



The Relationship Between the Dimensions of Financial Inclusion and Banking Efficiency - An Analytical Research in A Sample of Iraqi Banks

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Abstract

The study aims to identify the nature of financial inclusion and its indicators, as well as to analyze the relationship between financial inclusion and banking efficiency in the studied banks. The descriptive-analytical method was adopted to analyze the data and reach conclusions. To achieve the research results, it was divided into four sections: the first section covers the research methodology, the second section addresses the theoretical framework, the third section focuses on the practical aspect of the research, and the fourth section presents the conclusions and recommendations. The results show a significant decline in the volume of electronic payments in 2021. For example, Zain Cash transactions decreased from 853,079 Million Dinars to 719,066 million dinars, with an annual negative growth rate of 23%. Similarly, Asia Hawala transactions decreased from 517,962 million dinars to 164,843 million dinars, with an annual negative growth rate of 63%. This decline is associated with the economic recession experienced in Iraq at that time, which affected the overall economy and the use of electronic payment methods. Therefore, the researcher recommends enhancing trust in electronic payment methods. Comprehensive awareness campaigns should be organized to educate the public about the benefits and security of electronic payment methods such as Zain Cash and Asia Hawala, to encourage their wider adoption. **Keywords:** Financial inclusion, Banking Efficiency, Access to Banking Services, Usage of Banking Services

Introduction

Financial services constitute a fundamental part of the economic life of individuals and institutions, contributing to individual empowerment and stimulating economic growth. With technological advancements and the expansion of global communication, financial services have become more inclusive and diverse. The concept of financial inclusion refers to providing financial services and products to all segments of society, including the economically poor and marginalized, to enhance access to finance and achieve comprehensive economic development. As the importance of financial inclusion grows in economic policies, the challenge of achieving banking efficiency emerges. Banks and financial institutions play a crucial role in providing financial services and achieving financial inclusion. However, these services must be effective and cost-efficient. Banking efficiency refers to the ability to maximize the benefits of available financial resources while providing diverse financial services that meet customer needs. Financial inclusion seeks to increase access to financial services, while banking efficiency focuses on how to improve the implementation and provision of these services effectively and sustainably. Thus, the success of financial inclusion is closely linked to banking efficiency, as banks strive to offer innovative and flexible financial services to meet customer needs while aiming for profitability and sustainability. It is important to understand the factors that affect financial inclusion and banking efficiency, including financial infrastructure, government policies, financial technology, and the culture of saving and investment in society. Achieving financial inclusion and banking efficiency requires cooperation between the public and private sectors, as well as the implementation of appropriate structural and regulatory reforms. To comprehensively address the aspects of the current research, it has been divided into four sections. The first section outlines the research methodology, the second section explores the theoretical framework, the third section delves into the practical aspects of the research, and the fourth section presents the conclusions and recommendations.

First Topic

Research Methodology

First : Research Problem

raq generally suffers from a lack of widespread banking culture due to various reasons, primarily the country's political and economic situation. Financial inclusion and banking efficiency are two vital concepts in the global financial system, each playing a significant role in promoting economic and social development. However, there is still an urgent need to understand the relationship between these two variables and how each affects the other. Therefore, the research problem can be defined as follows: Does financial inclusion and achieving banking efficiency affect the studied banks?

Second : Importance of Research

Studying the relationship between financial inclusion and banking efficiency helps in understanding and analyzing the stability of the financial and banking system in the country. This understanding, in turn, informs economic and financial policies aimed at enhancing stability and mitigating financial risks. By examining this relationship, new financial products and services can be developed to meet customer needs and promote innovation within the financial system. Therefore, the current research is important as it examines the extent of banking service penetration in the studied banks by analyzing financial inclusion indicators and demonstrating their role in enhancing banking efficiency in these banks.

Third : Research Objectives

The current research aims to do the following:

1. Identify the nature of financial inclusion and its indicators.
2. Explain the concept of banking efficiency and the factors that affect it in the investigated banks.
3. Analyzing the nature of the relationship between financial inclusion and banking efficiency in the investigated banks.

Fourth: Research Hypothesis

The research is based on the hypothesis that financial inclusion indicators affect the enhancement of banking efficiency in the banks studied.

Fifth: Research Methodology

The descriptive analytical approach was adopted in analyzing the data and arriving at the results.

Sixth: Limits of Research

1. Spatial boundaries: (The National Bank of Baghdad, the International Development Bank, and the National Bank of Iraq) were identified as a sample for the research.
2. Time limits: represented by published data for the banks studied for the period (2017-2023).

Seventh: Research Structure

The research is divided into four sections. The first section addresses the research methodology, the second section covers the theoretical framework, the third section focuses on the applied aspect of the research, and the fourth section presents the conclusions and recommendations.

Second Topic

Theoretical Side

First Axis: Financial Inclusion

First: Concept of Financial Inclusion

Financial inclusion is a vital tool for reducing extreme poverty. However, it can also pose risks to the stability of the financial system, as evidenced by the financial crisis in 2008 (Vo et al., 2021: 36). Financial inclusion promotes inclusive growth, economic development, and financial deepening (Park & Mercado, 2021: 98). Studies suggest that financial inclusion can reduce income inequality by increasing educational and entrepreneurship opportunities among the poor (Kling et al., 2022 : 138); (Aziz & Naima, 2021: 2). Since the global financial crisis in 2008, there has been a marked increase in policy efforts to promote financial inclusion, and by 2011, the Alliance for Financial Inclusion (AFI), which brings together policymakers and regulators from ninety developing countries, was established (Gabor & Brooks , 2020: 71). Financial inclusion is defined as the proportion of adults utilizing financial services. However, the non-use of these services does not necessarily indicate a lack of access to them (Naumenkova et al., 2019 : 195). (Ahmad et al., 2020: 754) Financial inclusion is also defined as the ability to access a range of high-quality financial services at reasonable prices and in a convenient manner. The World Bank defines financial inclusion as the extent to which individuals and small institutions can access financial services such as deposit and savings accounts, electronic payment services, loans, and insurance (Van et al., 2021: 241).

The researcher defines financial inclusion as a concept that aims to provide comprehensive and equal access to financial services for all segments of society, including individuals and companies, regardless of their social class or geographical location.

Second: Importance of Financial Inclusion

Financial inclusion, or the provision of financial services to disadvantaged and low-income sectors, is an important factor in promoting economic development, and although millions of people are still unable to access financial services, mobile phones have become an important tool to promote financial inclusion, especially in developing countries. There is a weakness in providing a comprehensive overview of the interaction between mobile financial services, financial inclusion, and development (Kim et al., 2018: 1). Evidence and studies have increased significantly on the importance of financial inclusion for the population, especially women and the poor, in many countries. Financial inclusion has been considered by policy makers as a key to economic empowerment and solutions to increasing levels of poverty, and initiatives have been taken to adopt it in many countries. Financial inclusion is a major strategy. To achieve the United Nations Sustainable Development Goals, which has made it of great interest to industrialists and academics (Ozili, 2021 : 459). Apart from women and the poor, there are other potential beneficiaries of financial inclusion that have been overlooked in the literature such as young people, the elderly, institutionalized and sick persons, persons with disabilities, and individuals previously expelled from the financial sector due to criminal offenses (Ozili, 2020: 94).

Third: Financial Inclusion Indicators

Financial inclusion indicators measure the comprehensiveness of a country's financial sector. These indicators encompass three dimensions: the spread of banking services, the availability of banking services, and the usage of the banking system. They are designed as a multidimensional metric that gathers information on various aspects of financial inclusion. International financial institutions integrate these dimensions into a single number ranging from 0 to 1, where 0 indicates complete financial exclusion and 1 represents complete financial inclusion in the economy. Sarma (2008) developed a model to measure financial inclusion using the fundamental dimensions of financial inclusion: access to banking services and the use of banking services. These indicators can be explained as follows : (Sarma & Pais, 2011: 615).

1. Access to Banking Services

Access to formal financial services represents the ability for individuals to utilize them. However, increased access does not necessarily equate to a higher level of financial inclusion. Enhanced access is expected to improve financial inclusion when access levels are below a certain threshold, through increased availability, provided that financial services meet the population's needs. Additionally, increased access by various financial companies and intense competition may drive greater consumption of financial services through competitive pricing, even beyond the threshold. We construct the access dimension using country-level supply-side data from four basic indicators: ATMs (per 100,000 adults), number of branches (per 100,000 adults), ATMs (per 1,000 km²), and commercial bank branches (per 1,000 km²) (Cámara & Tuesta, 2014: 9).

2. Use of Banking Services

The banking services usage index indicates the depth of use of a bank's financial services and products, and usages can be measured through savings, saving, and borrowing accounts (Singh & Singh, 2020: 751).

Second Axis: Banking Efficiency

First: Concept of Banking Efficiency

The banking sector is a crucial component not only of financial markets but also of the broader economy, serving as the primary channel through which financial institutions are financed. The banking industry has undergone significant changes and reforms aimed at enhancing the integration of banking services. Numerous academic studies have examined the issue of efficiency in banking (Kolia & Papadopoulos, 2022: 50). Economic efficiency reflects a bank's ability to utilize available resources to generate profit. The inputs used to measure social efficiency for sustainability include equity and deposits, while the outputs consist of customer loans, labor, social contributions, taxes, and risk management (Tan & Tsionas, 2022: 3757). The interest rate differential indicates banking efficiency, as it reflects the results of financial intermediation. It is calculated as the difference between the return on the credit portfolio and the cost of interest-bearing liabilities. This measure is a fundamental tool for assessing the efficiency of an individual bank and representing the overall financial system. A significant differential ensures the bank's ability to provide adequate provisions for loan losses and cover various overhead expenses. Banking efficiency is generally defined by how effectively a bank uses its resources (inputs) to generate commercial transactions (outputs). It is measured through a set of ratios that reveal the level of banking performance (Umar et al., 2021: 2).

One agrees that banking institutions (unit of making... The decision, in DEA language) minimizes its inputs, while maximizing its outputs (Paulet & Mavoori, 2021 : 2045).The researcher believes that banking efficiency represents the ability of banks to manage their resources and implement their activities efficiently and effectively to achieve their goals at the lowest possible cost. This efficiency involves using assets and resources effectively, achieving the highest levels of return on them, while maintaining standards of quality and service to customers.

Second: Importance of Banking Efficiency

Efficient and productive banks drive business expansion, maximize profit in a competitive market, and enable competitors and regulatory authorities to optimize output from available resources. However, factors such as ownership, operating location, and size significantly influence the efficiency and productivity of banking services globally. Consequently, banking efficiency is a crucial element in the financial sector that supports the sustainable development of the BRI economic initiative by encouraging savers to invest in profitable projects (Shah et al., 2023 : 2).Banking efficiency is crucial, and it is necessary to measure it, taking into account that efficiency is one of the indicators of banking health, whether in conventional banks or Islamic banks, and as is the case with measuring banking efficiency in Japan, banking performance will be maximized if the risk factor is lower of operating costs (Yudha et al., 2021: 232).Many studies have found that banking efficiency is an important factor in determining a bank's profitability, while various studies show that there are other factors that indicate that banks that suffer from higher levels of inefficiency, resulting from high costs, can achieve higher profits than more banks. Cost efficient, lower banking efficiency affects profitability due to higher interest rate spreads (Rakshit & Bardhan, 2022: 105).Measuring efficiency in the banking sector has become one of the most interesting issues in research in the field of economics and finance due to the significant effects that an efficient banking system has on the microeconomic as well as on the macroeconomic development of the economy (Ho et al., 2021: 1).The researcher believes that banking efficiency has great importance in the world of business and economics, as the ability to manage resources and achieve goals at the lowest possible cost are vital to the success of any banking institution. Banking efficiency is a key determinant of the strength and continuity of banks in providing financial services and meeting customer needs effectively.

Third Axis : The Relationship Between the Dimensions of Financial Inclusion and Achieving Banking Efficiency

Financial inclusion refers to the availability of relevant and cost-effective financial goods and services for both individuals and businesses, meeting their needs for purchases, payments, deposits, lending, and insurance. These services are provided sustainably and responsibly, contributing to financial efficiency. Financial inclusion ensures that all adult members of the community have equal access to regulated financial services at affordable costs (Khan et al., 2022 : 2).Financial inclusion contributes to enhancing the ease of access to and use of financial products and services throughout society, especially for the low-income group with economic monetary value. Financial inclusion also helps in the formation of capital, savings, loans, insurance, payments, and investment opportunities, which affects the financial system and the development of economic growth, which in turn enhances the efficiency of banks in general (pal & Bandyopadhyay, 2022: 139).(Vo & Nguyen, 2022: 138) point out that the financial sector, through financial inclusion, ensures the optimal use of resources by reallocating them to imminent growth opportunities so that none of them can be neglected, and this mechanism also leads to increasing the efficiency of banks.

Third topic

Practical side

First : The development of electronic payment methods (Zain Cash, Asia Hawala)

These two methods are among the most important modern methods used in implementing electronic payment operations, including the possibility of requesting an account statement or inquiring about the balance, as well as financial transfer procedures inside and outside Iraq under certain conditions and specific ceilings. It is also used to make payments via mobile phone as a result of storing small monetary values in it using electronic wallets. As long as each person has a wallet linked to a phone sim card belonging to a specific company, he has the ability to enjoy electronic payment services and transfer and receive money, as it began operating in 2017.

Table (1) The path of development of electronic payment methods (Zain Cash, Asia Hawala) in Iraq for the period 2017-2023 million dinars

Years	Zain Cash	growth rate	Asia transfer	growth rate	Total
2017	52812	-	117582	-	170394
2018	197940	274.8012	188462	60.28134	386402

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2019	667980	237.4659	190148	0.89461	858128
2020	945691	41.57475	456611	140.1345	1402302
2021	719066	-23.964	164843	-63.8986	883909
2022	792543	10.21839	247309	50.027	1039852
2023	853079	7.638198	517962	109.4392	1371041

Source: Prepared by the researcher based on data from the Central Bank of Iraq, annual reports 2017-2023.

It is clear from Table (1) that consumers or members of society in general have taken to using electronic payment methods as a way to complete their daily financial transactions, in addition to receiving and transferring money through these means. It is clear that the volume of financial payments has increased using the Zain Cash and Asia Hawala payment methods during the research period, as it increased from About (170,394) million dinars in 2017 to about (1,371,041) million dinars in 2023 with positive growth rates throughout the research period, as the compound growth rate was recorded at about (41.6%) for the same period, and this increase came as a result of the increasing volume of customers in Zain Cash and Asia Hawala, where transactions were taken Finance through Zain Cash gradually increased, as it rose from about (52,812) million dinars in 2017 to about (853,079) million dinars in 2023, with very large annual growth rates. It is noted that it witnessed a decrease in 2021 to reach (719,066) million dinars, and this is of course a result of The recession that accompanied the Iraqi economy at that time recorded a negative annual growth rate of 23%. Financial payments made through Asia Hawala also witnessed the same path as its counterpart Zain Cash, as it gradually increased from about (117,582) million dinars in 2017 to about (517,962) million. dinars in 2023, with a decrease in 2021 to reach (164,843) million dinars, with a negative growth rate of 63%. This is of course due to the economic recession crisis that the Iraqi economy experienced at that time. In general, it is noted the extent of the development of electronic payment methods in terms of the volume of transactions that take place through them, which gives you a kind of development in the field of electronic payment in particular and the banking field in general, which reflects positively on the financial sector in the country. Table (2) Development of the number of ATMs and bank cards in the financial sector in Iraq for the period 2017-2023

Years	Automated teller machines	growth % rate	ATM for every 100 thousand	Number of cards	growth rate %	Number of payment points
2017	656		2.85	12464008		6061
2018	865	31.85976	3.65	15449612	23.9538	8825
2019	1014	17.22543	4.16	12326626	-20.214	13903
2020	1340	32.1499	5.35	13134085	6.550527	21336
2021	1566	16.86567	6.1	14906294	13.4932	23033
2022	1621	3.512133	6.9	15742183	5.607625	76124
2023	1675	3.331277	7.6	16016827	1.744637	24901

Source : Prepared by the researcher based on data from the Central Bank of Iraq, annual reports 2017-2023. It is clear from Table (2) a significant and gradual increase in the number of ATMs spread throughout the country, as it rose from 656 ATMs in 2017 to about 1,675 ATMs during the year 2023, as this period witnessed gradual, continuous and upward growth rates, which reflects the fact that the banking sector has begun to develop. And the gradual advancement in providing quality banking services to its customers. This is the result of the intensification of the principle of competition between banks to attract customers by providing diversity in the size and forms of services provided to them, including these ATMs, as some ATMs have multiple features that even include direct deposit in them, which is possible. Individuals are limited in their time and effort in reaching the banks themselves, and this increase in the number of ATMs came as a natural result of the increase in the number of bank cards issued and used in the country, which witnessed a noticeable increase during the period of the study, as it rose from about (12,464,008) cards in 2017 to about (16016827) card for the year 2023. On the other hand, we see that the percentage of ATMs is according to the standard specified for every 100,000 people, as it is clear that it is gradually increasing, and this is the result of the rapid growth of the frequency of ATMs compared to the rate of growth of the population in Iraq, which reflects positively on that indicator, as it became clear that there is (2.8) ATMs per 100,000 people in 2017, and then it gradually increased throughout the study period, year after year, until it reached (7.6) ATMs per 100,000 thousand people in 2023. It is also noted from the same table that the number of electronic sales points has increased coinciding with the increase in the number of

electronic cards. This is a natural result and regular work by banks in Iraq, as the points of sale increased gradually during the study period from about (6061) points in 2017 to about (24901) points in the year. 2023 This, of course, reflects the extent of development witnessed by the financial sector in Iraq and its major role in providing diverse and multiple services to individuals, which reflects the efficiency of the banking sector even if this affects the volume of cash trading, as the ratio of the currency in circulation to the money supply is an indicator of the volume of development. The banking sector and its efficiency, as it reflects the extent of dealing in cash or other means of payment, and this of course reflects the ability of the banking sector to prove its efficiency through the electronic services it provides and the extent of its impact on the circulation of cash, as it is the increase that was previously mentioned in financial inclusion indicators in terms of electronic wallets Zain Cash and Asia Hawala and the volume of transactions in them, as well as the extent of the presence and multiplicity of ATMs and their ratio to the population according to the international standard and the number of electronic cards issued. When the banks operating in Iraq are at this level of development in the previous indicators, this should reflect positively on the volume of cash trading and then It is assumed that dealing in it is somewhat low, as it is clear from Table (3) that the ratio of the currency in circulation to the narrow money supply began to rise gradually and very slightly from about (52%) in 2017 to about (59%) in 2023, and this increase came as a result of The government's frequent use of public debt through treasury transfers and its discount at the Central Bank, especially after the year 2020, when the currency in circulation rose very significantly, which was reflected in its ratio to the narrow money supply. In general, this ratio in light of the Iraqi economy is a good ratio that is consistent with the behaviors of Iraqi society. His awareness of non-cash transactions was weak, as the increase in various types of financial inclusion indicators helped him absorb a large percentage of the increase in the volume of currency in circulation to keep it within certain limits. Accordingly, financial inclusion achieved a good part of banking efficiency by undermining cash transactions as an indicator of the development of the system. Banking in Iraq.

Table (3) Development of the banking efficiency index in Iraq for the period 2017-2023

Years	Currency in circulation	Cash offer	Banking efficiency index
2017	40,343,309	76,986,584	52.403038
2018	40,498,067	77,828,984	52.034685
2019	47,638,603	86,771,000	54.901526
2020	59,987,098	103,353,556	58.040672
2021	71,526,054	119,944,017	59.632865
2022	82,031,742	146,487,925	55.998979
2023	94,621,124	160,318,372	59.020762

Source: Prepared by the researcher based on data from the Central Bank of Iraq, the official statistical website.

Fourth Section

Conclusions and Recommendations

First : Conclusions

1. Financial payments via Zain Cash and Asia Hawala witnessed positive compound growth rates during the study period, recording a compound growth rate of approximately 41.6% between 2017 and 2023. This growth reflects an increasing adoption of electronic payment methods and enhanced confidence in them among users.
2. It appears from the results reached that there is a noticeable decline in the volume of electronic payments in 2021, as Zain Cash transactions decreased from 853,079 million dinars to 719,066 million dinars at a negative annual growth rate of 23%. The data also shows that there is a decrease in transactions Asia transferred from 517,962 million dinars to 164,843 million dinars, with a negative growth rate of 63%. This decrease is linked to the economic recession that Iraq witnessed at that time, which affected the general economy and the use of electronic payment methods.
3. It is clear from the data that there is a significant and gradual increase in the number of ATMs deployed in Iraq, as the number rose from 656 ATMs in 2017 to 1,675 ATMs in 2023. This increase reflects the development of the banking sector and its efforts to provide high-quality banking services to its customers.
4. It turns out that there is a noticeable increase in the number of bank cards issued and used in Iraq, as it rose from about 12,464,008 cards in 2017 to about 16,016,827 cards in 2023. This increase in the use of bank cards reflects an increasing reliance on modern banking methods and growing confidence in the sector. The banker.

5. The ratio of ATMs per 100,000 people increased from 2.8 in 2017 to 7.6 in 2023, which indicates that the growth in the number of ATMs was faster than the population growth rate. This rapid growth in the number of money changers compared to the population enhances ease of access to banking services and contributes to improving the level of financial inclusion in the country.

6. It is clear from the data that there is a significant increase in the number of electronic sales points coinciding with the increase in the number of electronic cards, as the points of sale increased from about 6,061 points in 2017 to about 24,901 points in 2023. This growth reflects the remarkable development in the Iraqi financial sector and its capacity. To provide diverse and appropriate services to individuals. This improvement in the electronic banking infrastructure reflects the efficiency of the banking sector in Iraq and confirms its role in facilitating financial operations and promoting financial inclusion.

7. Despite significant improvements in banking infrastructure and financial inclusion, the ratio of currency in circulation to the tight money supply has gradually increased from about 52% in 2017 to about 59% in 2023. This rise reflects the impact of economic factors such as the government's resort to debt. year and the currency in circulation will increase significantly after 2020.

Second : Recommendations

Based on the conclusions reached, the following recommendations can be made to promote development in the banking sector and improve the use of electronic payment methods in Iraq:

1. Enhancing confidence in electronic payment methods. Comprehensive awareness campaigns should be organized to inform the public of the benefits and security of electronic payment methods such as Zain Cash and Asia Hawala, to encourage their wider adoption.
2. Improving the security infrastructure, by strengthening security measures to protect electronic transactions to ensure users' confidence and reduce their fears about fraud and hacks.
3. Addressing the effects of the economic recession, by launching economic support programs: providing economic incentives and financial support to small and medium-sized companies to enhance their use of electronic payment methods, which contributes to alleviating the effects of the economic recession.
4. Working to enhance the digital economy and encourage innovation and digital transformation in all economic sectors to create a stable economic environment that supports the growth and use of electronic payment methods.
5. Increase the number of ATMs and electronic sales points, as well as ensuring that ATMs and electronic sales points are distributed in a balanced manner throughout the country, including rural and remote areas, to enhance financial inclusion and access to banking services.
6. Modernizing and expanding the infrastructure by investing in modernizing and expanding the banking infrastructure to meet the growing demand for electronic banking services and improve its efficiency.
7. Developing innovative banking services such as direct deposit services at ATMs: Providing direct deposit services at ATMs to enable individuals to conduct financial transactions easily and effectively.
8. Diversify products and services and work to develop a variety of digital banking products and services that meet the needs of different customer segments and facilitate daily financial transactions.
8. Financial education by organizing financial education programs to increase awareness of the importance of financial inclusion and the use of bank cards and electronic payment methods among all segments of society.
9. The need to strengthen monetary policies by adopting policies aimed at reducing dependence on cash and enhancing the use of electronic banking methods, such as providing incentives for electronic payments.
10. Encouraging electronic payment in government transactions, as well as promoting the use of electronic payment methods in all government transactions to motivate the public to use them and reduce dependence on cash.

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