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The role of financial technology in enhancing the effectiveness of monetary policies

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Abstract
Monetary policies are considered among the most prominent economic tools that countries rely on to regulate economic activity and achieve financial stability. Therefore, this research aimed to analyze the extent to which financial technology contributes to enhancing the effectiveness of monetary policies. The study adopted the descriptive analytical method and utilized the E-Views program for data processing and hypothesis testing through the application of statistical methods and indicators. The research reached several findings, most notably the absence of a statistically significant impact of the annual growth rate of the broad money supply in Iraq on the rate of financial transactions conducted via financial technology within the Iraqi banking sector during the period (2004-2024) at the 0.05 level. It also revealed a slight impact of the currently applied financial technology in Iraq on the monetary policies implemented in the country. Therefore, the study recommends the need to provide technological infrastructure that will contribute to enhancing the ability to apply financial technology within the Iraqi banking sector, along with the importance of training employees in the Iraqi banking sector on the tools and methods of financial technology.

Keyword: Financial technology, enhancing effectiveness, monetary policies

Introduction
Monetary policies are among the most prominent economic tools relied upon by countries to regulate economic activity and achieve financial stability. These policies guide interest rates, determine the volume of money supply, and directly influence inflation rates, exchange rates, and investment levels. Achieving monetary stability is one of the primary objectives of monetary authorities through the adoption of effective monetary policies that steer the economy toward stability (Bouzit & Sousha, 2022-2023, p. 6) [1]. Accordingly, these policies are implemented by central banks with the aim of balancing economic growth and monetary stability, thereby ensuring a stable financial environment that stimulates production and reduces economic fluctuations. With the rapid advancements in the field of financial technology, the features of traditional monetary policies have begun to evolve, as they now face new challenges and unprecedented opportunities. The widespread use of smart financial applications, digital currencies, and electronic payment platforms has reshaped the relationship between monetary institutions and the financial community, prompting central banks to reconsider their tools and mechanisms to maintain the effectiveness of their market interventions.

Financial technology is not merely a technical advancement; rather, it represents a structural transformation of the global financial system. It contributes to enhancing financial inclusion, providing accurate and real-time data, and improving the efficiency of economic forecasting. Moreover, it offers central banks new tools for monitoring liquidity and directing monetary policies with greater flexibility and responsiveness to changes. Nevertheless, this transformation imposes challenges related to regulatory oversight, data protection, and coordination among supervisory bodies.

First Topic: The Methodological Framework of the Research
First: Research Problem
Monetary policies represent one of the most essential pillars on which countries rely to regulate macroeconomic performance and manage and direct economic activity

(Tahatawi, 2024, p. 2). Their impact is no longer confined to the domestic sphere but has extended to global financial markets due to the increasing economic interdependence among nations. With this expanded influence, the effectiveness of monetary policies has become dependent on their ability to respond rapidly to economic changes and to interact with financial and technological tools that are more complex than ever before.

In light of the digital revolution taking place in the financial sector, financial technology has emerged as a new influential factor in the monetary landscape. It has reshaped patterns of financial transactions, altered the dynamics of liquidity supply and demand, and opened new horizons for central banks to develop their tools and intervention mechanisms. It is now possible to track cash flows in real time, analyze consumer behavior with precision, and expand the base of financial inclusion all of which theoretically contribute to enhancing the effectiveness of monetary policies.

Despite the rapid development of financial technology tools, there remains a knowledge and institutional gap in understanding the extent of their impact on the effectiveness of monetary policies particularly within a global economic environment characterized by volatility and interconnection. The core problem lies in the gap between traditional monetary policy tools and the new financial reality imposed by technology. While central banks continue to rely on mechanisms such as interest rates and reserve requirements to control the money supply, evidence suggests that these tools are no longer sufficient to address the challenges posed by decentralized finance, instant transfers, and inclusive financial services.

Therefore, the central question arises: What is the impact of financial technology on the effectiveness of monetary policies? And how can central banks utilize this technology to enhance their tools and improve their ability to achieve objectives such as price stability and economic growth?

Second: Research Questions

Main Question

What is the role of financial technology in enhancing the effectiveness of monetary policies?

From this central question, the following sub-questions emerge:

1. What is the role of financial technology in improving the efficiency and effectiveness of monetary policies?
2. What is the impact of financial technology on the speed and ease of implementing monetary policies?
3. To what extent does financial technology contribute to improving the accuracy and effectiveness of monetary policies?
4. How can financial technology contribute to enhancing financial inclusion and improving access to financial services for individuals and businesses?
5. What are the challenges that central banks may face in implementing financial technology within monetary policies?

Third: Research Objective

This research aims to analyze the extent to which financial technology contributes to enhancing the effectiveness of monetary policies, by exploring the role of modern digital tools in improving central banks' ability to control the money supply, monitor inflation, and guide interest rates, within the context of contemporary economic and digital challenges. To achieve this main objective, the research seeks to accomplish the following:

1. Analyze the impact of financial technology on the efficiency and effectiveness of monetary policies.
2. Study the influence of financial technology on the speed and ease of executing monetary policies.
3. Identify how financial technology can contribute to improving the accuracy and effectiveness of monetary policies.
4. Study the impact of financial technology on enhancing financial inclusion and improving individuals' and businesses' access to financial services.
5. Analyze the challenges that central banks may face in applying financial technology in monetary policy frameworks.

Fourth: Research Hypotheses

1. There is a statistically significant impact of the annual growth rate of the broad money supply in Iraq on the rate of financial transactions conducted via financial technology in the Iraqi banking sector during the period (2004-2024).
2. There is a statistically significant impact of the ratio of Iraqi banks' liquid reserves to their assets on the rate of financial transactions conducted via financial technology in the Iraqi banking sector during the period (2004-2024).
3. There is a statistically significant impact of the interest rate on deposits in the Iraqi banking sector on the rate of financial transactions conducted via financial technology in the Iraqi banking sector during the period (2004-2024).

Fifth: Research Significance

The significance of this research stems from the fundamental transformations taking place in the global financial system amidst the digital revolution, which has imposed a new reality on traditional monetary policy tools. Financial technology has become an influential element in reshaping the relationship between monetary institutions and markets by offering innovative solutions in the fields of payments, lending, liquidity management, and economic data analysis.

This research contributes to shedding light on the extent to which central banks are capable of keeping pace with this transformation and utilizing financial technology tools to improve the efficiency and flexibility of monetary policies particularly in an economic environment characterized by volatility, global interconnectedness, and the rapid transmission of crises. The study also highlights the importance of integrating financial innovation into the monetary decision-making framework to achieve the goals of monetary stability and economic growth.

From a scientific perspective, this research constitutes a contribution to enriching the modern economic literature by linking financial technology with monetary policy and analyzing the relationship between digital innovation and the performance of monetary policy tools. From a practical

standpoint, the research provides actionable recommendations for central bank decision-makers and regulatory authorities on how to leverage financial technology to enhance the effectiveness of monetary interventions, achieve financial inclusion, and regulate markets more efficiently.

Hassan Mohammed Jawad Razaq (2011) Study

Titled *"The Impact of Monetary Policy on Emerging Financial Markets"*, this study aimed to analyze the effect of monetary variables (money supply, interest rate, exchange rate, and inflation index) on the performance indicators of emerging financial markets (general price index, market capitalization, trading volume) in three Asian countries: Malaysia, Indonesia, and South Korea during the period 1995-2009. The study adopted a descriptive analytical methodology, supported by econometric measurement using multi-stage linear regression and standard analytical tools (logarithmic and linear models) through SPSS software. The researcher concluded that there is a statistically significant relationship between monetary variables and performance indicators in the selected financial markets, with varying degrees across countries. South Korea recorded the highest level of effectiveness of monetary variables, followed by Malaysia, then Indonesia.

The study revealed the weak effectiveness of monetary policy in emerging markets due to the lack of regulation, weak supervision by central banks, and the underdevelopment of financial market infrastructure. Therefore, the study recommends developing monetary policy tools in line with the characteristics of emerging markets, and enhancing the role of central banks in overseeing and supervising the banking sector and financial institutions.

Sixth: Previous Studies

Hassan Mohammed Jawad Razaq (2011): *"The Impact of Monetary Policy on Emerging Financial Markets"*

This study aimed to analyze the impact of monetary variables (money supply, interest rate, exchange rate, and inflation index) on the performance indicators of emerging financial markets (general price index, market capitalization, and trading volume) in three Asian countries: Malaysia, Indonesia, and South Korea during the period 1995-2009. The study adopted a descriptive analytical methodology, supported by econometric modeling using multi-stage linear regression, and employed standard analytical tools (logarithmic and linear models) via the SPSS software.

The researcher concluded that there is a statistically significant relationship between monetary variables and the performance indicators of the selected financial markets, with varying degrees depending on the country. South Korea recorded the highest level of effectiveness in the impact of monetary variables, followed by Malaysia, then Indonesia. The study revealed a weakness in the effectiveness of monetary policy in emerging markets, due to a lack of regulation, weak oversight by central banks, and the underdevelopment of financial market infrastructure. Therefore, the study recommends the development of monetary policy tools in accordance with the environment of emerging markets, and emphasizes the need to strengthen the role of central banks in supervising the banking system and financial institutions.

Mamdouh Abdel-Mawla Mohamed Abdel-Salam (2022) [14] *"A Study of the Relationship between Financial Technology and the Effectiveness of Monetary Policy: An Application to the Egyptian Case during the Period 2013-2020"*

This study sought to highlight the effectiveness of monetary policy within a changing financial environment supported by new financial innovation tools and mechanisms. To achieve its objective, the study relied on the inductive approach to build a suitable theoretical framework based on modern theoretical and applied studies, in addition to adopting an analytical approach to analyze relevant indicators and reach results regarding the relationship between financial technology and the effectiveness of monetary policy.

The study concluded that central banks worldwide face certain challenges when dealing with new financial technologies. It also found a significant correlation between financial technology in Egypt and the effectiveness of monetary policy, demonstrated by a meaningful relationship between financial technology and variables such as money supply, domestic credit, inflation, and interest rate. Therefore, the study recommended the need to provide the necessary infrastructure for the financial technology sector, including ATMs and modern payment systems via mobile phones or the internet.

Haidi Ali Fahmy (2024) [15]**:** *"The Impact of Financial Technology on Money Demand: An Applied Study on the Egyptian Case"*

This study aimed to measure and analyze the impact of financial technology on money demand, considering it one of the modern determinants of this economic variable, applied to the Egyptian context. The researcher employed an analytical methodology and relied on time series analysis techniques, including cointegration models and the Autoregressive Distributed Lag (ARDL) approach, along with the Error Correction Model (ECM), over the specified time period.

The study concluded that financial technology has a statistically significant positive effect on money demand. This increase in narrow money demand was attributed to a rise in both circulating cash and the volume of demand deposits as key components. Accordingly, the study recommended strengthening the role of the central bank in promoting and raising financial inclusion rates, alongside deepening public-private partnerships to contribute to achieving inclusive financial services.

Previous studies demonstrate a growing interest in analyzing the relationship between monetary policies and economic and financial developments, particularly in light of the digital transformations occurring in the global financial sector. Hassan Mohammed Jawad Razaq's (2011) study addressed the impact of traditional monetary variables on the performance of emerging financial markets, focusing on indicators such as interest rate, money supply, and exchange rate, without addressing the influence of financial technology due to the novelty of the concept at that time. The study revealed disparities in the effectiveness of

monetary policies across countries and recommended the development of monetary policy tools to align with the environment of emerging markets. This constitutes a significant prelude to exploring more modern instruments such as financial technology.

On the other hand, the study by Mamdouh Abdel-Mawla Abdel-Salam (2022) [14] represented a qualitative shift in addressing the relationship between financial technology and the effectiveness of monetary policy, applying the analysis to the Egyptian case. The study adopted an inductive and analytical approach and concluded that there is a significant correlation between financial technology and key components of monetary policy, such as money supply, inflation, and interest rate. However, it primarily focused on the theoretical and local application without extending into a detailed or comparative analysis of how financial technology affects the mechanisms of monetary policy.

Meanwhile, the study by Haidi Ali Fahmy (2024) [15] examined the impact of financial technology on money demand as one of its modern determinants and provided a precise analysis using time series models. Despite the importance of its results in proving the positive effect of financial technology, it was limited to one aspect of monetary policy money demand without addressing the broader impact on the overall effectiveness of the monetary policy system.

In this context, the current study titled *"The Role of Financial Technology in Enhancing the Effectiveness of Monetary Policies"* distinguishes itself from previous studies in several key aspects:

- **Comprehensive Scope:** Unlike studies that focused on the impact of financial technology on a single variable, this research aims to analyze its effect on the entire monetary policy system, including its tools, implementation mechanisms, and responsiveness to economic variables.
- **Focus on Effectiveness:** While previous studies emphasized the existence of relationships or correlations, this study focuses on enhancing effectiveness that is, how financial technology contributes to making monetary policies more accurate, faster, and more flexible in responding to changes.

Second Topic: Theoretical Framework of the Research

First Requirement: The Concept of Financial Technology and Its Evolution

Financial technology plays an active role across all fields today due to its ability to facilitate financial operations. As a result, it has gained increasing attention for being an innovative, simple, and accessible tool for both individuals and institutions. Therefore, the nature of this technology can be understood through the following: (Taamneh, 2020, p. 6) [10].

First: Definition of Financial Technology (FinTech) and Its Core Areas

Financial technology is defined as "technology that has the potential to transform financial services by enabling new business models, applications, processes, and products" (Bellouta & Braatha, 2022, p. 7) [2]. Others view it as "a collection of financial products and services that rely on technology to improve the quality of traditionally delivered services and products, thereby saving time, effort, and cost" (Taamneh, 2020, p. 6) [10].

Core Areas of Financial Technology

FinTech encompasses a broad range of areas that merge technological innovation with financial services, aiming to enhance efficiency, expand accessibility, and strengthen the security of financial transactions. The most prominent core areas of FinTech include: (Hamdi & Oqasem, 2019, p. 354) [5]

1. **Payments Sector:** The payments sector is one of the most significantly impacted areas by financial technology applications, especially in terms of digital services such as bill payments, instant money transfers, and online e-wallets. This sector has facilitated daily financial transactions, reduced reliance on cash, and promoted financial inclusion.
2. **Money Management:** This area includes all operations related to depositing, lending, investing, and increasing capital. It employs advanced technologies to improve asset management and provide smart solutions for users in terms of financial planning and efficiently achieving investment goals.
3. **Financing:** The financing sector involves a range of activities based on financial technology, such as donation-based, reward-based, or investment-based crowdfunding, as well as peer-to-peer lending and banking credit. These tools contribute to expanding access to financing, especially for small and medium-sized enterprises (SMEs), outside traditional channels.
4. **Insurance:** Insurance is one of the sectors that has undergone significant development due to financial technology. "InsurTech" companies offer innovative financial solutions based on big data analytics, the Internet of Things (IoT), and artificial intelligence (AI). These technologies contribute to improved risk assessment, customization of insurance products, and acceleration of claims processes.

Second: The Importance of Financial Technology

In recent years, the financial sector has undergone a radical transformation due to the rapid advancements in financial technology, which has become a fundamental element in reshaping traditional financial services. The importance of financial technology lies in several key aspects: (Saber, 2023, p. 100) [8]

1. **Expanding Financial Inclusion:** Financial technology contributes to broadening the base of beneficiaries of financial services, particularly in remote areas or among unbanked populations, by providing digital payment tools, e-wallets, and financial services via smartphones.
2. **Reducing Operational Costs and Enhancing Efficiency:** FinTech helps reduce operational costs, speed up transactions, and improve data accuracy, thereby enhancing the performance of financial institutions and increasing their competitiveness.
3. **Stimulating Economic Growth:** By facilitating access to finance and offering innovative investment tools, financial technology supports small and medium-sized enterprises (SMEs), boosts productivity, and contributes to increasing the gross domestic product (GDP).

4. **Supporting Monetary and Regulatory Policies:** Financial technology provides advanced analytical tools that assist central banks and regulatory bodies in monitoring cash flows, combating money laundering, and ensuring compliance with international standards.
5. **Encouraging Financial Innovation and Entrepreneurship:** FinTech has opened the door for the emergence of startups offering innovative financial solutions such as peer-to-peer lending, digital insurance, and robo-advisors, thereby reshaping the traditional financial landscape.
6. **Enhancing User Experience:** Through user-friendly digital interfaces and the personalization of services according to clients' needs, financial technology helps increase user satisfaction and foster greater loyalty to the financial services provided.

Second Requirement: Monetary Policies-Concept and Tools: Monetary policy is one of the main instruments that foster economic growth and stability. It holds a vital position among other economic policies due to its role in achieving various national economic objectives. This is attributed to its diverse tools that help eliminate obstacles to economic stability and promote development. (Hussein, 2024, p. 851)

First: Definition of Monetary Policy and Its Economic Objectives: Monetary policy is defined as a set of procedures adopted by the monetary authority to control the money supply and oversee banks and credit, thereby contributing to the achievement of the general economic policy objectives of the state (Qamar, 2019, p. 117) [12]. Monetary policies represent the approaches taken by a country's central bank to improve the economy and mitigate cyclical fluctuations (Hasanein, 2024, p. 856) [4]. Monetary policy is also considered a system of laws and regulations set by the monetary authorities and implemented through the central bank, aiming to ensure economic stability and prevent potential crises in the national economy (Gaballah, 2018, pp. 146-147) [3].

Based on this definition, monetary policy emerges as one of the most important economic intervention tools used by states to regulate the economic cycle whether through expansionary policies that aim to increase liquidity and stimulate investment or contractionary policies that aim to reduce inflation and limit public spending.

Economic Objectives of Monetary Policy

The objectives of monetary policy vary depending on the economic and social conditions of a given country, as well as the role of the monetary authority in shaping general policy directions. In developed countries, monetary policies often focus on reducing cyclical fluctuations and achieving full utilization of economic resources, thereby contributing to stable short-term economic growth. In contrast, in developing countries, monetary policies tend to adopt a more comprehensive approach, aiming to address long-term structural imbalances by regulating the money supply and directing credit toward productive sectors to promote inclusive growth. Generally, monetary policy seeks to achieve a set of central economic objectives, the most notable of which are: (Qamar, 2019, p. 117; Mohammed, 2017, pp. 492-493) [12].

1. Maintaining the stability of the general price level and curbing inflation.
2. Stimulating employment growth and expanding the base of productive labor.
3. Achieving stability in the foreign exchange market and preventing currency volatility.
4. Supporting and stabilizing financial markets and enhancing confidence in them.
5. Attracting financial investments and preserving the competitiveness of the business environment.
6. Increasing economic growth by creating a favorable climate for investment and production.

Second: Monetary Policy Tools

Countries, through their central banks, use various tools to implement monetary policy. Accordingly, monetary policy tools constitute the fundamental instruments upon which the central bank relies to achieve its major economic goals, such as price stability, growth stimulation, and employment enhancement. The key monetary policy tools can be outlined as follows: (Fahmy, 2006, p. 15) [11].

Indirect Monetary Policy Tools

This category includes "all monetary instruments whose use by monetary institutions or authorities relies on market forces." These tools typically influence various economic variables and contribute to achieving desired policy objectives. Examples include: open market operations, the discount rate, the required reserve ratio, the holding of deposits with the central bank in return for interest, dealings with government deposits, and the buying and selling of foreign currencies, among others. (Fahmy, 2006, p. 15) [11].

A. Open Market Operations (OMOs): These refer to the central bank's intervention through the purchase or sale of government bonds to regulate liquidity in the banking sector. Purchasing bonds increases liquidity in the banking sector, encouraging credit expansion, while selling bonds absorbs liquidity and is commonly used in times of high inflation. (Blanchard, Olivier. 2017) [17] Thus, open market operations represent an activity whereby the central bank provides or withdraws liquidity in local currency to or from one or more banks. (Al-Kureiti, 2024, p. 29) Accordingly, OMOs are among the most prominent monetary policy tools used by central banks, exerting their influence through two main channels:

1. **Impact on the reserves of commercial banks**, which in turn affects their ability to create credit and expand banking activities.
2. **Impact on interest rates of financial securities**, directly influencing the cost of investment financing and helping to guide investor decisions. (Tahatawi *et al.*, 2024, p. 6)

B. Rediscount Rate

This refers to the interest rate charged by the central bank when rediscounting commercial papers presented by banks for the purpose of borrowing. It serves as a borrowing facility for banks and represents a form of financing through which the central bank provides liquidity to commercial banks. (Ball, 2012, p. 330) [16].

C. Changing the Required Reserve Ratio

This refers to the percentage of deposits that commercial banks are required to hold with the central bank. The central bank may mandate that commercial banks deposit a certain portion of their total deposits with it. This tool is commonly used to influence the volume of bank lending by either expanding or restricting credit, depending on the prevailing economic conditions. Typically, the central bank raises the required reserve ratio during periods of economic boom. (Handa, 2008, p. 345) [18]. Accordingly, it is one of the primary tools for quantitative control of the money supply. The central bank obliges commercial banks to retain a portion of customer deposits as a mandatory reserve that cannot be used for lending. An increase in this ratio reduces available liquidity and limits the banks' ability to expand credit, while lowering the ratio enhances liquidity and stimulates economic activity.

Direct Monetary Policy Tools

In certain circumstances, monetary authorities resort to the use of direct intervention tools in managing monetary policy by imposing binding regulatory measures on commercial banks. These tools include the direct determination of interest rates on deposits and loans by the central bank, enabling it to immediately influence the cost of borrowing and saving within the banking system. In addition, commercial banks may be required to hold a specified percentage of liquid assets relative to their owned assets this ratio is subject to adjustment based on the type of assets, their maturity, and prevailing economic conditions.

The use of direct control tools aims to achieve several objectives, the most notable of which are: (Fahmy, 2006, p. 18) [11].

1. **Influencing the cost of lending at commercial banks**, either by increasing or decreasing it, to allow control over the volume of credit granted reducing it during inflationary periods or expanding it during recessions.
2. **Supporting growth and prosperity in vital or sensitive sectors** within the country by granting them special borrowing privileges, thereby meeting their financing needs and enhancing their ability to drive comprehensive economic development.

Third: The Role of Central Banks in Implementing Monetary Policies: Central banks play a pivotal role in ensuring economic stability in any country. Their responsibilities include regulating monetary policy and managing reserves in ways that enhance monetary and financial stability as well as the efficiency of the financial system.

(Zoghbi & Soultani, 2020, p. 723) [7]. Central banks utilize monetary policy to confront economic fluctuations and maintain price stability, which means reducing and stabilizing inflation. In many advanced economies, central banks set explicit inflation targets. Central banks manage monetary policy by adjusting the money supply, typically through the purchase or sale of securities in the open market. Open market operations influence short-term interest rates, which in turn affect long-term rates and economic activity.

When central banks lower interest rates, the monetary policy is said to be expansionary (or accommodative). Conversely, when they raise interest rates, the monetary policy becomes contractionary (or restrictive).

Third Requirement: The Impact of Financial Technology on Enhancing the Effectiveness of Monetary Policies: Financial technology represents a revolution in the global digital economy and is one of the modern concepts in the financial sector due to the advanced and innovative services and technologies it offers. The impact of financial technology on enhancing monetary policy can be discussed as follows: (Abdel-Salam, 2022, p. 5) [14].

First: The Role of Financial Technology in Enhancing the Efficiency and Effectiveness of Monetary Policies

Financial technology is one of the innovations resulting from technological advancement. Therefore, applying monetary policy alongside financial technology particularly in areas related to electronic payments facilitates the regulation of transaction volumes, contributing to economic stability. The European Central Bank views the effectiveness of monetary policy tools as being influenced by the widespread use of electronic money. Monetary policy, especially through open market operations, requires central bank assets that can be sold or purchased electronically and must be supported by balanced liabilities. As electronic money increasingly replaces traditional cash, monetary policy becomes more effective by reducing the money multiplier caused by fluctuations in public demand for currency. (Bank European, 2000, p. 21) [19].

Second: The Impact of Financial Technology on the Speed and Ease of Implementing Monetary Policies

Financial technology (FinTech) is one of the key factors that has accelerated and facilitated the implementation of monetary policies in the digital age. It has fundamentally transformed the operational environment of central banks and their traditional tools. (Abdel-Salam, 2022, p. 587) [14]: The main aspects of this impact include:

1. **Accelerating the Collection and Analysis of Economic Data:** With the aid of artificial intelligence and big data analytics, central banks can now monitor economic indicators in real time such as spending levels, liquidity, and consumer behavior. This enables monetary policymakers to take prompt actions based on accurate, up-to-date data, instead of relying on delayed periodic reports. However, a study by Zubair *et al.* (2020) [20] on the impact of financial technology on monetary policy effectiveness analyzing the effect on both the velocity of money and the money multiplier found no significant change in income velocity or the money multiplier after the onset of FinTech activities.
2. **Facilitating the Implementation of Monetary Policy Tools:** The widespread adoption of digital payment applications and e-wallets allows central banks to instantly influence the money supply through tools such as interest rates or reserve ratios. Digitalization also enables more accurate targeting of liquidity toward specific sectors or adjustment of credit volumes.
3. **Enhancing Communication Efficiency with Financial Institutions:** Financial technology strengthens system integration between central banks and commercial banks, thereby accelerating the

implementation of monetary decisions such as interest rate adjustments or liquidity injections. It also reduces administrative and operational costs related to policy implementation. (Taamneh, 2022, p. 7) [10].

4. **Supporting Economic Forecasting and Decision-Making:** FinTech tools such as predictive models and robo-advisors help simulate the potential impact of monetary policies before implementation, which reduces risk and improves the precision of interventions.

Third Topic: The Applied Study

Study Methodology: This research adopts the descriptive-analytical approach, which focuses on identifying and describing the variables related to the study, while also employing statistical methods and techniques to analyze the data obtained through the study tool represented by financial reports. The objective is to extract results that contribute to achieving the study's aims.

Study Population and Sample: The study population consists of data related to the economic variables under investigation. Financial technology is represented by the percentage of financial transactions conducted through financial technology out of the total financial transactions in the Iraqi banking sector. Monetary policy is represented by the following indicators:

- The annual growth rate of broad money supply,
- The ratio of liquid reserves of Iraqi banks to their total assets,
- The interest rate on deposits in the Iraqi banking sector.

The study selected a sample consisting of data on these variables over the period 2004-2024. Data were collected from financial reports and economic bulletins issued by the Iraqi Ministry of Finance and the World Bank for the same period.

Statistical Methods Used: The study relied on the E-Views software to process data and test the study's hypotheses by applying the following statistical methods and indicators:

- **Descriptive Statistic Measures:** Used to extract the arithmetic means, standard deviations, maximum and minimum values, and growth rates of the study variables. Graphical representations were also employed to describe the variables.
- **Simple Linear Regression Analysis:** Applied to test the impact of the independent variable on the dependent variables and to examine the study's hypotheses.
- **Econometric Tests:** These included the Augmented Dickey-Fuller (ADF) test, Granger Causality Test, and Cointegration Test to evaluate the relationship between variables, along with lag selection tests. The Error Correction Model (ECM) was also employed to identify the type of relationship between the variables in both the short and long term, thus measuring the econometric relationships between the independent and dependent variables.

Normality Test

To verify that the data meet the assumption of normal distribution, a normality test was conducted on the study data using the Kolmogorov-Smirnov test and the Shapiro-Wilk test. These tests were applied to evaluate the null hypothesis that the data are drawn from a normally distributed population. The results of both tests were as follows:

Table 1: Normality Test *(Normal Distribution)*

Variables	Normality Test					
	Shapiro-Wilk			Kolmogorov-Smirnov		
	Sig.	df	Statistic	Sig.	df	Statistic
Percentage of financial transactions that rely on financial technology out of total financial transactions	.122	21	.927	.200*	21	.107
Annual growth rate of broad money supply	.188	21	.937	.113	21	.170
Ratio of liquid reserves of Iraqi banks to their assets	.059	21	.911	.074	21	.190
Deposit interest rate in the Iraqi banking sector	.088	21	.920	.200*	21	.149

Source: Prepared by the researcher based on statistical analysis.

From the above table, it is evident that the significance level (Sig.) for all study variables in both tests (Kolmogorov-Smirnov and Shapiro-Wilk) is not statistically significant at the 0.05 level; as the Sig. values for all study variables are greater than 0.05, this confirms that the data exhibit normality and are drawn from a normally distributed population. Accordingly, the assumption of normality is satisfied.

Table 2: Development of Study Variables during the Period (2004-2024)

Year	Percentage of Financial Transactions Relying on Financial Technology out of Total Financial Transactions (%)	Annual Growth Rate of Broad Money Supply (%)	Ratio of Liquid Reserves of Iraqi Banks to Their Assets (%)	Deposit Interest Rate (%)
2004	0.03	2.33	117.63	7.10
2005	0.09	3.71	135.09	6.56
2006	0.76	33.80	94.80	6.62
2007	1.36	37.11	152.41	10.43
2008	2.36	35.22	188.95	10.54
2009	3.79	26.67	141.22	7.82
2010	5.36	31.21	162.23	6.06

2011	7.36	20.69	158.38	5.91
2012	6.43	4.17	115.58	5.87
2013	7.93	15.97	99.68	5.75
2014	9.33	3.88	79.76	5.16
2015	11.42	-9.10	81.79	4.86
2016	14.36	7.03	83.08	4.78
2017	15.26	2.64	80.86	9.00
2018	11.43	2.73	81.35	5.29
2019	16.96	8.44	75.24	12.25
2020	19.23	15.92	58.70	8.25
2021	20.43	16.66	68.38	9.00
2022	22.36	20.31	75.84	8.50
2023	22.96	7.54	89.99	7.50
2024	23.77	-3.76	53.86	5.50

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

Descriptive Analysis Results

1: Percentage of Financial Transactions Relying on Financial Technology Out of Total Financial Transactions in Iraq during the Period (2004-2024)

The results show that the mean value of the variable representing the percentage of financial transactions that rely on financial technology out of the total financial transactions in Iraq during the study period reached 10.62%, with a standard deviation of 8.05.

- The highest recorded value was 23.77% in the year 2024.
- The lowest recorded value was 0.03% in the year 2004.
- The growth rate over the study period (2004-2024) amounted to 24.7%.

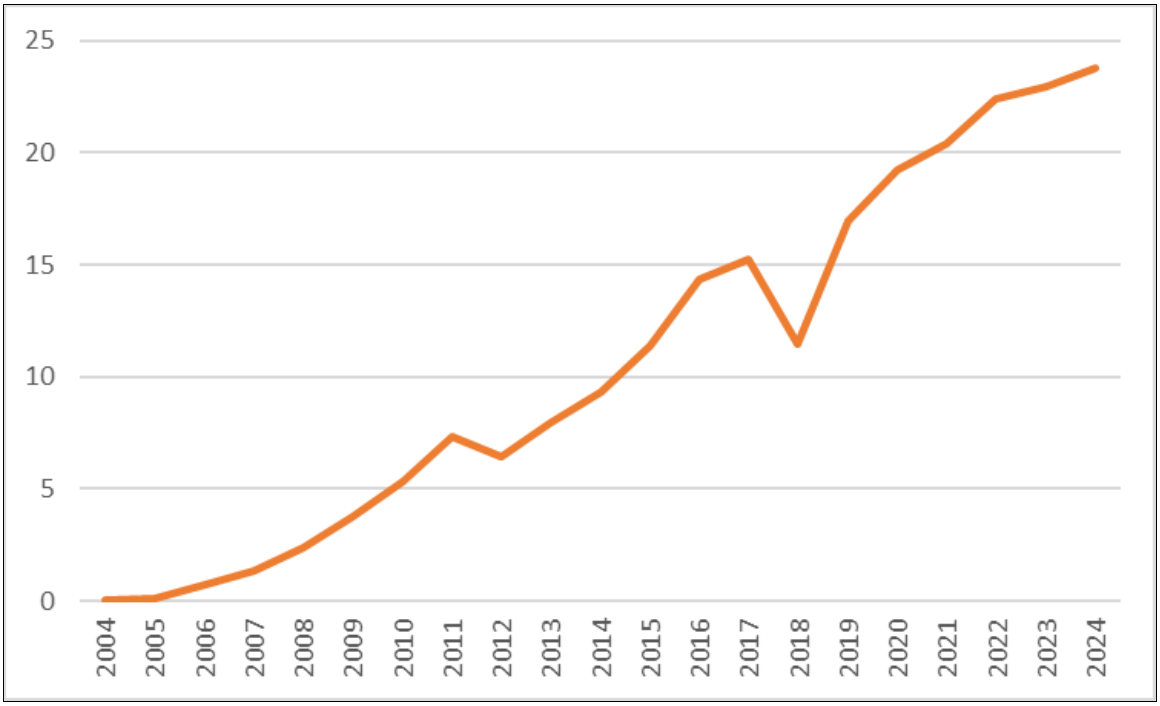

Fig 1: Development of the Percentage of Financial Transactions Relying on Financial Technology Out of Total Financial Transactions in Iraq during the Period (2004-2024)

2: The Annual Growth Rate of Broad Money Supply in Iraq during the Period (2004-2024)

It is evident that the mean value of the annual growth rate of the broad money supply in Iraq during the study period (2004-2024) reached 13.49%, with a standard deviation of 13.41. The highest value recorded was 37.11% in the year 2007, while the lowest value was -9.10% in the year 2015, with a total increase rate of 25.11% during the study period.

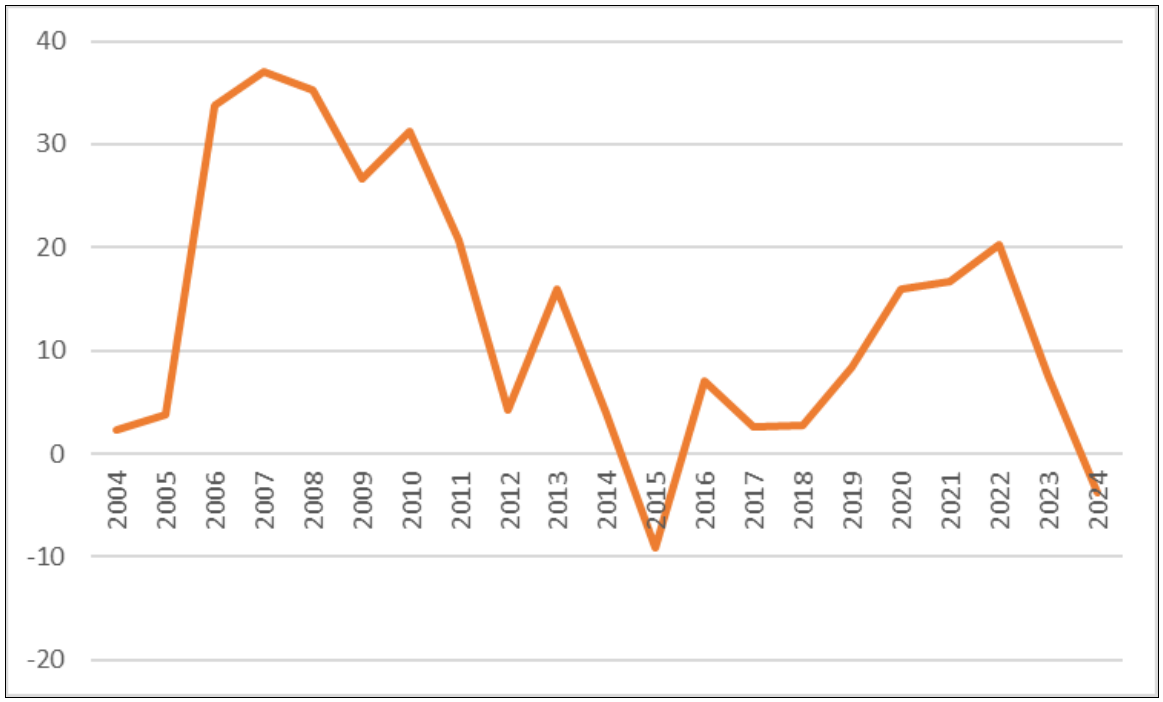

Fig 2: Development of the Annual Growth Rate of Broad Money Supply in Iraq during the Period (2004-2024)

3: The Ratio of Liquid Reserves of Iraqi Banks to Their Assets during the Period (2004-2024)

It is evident that the mean value of the ratio of liquid reserves of Iraqi banks to their assets during the study period (2004-2024) reached 104.52%, with a standard deviation of 38.01. The highest value recorded was 188.95% in the year 2008, while the lowest value was 53.86% in the year 2024, with a total decrease rate of 4.5% over the study period.

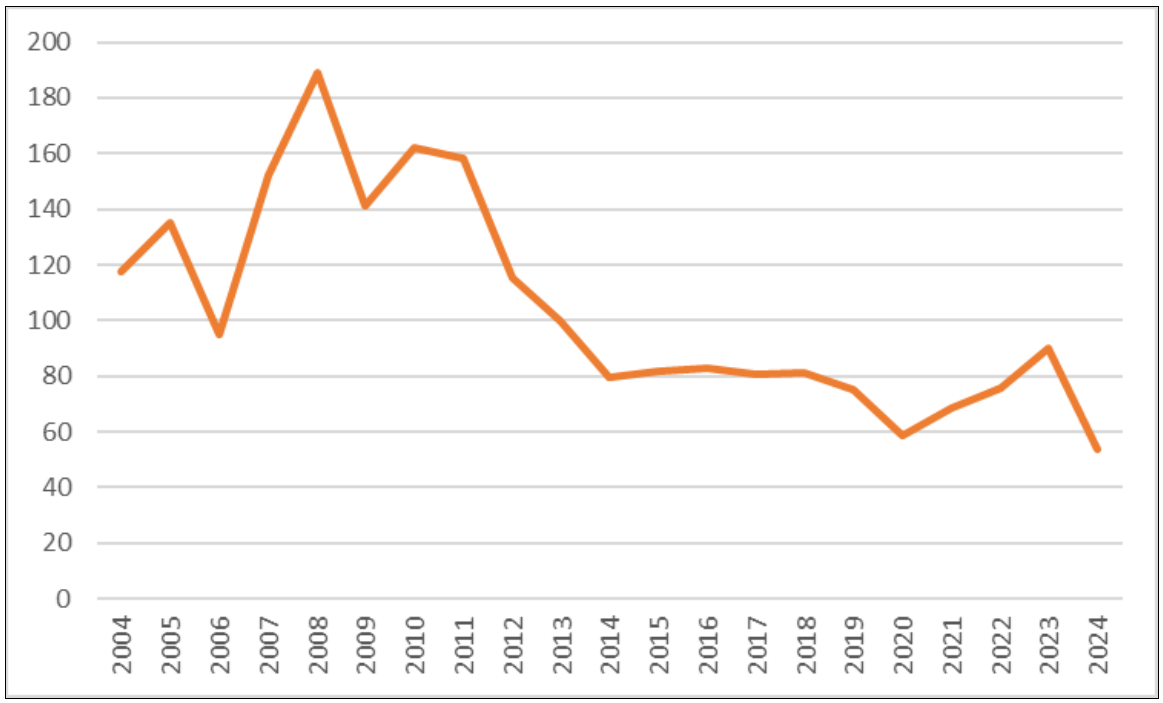

Fig 3: Development of the Ratio of Liquid Reserves of Iraqi Banks to Their Assets during the Period (2004-2024)

4. The Deposit Interest Rate in the Iraqi Banking Sector during the Period (2004-2024)

It is evident that the mean value of the deposit interest rate in the Iraqi banking sector during the study period (2004-2024) reached 7.28%, with a standard deviation of 2.08. The highest value recorded was 12.25% in the year 2019, while the lowest value was 4.78% in the year 2016, with a total increase rate of 0.1% over the study period.

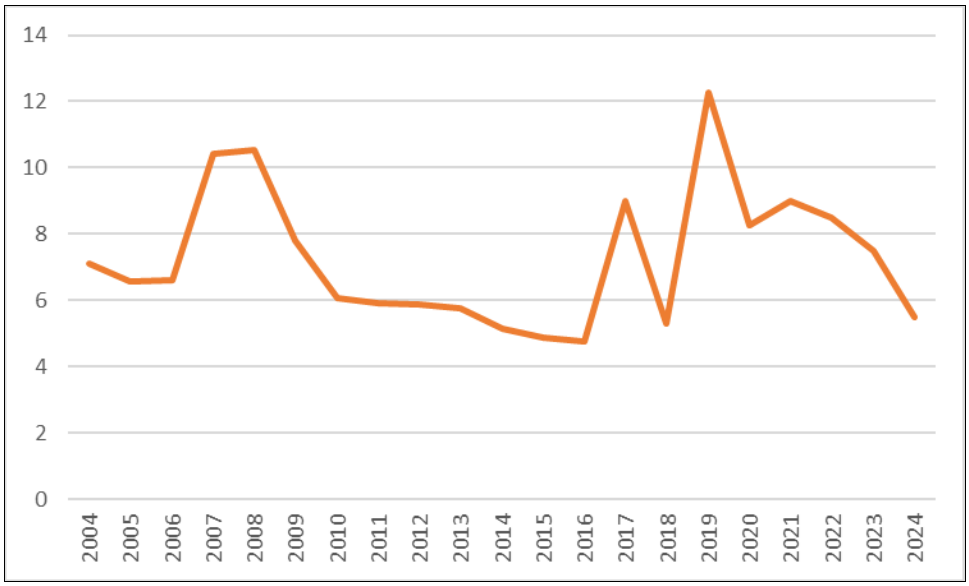

Fig 4: Development of the Deposit Interest Rate in the Iraqi Banking Sector during the Period (2004-2024)

Econometric Relationships between the Study Variables

In order to measure and analyze the relationships between the independent variable the percentage of financial transactions relying on financial technology out of total financial transactions in the Iraqi banking sector band the dependent variables (annual growth rate of broad money supply, ratio of liquid reserves of Iraqi banks to their assets, and the deposit interest rate in the Iraqi banking sector) during the study period (2004-2024), econometric relationships between the independent and dependent variables were analyzed using a set of econometric tests. These included the Augmented Dickey-Fuller (ADF) test, Granger Causality Test, and Cointegration Test to examine the relationships between variables and determine optimal lag periods. Additionally, the Error Correction Model (ECM) was used to identify the nature of the relationship between the variables in the short and long term.

1. The Econometric Model of the Relationship between the Percentage of Financial Transactions Relying on Financial Technology and the Annual Growth Rate of Broad Money Supply

- **Unit Root Test:** To assess the stationarity of the model variables, the Augmented Dickey-Fuller (ADF) test was used.

The results showed that the time series for the percentage of financial transactions relying on financial technology (X) is non-stationary at level, but becomes stationary after first differencing, indicating that the series is integrated of order one (I(1)). Similarly, the series for the annual growth rate of the broad money supply (Y_1) is also non-stationary at level, and achieves stationarity after first differencing, making it integrated of order one (I(1)) as well. Since both series are integrated of the same order, the ARDL bounds testing approach for cointegration is appropriate to examine the existence of a long-term relationship between them.

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	2.287	0.992	No stationary	-3.622	0.001	stationary

Source: Results of E-Views calculations.

Causality Test: The results indicate that there is no bidirectional or unidirectional causal relationship between the percentage of financial transactions relying on financial technology out of total financial transactions in the Iraqi banking sector and the annual growth rate of broad money supply, at the 0.05 significance level.

Table 4: Causality Test

Null Hypothesis:	Obs	F-Statistic	Prob.
Y1 does not Granger Cause X	19	0.11433	0.8928
X does not Granger Cause Y1		2.48137	0.1196

Source: Results of E-Views Calculations

Cointegration Test (Bounds Test)

The results indicate that there is no cointegration between the percentage of financial transactions relying on financial technology out of total financial transactions in the Iraqi banking sector and the annual growth rate of broad money supply, at the 0.05 significance level.

Table 5: Cointegration (Bounds) Test

Test Statistic	Value	k
F-statistic	3.652414	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 Calculations

Selection of Lag Length

It is evident that the optimal number of lag periods is one lag for the variable representing the percentage of financial transactions relying on financial technology out of total financial transactions in the Iraqi banking sector, and three lag periods for the variable representing the annual growth rate of broad money supply.

Table 6: Lag Length Selection Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
Y1(-1)	0.542421	0.188411	2.878923	0.0109
X	1.025011	1.349715	0.759427	0.4586
X(-1)	-1.634563	1.383333	-1.181613	0.2546
C	11.11560	5.631332	1.973885	0.0659
R-squared	0.518432	Mean dependent var		14.04350
Adjusted R-squared	0.428138	S.D. dependent var		13.50301
S.E. of regression	10.21119	Akaike info criterion		7.661701
Sum squared resid	1668.294	Schwarz criterion		7.860848
Log likelihood	-72.61701	Hannan-Quinn criter.		7.700577
F-statistic	5.741601	Durbin-Watson stat		1.827527
Prob(F-statistic)	0.007297			
*Note: p-values and any subsequent tests do not account for model Selection.				

Source: Results of E-Views Calculations

Error Correction Model (ECM) in the Long and Short Term: To determine the values of the relationship parameters in both the long-term and short-term, the Error Correction Model (ECM) was estimated. The results show that the error correction term coefficient is 0.457579, which is statistically significant at the 0.05 level. This indicates the presence of an adjustment from the short term to the long term at a speed of 0.457579. Moreover, the long-run equation confirms a long-term effect, as the variable X (percentage of financial transactions relying on financial technology) is statistically significant at the 0.01 level.

Table 7: Results of the Error Correction Model (ECM)

Cointegrating Form				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(X)	1.025011	1.349715	0.759427	0.4586
CointEq(-1)	-0.457579	0.188411	-2.428622	0.0273
Cointeq = Y1 - (-1.3321*X + 24.2922)				
Long Run Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
X	-1.332124	0.743990	-1.790515	0.0923
C	24.292199	9.132363	2.660012	0.0171

Source: Results of E-Views Calculations

2. The Econometric Model of the Relationship between the Percentage of Financial Transactions Relying on Financial Technology and the Ratio of Liquid Reserves of Iraqi Banks to Their Assets

Unit Root Test

To assess the stationarity of the model variables, the Augmented Dickey-Fuller (ADF) test was used.

The results showed that the time series for the percentage of financial transactions relying on financial technology (X) is non-stationary at level, but becomes stationary after first differencing, indicating that the series is integrated of order one (I(1)). Similarly, the series for the ratio of liquid reserves of Iraqi banks to their assets (Y_2) is non-stationary at level and achieves stationarity after first differencing, making it also integrated of order one (I(1)). Since both series are integrated of the same order, the ARDL bounds testing approach for cointegration is appropriate to examine the existence of a long-run relationship 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	1.044-	0.256	No stationary	-5.215	0.000	stationary

Source: Results of E-Views Calculations

Causality Test: The results indicate that there is no bidirectional or unidirectional causal relationship between the percentage of financial transactions relying on financial technology out of total financial transactions in the Iraqi banking sector and the ratio of liquid reserves of Iraqi banks to their assets, at the 0.05 significance level.

Table 9: Causality Test

Null Hypothesis:	Obs	F-Statistic	Prob.
Y2 does not Granger Cause X	19	0.26933	0.7678
X does not Granger Cause Y2		1.56591	0.2434

Source: Results of E-Views Calculations

Cointegration Test (Bounds Test)

The results indicate that there is no cointegration between the percentage of financial transactions relying on financial technology out of total financial transactions in the Iraqi banking sector and the ratio of liquid reserves of Iraqi banks to their assets, at the 0.05 significance level.

Table 10: Cointegration (Bounds) Test

Test Statistic	Value	k
F-statistic	2.695397	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 Calculations

Lag Length Selection

It is evident that the optimal number of lag periods is one lag for the variable representing the percentage of financial transactions relying on financial technology out of total financial transactions in the Iraqi banking sector, and four lag periods for the variable representing the ratio of liquid reserves of Iraqi banks to their assets.

Table 11: Lag Length Selection Test

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.***
Y2(-1)	0.715622	0.223745	3.198374	0.0085
Y2(-2)	-0.352592	0.223820	-1.575340	0.1435
Y2(-3)	0.417315	0.218714	1.908034	0.0828
Y2(-4)	-0.487425	0.186913	-2.607764	0.0244
X	-2.802896	1.392301	-2.013139	0.0692
C	106.9682	47.74325	2.240489	0.0467
R-squared	0.859707	Mean dependent var		99.69941
Adjusted R-squared	0.795937	S.D. dependent var		39.53351
S.E. of regression	17.85861	Akaike info criterion		8.873412
Sum squared resid	3508.228	Schwarz criterion		9.167488
Log likelihood	-69.42401	Hannan-Quinn criter.		8.902644
F-statistic	13.48143	Durbin-Watson stat		2.083683
Prob(F-statistic)	0.000222			

Source: Results of E-Views Calculations

Error Correction Model (ECM) in the Long and Short Term: To determine the values of the relationship parameters in the long run and short run, the Error Correction Model (ECM) was estimated. The results show that the error correction term coefficient is 0.707080, which is statistically significant at the 0.05 level. This indicates the presence of an adjustment from the short term to the long term at a speed of 0.707080. Moreover, the long-run equation confirms the existence of a long-term correction effect, as the variable X (percentage of financial transactions relying on financial technology) is statistically significant at the 0.01 level.

Table 12: Results of the Error Correction Model (ECM)

Cointegrating Form				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(Y2(-1))	0.422702	0.242173	1.745454	0.1087
D(Y2(-2))	0.070110	0.217879	0.321783	0.7536
D(Y2(-3))	0.487425	0.186913	2.607764	0.0244
D(X)	-2.802896	1.392301	-2.013139	0.0692
CointEq(-1)	-0.707080	0.285337	-2.478053	0.0307
Cointeq = Y2 - (-3.9640*X + 151.2816)				
Long Run Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
X	-3.964042	0.921707	-4.300760	0.0013
C	151.281618	14.174819	10.672561	0.0000

Source: Results of E-Views Calculations

3. The Econometric Model of the Relationship Between the Percentage of Financial Transactions that Rely on Financial Technology Out of the Total Financial Transactions in the Iraqi Banking Sector and the Deposit Interest Rate in the Iraqi Banking Sector

Unit Root Test

To measure the stationarity of the model variables, the Augmented Dickey-Fuller (ADF) test was applied. It was found that the time series for the percentage of financial transactions that rely on financial technology (X) is non-stationary at level, but becomes stationary after taking the first difference, making it integrated of order one (I(1)). Similarly, the time series for the deposit interest rate in the Iraqi banking sector (Y3) is also non-stationary at level, but becomes stationary after taking the first difference, thus it is integrated of order one (I(1)). Since both series are integrated of the same order, the ARDL bounds test for cointegration can be applied to test the long-run relationship between them.

Table 13: Results of the 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
Y3	0.471-	0.498	No stationary	-7.447	0.000	stationary

Source: Results of E-Views Calculations

Causality Test (Granger Causality Test)

It is evident that there are no bidirectional or unidirectional causal relationships between the percentage of financial transactions that rely on financial technology out of the total financial transactions in the Iraqi banking sector and the deposit interest rate in the Iraqi banking sector at the 0.05 significance level.

Table 14: Granger Causality Test

Null Hypothesis:	Obs	F-Statistic	Prob.
Y3 does not Granger Cause X	19	0.71315	0.5071
X does not Granger Cause Y3		1.01146	0.3888

Source: Results of E-Views Calculations

Bounds Test for Co-integration

It is evident that there is no co-integration between the percentage of financial transactions that rely on financial technology out of the total financial transactions in the Iraqi banking sector and the deposit interest rate in the Iraqi banking sector at the 0.05 significance level.

Table 15: Bounds Test for Co-integration

Test Statistic	Value	k
F-statistic	2.551958	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 Calculations

Lag Length Selection Test: It is evident that the optimal number of lag periods is two periods for the variable "the percentage of financial transactions that rely on financial technology out of the total financial transactions in the Iraqi banking sector", and one period for the variable "the deposit interest rate in the Iraqi banking sector."

Table 16: Lag Length Selection Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
Y3(-1)	0.458403	0.240524	1.905848	0.0774
X	0.457674	0.281501	1.625832	0.1263
X(-1)	-0.870866	0.359977	-2.419227	0.0298
X(-2)	0.412187	0.301252	1.368247	0.1928
C	3.876769	1.895522	2.045225	0.0601
R-squared	0.338761	Mean dependent var		7.320526
Adjusted R-squared	0.149835	S.D. dependent var		2.182826
S.E. of regression	2.012661	Akaike info criterion		4.457726
Sum squared resid	56.71124	Schwarz criterion		4.706263
Log likelihood	-37.34840	Hannan-Quinn criter.		4.499789
F-statistic	1.793093	Durbin-Watson stat		1.868279
Prob(F-statistic)	0.186342			
*Note: p-values and any subsequent tests do not account for model				
Selection.				

Source: Results of E-Views Calculations

Error Correction Model (ECM) for Long-Term and Short-Term Relationship: To determine the parameter values of the relationship in both the long run and short run, the Error Correction Model (ECM) was estimated. The results show that the error correction term (ECT) has a value of 0.541597, which is statistically significant at the 0.05 significance level. This indicates the presence of a short-run adjustment towards long-run equilibrium at a speed of 54.16% per period. However, the long-run equation indicates that there is no significant long-term correction effect, as the variable X (percentage of financial transactions relying on financial technology) is not statistically significant at the 0.05 level.

Table 17: Results of the Error Correction Model (ECM)

Cointegrating Form				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(X)	0.457674	0.281501	1.625832	0.1263
D(X(-1))	-0.412187	0.301252	-1.368247	0.1928
CointEq(-1)	-0.541597	0.240524	-2.251734	0.0409
Cointeq = Y3 - (-0.0019*X + 7.1580)				
Long Run Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
X	-0.001855	0.122017	-0.015199	0.9881
C	7.158033	1.702602	4.204172	0.0009

Source: Results of E-Views Calculations

Hypothesis Testing of the Study

First Hypothesis: There is a statistically significant impact of the annual growth rate of broad money supply in Iraq on the rate of financial transactions conducted via financial technology in the Iraqi banking sector during the period (2004-2024).

Table 18: Results of the Simple Linear Regression Model for Testing the First Hypothesis

P-Value	R^2	F	t	b
0.395	0.107	3.399	1.843	0.0801

Source: Results of E-Views Calculations

The model is found to be statistically insignificant, as the F-statistical significance value (Sig. F) = 0.395 is greater than 0.05, indicating that the calculated F-value is less than the tabulated F-value. Additionally, there is no statistically significant impact of the annual growth rate of the broad money supply in Iraq on the rate of financial transactions conducted via financial technology in the Iraqi banking sector during the period (2004-2024), at a significance level of 0.05. This is further confirmed by the T-statistical significance value (Sig. T) = 0.395, which is also greater than 0.05, meaning the calculated T-value is less than the tabulated T-value.

Hypothesis Two

There is a statistically significant impact of the ratio of liquid reserves of Iraqi banks to their assets on the rate of financial transactions conducted via financial technology in the Iraqi banking sector during the period (2004-2024).

Table 19: Results of the Simple Linear Regression Model to Test the Second Hypothesis

P-Value	R^2	F	t	b
0.000	0.560	24.210	1.843	-3.534

Based on the results of the simple linear regression model, the model is statistically significant, as the F-value is significant at the 0.05 level, with Sig. F = 0.000, which is less than 0.05. This means that the calculated F-value is greater than the tabulated F-value, confirming the statistical significance of the model. Moreover, the results show an inverse (negative) effect of the ratio of liquid reserves of Iraqi banks to their assets on the rate of financial transactions conducted via financial technology in the Iraqi banking sector during the period (2004-2024). This is supported by the significance of the T-statistic, where Sig. T = 0.000, which is also below 0.05, confirming the effect is statistically significant. The regression coefficient indicates that for every 1% increase in the ratio of liquid reserves to total assets, the rate of fintech-based financial transactions decreases by 3.534%.

Third Hypothesis

There is a statistically significant effect of the deposit interest rate in the Iraqi banking sector on the rate of financial transactions conducted through financial technology in the Iraqi banking sector during the period (2004-2024).

Table 20: Results of the Simple Linear Regression Model for Testing the Third Hypothesis

P-Value	R2	F	t	b
0.745	0.006	0.109	0.744	0.020

Source: E-Views Software Output

It is evident that the model is not statistically significant, as the value of F is not significant at the 0.05 level. The significance value (Sig. F) was 0.745, which is greater than 0.05, indicating that the calculated F-value is lower than the tabulated F-value. This means that there is no statistically significant effect of the deposit interest rate in the Iraqi banking sector on the rate of financial transactions conducted via financial technology in the Iraqi banking sector during the period (2004-2024). Additionally, the value of Sig. T was 0.745, also greater than 0.05, indicating that the calculated T-value is lower than the tabulated T-value, which confirms the rejection of the third hypothesis of the study.

Study Findings

1. There is no statistically significant effect of the annual growth rate of broad money supply in Iraq on the rate of financial transactions conducted via financial technology in the Iraqi banking sector during the period (2004-2024) at a significance level of 0.05, indicating that the first hypothesis of the study is not supported.
2. There is a negative effect of the ratio of liquid reserves of Iraqi banks to their total assets on the rate of financial transactions conducted via financial technology in the Iraqi banking sector during the period (2004-2024) at a significance level of 0.05, which confirms the validity of the second hypothesis. The results show that for every 1% increase in the liquid reserves ratio, the rate of fintech-based transactions decreases by 3.534%.
3. There is no statistically significant effect of the deposit interest rate in the Iraqi banking sector on the rate of financial transactions conducted via financial technology in the Iraqi banking sector during the period (2004-2024) at a significance level of 0.05, indicating that the third hypothesis is not supported.
4. The above findings indicate that the current level of financial technology adoption in Iraq has a limited impact on the monetary policies implemented in the country.

Recommendations

1. Work on developing monetary policies to align with the methods and mechanisms of financial technology.
2. Focus on expanding the application of financial technology in the Iraqi banking sector.
3. Work on providing the necessary technological infrastructure to enhance the capacity for implementing financial technology in the Iraqi banking sector.
4. Place emphasis on training employees in the Iraqi banking sector on the tools and techniques of financial technology.
5. Work on increasing public awareness of the importance of applying financial technology in the Iraqi banking sector.

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