

Volume 04, Issue 05, 2024,

Publish Date: 07-05-2024

Doi <https://doi.org/10.55640/ijbms-04-05-08>

INTERNATIONAL JOURNAL OF BUSINESS AND MANAGEMENT SCIENCES

(Open access)

THE IMPACT OF ALTERNATIVE MONETARY POLICY INSTRUMENTS ON ELECTRONIC PAYMENT CARDS (2017-2023)

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ABSTRACT

The current study aimed to show the extent of the impact of independent variables on alternative monetary policy tools in electronic payment cards, as the problem of the study was whether the alternative monetary policy tools of the Central Bank of Iraq contribute to enhancing dealing with electronic payment cards, as the variables were analyzed financially for the period (2017-2023) annually and then using the statistical program SPSS V 26 to test hypotheses according to the standard multiple linear regression model that was suitable for this study. The study showed a set of conclusions, including a statistically significant impact relationship of alternative monetary policy instruments in electronic payment cards. The study recommended promoting alternative monetary policy tools to achieve significant economic benefits by investing in infrastructure, enhancing awareness, and improving regulatory frameworks.

KEYWORDS: Alternative Monetary Policy Instruments, Electronic Payment Cards.



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INTRODUCTION

Alternative monetary policy tools such as the currency sale window and Ministry of Finance bonds are modern tools that central banks can use to achieve their monetary goals; the currency sale window is used to increase the money supply in the economy by controlling the money supply and interest rate central banks can promote the use of electronic payment cards, achieve financial stability and encourage innovation in this area by supporting the development of new technologies. Ministry of Finance bonds are securities issued by the government to raise funds, as they are considered relatively safe assets and are often used by investors as a hedge against inflation. one of the features of these tools is their ability to directly affect electronic payment cards, which may revolutionize the way electronic payments are managed and organized, and contribute to bridging the research gap on the role of alternative monetary policy tools in promoting electronic payment cards. In general, alternative monetary policy instruments contribute to enhancing the use of electronic payment cards in several ways, including: increasing cash liquidity, reducing interest rates, attracting excess funds, and developing electronic payment infrastructure.

The first Axis : Research Methodology

Alternative monetary policy instruments include a set of policies and measures that can play a crucial role in promoting electronic payment transactions. Among the most important of these alternative instruments is the currency sale window, which allows banks and Exchange Companies to exchange their local currency for foreign currencies. The window may play a significant role in promoting the use of electronic payment by facilitating international trade. Therefore, followers of the policy of the Central Bank of Iraq consider that it is taking a proactive stance in encouraging customers to use electronic payment by providing electronic payment options to finance the expenses of traders, importers, and individuals traveling outside the country. In addition, alternative

monetary policy tools can be a point to guide individuals toward more awareness of the benefits and safety of electronic payment.

First: The Problem of Research

Electronic payment operations in Iraq face several challenges. The technological infrastructure in Iraq needs to be more advanced to support electronic payment effectively, and cash handling is still a standard payment method in Iraq. This makes many individuals and institutions rely on cash and prefer it over electronic payment. the small number of digital banks and electronic payment services can be a hindrance. In order to promote the use of electronic payment in Iraq, emphasis should be placed on improving the technological infrastructure, increasing awareness of the benefits of electronic payment, and improving legislation and security. This requires direct entry by the central bank with one of its direct and indirect tools, and from here, the problem of the study can be formulated (with the following question): do the tools of the alternative monetary policy of the Central Bank of Iraq contribute to enhancing the handling of electronic payments

Second: the importance of research

Studying alternative monetary policy tools and understanding their role in promoting electronic payment processing is very important to enhance the digital economy, which is highly dependent on electronic payment. The study and use of alternative monetary policy tools can encourage financial and banking institutions to adopt these technologies more, improve the digital economy, and then rely on electronic payment to reduce costs for those who do not have traditional bank accounts. Electronic payment can support trade and economic growth by facilitating transactions, expanding the customer base, and playing a crucial role in promoting the adoption of electronic payment, promoting e-commerce, and improving the digital economy in the modern era.

Third: Research objectives

1-Presentation of alternative monetary policy

tools and knowledge of their mechanism of action.

2-statement of the size of the impact of alternative monetary policy instruments on the volume of electronic payments.

Fourth: the hypothetical study scheme:

Depending on what is stated in the literature

and concerning the research problem and its objectives, a hypothesis model was built that represents the nature of the relationship between these variables and the directions of influence in them and Figure (1) shows the hypothesis scheme of the research, which consists of the following:

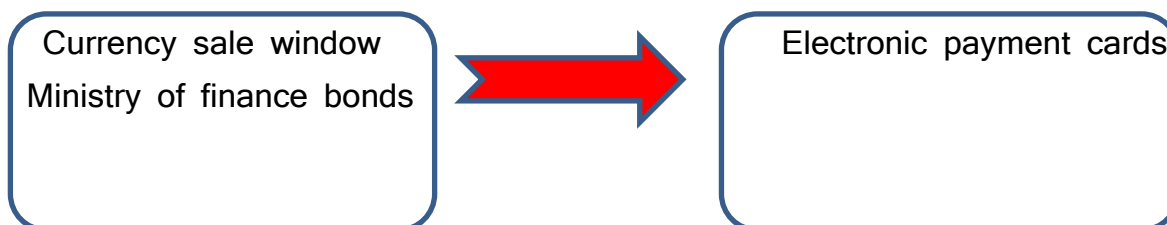


Figure (1) the hypothesis scheme of the research

Fifth: Research hypotheses

The central hypothesis (there is no statistically significant impact relationship of alternative monetary policy instruments in electronic payment).

Sixth: Community and sample research

The study community represents alternative monetary policy tools(currency sale window, Ministry of Finance bonds, and electronic payment cards) as the appropriate variables to test the study hypotheses. It represents the study community according to the sample of the Central Bank of Iraq data, which includes 80 monthly views during the period from(1-4-2017) to (1-11-2023).

Seventh: Methods of data collection

The researcher used several methods to collect information and data for the current study in order to complete the theoretical and applied side, such as :

1-Theoretical aspect: The researcher adopted in the theoretical aspect a set of sources related to the subject of the study, represented by Arab sources and foreign sources, in order to enrich the theoretical side; as for the practical side, the researcher collected data based on the annual statistical bulletins of the Central Bank of Iraq for several years regarding (currency sale window,

Ministry of finance bonds) and its impact on the dependent variable (electronic payment cards).

Ninth: The limits of study

1-temporal boundaries: the temporal boundaries include the duration(1-4-2017)- (1-11-2023).

2-spatial boundaries: The spatial boundaries include alternative monetary policy tools (currency sale window, Ministry of Finance bonds, and electronic payment cards) obtained from the Central Bank of Iraq.

The Second axis: The theoretical framework

First: The concept of monetary policy:

The concept of monetary policy has witnessed many developments in terms of functions and objectives with the development of monetary theories and the complexity of economic problems as well as technical development, as the emergence of monetary policy as a specific concept dates back to the late nineteenth century (mesfen:2022, 97), as the macroeconomic policy adopted by the government through monetary policy and its components that work to achieve the desired economic stability is the goal of all governments seeking to correct deviations in light of monetary, social or natural crises (Demertzis and others; 2020,19). Monetary policy can be defined as a set of decisions, actions, and

measures issued by the Monetary Authority (the central bank) to regulate the movement of cash within the country in order to implement it and reach the goals set (Hassan:147, 2023), it is also known as macroeconomic policy determined by the central bank and involves managing the money supply and interest rates, changing inflation, growth, consumption, and liquidity to achieve macroeconomic goals (Galí; 2018,89).

Second: Alternative monetary policy tools

The global financial crisis marked the transition from what many called the "Great Moderation" to the "Great Recession." Unprecedented economic measures have been taken all over the world. However, unconventional monetary policy has already been applied in response to the global financial crisis (Davtya, 2022;2); at the time of the global financial crisis, interest rates in developed countries such as the United States, Japan, the United Kingdom, and Canada were at or near zero. The set of policy interventions introduced during this period has been called alternative monetary policy to distinguish it from typical (traditional) policy measures before the global financial crisis (Potter and Smith, 2019,8 central banks have often used the window of sale of foreign currency and quantitative easing, credit easing, the implementation of required reserves as an alternative tool of monetary policy in the post-crisis period, and these policy tools were used in Mostly to combat deflationary and recessionary pressures (Atilgan;2016,250). And to highlight the tools of alternative monetary policy

1- Currency sale window

The monopoly of the Iraqi government on a single source of foreign currency revenues (dollars) resulting from the process of extracting and exporting oil made it in front of two options: The first is to meet all the needs of internal demand from imports by itself, and this is difficult, and the second is that the government provides the dollar to the private sector, so that the dollar is always available whenever there is a demand for it to meet the needs of the private sector, and therefore enables it to meet most of the needs of domestic demand(

Majeed;2019,173), therefore, on October 4, 2003, under the guidance of the dissolved Coalition Provisional Authority, the Central Bank of Iraq began to operate the (foreign currency sale window), or what was previously called (currency auction) as an indirect tool, so according to the central bank Law No (56) for the year 2004, which was amended as the first section of it provided for the establishment of an Iraqi central bank Safe, strong and independent (Al-Shams,2020: 54), to achieve price stability in the country, maintain its stability and work to create a financial system based on the market and competition and be stable. To achieve a set of goals that can be summarized in the following points:

A-meeting the increasing demand for foreign currency after 2003 and abolishing the multi-exchange rate system followed by the previous system.

Maintaining the value of the Iraqi dinar by balancing the supply and demand of money in the local market. So, the mechanism of action can be described as follows:

(1) - way currency auctions: the role of the central bank, in this case, is to intervene in the exchange market as a seller of foreign currency, that is, to intervene in one direction to meet domestic demand for foreign currency to finance its foreign transactions (Ali;2015, 512-514)).

(2) Two-way currency sale window: The central bank intervenes in the exchange market, buying and selling currency indirectly to achieve specific goals while ensuring the stability of the exchange rate. In general, the exchange rate market is characterized here as an oligopoly market, as the source of the supply of foreign currency, as it is limited in the government export sector and in varying proportions members participating in currency auctions are limited, as they are usually represented by the central bank, commercial banks and sometimes some other financial institutions (MC carty;2002,63).

2. Quantitative easing

After the global financial crisis of 2007-2008,

major central banks such as the US Federal Reserve, the European Central Bank, and the Bank of England turned to unconventional policy measures when short-term nominal interest rates were at their minimum (Bernanke;2017,3)), one of the elements of unconventional monetary policy is quantitative easing, which involves large-scale asset purchases, aimed at stimulating economic activity by directly lowering long-term nominal interest rates.

3. Credit facilitation

It is a balance sheet policy and is divided into direct credit facility and indirect credit facility; direct credit facility is when the central bank changes the composition of its balance sheet by selling less risky assets such as short-term bonds and buying more risky assets and, therefore, the central bank bears credit risks in its budget (DenHaan;2016,9)), as for indirect credit facility: in which the central bank gives money to banks in exchange for easing bank financing conditions for vulnerable sectors; (2015,8)).

4-Ministry of finance bonds

Ministry of Finance bonds are a type of bonds issued by the government to raise funds to finance various activities, and the Ministry of Finance issues bonds on behalf of the government to raise funds for various purposes such as infrastructure development, social welfare programs, and debt repayment. These bonds are a safe investment option because they are backed by credit from the Government Ministry of Finance. Bonds can be a good investment option for investors looking for a safe and stable investment with a low risk of default. However, knowing the risks involved before investing in any government bonds (Bulletin of the Directorate of Economic Studies and Policies) is essential.

1-Short-term bonds: These bonds are due for payment within one year. They are often used to finance the government's short-term financial needs.

2-long-term bonds: These bonds are due for payment after one year. They are often used to finance infrastructure projects or other long-term investments.

Fifth: electronic payment cards

They are plastic or digital payment instruments used to conduct financial transactions instead of using cash and are divided into several types :

A-credit payment cards

Credit cards are the most popular way to pay online. At first, security concerns prevented credit cards from being accepted as online payments. The extensive network of credit cards contributes to their increasing use worldwide; credit card companies provide their services to many customers who perform various transactions. However, credit cards are not a suitable option for small businesses and customers who want to pay small amounts due to the high fees charged by credit cards (Zlatko, Bezovsky;2016,128), (Vashit, Benawala;2011, 5).

B) non-credit cards

These cards allow the owner to settle his business transactions only when the money is available. They do not provide any credit to the client and are divided into the following (Jasmine: 28, 2021).

1) Prepaid cards: These cards are used in which the customer deposits a certain amount, and upon completion of any commercial transaction, he withdraws from them until the amount charged on them expires.

2) debit cards: Debit cards are bank cards linked to the client's current account, and when making any commercial exchange, withdrawals are made directly from the client's account.

The Third axis: the practical side

Before conducting a statistical analysis of the study variables, it is necessary to review the nature of the trends of these variables by calculating (arithmetic mean, standard deviation) for each value, analyzing the reasons for their rise or fall, and identifying the highest and lowest value of each variable during the study period (2023-2017). This research aims at the financial analysis of the independent variable of the study, represented by (the window of sale of currency in dinars, Ministry of Finance bonds) , and the dependent variable, represented by (payment cards, total payment via mobile, electronic money transfers) within

the period covered by the study:

First: the independent variable of the search (analysis of the currency selling window in dinars)

In order to analyze the data of the currency selling window in dinars, the calculation circles and standard deviations were calculated according to Table (1) during the study period of the currency selling window, which gives the Central Bank of Iraq the freedom to sell any

amount of foreign currency (dollars) in dinars to meet the needs of the market in the study period, the calculation average reached (52711888.57) million, with a standard deviation (9702732.373) million dinars. It is noted from the table below that the highest sales were in 2022 in the amount of (67861450) million dinars, while the lowest sales were in 2017 in the amount of (37609200) million dinars.

Table (1)

The time course of the currency selling window in dinars during the period (2017 - 2023)

The years	Currency sale window (cash+Money order)(USD million)	official exchange rate	Currency sale window/D
2017	31341	1200	37609200
2018	47133	1190	56088270
2019	51125	1190	60838750
2020	44080	1200	48727200
2021	35437	1470	52092390
2022	46801	1450	67861450
2023	31513	1320	41597160
min	31341	1190	37609200
max	51125	1470	67861450
std	7535.50946	116.5490175	9702732.373
Average	41061.42857	1288.571429	52711888.57

Source: prepared by the researcher using the Excel 2016 program

It is also noted that the window for selling the currency granted in the years (2018, 2019, 2020, and 2022) is larger than the general average; it

seems that the increase in currency sales in these years is the result of several factors, including the reduction of the dollar exchange

rate and the use of currency conversion platforms by banks. This made the central bank meet the growing demand for foreign currency and provide it in the domestic market in larger quantities. The decrease in the account average in the years (2017, 2021, 2023) may be due to the

use of the external remittance platform and some Iraqi banks on the prohibition list to deal in dollars. The figure below illustrates the currency-selling window in dinars according to the years of study.

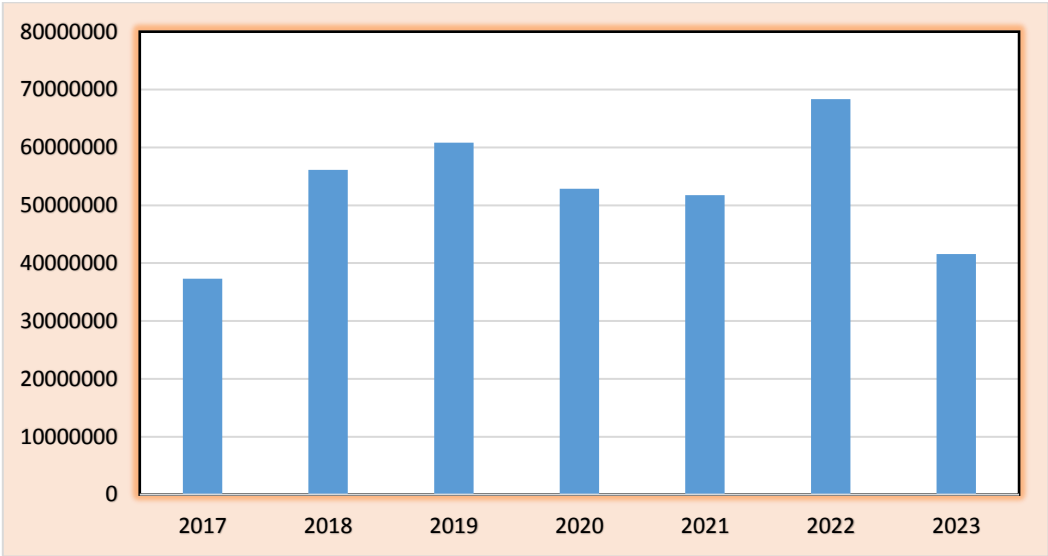


Figure (2)

The timeline of the currency sale window in dinars during the period (2017 -2023)

Source: prepared by the researcher based on the data of Table (1)

2-Ministry of finance bonds

In order to analyze the Ministry of Finance bonds, the calculation circles and standard deviations were calculated according to Table (2). During the study period, the arithmetic mean granted to the Ministry of Finance bond amounted to (9102365) million dinars, with a

standard deviation of (4237247.782) million dinars. It is noted from the Table below that the highest value of the Ministry of Finance Bonds was awarded in 2017 at a value of (16069232) million dinars, while the lowest value was awarded in 2023 at a value of (5106552) million dinars.

Table (2)

Timeline of Ministry of finance bonds for the term (2017-2023)

Years	Ministry of finance bonds
2017	16069232
2018	13487775

2019	11877912
2020	5653619
2021	5843731
2022	5677734
2023	5106552
min	5106552
max	16069232
STDEV	4237247.782
AVERAGE	9102365

Source: prepared by the researcher based on the Excel 2016 program

It is also noted that the Ministry of Finance bonds issued in the years (2017, 2018, and 2019) were more significant than the arithmetic mean, as the reasons for the increase in the Ministry of Finance bonds in the years (2017, 2018, and 2019) can be analyzed to several factors, including the increase in the government budget deficit, which prompted an increase in their value, or

there may be specific borrowing policies implemented. However, the reasons for the decline in these years (2020, 2021, 2022, and 2023) are changes in demand for bonds or general economic and political conditions. The figure below shows an illustration of the Ministry of Finance bonds according to the years of study.

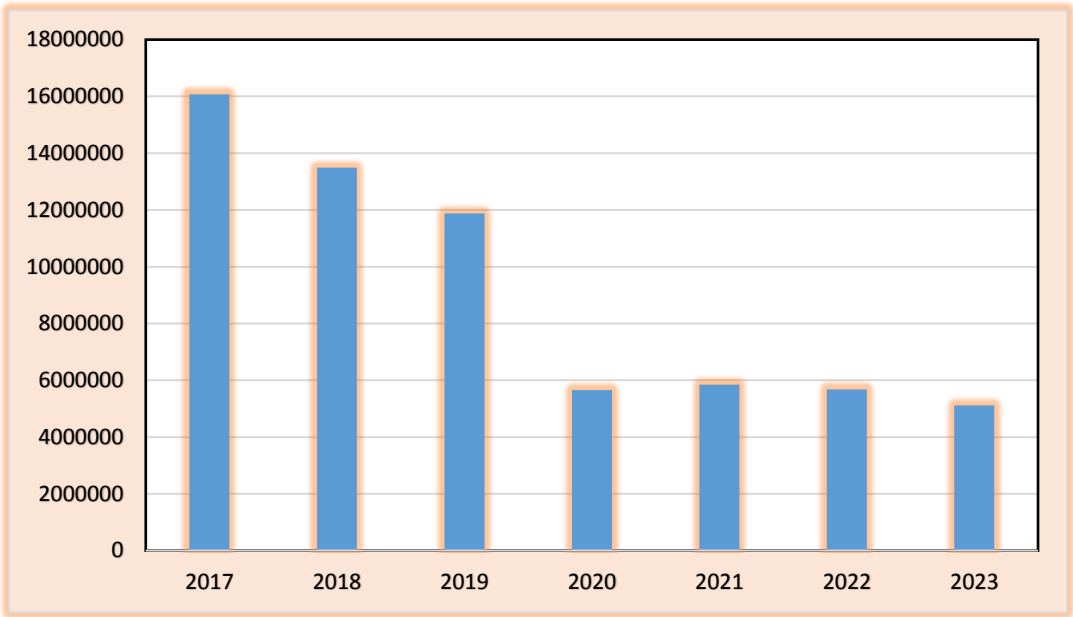


Figure (3)

Timeline of Ministry of finance bonds during the term (2017-2023)

Source: prepared by the researcher based on Table Data (2)

Second topic: testing statistical hypotheses

The hypothesis of multi-standard linear regression analysis is being tested to determine the effect of the relationship of the independent variable (currency sales window, Ministry of Finance bonds) on the dependent variable (electronic payment cards). As well as using the determination coefficient (R Square) to explain the amount of influence of the independent variable of changes in the dependent variable as well as the standard coefficient of regression Beta, which measures the response of the dependent variable when the independent variable changes by one standard degree, in

addition to the calculated F value and its morale level, the calculated t value and morale level by the SPSSV26 program. To test the hypothesis of the study in terms of the effect relationship and as follows :

1- In testing the impact relations, the researcher used the standard multiple linear regression coefficient to test the impact of alternative monetary policy tools on electronic payment cards according to the statistical hypothesis: (there is no statistically significant impact relationship of alternative monetary policy tools on electronic payment cards)

1- - Statistical hypothesis testing

Table (3)

Summary model of the regression model to measure the impact of alternative monetary policy tools on electronic payment cards

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.791 ^a	.626	.616	199340.24817
a. Predictors: (Constant), x2, x1				

Source: prepared by the researcher based on the statistical program SPSS V.26

1-- The value of the interpretation coefficient R Square (62.6%) explains 62.6% of the changes in electronic payment cards resulting from the change in alternative monetary policy

instruments, and 37.4% of the changes in electronic payment cards are due to other variables not included in the model.

Table (4)

Anova analysis model to measure the impact of alternative monetary policy instruments on electronic payment cards

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5116037485089.266	2	2558018742544.633	64.374	.000 ^b
	Residual	3059713159566.220	77	39736534539.821		
	Total	8175750644655.486	79			
a. Dependent Variable: y1						
b. Predictors: (Constant), x2, x1						

Source: prepared by the researcher based on the statistical program SPSS V.26

2-the calculated value (F), which measures the significance of the regression model, reached (64.374) at the level of the approved statistical significance (5%), indicating that the value of sig reached 0.000, which is smaller than the level of the extreme significance (0.05), therefore, we

reject the hypothesis of influence and accept the alternative hypothesis, which states(there is a statistically significant effect relationship of alternative monetary policy instruments on electronic payment cards).

Table (5)

A regression equation test model to measure the impact of alternative monetary policy instruments on electronic payment cards

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	737579.187	87326.092		8.446	.000
	x1	.023	.015	.106	1.516	.134
	x2	-.058	.005	-.786	-11.278	.000
a. Dependent Variable: y1						

Source: prepared by the researcher based on the statistical program SPSS V.26

2- The calculated Beta value of the independent variable of the currency sale window was (0.023), but it is not significant, indicating that the value of sig was higher than 5%, while the calculated Beta value of the independent variable of the Ministry of Finance Bonds was 0.058, but it is significant, indicating that the value of sig was less than 5%, so we conclude that there is an inverse relationship between the

independent variable of the Ministry of finance bonds (X2) on the dependent variable electronic payment cards (Y1).

CONCLUSIONS

1-The currency sale window, which has been applied as one of the tools of alternative monetary policy in Iraq since 2003, is one direction represented by sales operations only. This is due to the rentier nature of the Iraqi

economy. It contributes more than 95% of export revenues due to the weakness and disruption of the real sector, which limits its ability to generate foreign currency through non-oil exports.

2-The financial analysis results of the Ministry of Finance's bonds revealed its record high in 2017, while it witnessed a noticeable decline in 2023. The decline is due to the decline in yields in 2017 (low global interest rates), which led to an increase in the attractiveness of MOF fixed-yield bonds for investors, an improvement in the economy, and a decrease in geopolitical and financial risks in general. The reasons for the decline in 2023 are higher yields, a slowing economy, and increased risks, which encouraged investors to take more significant risks, including investing in emerging market bonds such as the Ministry of Finance.

3-The study's results showed a statistically significant impact relationship of alternative monetary policy sub-instruments (currency sale window, Ministry of Finance bonds) on electronic payment cards.

RECOMMENDATIONS

1-Iraq should diversify the sources of foreign currency by strengthening the non-oil sector and supporting sectors with potential, such as agriculture, industry, and tourism, to increase non-oil exports, develop the Iraqi capital markets to make them more attractive to investors and benefit from the remittances of Iraqi expatriates and encourage them to transfer their money to Iraq, which contributes to supporting the economy.

2-In the short term, bond prices may face more pressure as yields continue to rise, but the slowdown in the economy in the long term makes Ministry of Finance Bonds an attractive investment tool for those looking for a steady income.

3-Iraq can promote the use of alternative monetary policy tools to enhance electronic payment transactions, which will lead to improving the efficiency of the financial system and provide significant economic benefits to consumers, businesses, and the government.

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