# Analysis of the development of monetary stability indicators in Iraq for the period (2004-2021)

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**abstract**

The objectives of monetary policy are evident through monetary growth and stability, reducing inflation rates, stabilizing prices of goods and services, leading to the stability of exchange rates, and improving the balance of payments situation. These objectives are achieved by following monetary policy tools, both direct and indirect. Achieving the objectives of monetary policy is through the regulations issued by the Central Bank of Iraq during the past years. Here, we must stop at the detail of maintaining the balance of the monetary market and work to strengthen the exchange rate of the Iraqi dinar, which represents the external value of the dinar, and confront the phenomenon of monetary substitution and what it requires of the availability of indicators of monetary stability in achieving the goals of monetary policy represented by the stability of the general level of prices and low inflation rates.

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**Introduction**

Indicators of monetary stability play a fundamental role in the safety of the economy in case it is exposed to economic crises, since achieving economic stability can only be achieved in the presence of a stable monetary sector and is able to direct foreign reserves in a way that ensures the safety of the economy from the crises that it may be exposed to, and then achieving stability in the monetary sector It can be considered as a stepping stone towards achieving economic stability.

**Second: the research problem.**

The primary tasks of the Central Bank of Iraq is to build a foreign cash reserve with the aim of strengthening and covering the exchange rate of the Iraqi dinar and creating monetary stability, which is one of the indicators of the success of monetary policy applications. Here we can indicate that the Central Bank of Iraq succeeded in collecting reserves at a high level of foreign exchange, which contributed to fixing the exchange rate of the Iraqi dinar against the US dollar. This stability as a result of its implementation of the policy of the Central Bank of Iraq.

**First: the importance of research.**

disruptive force that includes every factor affecting this stability.

Monetary stability can be achieved through managing a monetary policy capable of controlling liquidity rates in the local markets and foreign exchange rates while reducing the difference between the official and free exchange rate. To a stable exchange rate for the national currency that is based on scientific foundations that ensure permanent stability according to the actual data specified for the forces of demand and supply. It is worth mentioning that achieving economic stability is directly related to achieving monetary stability by creating an appropriate monetary situation within the banking framework and then providing a stable monetary environment to create monetary stability. On this basis, achieving monetary stability is through creating a stable monetary environment for economic activity and activating policy. Accurate monetary while defining the central bank's framework, powers and responsibilities. (2)

In this way, monetary stability is through specific indicators, including those related to monetary policies, including those related to monetary liquidity, others related to exchange rates, and sometimes it is related to inflation levels, and among the most important indicators for achieving monetary stability are:( 3)

1- Achieving balance rates between the money supply and public spending, especially consumer spending, while controlling the volume of spending.

2- A relative balance between commodity flows and the monetary mass on the other side to prevent creating a gap between them when one is more than the other, which causes an increase in prices and inflation.

3- Expansion of credit granted by banks to the public and private sectors with the

The research problem focuses on the extent of the nature of the relationship between the gross domestic product and monetary stability indicators in achieving the objectives of monetary policy represented by the stability of the general level of prices and low inflation rates.

**Third: the research hypothesis.**

The research stems from the hypothesis that achieving monetary stability through the relationship between the gross domestic product and the sound monetary balance by preserving the purchasing power of local money while eliminating inflation and reaching a stable exchange rate.

**Fourth: Research objective.**

The research aims to reach several goals : as follows

**First**- Highlighting the importance of output and money supply and their effects on monetary stability.

**Second** - Knowing the impact of output and money supply on monetary stability indicators through data analysis.

**the theoretical side**

**.First: Monetary stability conceptual and cognitive framework**

The term monetary stability refers to the stability of the general levels of exchange rates and the provision of an appropriate interest structure, and it is one of the pillars of the environment that attracts domestic or foreign investments (1), that is, monetary stability is an expression of product prices, interest rates, and exchange rates within the framework of free markets, meaning that there is proportionality With the monetary mass and the national product, if the monetary mass increases or decreases without increasing or decreasing the national product, a state of imbalance will occur in this stability, which constitutes a

**MEXT** = the excess amount of money in excess of the optimal level of the quantity of money, **Mt** = the money supply, **∝0** = the average share of the real domestic product unit of the quantity of money at the base year and at a specific price level, **GDP** = the gross domestic product at constant prices. In the light of this equation, it is possible to calculate (excess money ratio) by dividing the volume of money excess to the gross domestic product according to the following equation:

**Mt-∝0 GDP.∴GDP**

2- Monetary depth: The monetary depth index is one of the important indicators and is measured by the ratio of the money supply in the broad sense to the gross domestic product (GDP). It shows the penetration of banking and financial services in the economy, that is, it measures the extent to which monetary decisions issued by the monetary authority deepen in financial institutions.

3- Inflation coefficient: This coefficient includes a set of basic indicators:

A. Inflation rate: It means the continuous rise in the general level of prices with the continuous decline in the real values of the purchasing power of money on a continuous basis.

B. Exchange rate: It is intended to be approved in one country for the settlement of payments in another country, that is, the exchange rate represents foreign money or securities that give a right to obtain it.

C. Interest rate: It is determined by a percentage of the capital during a specific period and is imposed on loans or on savings and others.

aim of increasing production and then increasing the commodity supply and mitigating inflation.

4- Controlling private banks, organizing and programming their banking activities and directing them towards increasing and expanding the productive capacities of the private banking sector.

5- Organizing the work of exchange offices to control the money supply through them.

6- Stability and stabilization of prices in the domestic market.

**Second: Indicators and coefficients for achieving monetary stability.**

Monetary stability indicators mean those phenomena through which the stability of the monetary situation of a particular economy can be judged, while the monetary stability coefficients are the measure of judgment on the degree of monetary stability, and among the most important indicators of monetary stability are: (4)

1- Monetary excess: The amount of monetary excess was based on the quantity theory of modern money, which emphasized that the change in the price level is due to the change in the share of the produced unit of the amount of money, but long-term price stability is achieved through the optimal size of the amount of money, and this is what Confirmed by (Milton Friedman), and this volume will cancel the rate of change of the effects resulting from the rate of change of the national product as well as the rate of change of the demand for money or the speed of its circulation to maintain the price level at the base period, in the sense that the inflationary forces arise from an excess of money that leads to a high pace of inflation. (5)

A formula has been proposed to calculate the cash excess through the equation:

**MEXT = Mt-∝0 GDP**

Since:

product, which indicates the presence of inflationary pressures in the economy according to this criterion, and the indicator continued to achieve fluctuating values greater than the correct one and less than the length of the period. However, this trend was followed by a deflationary trend after the decline in oil prices in 2014. The index fell to low levels in the last year, reflecting deflationary pressures facing the Iraqi economy, as shown in Figure (1). The recent cash liquidity crisis, the fluctuation of oil prices and the rise in exchange rates, as well as the recent directives of the International Monetary Fund to reduce current expenditures and increase taxes and other revenues, contributed to the exacerbation of the phenomenon of hoarding.

The cash flow of the Iraqi citizen is also due to his weak confidence in the banking system due to the weak structure of the latter and the difficulty of dealing with deposits and financial transfers. According to the available data, a large monetary block in the range of 40 trillion dinars - equivalent to (44.4%) of the amount of means of payment within the Iraqi economy - and is now outside the economic cycle, because it is hoarded in homes and shops, and this affects economic activity and operations investment and development.

D. Monetary mass: It represents the amount of money circulating in a specific society during a certain period, and it means the circulating money that is in the possession of individuals and institutions and in different forms depending on the economic and banking developments in the country. (6)

**The analytical side**

**First: Monetary stability coefficient in the Iraqi economy.**

The monetary stability coefficient is one of the important indicators adopted by the International Monetary Fund to indicate the economic situation and the extent of its stability in a country. for economic activity. This coefficient reflects the inflationary and deflationary trends in the economy, and its value is either equal to the correct one or greater or smaller than one. If it is equal to one, it means that there is monetary stability. The existence of deflationary trends in the economy. (7)

As shown in Table (1) and Figure (1) after 2004, inflationary trends began to appear as a result of the rise in oil prices and the expansionary fiscal policy pursued in Iraq, as the stability coefficient increased from (0.5) in 2005 to (1.7) in 2007 and achieved the highest value In 2014 it reached (9.7). This is due to the fact that the increase in the amount of means of payment was greater compared to the gross domestic



**Table (1) Analysis of the monetary stability coefficient in Iraq for the period (2004-2021) billion dinars**

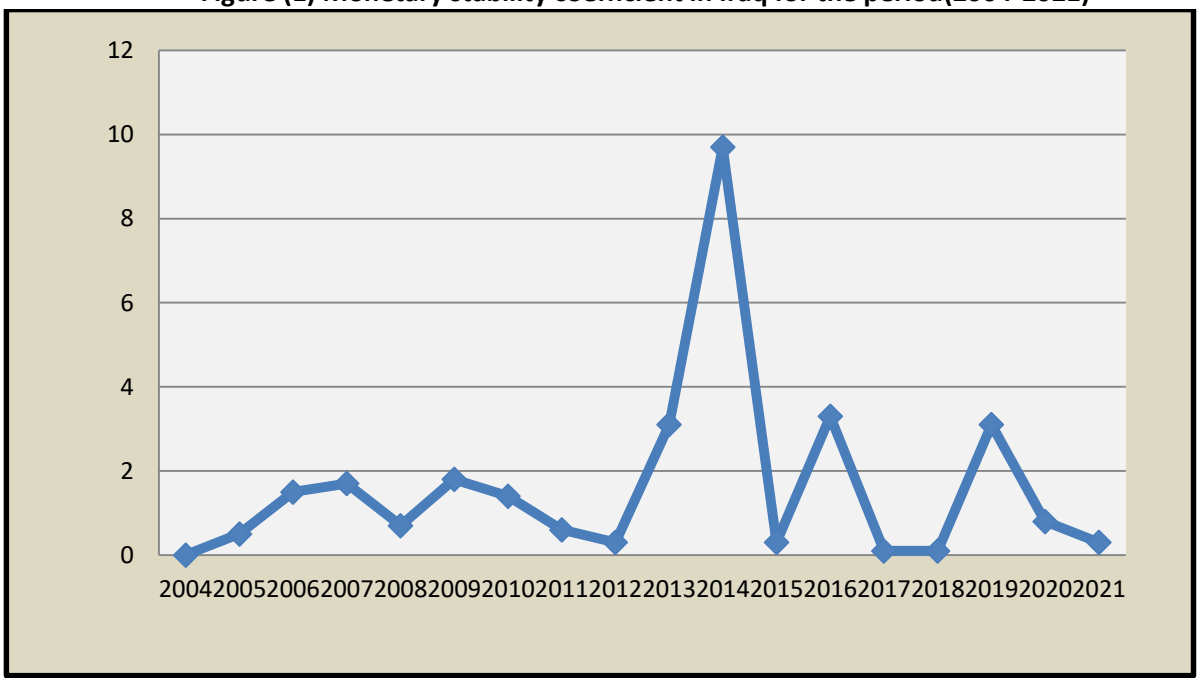
| Year | Gross domestic product at current prices | Change in gross domestic product current prices | Money supply m2 | change in money supply m2 | monetary stability coefficient |
|---|---|---|---|---|---|
| 2004 | 53235359 | - | 12254 | - | - |
| 2005 | 73533599 | 38.1 | 14684 | 19.8 | 0.5 |
| 2006 | 95587955 | 29.9 | 21080 | 43.5 | 1.5 |
| 2007 | 111455813 | 16.6 | 26956 | 27.9 | 1.7 |

| | | | | | |
|---|---|---|---|---|---|
| 2008 | 157026061 | 40.9 | 34920 | 29.5 | 0.7 |
| 2009 | 130642187 | 16.8 | 45438 | 30.1 | 1.8 |
| 2010 | 162064565 | 24.1 | 60386 | 32.9 | 1.4 |
| 2011 | 217327107 | 34.1 | 72178 | 19.5 | 0.6 |
| 2012 | 254225490 | 16.9 | 75466 | 4.5 | 0.3 |
| 2013 | 267395614 | 5.2 | 87679 | 16.2 | 3.1 |
| 2014 | 266420384 | 0.36 | 90728 | 3.5 | 9.7 |
| 2015 | 199715699 | 25.03 | 84527 | 6.8 | 0.3 |
| 2016 | 203869832 | 2.1 | 90466 | 7.02 | 3.3 |
| 2017 | 225995179 | 10.9 | 92857 | 1.5 | 0.1 |
| 2018 | 268918874 | 18.9 | 95391 | 2.6 | 0.1 |
| 2019 | 276157867 | 2.7 | 103441 | 8.4 | 3.1 |
| 2020 | 219768798 | 20.4 | 119906 | 15.9 | 0.8 |
| 2021 | 301439533 | 37.2 | 132760 | 10.7 | 0.3 |



**Source: Central Bank of Iraq, annual statistical releases for the period (2004-2021)**

**Figure (1) Monetary stability coefficient in Iraq for the period(2004-2021)**




Source: From the researcher's work based on the data Table (1)

**Second: the size of the monetary excess in the Iraqi economy.**

The amount of monetary excess reflects the imbalance or imbalance between the

inflationary pressures. (8)

It appears from Table (2) and Figure (2) that the ratio of excess cash to real GDP in the Iraqi economy is estimated at about (74%) on average during the entire period. It is a high percentage, and by examining the percentage of excess cash in each year separately, it is clear that it increased by about (0.09) in 2004 and continued to rise to reach (0.43) in 2011, then decreased slightly for the following year and rose again to reach the highest percentage along the time series (0 56) in 2021.

amount of money in circulation that represents the forces of aggregate demand and the volume of gross domestic product at constant prices that represents the forces of aggregate supply. The average unit share of the real domestic product of the amount of money, as the change in the volume of the money supply while the volume of the output remains unchanged or at a rate less than the change in the volume of the money supply leads to monetary excess, which requires the monetary authority to determine an optimal size for the amount of money within the economy in accordance with With the volume of real output to maintain price stability in order to avoid exposure of the economy to

**Table (2) The volume of cash excess in Iraq for the period (2004-2021) billion dinars**

| year | Gross domestic product at constant prices 1 | Money Supply M1 2 | Excessive cash 1/2 | change % |
|---|---|---|---|---|
| 2004 | 101845 | 10149 | 0.09 | - |
| 2005 | 103551 | 11399 | 0.11 | 22.2 |
| 2006 | 109389 | 15460 | 0.14 | 27.3 |
| 2007 | 111455 | 21721 | 0.19 | 35.7 |
| 2008 | 120626 | 28190 | 0.23 | 21.1 |
| 2009 | 124702 | 37300 | 0.29 | 26.1 |
| 2010 | 132687 | 51743 | 0.38 | 31.03 |
| 2011 | 142700 | 62474 | 0.43 | 13.2 |
| 2012 | 162587 | 63736 | 0.39 | -9.3 |
| 2013 | 174990 | 73831 | 0.42 | 7.7 |
| 2014 | 175335 | 72692 | 0.41 | -2.4 |
| 2015 | 183616 | 65435 | 0.35 | -14.6 |
| 2016 | 208932 | 70733 | 0.33 | -5.7 |
| 2017 | 201059 | 76986 | 0.38 | 15.2 |
| 2018 | 210532 | 77828 | 0.36 | -5.3 |
| 2019 | 222141 | 86771 | 0.39 | 8.3 |
| 2020 | 196985 | 103353 | 0.52 | 33.3 |
| 2021 | 202468 | 114709 | 0.56 | 7.7 |

**Source: Central Bank of Iraq, annual statistical releases for the period (2004-2021)**



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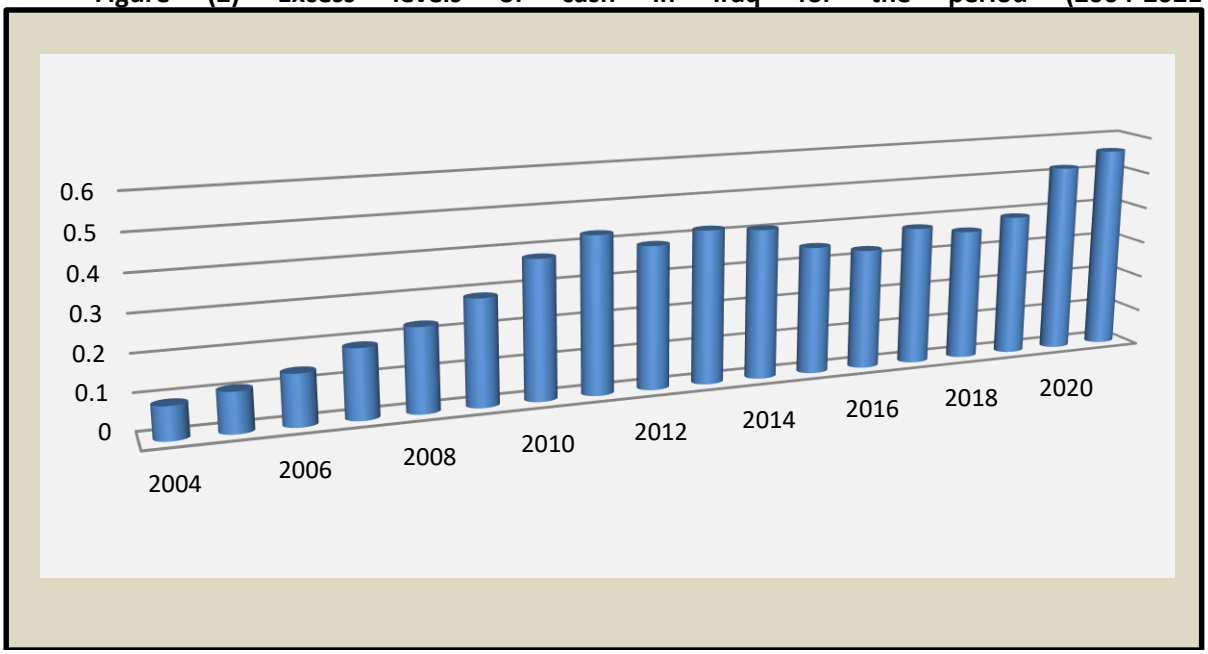
**Figure (2) Excess levels of cash in Iraq for the period (2004-2021**




Source: From the researcher's work based on the data Table (2)

of the second half of the research period, reaching (33.3) in 2020, and given that cash excess in the end is purchasing power in the market that is not matched by a material supply of Goods and services, and this excess eventually constitutes an excess demand that pushes prices upward. In 2021, it recorded a decrease of (7.7), which reflects the deflationary pressures experienced by the Iraqi economy during the years of the period under study, for the reasons mentioned previously.

**Third: the speed of circulation of cash in the Iraqi economy.**

It is the average number of times that each unit of money within the economy is spent, to obtain goods and services during a given period of time. It relies on the traditional theory of the amount of money and is equal to the product of dividing the gross domestic product at current prices by the money supply, that is, it is the total expenditure divided by the amount of money in the economy. That is, between the volume of money on the one hand and the flow of goods and services on the other, through the process of determining prices in the market. The By distance from the base year in 2004, and therefore the rate of cash excess can be measured by the method of first differences, and it is clear from the results of calculating this measure that it takes values that fluctuate from year to year during the research period. Between a minimum of negative (2.4%) in 2014, and about (35.7%) as a maximum in 2007. And a compound growth rate for the full period of (10.9%). It is clear from the above table that the trend of the excess cash rate was upward during the period (2004-2007) to reach its highest value during this period amounting to (35.7%) for the year 2007, with a compound growth rate for the aforementioned period amounting to (20.36%). The rate took fluctuating trends rapidly between rise and fall throughout the study period, achieving negative rates in the years (2012, 2014, 2018, 2016, and 2015), the lowest being (2.4%) and the highest being (14.6%), respectively, for the aforementioned period. From the foregoing, it is clear that the volume of cash excess in the Iraqi economy, as well as its percentage, has increased significantly in the first half and at the end

was characterized by fluctuation for the period (2004-2021) between rising and falling at other times, achieving the highest speed in 2005, which amounted to (6.5), (5.0), respectively, reflecting the economic recovery witnessed by the Iraqi markets. Due to the huge oil revenues, which was reflected in current, large and random government spending, an increase in employee salaries, and a large movement of imports. As for the rest of the period (2009-2021), it was characterized by a continuous and gradual decline, reaching its lowest speed in 2020, which reached (2.1) for (M1) and (1.8) for (M2), which reflects the state of stagnation experienced by our local markets.

speed of trading is determined by a number of factors, including the time period in which income is received, payment and receipt systems, and stages of economic cycles, as well as the development of the banking system, the stability of banking habits, the extent of development and stability of the financial system and the credit system, and a real desire among individuals to use the facilities provided by banking and financial institutions. As well as its association with individuals' expectations, their habits of saving, consumption, and liquidity preferences. (9)

It is clear from Table (3) and Figure (3) that shows the speed of cash turnover in the Iraqi economy. It turns out that in the narrow (M1) and broad (M2) concept, it



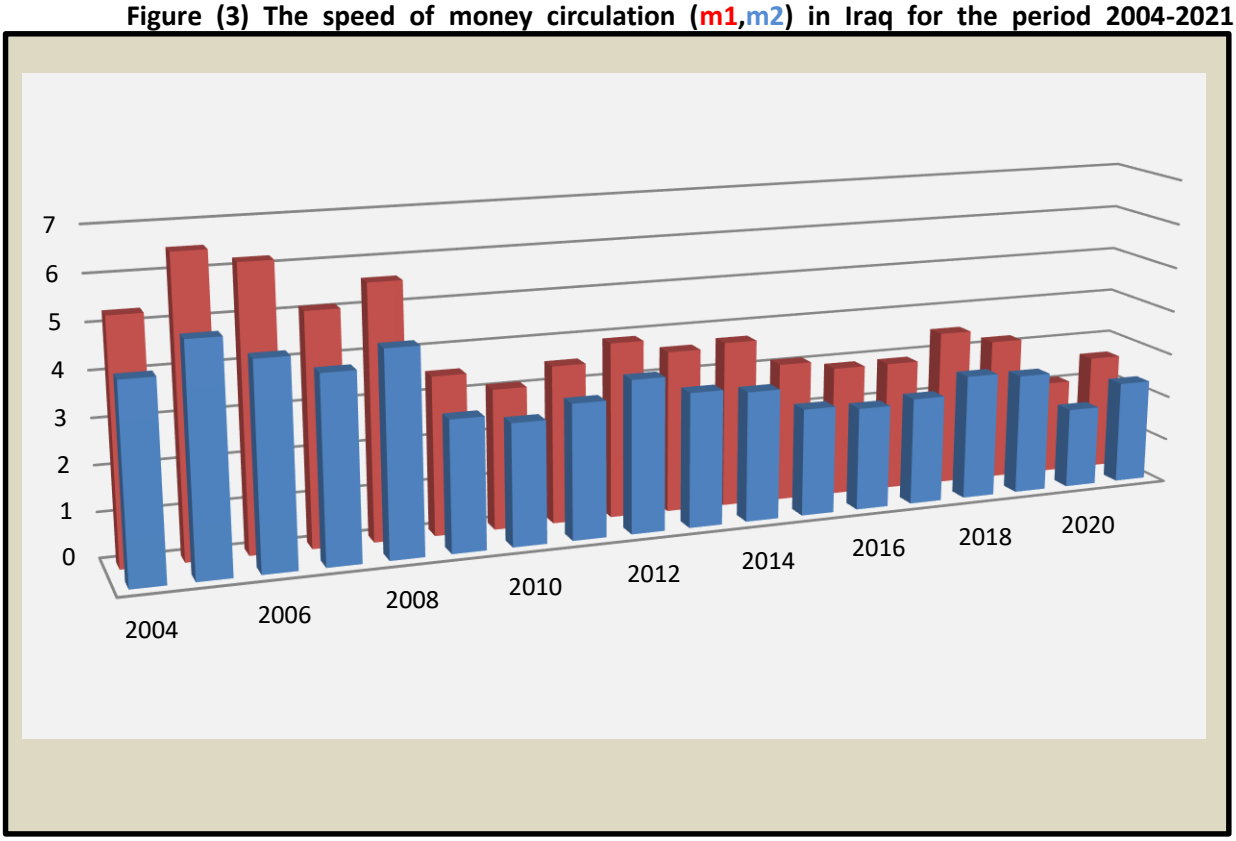
**Table (3) The speed of money circulation in Iraq, period (2004-2021), billion dinars**

| circulation speed monetary 1/2 | | supply monetary 2 | | Gross domestic product at current prices 1 | YEAR |
|---|---|---|---|---|---|
| M2 | M1 | M2 | M1 | | |
| 10149 | 10149 | 10149 | 10149 | 53235359 | 2004 |
| 11399 | 11399 | 11399 | 11399 | 73533599 | 2005 |
| 15460 | 15460 | 15460 | 15460 | 95587955 | 2006 |
| 21721 | 21721 | 21721 | 21721 | 111455813 | 2007 |
| 28190 | 28190 | 28190 | 28190 | 157026061 | 2008 |
| 37300 | 37300 | 37300 | 37300 | 130642187 | 2009 |
| 51743 | 51743 | 51743 | 51743 | 162064565 | 2010 |
| 62474 | 62474 | 62474 | 62474 | 217327107 | 2011 |
| 63736 | 63736 | 63736 | 63736 | 254225490 | 2012 |
| 73831 | 73831 | 73831 | 73831 | 267395614 | 2013 |
| 72692 | 72692 | 72692 | 72692 | 266420384 | 2014 |
| 65435 | 65435 | 65435 | 65435 | 199715699 | 2015 |
| 70733 | 70733 | 70733 | 70733 | 203869832 | 2016 |

| | | | | | |
|---|---|---|---|---|---|
| 76986 | 76986 | 76986 | 76986 | 225995179 | 2017 |
| 77828 | 77828 | 77828 | 77828 | 268918874 | 2018 |
| 86771 | 86771 | 86771 | 86771 | 276157867 | 2019 |
| 103353 | 103353 | 103353 | 103353 | 219768798 | 2020 |
| 114709 | 114709 | 114709 | 114709 | 301439533 | 2021 |

Source: Central Bank of Iraq, annual statistical releases for the period (2004-2021)

**Figure (3) The speed of money circulation (m1,m2) in Iraq for the period 2004-2021**




**Source: From the researcher's work based on the data Table (3)**

**Fourth: The size of the monetary depth in the Iraqi economy.**

monetary authority deepen in financial institutions. (10)

Table (4) presents the financial depth and its measurement indicators in the years covered by the research for the Iraqi economy.

The money depth index is one of the important indicators, and it is measured by the ratio of the money supply in the broad sense (M2) to the gross domestic product. It shows the penetration of banking and financial services in the economy, that is, it measures the extent to which monetary decisions issued by the

**Table (4) Analysis of the monetary depth coefficient in Iraq for the period (2004-2021) (billion dinars**

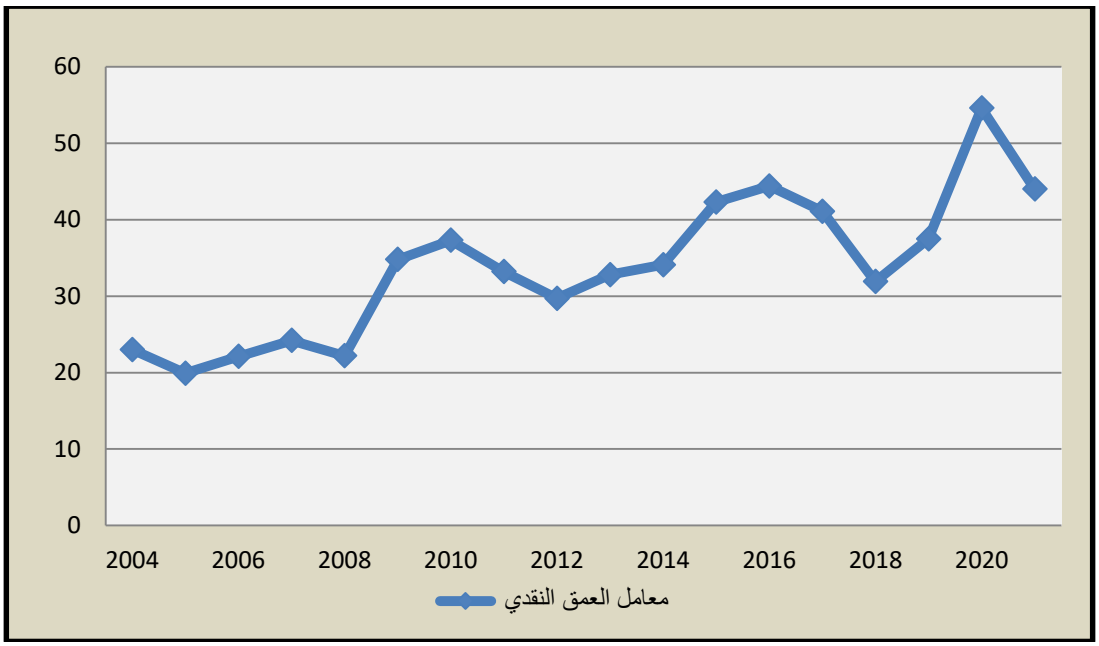
| depth coefficient %monetary 2/1 | (m2) (2) | Gross domestic product at current prices (1) | YEAR |
|---|---|---|---|
| 23.0 | 12254 | 53235359 | 2004 |
| 19.9 | 14684 | 73533599 | 2005 |
| 22.1 | 21080 | 95587955 | 2006 |
| 24.2 | 26956 | 111455813 | 2007 |
| 22.2 | 34920 | 157026061 | 2008 |
| 34.8 | 45438 | 130642187 | 2009 |
| 37.3 | 60386 | 162064565 | 2010 |
| 33.2 | 72178 | 217327107 | 2011 |
| 29.7 | 75466 | 254225490 | 2012 |
| 32.8 | 87679 | 267395614 | 2013 |
| 34.1 | 90728 | 266420384 | 2014 |
| 42.3 | 84527 | 199715699 | 2015 |
| 44.4 | 90466 | 203869832 | 2016 |
| 41.1 | 92857 | 225995179 | 2017 |
| 31.9 | 95391 | 268918874 | 2018 |
| 37.5 | 103441 | 276157867 | 2019 |
| 54.6 | 119906 | 219768798 | 2020 |
| 44.0 | 132760 | 301439533 | 2021 |

Source: Central Bank of Iraq, annual statistical releases for the period (2004-2021)

in the broad sense (M2) due to the Corona epidemic (KOVID 19) and the closure of the economy due to the stone, which requires an increase in the money supply for a wide segment of the population, with a decrease in the levels of GDP for the same year, and then the decline returned at the end of the search period.

It is noted from Table (4) and Figure (4) related to the monetary depth coefficient that this indicator fluctuates between a slight rise and a decrease so that it is almost stable during the research period (2004-2021) with the exception of the year (2020), when it reached (54.6%) if it was The monetary depth is high, and this is due to an increase in the money supply

**Figure (4) Monetary depth coefficient in Iraq for the period (2004-2021)**




**Source: From the researcher's work based on the data Table (4)**



**Conclusions**

rate and inflation through the money supply.

2- Emphasizing that the central bank maintains its independence in order to control the determination of the exchange rate and limit the rise in inflation rates through foreign reserves.

1- The stability coefficient increased from (0.5) in 2005 to (1.7) in 2007, achieving the highest value in 2014, which reached (9.7). This is due to the fact that the increase in the amount of payment methods was greater compared to the gross domestic product, which indicates the presence of inflationary pressures in the Iraqi economy.

2- Excessive money, in the end, is purchasing power in the market that is not matched by a material supply of goods and services. This excess, in the end, constitutes an excess demand that pushes prices upward. In 2021, it recorded a decrease of (7.7), which reflects the deflationary pressures experienced by the Iraqi economy during the years of the period under study, for the reasons mentioned previously .

**Recommendations**

1- Emphasizing the restrictive control of the currency sale window and directing it towards the goal for which it was formed in preserving the volume of foreign reserves and controlling the exchange

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