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The impact of monetary policies on global financial markets: An analytical study of the Iraqi market

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Abstract
This research aims to analyze the impact of monetary policies adopted in Iraq on the performance of the Iraqi market by examining the nature of the relationship between the annual growth rate of broad money supply and both the annual growth rate of exports and imports of goods and services during the period (2004-2024). The research is based on the hypothesis that there is a statistically significant impact of monetary policy tools on global financial markets. The study concludes that there is no statistically significant impact of the annual growth rate of broad money supply on the annual growth rate of exports and imports of goods and services in Iraq during the period (2004-2024). The research recommends implementing monetary policies that can effectively influence the performance levels of the Iraqi market.

Keywords: Monetary policies, global financial markets

Introduction
Monetary policies are considered one of the most important economic tools relied upon by countries to regulate economic activity and achieve financial stability. These policies guide interest rates, determine the size of the money supply, and directly affect inflation, exchange rates, and investment levels. With the acceleration of global economic changes, the significance of studying the impact of these policies on financial markets has become more prominent, especially as these markets have become increasingly interconnected and sensitive to major monetary decisions.
The repeated shifts in monetary policies issued by central banks primarily the U.S. Federal Reserve, the European Central Bank, and the Bank of Japan have led to waves of volatility in global financial markets, whether in stock indices, bonds, or currencies. This highlights the urgent need to analyze the dynamics of such impacts and to interpret the extent to which financial markets respond to different monetary decisions, particularly in an economic environment characterized by uncertainty and intertwined geopolitical factors.

Research Methodological Framework
First: Research Problem
The core problem lies in the fact that monetary policy tools such as interest rates, open market operations, and reserve requirements no longer always produce the desired outcomes in controlling inflation or stimulating growth. Instead, they may sometimes lead to distortions in capital flows, fluctuations in financial asset prices, and sudden changes in exchange rates. Given the global economic fluctuations and the challenges facing financial markets, it becomes essential to study the impact of monetary policies on global financial markets in order to understand how they influence global financial and economic stability.

Main Research Question
To what extent do monetary policies impact the performance of global financial markets? (A case study of the Iraqi market)

Third: Research Objective
The research aims to analyze the impact of the monetary policies adopted in Iraq on the

performance of the Iraqi market by examining the nature of the relationship between the annual growth rate of broad money supply and both the annual growth rate of exports and imports of goods and services during the period (2004-2024).

Fourth: Research Hypotheses

- **First Hypothesis:** There is a statistically significant impact of the annual growth rate of broad money supply on the annual growth rate of exports of goods and services in Iraq during the period (2004-2024).
- **Second Hypothesis:** There is a statistically significant impact of the annual growth rate of broad money supply on the annual growth rate of imports of goods and services in Iraq during the period (2004-2024).

Fifth: Research Importance

The significance of this research stems from the importance of its vital topic and its global implications. Therefore, the study focuses on providing an analytical perspective that helps clarify the impact of monetary policy as a tool for international financial control and predicting market trends in light of central banking decisions. This contributes to supporting decision-makers and investors in developing more informed and precise financial strategies.

Sixth: Previous Studies

A study by Mohamed (El-Sayed Youssef Ahmed Qamar , 2019) [11], titled *"The Impact of Monetary Variables on the Performance of the Stock Market"*, analyzed the relationship between four main monetary variables exchange rate, money supply, inflation, and interest rate and their influence on stock market indicators. The study emphasized the importance of understanding this relationship to evaluate the effectiveness of economic policies in achieving financial stability and directing economic activity, noting that financial markets serve as a reflection of the overall economic condition. The researcher employed the descriptive-analytical method and the theoretical inductive approach, relying on a wide range of local and international literature to support the findings. The study concluded that there is a clear correlation between monetary variables and stock market performance; however, the nature of this relationship varies depending on the country and the stage of economic activity. The exchange rate was found to affect stock prices directly through foreign investment and indirectly through export competitiveness, while the money supply influences performance directly via liquidity surpluses and indirectly through interest rates and alternative returns.

A study by (Manal Gaber Morsi Mohamed), titled *"Evaluating the Effectiveness of Monetary Policy in Achieving Exchange Rate Stability in Egypt During the Period (1990-2017)"*, aimed to analyze the effectiveness of monetary policy tools in Egypt in maintaining the stability of the Egyptian pound against the U.S. dollar. The study sought to identify the relationship between tools such as money supply, interest rate, discount rate, monetary reserves, and inflation rate, and their impact on exchange rate stability. It adopted the inductive approach to build the theoretical framework and the analytical econometric method to measure the relationships among variables using two models: the Partial Adjustment Model and the Error Correction Model (ECM). The findings revealed that monetary policy has a positive impact on the exchange rate, but with limited short-term effectiveness, as only 13.5% of the gap between the actual and equilibrium exchange rates was closed within one year. The discount rate showed the highest long-term impact on the exchange rate at 28.88%, followed by the real money supply at 7.2%. The models also revealed a causal relationship between money supply and exchange rate, and that exports and imports had a significant effect on exchange rate fluctuations. The ECM indicated that the adjustment coefficient was -0.899, suggesting that approximately 90% of exchange rate deviations are corrected annually toward the equilibrium value.

A study by (Hassan Mohammed Jawad Razaq), titled *"The Impact of Monetary Policy on Emerging Financial Markets"*, aimed to analyze the effect of monetary variables money supply, interest rate, exchange rate, and inflation index on performance indicators of emerging financial markets, including the general price index, market capitalization, and trading volume, in three Asian countries: Malaysia, Indonesia, and South Korea during the period 1995-2009. The researcher employed the descriptive-analytical method, supported by econometric analysis using multi-stage linear regression and applying both logarithmic and linear models in SPSS. The study concluded that there is a statistically significant relationship between monetary variables and financial market performance indicators in the selected countries, with varying degrees depending on the country. South Korea recorded the highest level of effectiveness of monetary variables, followed by Malaysia, and then Indonesia. The consumer price index and exchange rate were among the most influential variables, whereas the effects of money supply and interest rate were relatively weak in some countries. The study revealed a weakness in the effectiveness of monetary policy in emerging markets due to lack of regulation, weak central bank oversight, and underdeveloped financial market infrastructure. Therefore, the study recommended the development of monetary policy tools to suit the environment of emerging markets and emphasized the need to enhance the role of central banks in supervising the banking system and financial institutions.

Based on the review of previous studies, it becomes evident that there is significant scholarly interest in the topic of monetary policies and their impact on financial markets. Qamar's (2019) [11] study focused on the relationship between four key monetary variables and stock market performance, providing a deep theoretical insight into the effect of each variable. However, it concentrated on a general framework without establishing a clear connection to global markets or analyzing regional disparities between advanced and emerging markets. Manal Mohamed's study addressed the impact of monetary policy tools on the exchange rate in Egypt using precise econometric models, yet it remained limited to a single currency market in a local context without linking it to broader effects on global financial markets or performance indicators. Razaq's (2011) [1] study examined the impact of monetary policy on emerging Asian markets, but was confined to three countries and a specific time period, without direct comparison to developed markets, and focused mainly on statistical significance rather than analyzing investor responses and market behavior.

Therefore, the current research distinguishes itself from previous studies by offering a global analytical perspective on the impact of monetary policies, encompassing the

diverse financial and economic structures of international markets. It also integrates both applied and theoretical analytical approaches to understand the varying responses between developed and emerging markets. Furthermore, it is unique in its aim to address the influence of major central bank decisions on market indicators such as stocks, bonds, and currencies.

Chapter One: Theoretical Framework of Monetary Policies

Monetary policy represents one of the most crucial instruments relied upon by nations to achieve monetary stability. Achieving such stability is considered a primary objective of monetary authorities, especially when adopting an effective monetary policy that steers the economy toward stabilization (Bouzit & Sousha, 2023: 6) [13].

First: Definition of Monetary Policy and Its Economic Objectives

Monetary policy is defined as "the set of measures adopted by the monetary authority with the aim of controlling and managing the money supply, regulating banking operations and credit, and influencing them as a tool to achieve the general economic policy objectives of the state" (Qamar, 2019: 117) [11]. It is also viewed as "a set of laws formulated by monetary authorities, comprising procedures and rules adopted by the state through the central bank to achieve economic stability and avoid crises that may affect the national economy" (Gaballah, 2018: 146-147) [12].

Based on the defined concept of monetary policy, it is evident that it constitutes one of the most important economic intervention tools used by countries to regulate the economic cycle, whether through expansionary policies aimed at increasing liquidity and stimulating investment, or contractionary policies intended to curb inflation and reduce spending.

Economic Objectives of Monetary Policy

The objectives of monetary policy vary according to the economic and social conditions of a country and the role of the monetary authority in shaping general policy directions. In developed countries, monetary policies often aim to reduce cyclical fluctuations and achieve full utilization of economic resources, contributing to stable short-term economic growth. In contrast, in developing countries, monetary policies adopt a broader dimension, focusing on addressing long-term structural imbalances by controlling the money supply and directing credit toward productive sectors to enhance inclusive growth opportunities.

Generally, monetary policy seeks to achieve a set of core objectives, most notably: (Qamar, 2019: 117; Mohamed, 2017: 492-493) [11, 10]

1. Maintaining price level stability and controlling inflation.
2. Stimulating employment growth and expanding the base of productive labor.
3. Achieving stability in the foreign exchange market and preventing currency fluctuations.
4. Supporting and stabilizing financial markets and enhancing confidence in them.
5. Attracting financial investments and maintaining a competitive business environment.
6. Increasing economic growth, as monetary policy contributes to raising the growth rate by creating a favorable economic climate.

Second: Tools of Monetary Policy

Traditional monetary policy tools represent the fundamental mechanisms upon which central banks rely to achieve their major economic objectives, such as price stability, stimulating growth, and enhancing employment. These tools are detailed in the study by Fouda (2025: 2801-2802) [9]:

1. **Interest Rate:** The interest rate is considered the most commonly used tool, as it enables the central bank to regulate the level of liquidity within the economy. Lowering interest rates stimulates investment activities and consumption, thereby promoting economic growth. Conversely, raising interest rates helps curb inflation by reducing aggregate demand (Mishkin, S., 2019) [14].
2. **Open Market Operations:** These refer to the central bank's intervention through the buying or selling of government bonds to regulate liquidity in the banking sector. When bonds are purchased, liquidity increases in the banking sector, encouraging lending expansion. In contrast, selling bonds absorbs liquidity and is often employed in periods of high inflation (Blanchard, Olivier, 2017) [15].

It is noteworthy that open market operations exert their effect through two main channels: (1) influencing the reserves of commercial banks, thereby affecting their ability to create credit; (2) impacting interest rates on securities, which affects the cost of investment financing (Tahatawi *et al*., 2024: 6) [8].

If the objective is to implement a contractionary policy, the central bank sells government securities. Buyers are expected to pay for these securities with checks drawn on commercial banks in favor of the central bank, which increases the indebtedness of commercial banks to the central bank and reduces their liquid reserves. On the other hand, if the objective is to pursue an expansionary policy, the central bank purchases government securities from commercial banks in exchange for checks drawn on itself, which are deposited in the banks. This enables them to expand their credit volume and create money from deposits, thus increasing the money supply (Bouzit & Sousha, 2022-2023: 22) [13].

3- Required Reserve Ratio

The required reserve ratio is one of the most prominent quantitative tools for controlling the money supply. Through this mechanism, the central bank mandates that commercial banks hold a portion of customer deposits as a compulsory reserve that cannot be used for lending purposes. Consequently, an increase in this ratio reduces available liquidity and limits banks' ability to expand credit. Conversely, lowering the reserve ratio enhances liquidity and encourages economic activity.

The researcher presented these tools within a balanced monetary framework, noting that while they represent traditional instruments, they must be integrated with modern policy approaches to keep pace with global shifts following major economic crises (Fouda, 2025: 2800) [9]. Emphasis was also placed on the importance of aligning monetary policy with fiscal policy, highlighting that economic effectiveness should not be solely attributed to central bank interventions.

Third: Types of Monetary Policies (Expansionary - Contractionary - Neutral)

1. **Expansionary Monetary Policy:** This type of policy aims to increase the money supply and stimulate economic activity. It is typically used during periods of recession or low economic growth. The tools involved include lowering the interest rate, purchasing government bonds, and reducing the required reserve ratio, all of which serve to expand the money supply and encourage investment and consumption.
2. **Contractionary Monetary Policy:** This policy is employed when inflation rates are high, as it is designed to address inflationary pressures within the economy. It is used in cases of excessive price increases. Its tools include raising the interest rate, selling government bonds, and increasing the reserve requirement. The goal is to reduce the money supply and curb inflation. This policy is often applied during periods of excessive increases in interest rates (Abdul Qader, 2015: 76; Fouda, 2025: 2802) [3, 9].
3. **Neutral (Moderate) Monetary Policy:** This policy neither aims to expand nor contract the economy but rather seeks to maintain monetary stability. It is applied when the economy is relatively balanced. This type of monetary policy is less commonly used, and central banks typically adopt it when there is no need for additional economic stimulus or inflationary control, maintaining the status quo to preserve equilibrium.

Chapter Two: The Impact of Monetary Policies on Global Financial Markets

Monetary policies represent one of the most critical pillars upon which countries rely to regulate macroeconomic performance and guide economic activity (Tahatawi, 2024: 2) [8]. Their influence is no longer confined to the domestic sphere, but has increasingly extended to global financial markets due to the growing economic interdependence among nations. The global financial crisis of 2008, for instance, prompted major central banks especially in Japan, the United States, the European Union, and the United Kingdom to adopt broad monetary and non-monetary policies to stimulate demand (Al-Mashhadani, 2018: 70) [7].

Amid the growing openness of markets and the advancement of financial communication tools, central bank decisions—particularly in economically influential countries such as the United States and the European Union—have become a decisive factor in shaping the trends of international stock, bond, and currency markets. The implementation of either expansionary or contractionary monetary policies often leads to abrupt changes in cross-border capital flows, which in turn intensify global financial market volatility. In recent decades, it has become evident that major economic crises induce changes in monetary policies that affect not only inflation rates and growth within the policymaking country but also trigger global reactions. These include shifts in asset valuations, investor behavior, and risk levels. For example, announcements by the U.S. Federal Reserve to raise interest rates frequently result in capital outflows from emerging markets toward the U.S. dollar due to the higher relative return, which negatively impacts local currencies and financial market performance in those countries. Accordingly, analyzing the relationship between monetary policy and the behavior of global financial markets has become an academic and economic necessity. Such analysis enables policymakers and investors to respond wisely to the cross-border consequences of monetary decisions.

First: The Nature of the Relationship between Monetary Variables (Interest Rate, Inflation, Exchange Rate) and Financial Market Indicators (Stocks, Bonds, Currencies)

Financial markets play a crucial role in supporting economic development and enhancing the efficiency of resource allocation. They have become a viable option for mobilizing capital, financing investment plans across the public and private sectors, and providing opportunities for growth and prosperity (Hanafi, 2025: 348) [5]. Through their ability to attract savings and channel them into investments, financial markets serve as a primary conduit linking macroeconomic policies to actual financial and economic outcomes.

With increasing economic interdependence, financial markets no longer operate in isolation from adopted monetary policies; rather, they interact deeply with their core variables, notably interest rates, inflation, and exchange rates. These variables influence investor behavior and the rate of return on financial assets, thereby affecting the prices of stocks, bonds, and the value of currencies. This relationship also shapes the investment outlook, with significant effects on both domestic and foreign capital flows (Al-Khafaji, 2016: 12) [6]. At the level of international trade exchanges, the exchange rate is one of the most sensitive and impactful monetary variables in financial markets due to its direct association with the settlement of international payments and the valuation of both foreign and domestic assets. Hence, understanding the dynamics of the relationship between monetary variables and financial market indicators is fundamental for analyzing macroeconomic performance and developing more efficient and sustainable investment strategies. Given the role of financial markets in driving economic growth by providing capital to productive sectors and returns to capital holders they reflect the overall state of the economy in terms of fluctuations in economic growth rates. Therefore, increased financial investments raise market returns, and consequently, the economic variables governing a country's economic activity positively or negatively affect the stock market. Accordingly, the relationship between monetary variables and financial market indicators is characterized by complexity. Monetary policy tools, such as interest rates and inflation, often influence investment and spending decisions, which in turn affect the performance of financial markets, including stock and bond markets. Conversely, fluctuations in financial markets can also impact macroeconomic conditions and lead to changes in monetary policy.

The relationship between monetary variables particularly interest rates, inflation, and exchange rates and financial market indicators is a dynamic one characterized by mutual influence, with its direction changing according to the general economic conditions and the specific nature of the market under study. Typically, a rise in interest rates leads to a decline in the demand for stocks and bonds, as investors shift toward fixed-income assets such as deposits. It also negatively impacts corporate financing capacity, thereby reducing the issuance of new financial securities (Qamar, 2023: 144) [11]. Inflation, on the other hand, affects the stock market indirectly, as it often results in a decrease in real income and can significantly influence stock prices (Qamar,

2023: 140) [11]. Inflation exerts a dual effect: its increase reduces the real value of investment returns and discourages investors, yet in some cases especially when driven by demand-side pressures it may boost corporate profits and raise stock prices. As for the exchange rate, its fluctuations impact capital movements and domestic stock prices. For instance, currency depreciation may encourage foreign investors to buy, while prompting local investors to convert cash into financial assets. The exchange rate is the primary mechanism for settling international payments, as it defines the relationship between domestic prices of goods and services and their foreign counterparts (Qamar, 2023: 123) [11]. Accordingly, it can be said that there exists a relationship between money supply (monetary policies) and the stock market, where changes in money supply have a direct effect on the prices of financial securities and indirect effects on real economic activity. It is important to note that this relationship is not fixed but varies according to the level of financial market development, the exchange rate regime, and the direction of monetary policy. This has been confirmed by empirical studies in both emerging and advanced economies.

Second: Transmission Mechanisms of Monetary Policy Effects on Financial Markets through Monetary and Financial Channels

Mishkin (2019: 497-500) [14] identified four primary channels through which monetary policy affects financial markets, while Mohamed (2017: 498-502) [10] expanded this to five by adding the expectations channel. Similarly, Tahatawi *et al*. (2024: 8) [8] confirmed the same channels. These mechanisms illustrate how monetary policy decisions are transmitted to global markets, influencing investor behavior and asset valuation.

- **Interest Rate Channel:** This is the traditional mechanism through which monetary policy affects real interest rates, which in turn influence investment and consumption decisions, thereby impacting stock and bond prices. Changes in money supply typically result in opposite movements in interest rates (Mohamed, 2017: 498) [10]. A reduction in interest rates increases demand for equities and stimulates economic growth, while an increase deters investors and leads to market downturns. Bank interest rates directly or indirectly affect the financial market: directly by increasing financing costs, which reduces new bond issuance and supply, and indirectly by shifting investor preferences (Qamar, 2023: 144-145) [11].

2. **Asset Price Channel:** This channel operates through the effect of asset valuation on consumption and investment spending. Changes in money supply influence the returns on financial and real asset portfolios held by individuals, which subsequently affect their expenditure levels (Mohamed, 2017: 498) [10]. Fluctuations in interest rates impact the valuation of assets such as real estate and equities, altering investor wealth and their borrowing and spending capacity.
3. **Exchange Rate Channel:** Monetary policy affects the exchange rate, which in turn impacts foreign investment and the competitiveness of exports, directly influencing financial market performance. The effectiveness of monetary policy depends significantly on the exchange rate regime in place.
4. **Credit Channel:** Identified as a crucial mechanism by Mohamed and rooted in the 1959 Radcliff Report, this channel emphasizes the role of credit availability over money supply in shaping spending decisions. It captures the influence of monetary policy on the availability of bank loans for firms and individuals, affecting investment activity and market returns (Mohamed, 2017: 502) [10].
5. **Expectations Channel:** Expectations serve as an additional pathway through which monetary policy particularly changes in money supply translates into variations in prices, output, and the balance of payments. Policymakers often rely on anticipated economic trends to shape monetary decisions, making this channel essential in aligning market responses with future projections.

Based on the above, it is evident that the impact of monetary policy on financial markets is transmitted through a network of interconnected monetary and financial channels. These mechanisms translate central bank interventions such as interest rate adjustments or changes in money supply into actual shifts in investor behavior and asset valuations. Key among these is the interest rate channel, which affects borrowing costs and investor return expectations; the exchange rate channel, which influences foreign investment and the value of domestic currency assets; and the liquidity/credit channel, which determines banks' lending capacities and investment directions (Qamar, 2023: 133-135) [11]. The degree to which each channel is effective depends on several factors, including market efficiency, the exchange rate regime, the degree of economic openness, and the level of coordination between monetary and fiscal policy. Moreover, the influence of these channels varies across countries and over time, depending on domestic and global economic and financial developments.

Third: The Impact of Monetary Policies on Advanced Markets Versus Emerging Markets

Monetary policy and economic performance are among the key components in achieving economic stability and growth in any country through the use of various policy tools (Moqaddem & Abdul Qader, 1). The influence of monetary policy differs significantly between advanced and emerging markets, as detailed below:

First: Effectiveness of Monetary Policy Tools

The effectiveness of monetary policy refers to the magnitude of the impact resulting from a change in monetary variables. Therefore, any policy applied by the monetary authority must be characterized by its effectiveness (Abdul Wahab, 2015: 4-6).

- **In Advanced Markets:** Quantitative tools such as open market operations, rediscount rates, and the required reserve ratio tend to be more effective. The existence of a well-developed financial and monetary system allows the central bank to directly influence liquidity and interest rates. Financial institutions operate within a clear legal and regulatory framework, which enhances market responsiveness to monetary policy decisions.
- **In Emerging Markets:** Emerging markets are characterized by high market capitalization or trading volume but still have a low ratio of these indicators to GDP when compared to developed financial markets. Therefore, emerging markets are not exclusively found

in developing countries, as some exist in advanced economies such as Greece and Portugal (Razaq, 2011: 38) [1]. In these markets, quantitative tools are generally less effective due to weak financial infrastructure, limited availability of tradable securities, and the tendency of commercial banks to hold excess reserves.

Qualitative tools such as direct credit controls and preferential discount rates are used more frequently, yet their impact remains limited. Moreover, poor coordination between monetary and fiscal policies, coupled with a lack of transparency, reduces the central bank's ability to manage liquidity effectively.

Second: Financial Market Responsiveness

- **In Advanced Markets:** Financial markets in advanced economies tend to respond quickly to changes in interest rates, exchange rates, and inflation. Investors rely on accurate forecasts, and markets reflect new information almost immediately due to their semi-strong form efficiency. This high level of transparency and informational availability enables swift adjustments in asset prices in response to monetary policy shifts.
- **In Emerging Markets:** In contrast, financial markets in emerging economies often exhibit slower and less predictable responses to monetary policy changes. This is primarily due to limited transparency, scarcity of reliable market information, and frequent direct government interventions. Additionally, fluctuations in exchange rates and inflation have a more pronounced effect on market performance, particularly in the absence of effective hedging instruments.

Chapter Three: Applied Study

Study Methodology

This research adopts the descriptive-analytical methodology, which focuses on identifying and describing the variables related to the study. It utilizes statistical methods and techniques to analyze the data collected through the study tool namely, financial reports to derive results that can help achieve the objectives of the research.

Study Population and Sample

The study population consists of data related to the economic variables examined in the research. These include monetary policies, represented by the annual growth rate of broad money supply, and the performance level of the Iraqi market, represented by the annual growth rate of exports and imports of goods and services. The study selected a sample composed of data related to these variables covering the period from 2004 to 2024. The data were collected based on financial and economic reports and bulletins issued by the Iraqi Ministry of Finance and the World Bank during the period (2004-2024).

Statistical Methods Used

The study relied on the Statistical Package for the Social Sciences (SPSS25) and the E-Views software to process the data and test the research hypotheses. The following statistical methods and indicators were applied:

- **Descriptive Statistic Measures:** Used to extract the arithmetic means, standard deviations, maximum and minimum values, and growth rates of the study variables, along with graphical representations to describe those variables.
- **Simple Linear Regression Analysis:** Employed to test the effect of the independent variable on the dependent variables and to evaluate the research hypotheses.
- **Econometric Tests:** These included the Augmented Dickey-Fuller (ADF) test, the Granger causality test, and the cointegration test to examine the relationship between variables and identify lag periods. Additionally, the Error Correction Model (ECM) was used to determine the nature of the relationship between variables in the short and long term, with E-Views software utilized to measure the econometric relationships between the independent and dependent variables.
- **Normality Test:** To ensure the fulfillment of the condition that the data follow a normal distribution, a normality test was conducted on the study data. The Kolmogorov-Smirnov test and the Shapiro-Wilk test were applied to examine the hypothesis that the data are drawn from a normal distribution. The results of both tests were as follows:

Table 1: Normality Test (Normal Distribution)

Variables	Normality Test					
	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Annual growth rate of money supply in its broad sense	.170	21	.113	.937	21	.188
Annual growth rate of commodity exports and services	.093	21	.200*	.976	21	.861
Annual growth rate of commodity imports and services	.097	21	.200*	.962	21	.567

Source: Prepared by the researcher based on statistical analysis using SPSS program.

From the previous table, it is evident that the significance level (Sig.) for all study variables in both the Kolmogorov-Smirnov and Shapiro-Wilk tests is not statistically significant at the 0.05 level, as the Sig. values for all variables were greater than 0.05. This confirms that the data are normally distributed, and thus the assumption of normality is fulfilled.

Descriptive Analysis Results

Annual Growth Rate of Broad Money Supply (2004-2024): The arithmetic mean of the annual growth rate of broad money supply in Iraq during the study period was 13.49%, with a standard deviation of 13.41. The highest recorded value was 37.11% in 2007, while the lowest was -9.10% in 2015, resulting in a total growth range of 25.11% over the period from 2004 to 2024.

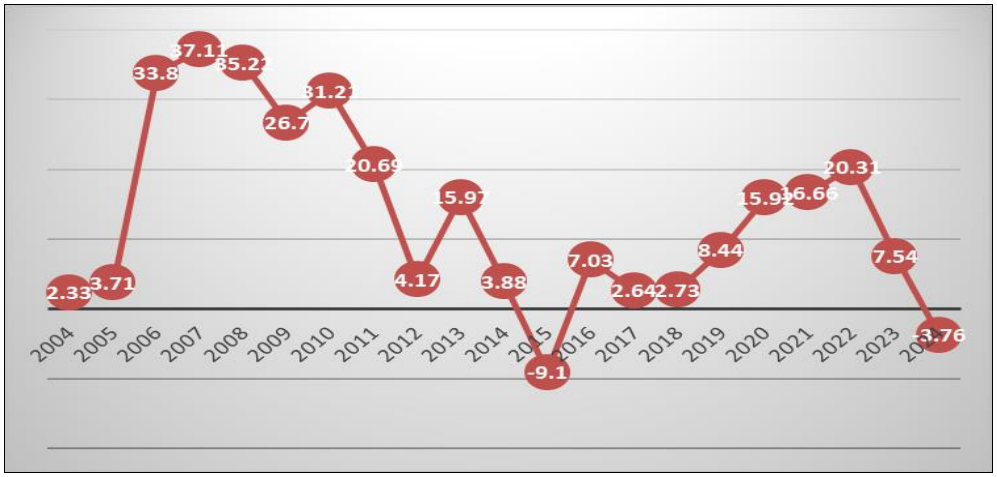

Fig 1: Development of the Annual Growth Rate of Broad Money Supply during the Period (2004-2024)

Annual Growth Rate of Exports of Goods and Services (2004-2024): The arithmetic mean of the annual growth rate of exports of goods and services in Iraq during the study period was 6.98%, with a standard deviation of 11.07. The highest recorded value was 34.46% in 2015, while the lowest was -14.97% in 2021, indicating a decline range of 204.52% over the period from 2004 to 2024.

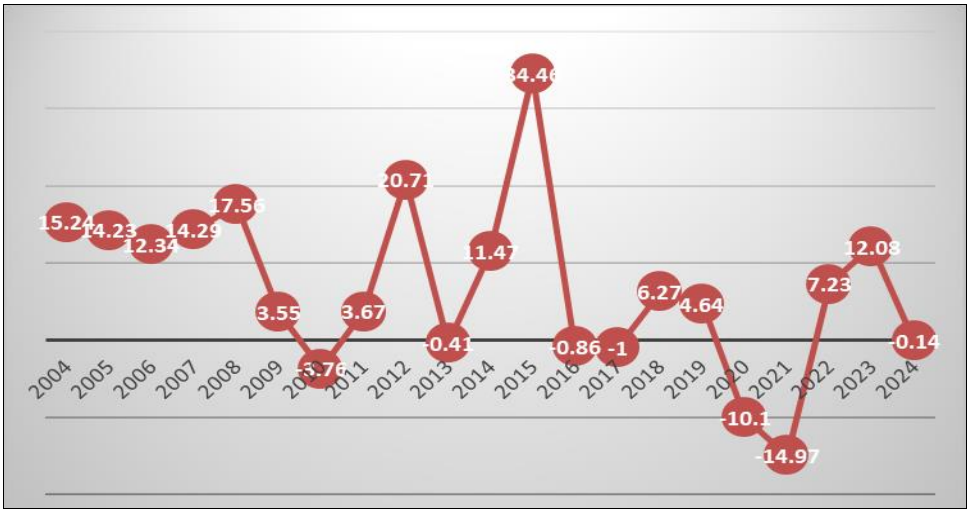

Fig 2: Development of the Annual Growth Rate of Exports of Goods and Services during the Period (2004-2024)

Annual Growth Rate of Imports of Goods and Services (2004-2024): The arithmetic mean of the annual growth rate of imports of goods and services in Iraq during the study period was 13.35%, with a standard deviation of 20.24. The highest recorded value was 46.39% in 2008, while the lowest was -23.95% in 2020, indicating a total increase range of 175.72% over the period from 2004 to 2024.

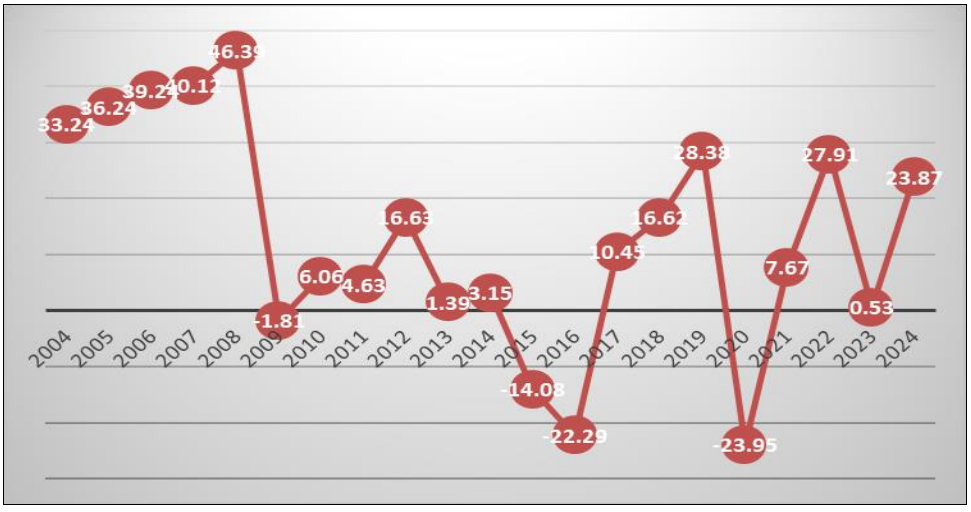

Fig 3: Development of the Annual Growth Rate of Imports of Goods and Services during the Period (2004-2024)

Table (2): Development of the Study Variables During the Period (2004-2023)

Year	Annual Growth Rate of Broad Money Supply (%)	Annual Growth Rate of Exports of Goods and Services (%)	Annual Growth Rate of Imports of Goods and Services (%)
2004	2.33	15.24	33.24
2005	3.71	14.23	36.24
2006	33.8	12.34	39.24
2007	37.11	14.29	40.12
2008	35.22	17.56	46.39
2009	26.7	3.55	-1.81
2010	31.21	-3.76	6.06
2011	20.69	3.67	4.63
2012	4.17	20.71	16.63
2013	15.97	-0.41	1.39
2014	3.88	11.47	3.15
2015	31.21	34.46	-14.08
2016	-3.88	-0.86	-22.29
2017	12.73	1.21	10.45
2018	6.27	6.27	16.62
2019	4.64	4.64	28.38
2020	15.92	-10.1	-23.95
2021	16.06	-14.97	7.67
2022	20.31	7.23	27.91
2023	7.54	12.08	0.53
2024	-3.76	-0.14	23.87

Source: Prepared by the researcher based on economic reports and bulletins issued by the Iraqi Ministry of Finance and the World Bank for the period (2004-2024).

Econometric Relationships between Study Variables

To measure and analyze the relationships between the independent variable the *annual growth rate of broad money supply* and the dependent variables the *annual growth rate of exports* and the *annual growth rate of imports of goods and services* during the period (2004-2024), a set of econometric tests was applied. These included the Augmented Dickey-Fuller (ADF) unit root test, the Granger causality test, the cointegration test, and lag length selection, in addition to applying the Error Correction Model (ECM) to identify the nature of the short-term and long-term relationships between the variables. The analysis was conducted using the E-Views statistical software.

Econometric Model for the Relationship between the Annual Growth Rate of Broad Money Supply and the Annual Growth Rate of Exports of Goods and Services

Unit Root Test: To assess the stationarity of the variables in the model, the Augmented Dickey-Fuller (ADF) test was used. The results showed that the time series of the annual growth rate of broad money supply (X) is non-stationary at level, but becomes stationary after first differencing, which means it is integrated of order one I(1). On the other hand, the time series of the annual growth rate of exports of goods and services (Y1) was found to be stationary at level, meaning it is integrated of order zero I (0).

Since the two series are not integrated of the same order, it is not appropriate to apply conventional cointegration techniques such as the Johansen test. Instead, the ARDL bounds testing approach (Autoregressive Distributed Lag) is used to test for the presence of cointegration between them despite the difference in integration order.

Table 3: Results of Augmented Dickey-Fuller (ADF) Test

Variables	Level			1st Difference		
	ADF	Sig.	Result	ADF	Sig.	Result
X	1.326	0.165	No stationary	-4.264	0.000	stationary
Y1	-2.975	0.000	Stationary			

Source: Results based on E-Views calculations

Causality Test

The results indicate that there is no bidirectional or unidirectional causal relationship between the annual growth rate of broad money supply and the annual growth rate of exports of goods and services at the 0.05 significance level.

Table 4: Granger Causality Test Results

Null Hypothesis	Observations	F-Statistic	Probability (Sig.)
Y1 does not Granger Cause X	19	0.89566	0.4305
X does not Granger Cause Y1	19	0.39751	0.6793

Source: Results based on E-Views calculations

Cointegration Test (Bounds Test)

The results indicate that there is no cointegration between the annual growth rate of broad money supply and the annual growth rate of exports of goods and services at the 0.05 significance level. This suggests the absence of a long-run equilibrium relationship between the two variables during the study period.

Table 5: Bounds Test for Cointegration

Test Statistic	Value	k
F-statistic	1.083278	1
Critical Value Bounds		
Significance	**I0 Bound**	**I1 Bound**
10%	4.04	4.78
5%	4.94	5.73
2.5%	5.77	6.68
1%	6.84	7.84

Source: Results based on E-Views calculations

Selection of the Number of Lag Periods

It is evident that the optimal number of lag periods is one period for the variable of the annual growth rate of broad money supply, and three lag periods for the variable of the annual growth rate of goods and services exports.

Table 6: Lag Length Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
Y1(-1)	0.464438	0.204831	2.267417	0.0426
Y1(-2)	-0.343636	0.196203	-1.751431	0.1054
Y1(-3)	0.413062	0.196942	2.097383	0.0578
X	-0.739025	0.253522	-2.915029	0.0130
X(-1)	0.720341	0.255649	2.817698	0.0155
C	0.898337	3.903201	0.230154	0.8218
R-squared	0.581907	Mean dependent var		5.816111
Adjusted R-squared	0.407701	S.D. dependent var		11.57816
S.E. of regression	8.910663	Akaike info criterion		7.473576
Sum squared resid	952.7989	Schwarz criterion		7.770366
Log likelihood	-61.26218	Hannan-Quinn criter.		7.514499
F-statistic	3.340346	Durbin-Watson stat		2.091821
Prob(F-statistic)	0.040349			
*Note: p-values and any subsequent tests do not account for model				
Selection.				

Source: Results of E-Views Software Calculations

Vector Error Correction Model in the Long and Short Run: In order to determine the parameter values of the relationship in the long and short run, the vector error correction model was estimated. It appears that the error correction term coefficient is not significant at the 0.05 significance level, indicating that there is no correction from the short run to the long run. Furthermore, the long-run equation indicates that there is no correction effect in the long run, as the variable X is not significant at the 0.05 significance level.

Table 7: Results of the Vector Error Correction Test

Cointegrating Form				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
D(Y1(-1))	-0.069426	0.246356	-0.281813	0.7829
D(Y1(-2))	-0.413062	0.196942	-2.097383	0.0578
D(X)	-0.739025	0.253522	-2.915029	0.0130
CointEq(-1)	-0.466136	0.323713	-1.439968	0.1755
Cointeq = Y1 - (-0.0401*X + 1.9272)				
Long Run Coefficients				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
X	-0.040082	0.394872	-0.101506	0.9208
C	1.927200	7.803083	0.246979	0.8091

Source: Results of E-Views Software Calculations

The Standard Model of the Relationship between the Annual Growth Rate of Broad Money Supply and the Annual Growth Rate of Goods and Services Imports:

Unit Root Test

To measure the stability of the model variables, the Augmented Dickey-Fuller (ADF) test was used. It was found that the time series of the annual growth rate of broad money supply (X) is not stable at its level and becomes stable after taking the first difference, thus the series is integrated of order one. Likewise, the time series of the annual growth rate of goods and services imports (Y2) is stable at its level, indicating that it is integrated of order zero. Since the two series are not integrated at the same order, the ARDL cointegration approach is used to conduct the cointegration test between them.

Table (8): Results of Augmented Dickey-Fuller (ADF) Test

Variables	Level			1st Difference		
	ADF	Sig.	Result	ADF	Sig.	Result
X	1.326	0.165	No stationary	-4.264	0.000	stationary
Y2	-2.459	0.017	Stationary			

Source: Results of E-Views Software Calculations

Causality Test

It is evident that there are no bidirectional or unidirectional causal relationships between the annual growth rate of broad money supply and the annual growth rate of goods and services imports at the 0.05 significance level.

Table 9: Causality Test

Null Hypothesis:	Obs	F-Statistic	Prob.
Y2 does not Granger Cause X	19	2.82310	0.0933
X does not Granger Cause Y2		0.72443	0.5019

Source: Results of E-Views Software Calculations

Cointegration Test (Bounds Test)

It appears that there is a cointegration relationship between the annual growth rate of broad money supply and the annual growth rate of goods and services imports at the 0.01 significance level.

Table 10: Bounds Test for Cointegration

Test Statistic	Value	k
F-statistic	9.924808	1
Critical Value Bounds		
Significance	**I0 Bound**	**I1 Bound**
10%	4.04	4.78
5%	4.94	5.73
2.5%	5.77	6.68
1%	6.84	7.84

Source: Results of E-Views Software Calculations

Selection of the Number of Lag Periods

It is evident that the optimal number of lag periods is three for the variable of the annual growth rate of broad money supply, and four lag periods for the variable of the annual growth rate of goods and services imports.

Table 11: Lag Length Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
Y2(-1)	-0.695710	0.319460	-2.177768	0.0611
Y2(-2)	-0.447523	0.269601	-1.659945	0.1355
Y2(-3)	-0.719320	0.323658	-2.222468	0.0570
Y2(-4)	-0.738389	0.356040	-2.073893	0.0718
X	0.855558	0.551364	1.551712	0.1593
X(-1)	1.533868	0.665326	2.305439	0.0500
X(-2)	1.567860	0.656957	2.386549	0.0441
X(-3)	-0.600259	0.385822	-1.555791	0.1584
C	-12.30891	8.851734	-1.390565	0.2018
R-squared	0.636507	Mean dependent var		7.738235
Adjusted R-squared	0.273014	S.D. dependent var		18.28817
S.E. of regression	15.59313	Akaike info criterion		8.636590
Sum squared resid	1945.166	Schwarz criterion		9.077703
Log likelihood	-64.41101	Hannan-Quinn criter.		8.680437
F-statistic	1.751084	Durbin-Watson stat		2.327151
Prob(F-statistic)	0.222671			
*Note: p-values and any subsequent tests do not account for model				
Selection.				

Source: Results of E-Views Software Calculations

Vector Error Correction Model in the Long and Short Run

In order to determine the parameter values of the relationship in the long and short run, the vector error correction model was estimated. It appears that the coefficient of the error correction term is 3.600942 and is significant at the 0.01 significance level, indicating that there is a correction from the short run to the long run at a speed of 3.600942. Furthermore, the long-run equation indicates that there is a correction effect in the long run, as the variable X is significant at the 0.01 significance level.

Table 12: Results of the Vector Error Correction Test

Cointegrating Form				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(Y2(-1))	1.905231	0.731294	2.605290	0.0314
D(Y2(-2))	1.457709	0.567634	2.568042	0.0332
D(Y2(-3))	0.738389	0.356040	2.073893	0.0718
D(X)	0.855558	0.551364	1.551712	0.1593
D(X(-1))	-1.567860	0.656957	-2.386549	0.0441
D(X(-2))	0.600259	0.385822	1.555791	0.1584
CointEq(-1)	-3.600942	0.958833	-3.755546	0.0056
Cointeq = Y2 - (0.9323*X -3.4182)				
Long Run Coefficients				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
X	0.932264	0.128660	7.245928	0.0001
C	-3.418248	1.966564	-1.738183	0.1204

Source: Results of E-Views Software Calculations

Study Hypotheses Testing

First Hypothesis

There is a statistically significant effect of the annual growth rate of broad money supply on the annual growth rate of goods and services exports in Iraq during the period (2004-2024).

Table 13: Results of the Simple Linear Regression Model for Testing the First Hypothesis

P-VALUE	r	R^2	F	T	B
0.395	0.196	0.038	0.758	-0.871	-0.162

Source: Results of E-Views Software Calculations

It was found that the model is not statistically significant, as the F-value is not significant at the 0.05 level. The (Sig F) value was 0.395, which is greater than 0.05, indicating that the calculated F-value is less than the tabulated F-value and that there is no statistically significant effect of the annual growth rate of broad money supply on the annual growth rate of goods and services exports in Iraq during the period (2004-2024) at the 0.05 significance level. The (Sig T) value was 0.395, which is also greater than 0.05, indicating that the calculated T-value is less than the tabulated T-value, thereby demonstrating that the first hypothesis of the study is not valid.

Second Hypothesis

There is a statistically significant effect of the annual growth rate of broad money supply on the annual growth rate of goods and services imports in Iraq during the period (2004-2024).

Table 14: Results of the Simple Linear Regression Model for Testing the Second Hypothesis

P-VALUE	r	R^2	F	t	b
0.159	0.319	0.102	2.153	1.467	0.482

Source: Results of E-Views Software Calculations

It was found that the model is not statistically significant, as the F-value is not significant at the 0.05 level. The (Sig F) value was 0.159, which is greater than 0.05, indicating that the calculated F-value is less than the tabulated F-value, and that there is no statistically significant effect of the annual growth rate of broad money supply on the annual growth rate of goods and services imports in Iraq during the period (2004-2024) at the 0.05 significance level. The (Sig T) value was 0.159, which is also greater than 0.05, indicating that the calculated T-value is less than the tabulated T-value, thereby demonstrating that the second hypothesis of the study is not valid.

Study Results

- The annual growth of broad money supply in Iraq increased during the period (2004-2024) at a rate of 25.11%, and the annual growth of goods and services imports in Iraq also increased during the study period at a rate of 175.72%, while the annual growth of goods and services exports in Iraq decreased during the period (2004-2024) at a rate of 204.52%.
- There is no statistically significant effect of the annual growth rate of broad money supply on the annual growth rate of goods and services exports in Iraq during the period (2004-2024) at the 0.05 significance level, indicating that the first hypothesis of the study is not valid. This reflects the ineffectiveness of the monetary policies applied in Iraq in influencing the level of goods and services exports.
- There is no statistically significant effect of the annual growth rate of broad money supply on the annual growth rate of goods and services imports in Iraq during the period (2004-2024) at the 0.05 significance level, indicating that the second hypothesis of the study is not valid. This reflects the ineffectiveness of the monetary policies applied in Iraq in influencing the level of goods and services imports.
- The ineffectiveness of the monetary policies applied in Iraq in influencing the performance of the Iraqi market highlights the need to implement and apply monetary policies that positively affect the performance of the Iraqi market.

Recommendations

- Focus on identifying the factors influencing the levels of Iraqi exports and imports.
- Work on implementing monetary policies that can effectively impact the performance levels of the Iraqi market.
- Regulate the use of interest rates to contribute to controlling the level of liquidity within the economy.
- Emphasize achieving the required reserve ratio to enhance the financial capacity of banks.
- Focus on developing Iraqi market indicators to contribute to building more efficient and sustainable investment strategies.

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