THE POTENTIAL ROLE OF DIGITAL MONEY IN THE EMERGENCE OF ECONOMIC CRISES

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Abstract
The broad technical development in the twenty-first century led to the development of the economic and financial system and the emergence of a new phenomenon called digital money, and the research used an analytical concept of digital money and the reasons for its emergence and its relationship to economic crises, and the research aims to identify the dimensions of this phenomenon and its effects at the international level, and the research concluded that money. The advantage of electronic currencies decentralization and anonymity in the mining process, and this is a serious challenge for monetary authorities. The research suggested that monetary and financial policy makers prepare to recognize digital money through legislation and promulgation of laws to limit their potential negative impacts in the emergence of economic crises.

Keywords: money, electronic currency, economic crises.

Introduction:
This research paper includes the concept of digital money, identifying its types and the reasons for its emergence, as well as its role in developing contemporary monetary systems and diagnosing the relationship between digital money and economic crises and their potential impact on the global economy. Less than a decade has passed since the emergence of digital money, and there are more than 1,000 digital currencies worldwide, but a few have made real trading and good market capitalization, but bitcoin remains at the forefront. There was widespread controversy regarding digital money, as some believe that it has a potential impact on global markets, while others are skeptical and say there is no clear effect of digital money on the global economy.

First: The problem of the study:
The problem of the study revolves around that digital money is a serious challenge to central banks or the monetary authorities because of its advantages that make it consistent with technological developments in the business environment as it represents a potential alternative to the prevailing currencies, and therefore the study problem can be summarized in the following questions:

1. Does digital money pose a real challenge to the monetary authorities?
2. Does digital money have a possible role in the emergence of economic crises?

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Second: The importance of the study:

The importance of the study stems from shedding light on one of the recent topics that have an impact on the global economy. The phenomenon of digital money may represent a radical change movement for all fields and economic activities. So it is necessary to get acquainted with it and its stages of development.

Third: The aims of the study:

The study aims at the following:

1. Standing on the dimensions of digital money and its effects on the global economy.
2. Identifying the most important means that help economic policy-makers in mitigating their potential negative effects.

Fourth: Hypotheses of the study:

1. Digital money is a potential competitor to mainstream money.
2. Digital money has negative effects on the global economy.

The first topic: the theoretical framework for digital money

The first topic dealt with general frameworks for digital money concepts and the nature of its work, as well as its stages of origin and mining operations (encryption).

First: The concept of digital money:

First of all, money can be defined (as everything that enjoys general acceptance in the exchange process and fulfills its main functions represents money) (Wedad Yunus, 2001, 15) and this may apply to digital money as well.

There are many definitions of digital money, some of which are expressed by the digital representation of the value that can be traded digitally, as it works first as an acceptable means of exchange and secondly an account unit and thirdly a store of value, unless it has an internationally recognized legal status, and digital money is not issued by the central bank or from any authority Cash, not linked to a fiduciary currency, and its value may derive from its general acceptance as a means of payment, for example, Bitcoin, and (virtual) digital money is an actual application of cryptocurrencies and is accepted as a payment tool within a specific community used to purchase goods and services and to pay off debts (Marek D. & Lukasz j, 2018): 13). That is, it adopts encryption to control its value without relying on any central authority, and the Bitcoin Investment Report indicates the fact that it has value by consensus (Kroll, J., E.W, Felten, 2013: 45).

Accordingly, electronic or digital money is one of the modern innovations that meet the needs of the consumption sector and the business sector alike and for all commercial and investment operations as it operates in a changing economic environment and is compatible with advanced information and communication technology means and thus meets the individual's different needs. There are many types, the most important of which are (Bitcoin, Litecoin, Nimecoin, Bircoin, Novacoin, Zikach) and others, and they have many advantages, among which are relative scarcity, flexibility, anonymity, and decentralization. Its advantages as a means of

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exchange and a store of value, and digital money has many terms, the most important of which is virtual money and digital currencies (digital currencies).

Second: the nature of digital currencies - the use of Bitcoin:

Digital money operates according to two encrypted systems (Badev and Chen, 2014: 7):

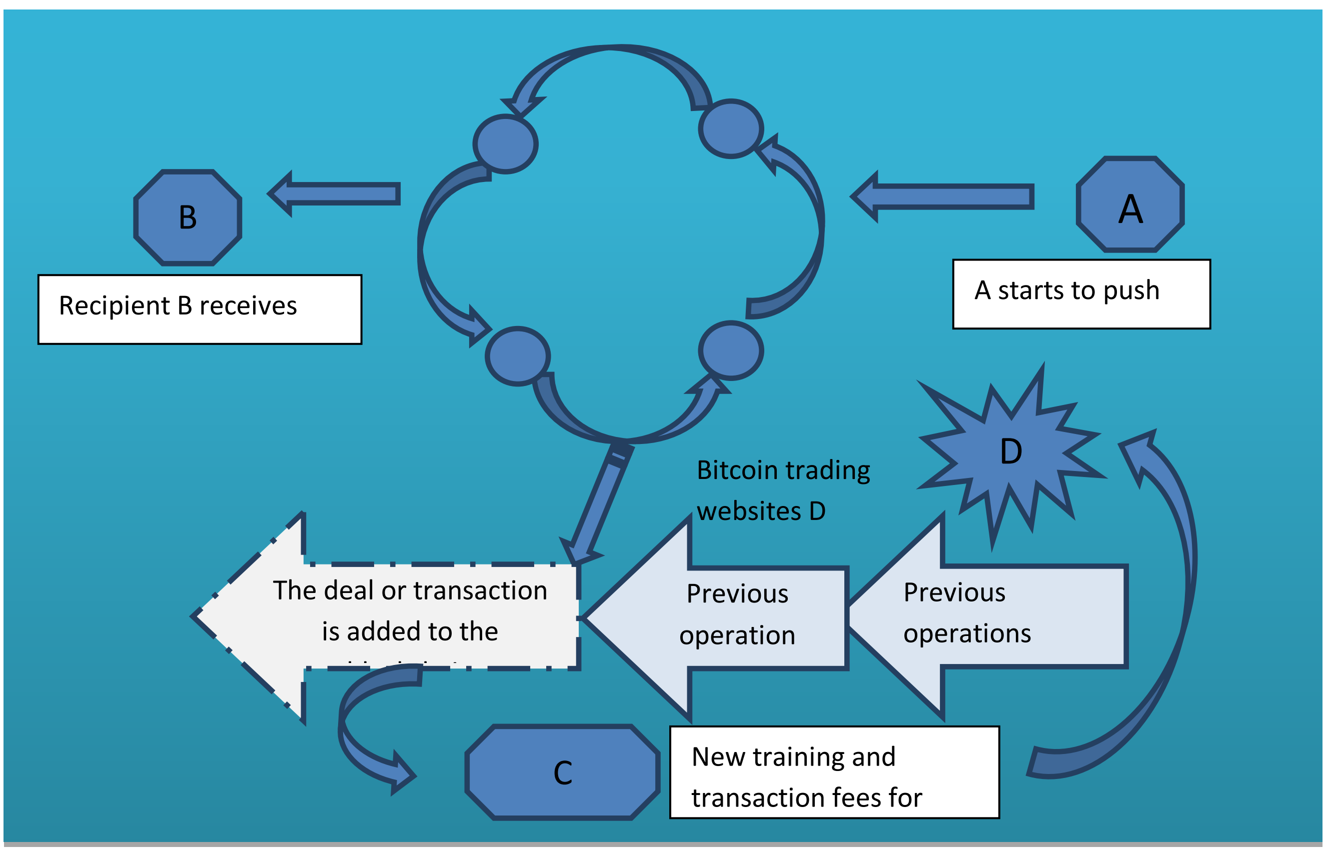
The first: encrypted digital signatures, which means that the recipient can verify the received message, but it cannot be tampered with, and the second: the cryptographic hash functions enforce discipline in writing transaction records in the general ledger.

The Bitcoin system, for example, operates according to a set of rules known as the Bitcoin Protocol. When person "A" wants to pay a certain amount of Bitcoin to person "B", payment instructions are placed in the system as well as other payment instructions, and the job of service providers who work on managing the system and verifying the validity of payments and recording them in the system data by means of the computational problem-solving system. The system administrator performs two tasks:

First: Create new Bitcoin, and verify the validity of transactions.

And the **second**: the process of transferring Bitcoin from one wallet to another without an intermediary to process the payments.

Figure 1: An overview of the Bitcoin structure in managing commercial transactions



The main reason for the emergence of digital money is the existence of an actual need for modern digital means of payment that correspond to the era of globalization, especially in electronic commercial transactions. The development of the economic and technological business environment represented by the Internet and modern means of communication between the parties involved in the development of digital financial markets, commercial banks and means of payment digital money, which motivated individuals and companies to create a new form of money known as electronic money (Mondex & Danmont: 2002: 44), and digital objected to virtual currencies on the banks' charging a commission when transferring amounts from one account to another, in addition to the distance of the handover period. The idea of ending the role of the mediator (bank) in commercial operations and that it occurs quickly without cost, A decade has passed since Bitcoin was developed, the first private decentralized digital currency with a global reach, despite many doubts about its ability and importance in electronic trading (Badev and Chen, 2014: 6). This means that digital money establishes a cashless society, which may herald the demise of the conventional money from trading in the near future (Hamzah, 2011, 49).

Fourth: The process of mining digital money:

The mining or exploration process is known as the process of generating digital money through the electronic program (Bitcoin), which is based on encrypted mathematical equations, which represent a set of logical and sequential mathematical steps. Calculation on a certain number of Bitcoin units (Researcher, 2017, 24). That is, the mining or encryption process is the process of issuing digital money, including Bitcoin, by individuals or specialized companies, and that this process is not limited to a central entity or specific people, but is available to everyone and in any country of the world, but it requires a long time and a fast computer that allows By downloading the free mining program or the Bitcoin Miner, with this program, all problems (algorithms) can be solved after they have been partitioned on advanced servers, and after completing the solution of these algorithms, the program will issue a new Bitcoin currency and add it to the electronic wallet. However, the mining process is one of the most important obstacles facing the spread and increase of digital money issuance rates, which implies its relative scarcity (Sweelhi, 2018, 51).

The second topic: economic crises, their concept - their causes

This part deals with the definition of economic crises, the reasons for their emergence and their various types.

First: The concept and origins of economic crises:

Economic crises represent a state of imbalance and may arise as a result of an unexpected change in one of the economic activities. They move under conditions of economic and political instability and may have potential negative impacts on the global economy (Dirar, 2018: 487).
Financial crises occur suddenly and may lead to a crisis of confidence in the financial system, the main cause of which is a huge influx of capital in the market accompanied by an excessive and rapid expansion in lending without ensuring affluence. There are several definitions of the financial crisis, as Fredric Mishkan defined it as a disorder in the markets Money in which there

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is a bad choice to the extent that the markets will not be able to channel funds efficiently towards the best investment opportunities (Al-Zuwaid and Abu Zayd, 2007, 33).

It is also known as a situation affecting the stock market and credit markets of a particular country or group of countries and its danger lies in its potential economic effects, causing an economic downturn and usually accompanied by a decline in loans, crises in cash liquidity, a decrease in investment, and a state of panic and caution in the financial markets (Al-Dawi Sheikh 2009, 2).

The financial crisis that occurred in 2008 AD is considered one of the worst economic crises that the world has witnessed since 1929 CE. In general, the crisis occurred as a result of chain events that led to the collapse of the banking system, and it has been said that the crisis started from easing the credit requirements of the minority who have limited income, which led to an increase The demand for mortgage loans, and real estate rose, which led to the emergence of this crisis (www.investopedia.com, Retrieved 13-8-2018)).

The causes that lead to financial crises can be diagnosed based on the opinions of economists, including Morris (that the capitalist system is based on some concepts and rules that are the basis of economic crises), as many economists specializing in the capitalist system predicted that these crises herald a broad economic collapse, The causes of the financial crises can be summarized in this way (Al-Garhi, 2008-32).

1. The global financial system and the financial market system depend on the system of financial derivatives, which depend entirely on formal fake transactions, and do not result in any actual exchanges of goods and services. Most of the transactions are based on credit from banks in the form of loans and when repayment processes falter everything collapses and A financial crisis occurs
2. The traditional financial and banking system is based on the debt scheduling system at a higher interest rate, or replacing a loan that is due for repayment with a new loan at a high interest rate, and this places additional burdens on the borrower (the debtor).
3. Bad behavior of financial intermediation institutions that tempt those who want and need the loan to offer loans in return for high commissions paid by the borrower, and this in itself leads to an economic crisis.
4. Excessive and expanded application of the credit card system without balance and the so-called overdraft, which carries a high cost to its owner, which leads to the card owner's inability to pay and an increase in the interest rate, which leads to default in the repayment operations.

Second: Types of economic crises:

There are many economic crises, the most important of which are (Josie Jamila, 2009, 20):

1. Liquidity crisis: The liquidity crisis occurs when a bank is surprised by a large increase in the request to withdraw deposits, and since the bank lends and operates most of its deposits and maintains a small percentage to meet the daily withdrawal requests (www.marefa.org/2008cite_note-6Landler, Mark, 2008- 10-23).
2. Credit crisis: This crisis occurs when deposits are available with banks, but they refuse to grant loans for fear of individuals' inability to fulfill withdrawal requests, and then the lending crisis occurs.

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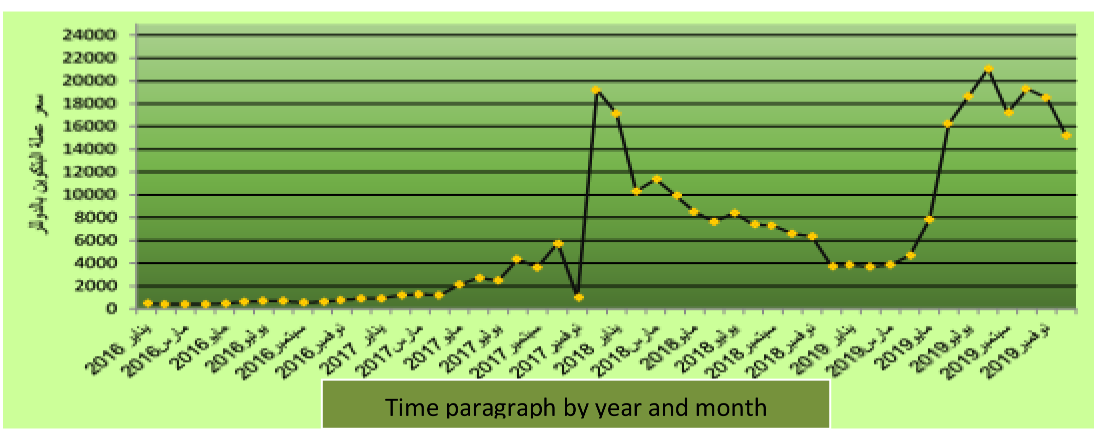
3. The money market crisis: The money market crisis occurs when the prices of assets from stocks and bonds rise, where their fair value exceeds an unjustified increase. It is economically called the bubble phenomenon, which is what happens when the aim is to speculate on the price of assets and not buy them in order to invest and generate income.
4. Currency crisis: It occurs when the monetary authorities take a decision to reduce the currency rate as a result of the speculation process, which greatly affects the currency's ability to perform its mission as a medium of exchange or as a store of value, and this deterioration is more than the reasonable limits that are often considered above 25% It is also called the balance of payments crisis (Benin, 2016, 82).
5. The Dutch disease crisis: represented by an increase in public spending rates in light of the presence of a dominant economic sector, such as in the raw materials sector. The increase in this spending leads to defects and distortions in the structure of other economic sectors (Muhammad, 2014, 27).

The third topic: Diagnosing the reality of digital money and its relationship to economic crises

The third topic examined the reality of digital money in the past decade and its role in changing the monetary system as it became part of electronic trading tools as well as diagnosing the nature of the relationship between digital money and economic crises.

First: The reality of Bitcoin prices during the period (2016-2019):

We see through the chart that the prices of Bitcoin are unstable and there are sudden jumps in its prices, as its value against the dollar at the beginning of 2017 was up to $ 2,500 m and at the end of the year the price of Bitcoin jumped to achieve unexpected prices and reached $ 19,000, and in 2018 the currency rates maintained the Relative stability, reaching $ 17,000, and at the beginning of 2019 their prices fell to $ 3,500, and this shows the instability of their prices in the financial markets as they gradually increased, and this may give an incentive for traders and speculators in digital currencies to enter the financial markets as new customers to trade in this money, which It is generating high profits for investors despite the potential risks.



Source: Prepared by accredited researchers (https://sa.investing.com/crypto/)

Second: The role of digital money in developing the monetary system

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Despite the scarcity of Bitcoin, the one who invented it made it divisible into small particles called (satoshi). Each one in a composition contains (100) million satoshis, which allows the total value to reach any number that meets the world's needs of electronic money, and this is what makes it viable to transform and develop into a global currency in the near future (Muhammad Essam El-Din, 2014,51). The scholars believe that the money market will witness a major change in the future and will take a wide space in the volume of various commercial exchanges and will lead to a possible change in the global economy (www.occ.treas.gov).

The digital currencies, on top of which is Bitcoin, have a fixed size of the electronic issuance of Bitcoin, estimated at (21) million units, and so far (14) million units have been produced and it is expected to reach the final version between the year 2030-2040, where 25 bitcoins are currently being produced around the world every 10 minutes until another production is produced in training in 2040, after which it can be obtained by purchasing it from the financial markets (Mohamed Essam El Din, 2014, 5) and there is an acute economic problem for digital currencies if it becomes widely accepted and the foreign currencies are permeated, they will exert a pressing force. On the economy because money supply will not grow in line with economic growth and this will create an unwanted situation as a result of an economic imbalance (Luther, WJand LHWhite. 2014, 14).

The Bitcoin community believes that federal governments have a monopoly and often impose unwanted controls, including increasing the money supply, which leads to inflationary pressures, in addition to that, banks dominate various cash payment systems. (34: Kroll, J., E.W,. Felten 2013).

Digital money came to put an end to the role and dominance of monetary authorities through innovative electronic payment systems that are compatible with the information and communication technology revolution, and achieve the ambition of investors in the financial sector, and it may be a competition for the prevailing money in the future.

Third: the nature of the relationship between digital money and economic crises:

Firstly, it can be said that the emergence of digital money and the increase in dealing with it may lead to increased turnout in it, which means an increase in the prices of monetary units (bitcoin), which means instability in their prices in the short term and may affect the general level of prices as a result of increasing the monetary mass and increasing the cash multiplier the speed of money circulation in the long term and then to an increase in inflation rates. The state of price instability has its negative repercussions on the overall economic process, including the balance of payments, and then on the stability of financial markets, which threatens a state of economic instability (Hamza, 2011, 205) and that the instability of digital money prices is due to the following reasons (Sweilehi, 2018, 232):

- The lack of a ruling monetary authority that controls the currency exchange process for digital currencies.
- The absence of regulations and legislation regulating the operation of these currencies.
- A decrease in the number of monetary units excavated in the short term.

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- Events and rumors that negatively affect the behavior of investors and speculators.

As a result of the non-recognition of digital money globally, it may turn to work under the hidden economy, including in illegal economic activities, which may lead to the creation of economic crises in developed and developing countries (Al-Zalami and Al-Sarraj, 2010, 543).

As it is known, the role of governments may go beyond the process of organizing economic activities, as they supervise the state of economic stability through the use of two main tools, namely fiscal and monetary policy, to determine desirable levels of spending as well as managing the money supply and achieving a balanced economic growth rate, which means reducing From the effects of economic crises and their aftershocks.

However, there are many difficulties facing the management of economic crises, including the low effectiveness of the fiscal and monetary policy and the management of the exchange rate, as lowering the interest rate or reducing the level of taxes, as well as lowering the exchange rate are all restrictive measures in the period of crisis and reveal to us the real difficulties that the capitalist system suffers from to solve Economic problems, and it should not be forgotten that the capitalist system is based on concepts of economic freedom according to the principle of (let it work, let it pass) as well as on the mechanism of automatic balance in the markets.

However, these policies have deepened the severity of crises and brought the global economy to a state of uncertainty (uncertainty) In addition to the emergence of the financial sector bubble at the expense of the real sector, and upon a closer look at the causes and effects of crises, it becomes clear that they are not transient or temporary crises, as some believe, but rather express a state of loss of the link between the monetary economy and the real economy (Abd al-Salam, 2010, 62-65) And Joseph Stiglitz believes that the financial crises have become a global crisis, and to get out of it requires a global response and radical reform of international institutions, foremost among which is the International Monetary Fund and the World Bank (www. riksba nk.se/globalassets/media/rapporter). Therefore, in order to mitigate the potential negative effects of digital money, it was necessary to create a new international institution that has political legitimacy for the international community to manage the crises of the post-globalization economic system.

The technological changes and developments in the field of investment in the issuance of digital money increase the size of the gap between the monetary and real economy, or what is known as the bubble economy, and this means that adding a new crisis represented by the issuance of electronic money outside the scope of monetary authorities adds a new play on the government, which leads to the exacerbation of economic crises.

Many researches conducted on digital currencies have proven that they are capable of development and will be affected by international crises and events. These crises related to the activity of digital currencies may motivate governments to recognize their legitimacy, so the occurrence of a financial crisis or international conflicts may lead to digital money or virtual currencies. A currency of global value and may be widely recognized, and through our study of the reality of digital currencies, it became clear that the prices of digital currencies are growing regularly despite the severe fluctuations in their prices rising and falling, and that it has a promising future in the process of cash trading because it achieves high profitability for investors.

In theory, we can imagine the negative effects of digital money and its role in the occurrence or emergence of economic crises:

1. Its transnational characteristic and complete secrecy surrounding its use and dealing with it makes it a tool for many illegal economic activities such as tax evasion, money laundering, drug and weapons trade, as well as the possibility of financing terrorist operations.
2. The sharp fluctuation of its prices may create an economic crisis and expose investors to large losses. A Bitcoin crisis occurred at the beginning of 2018 when its prices rose to record levels exceeding ($ 19,000) dollars per unit, and then to a low level of about ($ 3500) dollars per unit.
3. Virtual currencies are not subject to the control of federal governments and their regulatory agencies, which drives organizations or companies based on them to influence local currency rates, making them a tool of international pressure to create economic crises.
4. The connection of digital money with the information and communication revolution and the increase in its number will push its prices to relative stability in the long term and push its market towards equilibrium, making it a strong competitor to the prevailing currencies.
5. The secrecy electronic monetary system on which digital currencies depend will surpass the phenomena of counterfeit paper currencies and impotence financing, but there are other problems related to hacks and electronic malfunctions, all of these problems may burden the monetary and financial authorities.
6. The lack of control over the secrecy (mining) cash issuance operations means an increase in the lending rate, and this leads to inefficiency in directing financial resources.
7. An increase in the money supply outside the control of the monetary authorities may lead to inflationary pressures, as well as to an increase in the gap between the financial and real sectors and the trend towards the bubble economy.

Therefore, monetary and financial policy makers must be prepared to face any possible scenario regarding the widespread and acceptance of digital money, and the increase in the monetary mass and credit levels, as well as the rate of spending, which leads to a state of economic instability, and from the above, in order not to lose central banks (federalism) Its role in managing economic and financial crises requires searching for tools and devising new mechanisms that correct negative imbalances and work to enhance the stability of money prices electronically and then recognize them, and this can be activated through the following tools:

- Finding legislations and laws that regulate the work of electronic currencies.
- Creating a technical structure capable of managing and protecting the miners who issue the money, as well as protecting consumers and businessmen investing in electronic money.
- Creating an automatic system based on the protection of all the consequences of the technical defect of electronic devices or the potential breaches and errors.

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Conclusions and recommendations

First: Conclusions:

1. The future of digital money is promising in the process of electronic trading because it deals with large and small transactions in the business sector and has a gradual, semi-regular growth of electronic trading in global markets.
2. Digital money is characterized by severe fluctuation in its prices in the short term, and this is mainly due to its scarcity and the difficulties related to mining operations (encryption).
3. Digital money is a real challenge for monetary policy makers because mining operations are characterized by decentralization and anonymity in monetary issuance, and maybe a competition for prevailing money.
4. Digital money may achieve relative stability in its prices in the long run, and this will make the costs of commercial transactions to the lowest possible cost (non-existent).

Second – Recommendations:

1. International institutions and developers should create reliable, easy and effective applications for trading and investing in digital money, which will facilitate the professionalization of electronic trading.
2. There is a need for educational programs and services to bridge the knowledge gaps, that is, the adoption of financial bodies or institutions to develop work in electronic money, especially in Iraq.
3. Private financial companies in Arab countries should develop the skills and experiences of their employees for trading and investing in digital money.
4. Monetary and financial policy makers should be prepared to recognize digital money by legislating and issuing laws and regulations when dealing with it in order to mitigate the potential effects of it in causing economic crises.

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