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## The Development of Banking Services and their Role In Enhancing the Volume of Credit Granted to The Private Sector in Iraq for the Period (2017-2022)

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### Abstract:

The advanced banking system serves as a vital cornerstone for economic growth due to the crucial services it provides to the economy. These services include mobilizing local savings through deposits, providing loans, monitoring project owners who borrow from banks, risk management, facilitating financial transactions, and more. The researcher utilizes banking service indicators (such as the ATM and POS penetration) and indicators of private sector credit (like the ratio of private sector credit to Gross Domestic Product) to examine the relationship between banking services and the volume of credit provided to the private sector in Iraq. The study aims to understand the evolution of banking services and their role in enhancing private-sector credit in Iraq. The study reveals that technological advancements, including the proliferation of ATMs, the facilitation of electronic withdrawal and deposit operations, and training bank employees in the use of communication and computer technology through research and development centers, are vital in keeping up with the transformations and developments in the modern banking industry.

**Paper type:** Research paper.

**Keywords:** Banking Services, Bank Credit, Private Sector.

## **1.Introduction:**

Banking is one of the most important economic sectors in any country, playing a fundamental role in economic and social development. Banks collect savings from the public, mobilize them, and invest them. Therefore, banks must enhance their effectiveness by focusing on banking products, banking services, and improving efficiency by keeping up with technological advancements. Technological progress has a direct impact on enhancing and developing banking services. Banks aim to meet customer needs by providing traditional banking services and adapting to modern banking services to cater to the preferences of their clients. The provision of credit and financing economic activities becomes another critical function after accepting deposits from depositors. Advanced banking services stimulate individuals and companies, increasing local savings, which, in turn, leads to an increase in the volume of credit provided to the private sector. This, in turn, enhances investment opportunities and economic growth.

### **1.1 Literature Review:**

There are many studies discussing banking services, as follows:

Abd Ghali (2010) assumed that no statistically significant positive relationship exists between non-profit banking services and banking performance. Government banks constitute the most significant part of the banking system in their assets and provide essential support for implementing monetary policy and achieving social and economic development for society through their various banking activities. Continuous review of financial systems is necessary to increase their capacity to develop the sources of banking funds (i.e., strengthening the foundations of operating banking resources) through various credit terms.

Abdul Rahim (2011) emphasized that the development of banking services significantly impacts economic activity, as institutions provide these services with great importance. Modern banking services significantly impact economic activity as they respond to economic activity requirements, contributing to its activation and improvement on all levels, especially considering that banking services are provided to all participants. The application of modern services in banks will significantly impact their operations and even more significantly impact economic activity. However, the transition to modernization should be carried out rationally, as these services, like others, have advantages and disadvantages.

Mohamed (2017) demonstrated no significant differences in awareness levels based on gender, age, and educational level of customers, as well as their perception of the importance of banks and their role in serving them. There are no statistically significant differences in awareness levels based on gender, age, and educational level of customers, as well as their perception of the importance of banks and their role in serving them. Developing methods for investing depositors' money and exploring suitable investment opportunities serve both the national economy on the one hand and bank customers on the other.

Haddana and Aichi (2021) highlighted the banking reforms implemented at the Bank of Popular Credit in Biskra, Algeria, from the perspective of its customers and the extent to which these reforms contributed to modernizing banking services at the Bank of Popular Credit in Algeria. Banking reforms contribute statistically significantly to modern banking services at the Bank of Popular Credit in Algeria. There is also a statistically significant contribution to the continuity of updating banking services from the perspective of the bank's customers. Additionally, building a digital infrastructure assists public banks in performing their tasks more effectively.

Ibrahim and Amer (2023) launched a study to achieve their goals based on a fundamental hypothesis, which emphasizes the positive role of diversifying banking services in the profitability of private Iraqi commercial banks. The study found that diversification in banking services plays a crucial role in the profitability of commercial banks. Diversification has contributed to banks entering various business sectors, enhancing their competitiveness and profitability. The study highlights the importance of diversifying their banking services, as it significantly affects their profitability. Diversification has enabled banks to enter new business areas, increasing their ability to compete and enhance profitability. There are many studies discussing bank credit, as follows:

Brihi (2018) demonstrated that the strong correlation with oil price movements, government spending, and societal interactions with banks reveals the quantitative relationships between deposits, various types of loans, other assets, interest rates, and sources of banking income. Removing structural obstacles remains contingent on broad achievements in economic development to which the financial sector is expected to contribute. There is a need for systematic credit analysis and objective risk assessment, as well as more effective means to reduce non-performing debt ratios.

Abdelkader Berish (2018) pointed out the ineffective impact of private banking credit on economic growth in Algeria. The decrease in the percentage of loans provided to the private sector to the total deposits confirms that most savings are allocated to lending to the public sector. Expanding the provision of private credit for investment projects and productive enterprises, not concentrating banks on financing consumer loans, activating development policies and attracting deposits are critical steps needed to improve the situation.

Bou Abash Saham (2021) discussed whether the credit provided to the private sector can contribute to economic growth and be a key determinant of modern banking in North African countries. Credit provided to the private sector is considered one of the most critical indicators of modern banking, and, therefore, this indicator measures the actual role of banks in financing the activities of the private sector. Central banks encourage commercial banks to increase the volume of credit provided to the private sector to promote the banking industry and activate its role in economic development.

Al-Mousawi (2023) used an analysis of the trend in the volume of local banking credit provided to the private sector by commercial banks. The research found no statistically significant correlation between government borrowing and cash credit granted to the private sector. The continuous increase in government borrowing from commercial banks could reduce the volume of credit provided to the private sector, which is higher when compared to the public sector. The study recommends serious efforts to raise awareness among investors in various fields through training courses and development programs to enhance their expertise in their work.

Al-Wardi and Al-Mousawi (2023) initiated a study based on a hypothesis stating that no statistically significant relationship exists between government borrowing and cash credit granted to the private sector. The study's key finding is that the continuous increase in government borrowing from commercial banks can reduce the volume of credit extended to the private sector, which exhibits higher risks compared to the public sector. The study emphasizes the importance of directing borrowing more towards the private sector than the public sector to avoid the phenomenon of banking inertia. It also underscores the need to ensure diversity in investment between the public and private sectors, positively impacting the overall economy.

The research problem focuses on the issue that Iraqi banking institutions need to be more vital in providing banking services, which has negatively impacted credit growth extended to the private sector.

The research's objective is to assess the extent of the development of banking services and their role in promoting the volume of credit provided to the private sector in Iraq.

## **2. Material and Methods:**

This section will provide theoretical literature regarding the concept of banking services and credit provided to the private sector. Additionally, it will explore the relationship between banking services and credit provided to the private sector and analyze indicators of banking services and the credit extended to the private sector in Iraq. The research is based on the hypothesis that the development and growth of banking services will increase the volume of credit provided to the private sector, consequently generating economic growth in the Gross Domestic Product (GDP).

### **2.1 Conceptual framework of banking services:**

#### **2.1.1 The concept of banking service:**

Banking services are defined as activities related to providing specific customer benefits, whether for a monetary fee or without. Sometimes, banks offer customers free services (Mahfouz, 2003). They are further described as activities or achievements that one person provides to another, and they are intangible, not resulting in ownership. The production or provision of these services may be linked to tangible, physical products (Hossam, 2018).

#### **2.1.2 The concept of banking services:**

The concept of banking services is like the concept of services in general. Banking services are defined as activities and operations with inherent utility in both tangible and intangible aspects provided by banks (Hossam, 2021). These services are perceived by beneficiaries through their characteristics and utility values, serving to satisfy their current and future financial and credit needs while simultaneously generating profits for the bank through the mutually beneficial relationship between the parties (Al-Bakri, 2021). They can also be defined as "any activity, accomplishment, or benefit provided by one party to another and are fundamentally intangible and do not result in ownership, and their preparation and provision may or may not be associated with tangible, physical products" (Kotler, 2006).

Within the concept of banking services, they are defined as "activities or a set of activities whose essence is intangible, provided by banks to satisfy the needs and desires of their customers. Their production may or may not be associated with tangible products, and there is no transfer of ownership" (Fadel, 2014). The American Marketing Association defines them as "activities or benefits that are offered for sale or are tied to a specific commodity" (Al-Mansour, 2008). In this context, banking services include savings accounts, certificates of deposit, check processing, safekeeping services, cash management, loans, ATM services, and more (Najla, 2002). They are "a package of activities provided by a bank or a group of banks to achieve one or more marketing objectives" (Al-Barzangi, 2019). From these definitions, it can be inferred that banking services are a set of activities and benefits provided by banks to attract customers, increase their deposits, and then invest them in banking credit operations to achieve profitability.

#### **2.1.3 The importance of banking services:**

The importance of services has increased in recent times more than it was in the past for several reasons, including:

1. The growing diversity and complexity of banking customers' needs, motivations, preferences, and tendencies. Customers have become more discerning and wiser, and the banking services they require are more complex and complex (Al-Zamil et al., 2012).
2. There is an increased cost associated with meeting the banking customer's needs and desires while achieving appropriate profitability from this activity.
3. There has been a rise in the number of employees in the banking services sector (Ibrahim, 2023).
4. The removal of restrictions related to the operation of traditional banks and efforts to facilitate credit services to increase the overall domestic product (Ghazwan, 2021).

#### **2.1.4 Banking services indicators:**

1. Financial Services Access Index: Access to finance is a fundamental tool governments and policymakers use to stimulate economic growth (Bigirimana & Hongyi, 2018). It refers to the ability to use financial services and products provided by official institutions. Understanding access levels may require a discerning look and analysis of potential obstacles to opening and using a bank account for any purpose, such as cost and physical proximity to financial service points, like branches or ATMs. The percentage of access can be determined by calculating the number of individuals who open and maintain accounts through financial institutions (Berkoh, 2016).

2. Financial Services Usage Index: This index is one of the factors for economic and social development as it provides resources that stimulate economic growth and assist individuals with low incomes (Ackan & Acquah, 2012). Usage primarily focuses on the continuity and depth of financial and banking services and products. Therefore, determining usage requires more details about consistency, frequency, and duration of usage over time. Measuring usage is crucial as it reflects the user's perspective, meaning the data collected is through demand-side surveys (Biju, 2016).

3. Financial and Banking Services Quality Index: Quality serves as a measure of how well a financial or banking service or product aligns with the needs and lifestyles of consumers, as demonstrated by their experiences, feedback, and opinions about these products (Sarma, 2015). Quality is an indirect and less straightforward dimension influenced by numerous factors, including service cost, consumer awareness, consumer protection services, financial guarantees, and intangible factors, such as consumer trust (Amina, 2021).

### **2.2 Conceptual framework of bank credit:**

#### **2.2.1 The concept of bank credit:**

Credit is the trust that a bank places in an individual to provide them with a specified amount of money for a particular purpose under agreed-upon conditions and with guarantees for repayment if the customer defaults (Al-Sayegh, 2018). The credit process signifies the trust between the lender (the bank) and the borrower (the customer), indicating an alignment of interests and needs between those who have funds and those who need them. It is worth noting that credit plays a vital role in economic development. Providing funds stimulates the economy, ensures employment, and increases production capacity and income (Al-Nuaimi, 2010).

Credit can be defined as all direct and indirect facilities provided to customers or the obligation to pay a cash amount in exchange for the right to repayment of the disbursed amount, plus interest or fees. Customers can be natural individuals or legal entities (Saham & Rusul, 2018). The banking system and financial institutions play a crucial role in the economy. Banks function as capital intermediaries, facilitating new capital flow into the markets. They create opportunities for new investments by converting deposits into loans, thus connecting entities with surplus capital to those needing funds. Banks also help reduce transaction costs and improve market efficiency (Al-Mousawi & Al-Fayafi, 2016).

#### **2.2.2 The importance of bank credit:**

Bank credit holds significant importance in the financial sector, especially the economy. When liquidity is available, the economy thrives, unemployment decreases, productive capacity increases, and income rises. Banks and financial institutions are not merely there to accept deposits but, more importantly, to utilize these funds efficiently and securely for profitability. They represent one of the most critical factors in economic development and financial stability (Funso et al., 2012).

Credit is considered the main driver and a major player in economic development. It is one of the most crucial activities that foster a robust industry. However, the impact of this activity significantly influences the national economy. Therefore, bank administrations must exercise precision in making credit decisions (Maitah et al., 2012).

### **2.2.3 Bank credit provided to the private sector :**

Private sector credit refers to credit extended to individuals governed by private law, including natural persons and legal entities such as corporations. The ability of these entities to obtain credit depends on their financial standing with the credit grantors, typically financial institutions (Al-Zubaidi, 2002). Local private sector credit refers to financial resources financial institutions provide to household and corporate sectors through loans, non-equity securities purchases, trade credits, and other accounts payable. Additionally, private sector credit may sometimes include credit to state-owned or partially state-owned enterprises in some countries (World Bank, 2020). All debts associated with individuals governed by private law, such as natural persons or private legal entities, depend on their credibility with credit grantors. This credibility is often based on expected future earnings and their ability to meet debt obligations when due (Suzi, 2005).

### **2.2.4 Factors affecting the volume of private bank credit:**

1. Government Credit Volume: An increase in public credit often comes at the expense of a reduced credit available to the private sector.
2. Interest Rates: Frequently, interest rates rise to a level that small projects and borrowers from middle-income groups need help to afford, leading to their inability to repay loans (Hussein & Hamdan, 2020).
3. Banking Administrative Issues: Factors like declining customer service quality, bureaucracy, a growing number of unprofitable branches and staff, and other issues increase costs, reduce profits, and affect a bank's ability to manage risks and liquidity. They can also result in a higher percentage of non-performing loans out of the total loans granted (Eswa, 2005).
4. Population: The total demand for local credit is positively related to the population level (Mohammad & Abdullah, 2018).
5. Default Risks: These are the probabilities of borrowers failing to meet their payment obligations (Kareem, 2019).

### **2.2.5 Private Credit Indicators:**

Credit to the private sector is used in several indicators to express the level and effectiveness of financial intermediation, including:

1. Credit-to-GDP Ratio: The credit banks and other financial institutions provide to the private sector divided by the Gross Domestic Product (GDP). It is used to measure the level of financial intermediation and the growth of the banking sector. This ratio includes only credit provided by financial intermediaries to the private sector and excludes credit provided by central and state-owned banks (Karema & Abdulqadir, 2018).
2. Private Credit as a Percentage of Total Domestic Credit: This ratio measures how funds are allocated by banks, showing how much loans are directed to the private sector instead of the government or state-owned institutions. A sizable portion of total credit to the private sector is more likely to be more efficient in selecting investment projects, aggregating risks, and mobilizing savings from financial systems that primarily direct credit towards the government and public institutions (Darrat, 1999).

### 2.3 The relationship between the development of banking services and credit provided to the private sector:

The development of banking services has become necessary due to the changes in the world, driven by technological advancements and increased competition resulting from the liberalization of the banking services trade (Khudari & Ammeen, 2022). Many other factors motivate this development, including opportunities and threats related to significant communications and information technology advancements. The rising expectations of customers make service quality a critical criterion for choosing between banks (Haddana & Ayshi, 2021).

Bank credit provided to various economic sectors is a good indicator of financial depth and economic growth. An increase in the credit-to-GDP ratio signifies that consumers have taken on more loans, which leads to higher investments, creating financial assets and contributing to economic growth (Nawal, 2022).

#### 2.3.1 Analysis of banking services indicators for the period (2017 - 2022):

##### 1. Financial and Banking Services Access Index :

This index measures the ability of financial and banking institutions to provide financial services and instruments related to financial regulations, organizational arrangements, and technological environments. Achieving financial access requires identifying the challenges and expected obstacles that institutions may face in delivering these services or that customers may encounter. It serves as a mirror reflecting the depth of banking and financial services (Iftikhar, 2020).

##### 2. Number of Automated Teller Machines (ATMs) per 1,000 People :

ATMs are important electronic payment tools, and central banks aim to increase their availability to introduce as many individuals as possible into the financial system. This is done to try to increase banking deposits within the financial system by using electronic payment methods and gradually reducing cash transactions. This indicator is measured by the number of ATMs per 1,000 people in each area (Sabri and Abdulhakim, 2021).

**Table 1:** Number of (ATM) per (1000) km of Iraq's area (2017-2022)

Years	Number of bank branches)	ATM number	Number of ATM (1000 km	Rate of change %
2017	843	656	1.50	-
2018	865	865	1.98	31.85
2019	888	1014	2.33	17.22
2020	891	1340	3.08	32.14
2021	905	1566	3.59	16.86
2022	876	2223	5.10	41.95

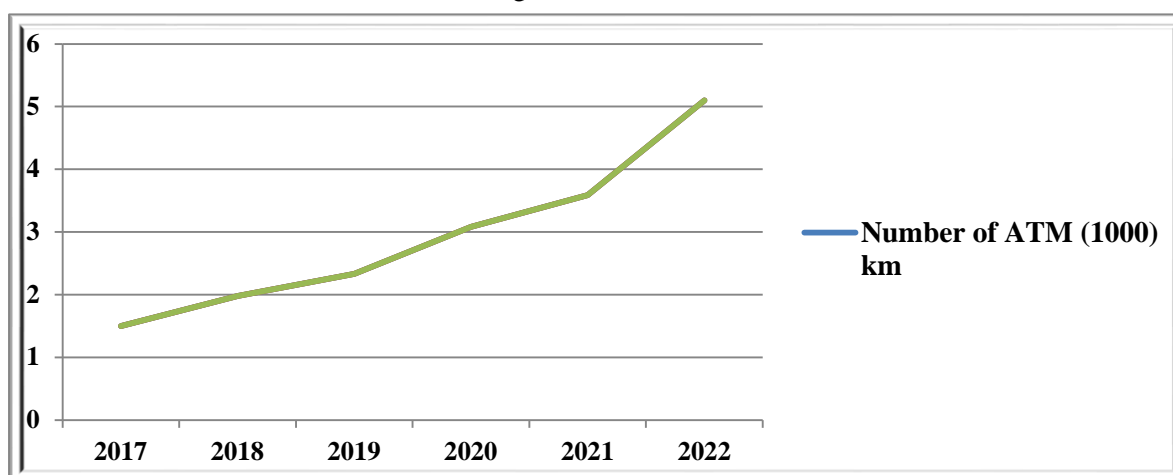
**Source:** Researcher based on

- Central Bank of Iraq, Department of Statistics and Research, annual statistical publication
- Central Bank of Iraq, Payments Department.
- Ministry of Planning - Central Bureau of Statistics and Research.

(\*) The area of Iraq is 435,052

The results from Table (1) and Figure (1) indicate a significant and noticeable evolution in the value of this indicator during the study period. After recording a value of 1.50 ATMs per 1,000 square kilometers in 2017, we can observe that this number increased to 1.98 ATMs in 2018, representing a 31.85% increase. It then continued to rise significantly to reach 2.33 ATMs in 2019, with a noticeable increase of 17.22% over 2018. The number continued to increase, reaching 3.08 ATMs in 2020, with a 32.14% increase. It increased again to reach 3.59 ATMs in 2021, with a 16.86% increase over 2020.

Regarding the number of ATM machines, it witnessed an increase during the study period, unlike the number of bank branches. The highest percentage was achieved in 2022, with 5.10 ATM machines per 1,000 square kilometers. This means that there are more than 2 ATM machines for every square kilometer. It is worth noting that most ATM machines are in commercial areas and bank branches themselves due to security reasons, lack of awareness, and financial literacy. This is because the use of these machines is still mostly limited to employees and retirees who receive their salaries through electronic cards.



**Figure 1:** Number of ATM for the period (2017-2021)

### 3. Point of Sale (POS) indicator per (1000):

The number of points of sale is a means to access financial and banking services quickly, at a lower cost, and with benefits (Al-Khazraji and Al-Husseini, 2019). Points of sale have several advantages, including increasing sales, reducing risks, preserving capital, investing in secure and reliable financial operations, and facilitating electronic auditing and monitoring by the beneficiaries of electronic payment operations (Central Bank of Iraq).

**Table 2:** Number of POS points of sale per (1000) for the area of Iraq for the period (2017-2022)

Years	Number pos	Number of pos (1000 km)	Rate of change %
2017	918	2.11	-
2018	2,200	5.05	139.65
2019	2,226	5.11	1.18
2020	7,540	17.33	238.72
2021	8,329	19.14	10.46
2022	10,718	24.63	28.68

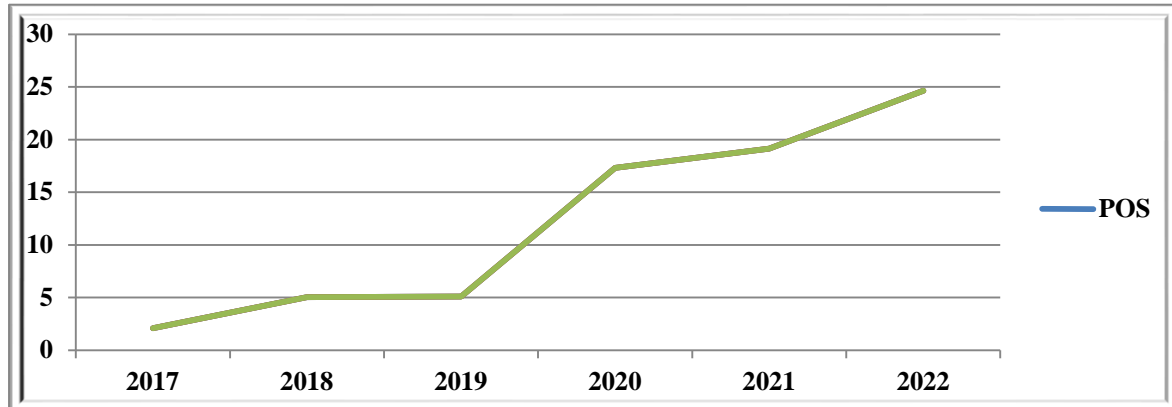
**Source:** Researcher based on

- Central Bank of Iraq, Department of Statistics and Research, Annual Statistical Bulletin
- Central Bank of Iraq, Payments Department
- Ministry of Planning - Central Bureau of Statistics and Research



- (\*) The area of Iraq is 435,052

The table (2) and figure (Figure 2) show the results of the indicator for the number of points of sale used in Iraq over the period from 2017 to 2021. It is evident that there has been a continuous increase in the number of points of sale. In 2017, there were 2.11 points of sale per 1000 square kilometers, and this increased to 5.05 in 2018. The upward trend continued in 2019, reaching 5.11. It continued to increase, reaching 24.63 in 2022. Despite the rapid spread of points of sale (POS), their use in electronic payment services is still very limited. This is primarily because most markets and businesses still predominantly deal with cash, and the culture of using POS devices is not yet widespread, especially in local communities.



**Figure 2:** Number of POS for the period (2017-2021)

### 2.3.2 Index of the ratio of credit provided to the private sector to GDP:

This indicator measures the level of financial intermediation in the economy and is widely used in the literature to assess the efficiency of commercial banks by providing loans that generate high returns. It is assumed that credit extended to the private sector generates significant increases in investment and productivity compared to providing those funds to public sector institutions. Therefore, it provides an impression of the extent of development in the financial system, especially in terms of information gathering, management oversight, facilitating the exchange process, and risk diversification. An increase in the ratio of credit to the private sector to the gross domestic product reflects the development of the banking system and the development of financial services as a reflection of financial intermediation's development in the economy.

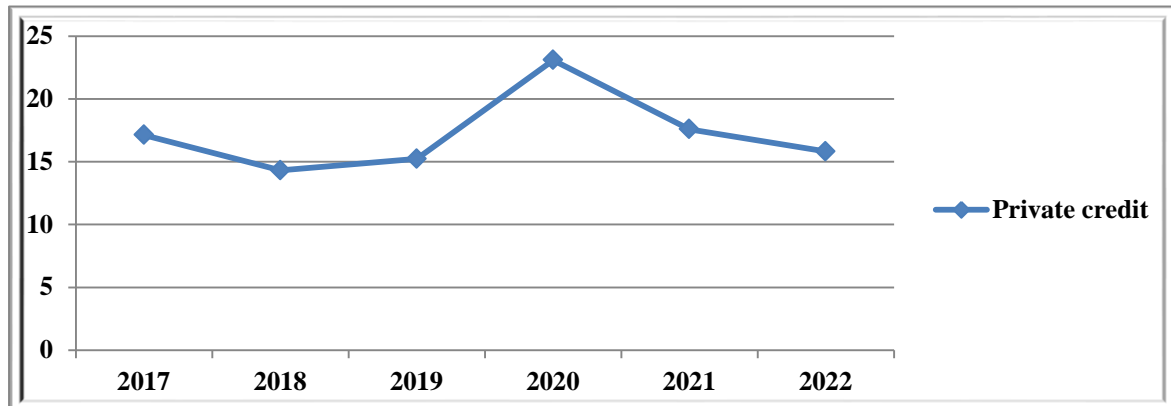
**Table 3:** Credit provided by the private sector to the gross domestic product in Iraq for the period (2017-2022)

Years	Credit to the private sector	Gross domestic product	Percentage of credit provided to the private sector	Rate of change %
2017	37952829	221665709	17.12	-
2018	38486947	268918874	14.31	-16.41
2019	42052511	276157868	15.22	6.40
2020	49817737	215661516	23.09	51.69
2021	52971508	301152819	17.58	-23.85
2022	60576014	383064152	15.81	-10.09

- **Source:** Prepared by the researcher based on the Central Bank of Iraq, Payments Department

From Table (3) and Figure (3), we can see that the ratio of private credit to the total Gross Domestic Product (GDP) fluctuated, with a percentage of 17.12% in 2017. It then decreased to 14.31% and subsequently increased to 23.09% in 2020, due to the decrease in GDP. Finally, it reached 15.81% at the end of the study period in 2022.

As indicated in Figure 3, the decline in the ratio of private credit to GDP is primarily because most of the credit is directed towards the public sector, crowding out the private sector in financing. This is also attributed to a decrease in domestic savings resulting from a decrease in individuals' real income. In addition, the private sector is weak, small, often family-based, and reliant on informal and self-financing methods, all influenced by the lack of trust in the banking system due to the complex economic situation.



**Figure3:** Percentage of credit provided to the private sector (2017-2022)

### 2.3.3 Analyze the relationship of the development of banking services to the volume of credit provided to the private sector:

Banking services are considered one of the most important economic activities, and the increasing demand for these services reflects the level of economic advancement in the country where the bank operates. This advancement contributes to the well-being of individuals in society, making the banking sector witness significant development. One of the main goals for banks is to transition from traditional environments and keep pace with technological progress through electronic services for customers, to enhance the level of banking services, satisfy customers, expand the customer base, and increase the competitive capability of banks. After 2016, the banking sector in Iraq began to align with modern technological developments and showed openness to the outside world by using the latest technologies when providing services to customers, considering the integrative and reciprocal relationship between the banking services index and the spread of electronic payment services in Iraq (Hussein and Hamdan, 2020).

**Table 4:** The relationship of banking services with credit provided to the private sector in Iraq (2017 - 2022)

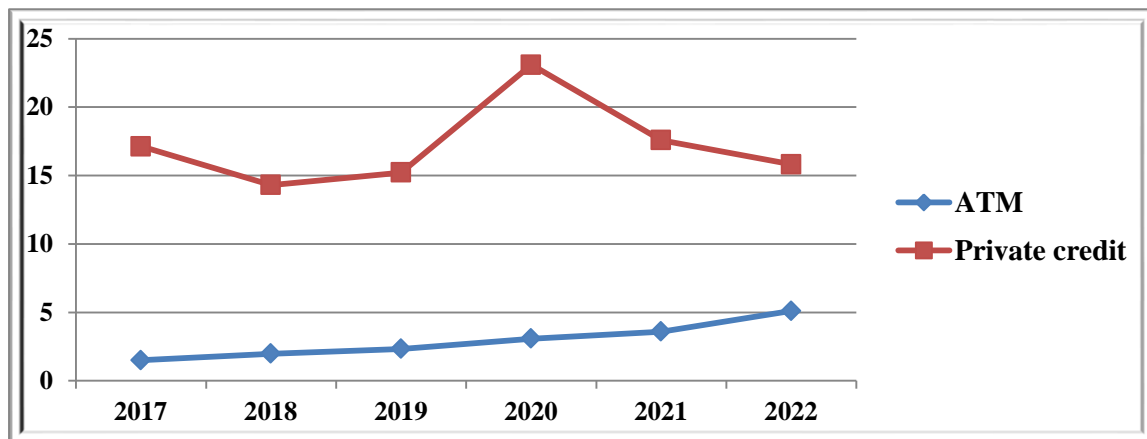
Years	(ATM) Number ratio	Rate of change %	Percentage of credit provided to the private sector	Rate of change %
2017	1.50	-	17.12	-
2018	1.98	31.85	14.31	-16.41
2019	2.33	17.22	15.22	6.40
2020	3.08	32.14	23.09	51.69
2021	3.59	16.86	17.58	-23.85
2022	5.10	41.95	15.81	-10.09

**Source:** Prepared by the researcher based on Table (2) and (3).

From the table (4), we can observe an inverse relationship between the Banking Services Index represented by ATMs and the Private Sector Credit Index. Over the study years, there were some variations in the trend. In 2018, the Banking Services Index showed an increase in the rate of change, while the Private Sector Credit Index decreased (-16.41). In 2019, both the

Banking Services Index and the Private Sector Credit Index had decreasing rates of change. However, in 2020, we notice a positive relationship between the rate of change for both indices, despite their different growth rates.

In 2021 and 2022, an inverse relationship between the Banking Services Index and the Private Sector Credit was observed. The Banking Services Index, particularly represented by the number of ATMs, showed an increase in these years, while the Private Sector Credit had a decrease in the specified period, as indicated in the table and confirmed by Figure (4).



**Figure 4:** The relationship of banking services with credit provided to the private sector (2017-2020)

### 2.3.4 The relationship of POS with the volume of credit provided to the private sector in Iraq for the period 2017-2022:

Electronic points of sale are machines that are deployed in commercial and service institutions of various types and activities using off-line or smart cards to make payments via debit on his account electronically by passing this card into the machine that is electronically connected to the bank's computer (Al-Masoudi 2015).

**Table 5:** The relationship of banking services with credit provided to the private sector in Iraq (2017 - 2022)

Years	(POS) Number ratio	Rate of change %	Percentage of credit provided to the private sector	Rate of change %
2017	2.11	-	17.12	-
2018	5.05	139.65	14.31	-16.41
2019	5.11	1.18	15.22	6.40
2020	17.33	238.72	23.09	51.69
2021	19.14	10.46	17.58	-23.85
2022	24.63	28.68	15.81	-10.09

**Source:** Prepared by the researcher based on Table (2) and (3)

From the table (5), we can observe an inverse relationship between the Banking Services Index represented by the spread of electronic payments (POS) and the Private Sector Credit Index. Over the study years, there were variations in the trend. In 2018, the Banking Services Index showed an increase in the rate of change, while the Private Sector Credit Index had a decrease in the rate of change.

In 2019, both the Banking Services Index and the Private Sector Credit Index had decreasing rates of change. However, in 2020, we notice a negative relationship between the rate of change for both indices, despite their different growth rates. In 2021 and 2022, there was an inverse relationship between the Banking Services Index and the Private Sector Credit Index. The Banking Services Index, particularly represented by the spread of electronic payments (POS), showed an increase in these years, while the Private Sector Credit had a decrease in the specified period, as indicated in the table and confirmed by Figure (5).

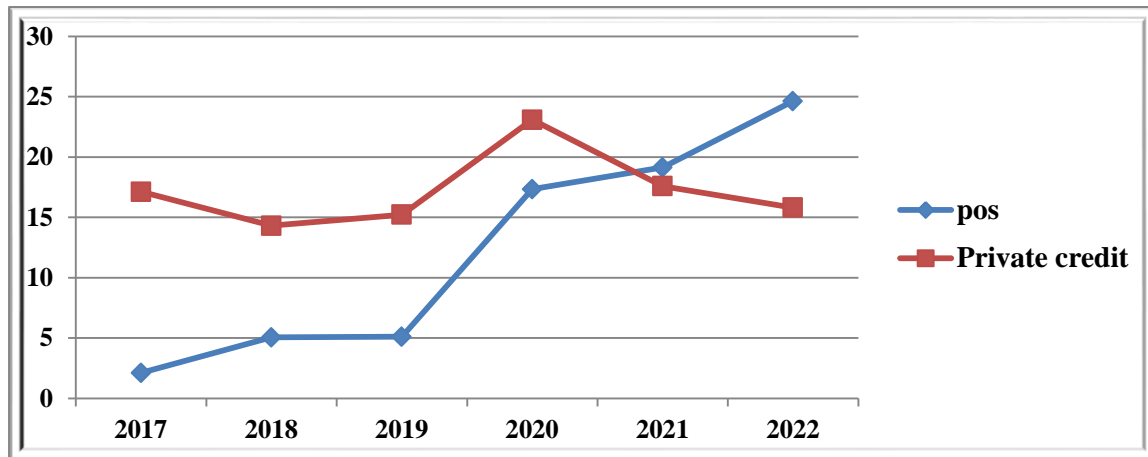


Figure 5: pos with the volume of credit provided to the private sector in Iraq (2017-2022)

### 3. Discuss of Results:

The analysis of the relationship between banking service indicators and the private sector credit index reveals that the development of banking services leads to the advancement of the banking sector. This is crucial in enhancing the volume of credit provided to the private sector through a wide range of direct tools using electronic methods, such as ATMs and point-of-sale (POS) terminals. This contributed to an increase in the credit volume at the study's beginning.

However, 2019, due to security concerns and the dual crisis in 2020, comprising the global health crisis and the financial crisis resulting from the plummeting global oil prices, there was a decrease in the volume of credit provided to the private sector. The research hypothesis aligns with the findings, as the evolution of banking services is indeed associated with an increase in the volume of credit provided to the private sector. Additionally, introducing advanced technological services into banking operations plays a significant role in developing banking services in Iraq.

### 4. Conclusion:

1. The results of the analysis of financial and banking service accessibility indicators, specifically the ATM and POS indicators, demonstrate a significant positive improvement during the study period. This confirms the clear trend toward adopting modern technological requirements in the banking sector, which plays a significant role in advancing banking services in Iraq.
2. Weak banking services in rural areas are primarily due to the concentration of banks in urban centers. Additionally, there is limited use of electronic payment services because of the lack of public awareness about how to use these services.
3. The inadequate infrastructure in the technology and telecommunications sector for the banking industry in Iraq has had a negative impact on the reality of banking services provided to the public.

**Authors Declaration:**

Conflicts of Interest: None

-We Hereby Confirm That All The Figures and Tables In The Manuscript Are Mine and Ours. Besides, The Figures and Images, Which are Not Mine, Have Been Permitted Republication and Attached to The Manuscript.

- Ethical Clearance: The Research Was Approved By The Local Ethical Committee in The University.

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## تطوير الخدمات المصرفية ودورها في تعزيز حجم الائتمان الممنوح للقطاع الخاص في العراق للمدة (2017-2022)

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### مستخلص البحث:

يعد النظام المصرفي المتقدم ركيزة رئيسية للنمو الاقتصادي تتبع اهمية هذا النظام عبر الخدمات المهمة التي يؤديها في الاقتصاد مثل تعبئة المدخرات المحلية بشكل ودائع و منح القروض ومراقبة اصحاب المشاريع الذين يقترضون من المصارف , وتحويل المخاطر وتسهيل العمليات المالية , استخدام الباحث مؤشرات الخدمات المصرفية ( مؤشر الوصول للخدمات المالية هي الصرف الالي (ATM) ومؤشر نقاط البيع (POS) ), ومؤشرات الائتمان المقدم للقطاع الخاص ( مؤشر نسبة الائتمان المقدم للقطاع الخاص الى الناتج المحلي الاجمالي ) ودور العلاقة بين الخدمات المصرفية وحجم الائتمان المقدم للقطاع الخاص في العراق . وتهدف الدراسة الى التعرف على مدى تطور الخدمات المصرفية ودورها في تعزيز الائتمان المقدم للقطاع الخاص في العراق. وجدت الدراسة ان التطور التكنولوجي مثل زيادة اجهزة الصراف الالي، وتسهيل عمليات السحب والايذاع الكترونيا، بالإضافة تدريب العاملين في المصارف على استعمال تكنولوجيا الاتصالات والحاسوب الالي، عبر مراكز البحث والتطوير، بحيث تستجيب مع التحولات والتطورات في الصناعة المصرفية الحديثة.

نوع البحث: بحث مستل من رسالة ماجستير

المصطلحات الرئيسية للبحث: الخدمات المصرفية، الائتمان المصرفي، القطاع الخاص.