.925	77.26
2020	53.995	82.694	65.30
2021	63.374	95.812	66.14
The average			99.243

From the work of researchers on:

- 1- Table (2) was adopted.
- 2- Data on the broad money supply based on the Central Bank of Iraq, the economic report for the years (2004-2021)
 - 2- The ratio is calculated by the researcher by dividing the international reserves by the money supply in the broad sense.

Table (7) shows us that there is a fluctuation in the ratio (R / M2), as the general rate for the research period was (99.243%), and this criterion recorded the lowest percentage in 2016, and the percentage recorded an amount of (58%) because the money supply was higher than international reserves, and The highest ratio of international reserves to money supply was recorded in 2008, when the ratio was (168.50%), as international reserves recorded (49.321) billion dollars, while the money supply amounted to (29.271) billion dollars, which added confidence and support to the local currency. Currency is in a state of continuous and rapid increase compared to international reserves, where it was in a state of fluctuation, rise or fall from one year to the next, except that it remains above the specified percentages and within the levels of support for the local currency and ideal levels that are a goal of the monetary authority.

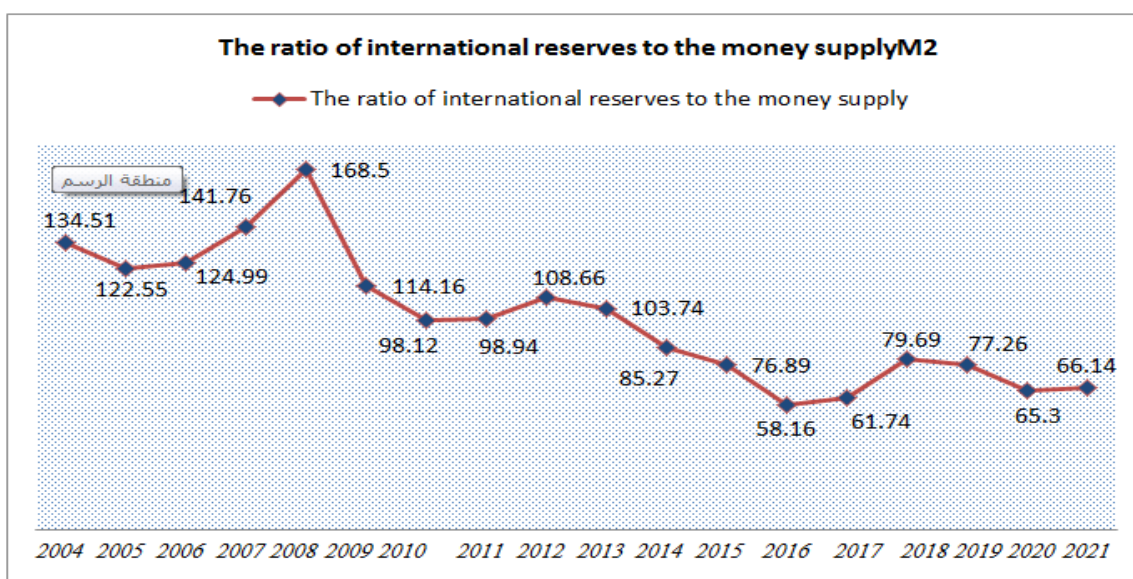


Figure (5) Ratio of international reserves and money supply in the broadest sense for the period (2004-2021) Prepared by researchers based on: Table (7)

Conclusions

- 1- During the period of research, we note that Iraq has succeeded in forming and accumulating international reserves, as in most years of the research period, we find that international reserves have exceeded the standards of adequacy of international reserves, except in some years. Terrorism, Corona pandemic.
- 2- Most of the foreign currencies that are a component of the international reserves in Iraq are the US dollar, if their percentage for some years is (60-70%) and what is left is for other currencies.
- 3- Not to invest Iraq's huge reserves that accumulate from year to year, but mostly deposited in the US Federal Bank.
- 4- During the research period, it was found that the imports were covered for a period of (6) from the international reserves, and the period exceeded six months except for the year 2004, and it was also found that the percentage of the gross domestic product was (30.9), This refers to covering the weakness of international reserves, as well as the ratio of coverage of international reserves to the money supply in the broad sense that remains above the acceptable rates and ratios determined by international standards.

Recommendations

- 1- Establishing a sovereign fund in order to invest the surplus from international reserves, as a sovereign wealth fund to compensate or mitigate the opportunity cost, and this sovereign fund can also be considered an additional financial source added to the state's resources in order to achieve economic stability for the state in the event that oil revenues are subject to fluctuation.
- 2- Supporting the private sector by directing the surplus of international reserves to internal investment, and this in turn leads to economic growth that contributes to supporting the Central Bank in foreign currencies instead of the private sector's reliance on foreign currency that comes from oil revenues only.
- 3- Setting a financial ceiling for imports, limiting smuggling, and relying on locally manufactured goods, especially luxury goods.
- 4- Diversification in the components of international reserves of foreign currency and the addition of other currencies to the investment portfolio that have a significant impact on the global economy, such as the Chinese yuan because the Chinese economy is considered one of the relatively stable economies, in addition to the increasing volume of trade exchange with China.

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