

## Evolution of the financial depth in the Algerian banking system and mechanisms to improve it- an analytical study for the period of (2008-2018)

تطور العمق المالي في النظام المصرفي الجزائري وآليات تحسينه – دراسة تحليلية للفترة (2018-2008)

Madjida Meherhera\*  
University Blida2, Algeria

Received: 2020/11/13; Accepted: 2021/03/01

**Abstract:** through this article, a very important topic was addressed, which is to study the development of financial depth indicators in the Algerian banking system during the period (2008-2018), with the aim of finding out the depth of the latter, and it was concluded through this study that the depth of the Algerian banking system is weak and insufficient to perform Its functions, so a set of mechanisms must be followed to improve it.

**Keywords:** Financial depth; Algerian banking system; Indicators of financial depth.

**Résumé:** à travers cet article, un sujet très important a été abordé, qui est d'étudier l'évolution des indicateurs de profondeur financière dans le système bancaire algérien au cours de la période (2008-2018), dans le but de découvrir la profondeur de ce dernier, et il a été conclu par cette étude que la profondeur du système bancaire algérien est faible et insuffisante pour effectuer Ses fonctions , donc un ensemble de mécanismes doit être suivi pour l'améliorer.

**Mots-clés :** Profondeur financière ; Le système bancaire algérien ; Indicateurs de profondeur financière.

**ملخص:** من خلال هذا المقال تم معالجة موضوع في غاية الأهمية والمتمثل في دراسة تطور مؤشرات العمق المالي في النظام المصرفي الجزائري خلال الفترة (2008-2018)، وذلك بهدف معرفة مدى عمق هذا الأخير، وقد تم التوصل من خلال هذه الدراسة أن عمق النظام المصرفي الجزائري ضعيف وغير كافي لأداء مهامه على أكمل وجه، لذا يجب اتباع مجموعة من الآليات التي من شأنها تحسينه.

**الكلمات المفتاح:** العمق المالي؛ النظام المصرفي الجزائري؛ مؤشرات العمق المالي.

\* Madjida Meherhera ([m.meherhera@univ-blida2.dz](mailto:m.meherhera@univ-blida2.dz))

## **1- Introduction:**

The financial system is of great importance as it is a necessary requirement for economic development in Algeria, and in light of the ineffective financial market in Algeria, the Algerian banking system is considered the active sector and occupies the largest part of the financial system due to the role it plays in financing investments and the mobilization of savings, but the nature and importance of this role played by the Algerian banking system is largely linked to the degree of its inactivity and development and its ability to achieve development, monetary stability and financing for the Algerian economy, and in this study we will analyze the development of indicators which is used to measure the financial depth of the banking system, in order to know the depth of the Algerian banking system, and to propose a set of mechanisms that will improve the depth in case of weakness. and in order to address this problem, we ask the following question:

**To what extent is the Algerian banking system deep and developed, and what mechanisms can be followed to improve and develop it?**

In order to guide our research, we formulated the following hypotheses:

- The Algerian banking system is financially small and has a weak degree of depth that prevents it from playing its role well.
- The adoption of Islamic banking in Algeria is one of the most important mechanisms that can be used to improve the depth and development of the Algerian banking system.

In order to answer the question and address the problem and test the validity of hypotheses we divided the study into a set of elements consisting of:

- Financial depth of the banking system;
- Analysis of the financial depth in the Algerian banking system for the period (2008-2018);
- Mechanisms to improve the depth of the Algerian banking system.

## **2- Financial depth of the banking system**

The Banking sector serves as one of the important sectors in the economy because of its vital role in supporting economic activities (Setiawan, 2015, p. 139), the depth of the financial sector has generally been found to promote economic growth by increasing economic efficiency, investment and growth, (Sindain, 2013, p. 42).

### **2-1 Definition of financial deepening:**

- the Financial depth is to provide financial services and make them available for use or dealing by different sectors of society and enable them to benefit from

financial services and thus contribute to economic development, financial deepening enables savers to invest in a wide variety of assets with high quality (Bouflih & Torchi, 2016, p. 42).

- Shaw (1973) defined financial deepening as: "the accumulation of financial assets at a faster pace than the accumulation of non-financial wealth and output" (Marlyse, 2001, p. 9).

- Levine, (2005) gave a broader definition by explaining that financial deepening occurs when financial markets (primary, secondary and retail), instruments (deposits, loans, foreign exchange, bonds and debt securities) and stakeholders (banks, contractual savings institutions, companies) interact to reduce the costs of contract enforcement, transaction and information in order to perform five main functions namely: (Marlyse, 2001, p. 9)

- facilitate goods and services exchange (e.g. payment services);
- mobilize and pool savings of a large number of investors;
- acquire and process information about the companies and the potential investment projects and therefore allocating public savings to the most productive uses;
- Follow investments and exert corporate governance;
- Diversify and reduce liquidity risk and inter-temporal risk.

-The financial depth has gone beyond the traditional concept of total commercial bank deposits to GDP, and the concept of financial deepening is to expand the size and activity of the financial sector with the presence of reasonably sophisticated intermediary financial institutions (alshadod & Alsadi, 2013, p. 72).

-The financial depth of the economy reflects the degree of permeation of the economy with the financial tools and relations: its saturation with money, financial instruments and financial institutions. It reflects the compatibility of the volumes of production and the size and structure of the financial sector in terms of savings, investments, and redistributive mechanisms. The greater the financial depth, the more significant is the ability of the financial sector to reallocate financial resources in support of economic development (Yakov & Kuznetsova, 2013, pp. 159,160).

Finally, it can be said that there is no fixed definition of financial depth, yet the concept of financial depth can be summarized in a set of points: (alshadod & Alsadi, 2013, p. 72)

**1**-Increasing the size of institutions operating in the financial sector;

**2**-The variety of financial services available and the amount of funds being brokered in all areas of the financial sector;

**3**-Increased capital imposed by private financial institutions for the private sector rather than direct government lending;

**4**-Improved financial sector in terms of supervision, regulation and stability as well as efficiency and competitiveness;

**5**-Increasing proportion of the population with access to credit and financial services.

**2-2 Indicators for measuring the financial depth of the Banking system:**

The financial depth of any financial system is measured on a set of indicators, including those specific to the banking system, including those for the financial market, and in this study we will rely on the financial depth indicators of the banking system only, which are:

**2-2-1 Monetization of the Economy (M2/GDP) :** Monetization is the proportion of liquidity, composed of currency in circulation and demand deposits plus time deposits in domestic currency, plus deposits denominated by foreign currencies, to GDP. Monetization describes the volume of transactions involving monetary instruments in the economy (Yakov & Kuznetsova, 2013, p. 160), this ratio is the simplest indicator, which measures the degree of monetization in the economy, money provides valuable payment and saving services, the "narrow money" stock best reflects the former and "broad money" the latter, the narrow money balances should rise in line with economic transactions, but broad money should rise at a faster pace, if financial deepening is occurring (Lynch, 1996, p. 7).

**2-2-2 Broad money to narrow money (M2/M1):** the ratio of broad money to narrow money should be positively related to a country's level of financial development, savings deposits increase more rapidly than transaction balances as the financial system expands (Lynch, 1996, p. 10).

**2-2-3 Deposits to GDP:** This ratio is an important indicator of the volume of banking, as well as a qualitative measure of financial deepening, where deposits (current and savings) are one of the main sources of financing for banks that enable them to provide bank credit, and any rise in this ratio can be interpreted as It means an improvement in bank deposits and other financial assets that are likely to be used to accumulate assets and this increase economic growth rates (alshadod & Alsadi, 2013, p. 77).

**2-2-4 Private sector credit to GDP:** this indicator is an important indicator that reflects the efficiency and development of the banking system in any country, and depends on the size and importance of the private sector's contribution to economic activity compared to the public sector, and therefore directly linked to investment and growth (alshadod & Alsadi, 2013, p. 78).

**2-2-5 Banking density:** through this indicator, the extent of the expansion of the banking network in a country can be measured, which means that financial services are available to a large proportion of the population without the cost of moving to banking agencies, this indicator also reveals the ability of banks to absorb savings (Bouflih & Torchi, 2016, p. 46). Bank density is measured by the number of branches per 10,000 inhabitants.

**2-2-6 Banking Concentration:** the concentration ratios measure the competition from the perspectives of the number and size distribution of firms in the industry. In other words, the concentration measurement emphasizes the evaluation of competition on the number of firms and their size distribution (Tan, 2016, p. 106). The concentration in the banking markets is also an important feature of structural changes in the world of banking, and concentration is by no means a modern phenomenon, as banking systems in many countries of the world are dominated and controlled by a few large banks for at least half a century, this system varies.

Banking is competitively focused. The most common way to measure banking concentration depends on calculating the ratio of assets or deposits of the banking sector in a country controlled and managed by the top three or five banks (Zeger, 2008-2009, p. 30).

### **3 Analysis of the financial depth indicators in the Algerian banking system for the period (2008-2018)**

Law 90-10 of April 14, 1990 on rescue and loan is among the most important texts that have initiated economic reforms in Algeria. This law truly recognizes the importance of the place that the banking system should have in making reforms work first and ensuring efficient and consistent financing of the national economy (Letrech, 2015, p. 343).

Through this study, we will analyze the financial depth indicators that we mentioned in the theoretical part, based on the indicators of the Algerian banking system in 2008-2018, in order to deduce the depth of the Algerian banking system and to identify the aspects of the pressure in it in order to improve it.

**3-1 Monetization of the Economy:** we mentioned earlier that this indicator represents the degree of liquidity of the economy; this indicator is calculated in the following relationship:

$$\text{Monetization of the economy} = \text{M2/GDP}$$

And to measure the monetization of the economy in Algeria, we calculated this indicator through the ratio that represents this indicator which is **M2/GDP**, after extracting the values of **M2** and **GDP** during the study period represented in the period (2008-2018) based on the statistics of the reports of the Bank of Algeria for the same period, and table 1 shows the evolution of the monetization of the economy in 2008-2018(see table1 in appendix p11).

**Comment:** through Table 1, which shows the degree of liquidity of the economy expressed in the M2/GDP indicator for the period (2008-2018), we note that this percentage increased relatively during this period, as this percentage was estimated at 63% in 2008 to 82% in 2018, so the ratio of liquidity of the economy is estimated to average about 73%, and the improvement in the liquidity of the economy is due to the increase in the M2, which moved from 6955.9 billion dinars in 2008 to 16,636.7 billion dinars, an increase of 139% which is Greater than the increase in GDP, the latter moved from 10,993.8 billion dinars in 2008 to 2018.6 billion dinars, which increased by about 83%, but nevertheless the ratio of liquidity in Algeria remains despite its improvement and increase in years The latter is not enough compared to the counterpart in neighboring countries, for example if we compare the ratio of liquidity of the economy in Algeria, which was estimated at 82% in 2018 with the same ratio in Tunisia, the latter is estimated at 138% for the same year, In other words, in 2018 Tunisia's economic monetization ratio exceeded that of Algeria by an estimated of 56%, which is

evidence that although the liquidity of the economy in Algeria has improved, it remains insufficient and reflects the weakness of Algeria's financial depth.

**3-2 Broad money to Narrow money:** we mentioned earlier that this ratio should be positively related to a country's level of Financial development, savings deposits increase more rapidly than transaction balances as the Financial system expands, this indicator is calculated in the following relationship:

$$\text{Broad money to Narrow money} = M2/M1$$

And to measure the development of this indicator in the Algerian banking system we calculated based on the values of M1 and M2 extracted from the statistics of the reports of the Bank of Algeria for the period of study, and Table 3 shows the results (see table 2 in appendix p12).

**Comment:** through Table 2, which represents the ratio of broad money to narrow in Algeria in the period (2008-2018), we note that this percentage is very low, ranging from 1.40% to 1.46% during the study period, on average estimated this ratio is 1.44%, which is very small, and since this indicator is linked to the financial development rate and the financial depth of the banking system, the decline in this percentage in the Algerian banking system during the study period is evidence of the weakness of the Algerian banking system. This indicator, which did not exceed 1.46% as the maximum in 2018, reflects the large use of the currency outside of trading and current deposits, and limited transactions in savings deposits, and this reflects the low financial depth led by the Algerian banking system, despite the available possibilities and increased liquidity in it.

**3-3 Deposit to GDP:** this indicator represents the ratio of financial intermediation in the economy and the ability of banks to mobilize savings, this indicator is calculated in the following relationship:

$$\text{Deposit to GDP} = \text{Total Deposit} / \text{GDP}$$

And to measure this indicator in the Algerian banking system, we calculated the volume of deposits to GDP, which were extracted based on the statistics of the Bank of Algeria reports in the study period Table 3 shows the results (see table3 in appendix p12).

**Comment:** before analyzing the indicator of deposits/GDP we analyze the development of the volume of deposits during the study period (see figure1 in appendix p13) where we note through table 3 and figure1 the increase in the volume of deposits during the years 2008-2018, where it moved from 5161.8 billion dinars in 2008 to 11709.9 billion Dinars in 2018 with an estimated growth rate of 126%, while term deposits also increased from 1991 billion dinars in 2008 to 5,232.6 billion dinars in 2018 with an estimated growth rate of 163%, this is evidence of the improvement and development of term deposits, which accounted for 23% of total deposits in 2008, amounting to 51% and 45% of total deposits in

2017 and 2018, respectively, and this increase is good because term deposits represent the most stable resources of banks (see figure 2 in appendix p13).

As for the ratio of deposits to GDP, we note from (table 3 in appendix p12) that this percentage increased during the study period, moving from 47% in 2008 to 58% in 2018, but, despite this modest increase, this percentage recorded during the study period is very weak and did not exceed on average 50% and this is It reveals the weakness of the Algerian banking system, its inability to attract savings and the fact that a significant portion of liquidity remains trading outside the banking system.

**3-4 Credit to the private sector to GDP:** the private sector's credit ratio compared to GDP represents the extent to which the banking sector contributes to private investment financing, which is reflected in the financing capacity of the economy through bank loans (Bouflih & Torchi, 2016, p. 45), this indicator is calculated in the following relationship:

$$\text{Private sector credit to GDP} = \text{CPS/GDP}$$

And to measure this indicator in the Algerian banking system, we calculated the credit to the private sector to GDP, which were extracted based on the statistics of the Bank of Algeria reports in the study period Table 4 shows the results (see table4 in appendix P12)

**Comment:** through Table 4, we note that the ratio of credit to the private sector to GDP was estimated at 25% in 2018, up from 12.8% in 2008 with a growth rate of 95%, which means that this ratio has almost doubled, yet a weak percentage remains a weak contribution of the Algerian banking system to the granting of Credit and financing for private sector institutions, perhaps the banks' reluctance to expand the granting of credit to this sector is due to several reasons, the most important of which is the large amount of risks associated with private sector institutions and their private investments, which makes banks demand the size of large guarantees that these institutions cannot provide, in addition to the weak contribution of private banks as General in the financing of the private sector and its direction of financing which provides it with large profits in a short time.

Finally, it can be said that, despite the improved credit ratio for private sector enterprises, the volume of loans provided remains insufficient, especially with regard to lend to SMEs.

**3-5 Banking density:** bank density is measured by the number of branches per 10,000 inhabitants; this indicator is calculated in the following relationship:

$$\text{Banking density} = (\text{total branches} \times 10000) / \text{total inhabitants}$$

The result obtained through the Bank Density Index is interpreted as follows: (Salem, 2011-2012, p. 145)

Banking density =1: is the ideal number for the distribution of bank branches;

Banking density >1: there is a large spread of banks which increases the cost and this reduces the bank's profitability;

Banking density <1: the spread of banks is insufficient and therefore the banking service does not reach a certain category of people who need this service.

And to measure this indicator in the Algerian banking system, we calculated the banking density, which were extracted based on the statistics of the Bank of Algeria reports in the study period Table 5 shows the results (**see table 4 in appendix P12, figure 3 in appendix p13 and figure 4 in appendix p14**).

**Comment:** we note through (**figure 3 in appendix p13**) that the number of bank branches developed during the study period, moving from 1,301 agencies in 2008 divided between 1057 public banking agencies and 244 agencies of private banks and financial institutions to 1,604 agencies in 2018 divided between 1,145 public banking agencies and 459 banking agencies. The number of agencies increased during the study period at a growth rate of 23.29% in 2018 compared to 2008, the number of branches of public banks accounted for the largest part of the total number of branches, accounting for 71.38% in 2018, while the number of branches for private banks and financial institutions accounted for 28.61% for the same year.

With regard to bank density, bank of Algeria reports for the period of study showed the development of the latter, where in 2008 it was worth 26,400 people per net, then decreased slightly in 2013, 2014 and 2015 to 25,600, 25,630 and 25,660 people per net (Bank of Algeria, 2008-2018, p. 69), which according to the Cameron model was between 0.37 nets per 10,000 inhabitants and 0.39 Buck per 10,000 inhabitants as the maximum estimate during the study period and this is shown in (**table 5 in appendix p14**), this is evidence that the degree of spread of banks in the Algerian banking system is still weak and has not reached the international standard which stipulates that every 10,000 people have one branch of a bank, reflecting the inadequacy of the spread of banks in Algeria, and the lack of access to banking service for all groups who need it, while the (**figure 4 in appendix p14**) represent the ratio of the working population to banking agents has declined from 8,300 working-age people per window in 2008 to 7,667 working-age people per net in 2017, a sign of improvement in this indicator.

**3-6 Banking concentration:** the most common way to measure banking concentration depends on calculating the ratio of assets or deposits of the banking sector in a country controlled and managed by the top three or five banks (Zegrer, 2008-2009, p. 30), and to measure this indicator in the Algerian banking system, we rely on the information and statistics found in the annual reports of the Bank



of Algeria in the study period, these reports show that the degree of banking concentration in the Algerian banking system is high, as public banks dominate the banking sector, where the share of public bank assets of the total assets of the banking sector as a whole is a large share of 90.8% in 2008 and in 2017 it became 85.6% of the total assets of the banking sector., a proportion that indicates the dominance of public banks in the activity of the Algerian banking system, as for private bank assets to the total assets of the sector, in 2008 it was estimated at 9.2% to move in 2017 to 14.4%, which means that despite its small improvement, this percentage remains low and indicates the small size of private bank assets compared to the general public.

As part of the measure of banking concentration in the Algerian banking system, the share of assets of the largest general bankers accounted for nearly 50% of the sector's total assets in 2017, up from 57.4% in 2008, while the share of assets of the three largest private banks accounted for approximately 5.6% of the sector's total assets in 2017. 4.8% was cancelled in 2008, which indicates that the degree of banking concentration in Algeria is very large and this means that the size of the competition is small.

#### **4- Mechanisms to improve the depth of the Algerian banking system**

There is a range of mechanisms that the Algerian banking system can follow in order to improve its depth and activate its role further and we will limit these mechanisms below:

**4-1 Islamic banking :** Islamic banks contribute to improving and increasing financial depth through the instruments they use in financing (mosharaka, modaraba, murabaha, istesnaa, ijara, salam ) in accordance with the principles of Islamic law, the contribution of Islamic banks to improving and increasing the financial depth of the Algerian banking system is reflected in a combination of factors that positively influence the indicators adopted in measuring financial depth, through the mobilization of savings more than traditional banks, because of their ability to attract The category that refrains from placing its savings in traditional banks because of the latter's interest rate dealings, Thus, the introduction of Islamic banks within the Algerian banking system increases the volume of savings and thus improves the financial depth by increasing the contribution of combined savings to this gross domestic product (deposits/ GDP) on the one hand, and on the other hand, attracting money that trades outside the sector, thus improving the ratio of (M2 / M1).

On the other hand, the nature of the work of Islamic banks makes them heavily linked to the real economy unlike traditional banks, so Islamic banks improve the depth of the Algerian banking system by providing financing for investments that reflect positively on economic development and encourage Productive sectors this is reflected in the rise in the private sector loan to GDP (CPS/GDP), the opening of Islamic banks in Algeria or the opening of Islamic branches within traditional banks is also considered to enshrine the so-called

financial inclusion, which is what all countries and financial systems seek to achieve, and the opening of Islamic banks and Islamic branches in Algeria is part of the framework of enshrining financial inclusion through Fulfilling the wishes of all categories and providing all kinds of banking services, this reflects positively on the depth and development of the Algerian banking system.

**4-2 Private banks :** public banks dominate the Algerian banking sector, which makes them bear a heavy burden, so private banks should be encouraged to play their part within the Algerian banking system by raising more savings, providing financing to private sector institutions and encouraging investments, especially those that are related to the financing of small and medium enterprises, which is the basis of economic development and not only financing the consumer and service sectors at the expense of productive sectors.

**4-3 Development of electronic payment :** the development of electronic payment in the Algerian banking system and the generalization of its dealings will achieve two objectives that will improve the financial depth of the Algerian banking system, the first objective is to eliminate the currency that trades outside the sector or reduce its size and prevent its circulation in the parallel sector, and the second objective is to Maintaining the liquidity of the economy, reducing the risk of liquidity and activating the monetary policy path in the Algerian banking system, will increase the depth of the latter.

**5 Results and discussion :** by analyzing the financial depth indicators of the Algerian banking system in the study period, we concluded a set of results, which we summarized below:

- The monetization of the economy ( $M2/GDP$ ) improved during the study period, but if compared to neighboring Arab countries such as Tunisia, it is weak;
- Through the ( $M2/M1$ )ratio, the results showed that M1 represents the largest proportion of M2 components, which is evidence of a preference for dealing with money outside the banking sector and current deposits more than savings deposits, reflecting the weakness of the Algerian banking system;
- In terms of the volume of deposits to GDP ( $DEP/GDP$ ) in the Algerian banking system, it represented 50%, which is insufficient, indicating the weakness of the Algerian banking system in attracting savings and employing it to finance the economy;
- The volume of term deposits has evolved in the study period, yet the latter still represents a small percentage of the total deposits in the Algerian banking system;
- For private sector credits to GDP ( $CPS/GDP$ ), the results of this indicator showed the weakness of the Algerian banking system and its ineffectiveness in granting financing to private sector institutions and productive investments;
- The study of the banking density indicator in the Algerian banking system during the study period proved that the ratio was less than 1 in each study period, which indicates the weakness of banking density in the Algerian banking system, which is far from the international standard which demands that for every 10,000 people a branch of a bank;

- The results of the concentration of banking in the Algerian banking system showed that the degree of concentration of the latter is very large, and shows the lack of competition and the dominance of some banks in the banking sector as a whole ;
- Introducing Islamic banking into the Algerian banking system will improve its depth and development;
- Encouraging private banks and promoting competition in the banking sector will improve the depth of the Algerian banking system;
- The adoption of electronic payment helps to control the process of the circulation of money and its introduction to the official sector as well as to provide liquidity and thus improve the financial depth of the Algerian banking system.

#### **6- Conclusion:**

In conclusion, through this study, which was to study the development of the depth of the Algerian banking system and its mechanisms for improving it in the period (2008-2018), we concluded by analyzing the financial depth indicators of the Algerian banking system that the depth of the latter is weak and insufficient and shows its incompetence and inefficiency in To play its role in the economy, and in order to improve the depth of the Algerian banking system and work to develop it, we mentioned a set of mechanisms through which to improve the indicators of depth and achieve development in the Algerian banking system, this denies the first hypothesis and proves the validity of the second hypothesis.

#### **7- Appendices:**

**Table1: monetization of the economy in Algeria for the period of (2008-2018)**

**Unit: 1 billion Algerian dinars**

<b>Years</b>	<b>M2</b>	<b>GDP</b>	<b>M2 /GDP</b>
<b>2008</b>	6955.9	10993.8	<b>0.63</b>
<b>2009</b>	7173.1	11664.57	<b>0.61</b>
<b>2010</b>	8280.7	12049.5	<b>0.68</b>
<b>2011</b>	9929.2	14384.8	<b>0.69</b>
<b>2012</b>	11013.3	15843.0	<b>0.69</b>
<b>2013</b>	11941.5	16647.9	<b>0.72</b>
<b>2014</b>	13686.7	17228.6	<b>0.79</b>
<b>2015</b>	13704.5	16702.1	<b>0.82</b>
<b>2016</b>	13816.3	17406.8	<b>0.79</b>
<b>2017</b>	14974.6	18906.6	<b>0.79</b>
<b>2018</b>	16636.7	20189.6	<b>0.82</b>

**The source: prepared by researcher based on bank of Algeria reports (2008-2018).**

**Table2: the broad money to narrow money in Algeria for the period of (2008-2018)**  
**Unit: 1 billion Algerian dinars**

Years	M1	M2	M2/M1
2008	4964.9	6955.9	1.40
2009	4944.2	7173.1	1.45
2010	5756.4	8280.7	1.43
2011	7141.7	9929.2	1.39
2012	7681.8	11013.3	1.43
2013	8249.8	11941.5	1.44
2014	9603.0	13686.7	1.42
2015	9261.2	13704.5	1.48
2016	9407.0	13816.3	1.47
2017	10266.1	14974.6	1.46
2018	11404.1	16636.7	1.46

The source: prepared by researcher based on bank of Algeria reports (2008-2018).

**Table3: the evolution of Deposits and Deposits to GDP in the Algerian banking system for the period of (2008-2018)**

**Unit: 1 billion Algerian dinars**

Years	Deposits	Terme deposits	GDP	DEP/GDP
2008	5161.8	1991.0	10993.8	0.47
2009	5146.4	2228.9	11664.57	0.44
2010	5819.1	2524.3	12049.5	0.48
2011	6733.0	2787.5	14384.8	0.47
2012	7235.8	3333.6	15843.0	0.46
2013	7787.4	3691.7	16647.9	0.47
2014	9117.5	4090.4	17228.6	0.53
2015	9200.8	4443.3	16702.1	0.55
2016	9079.9	4409.3	17406.8	0.52
2017	10232.2	4708.5	18906.6	0.54
2018	11709.9	5232.6	20189.6	0.58

The source: prepared by researcher based on bank of Algeria reports (2008-2018).

**Table4: the evolution of private sector credit to GDP in the Algerian banking system for the period of (2008-2018)**

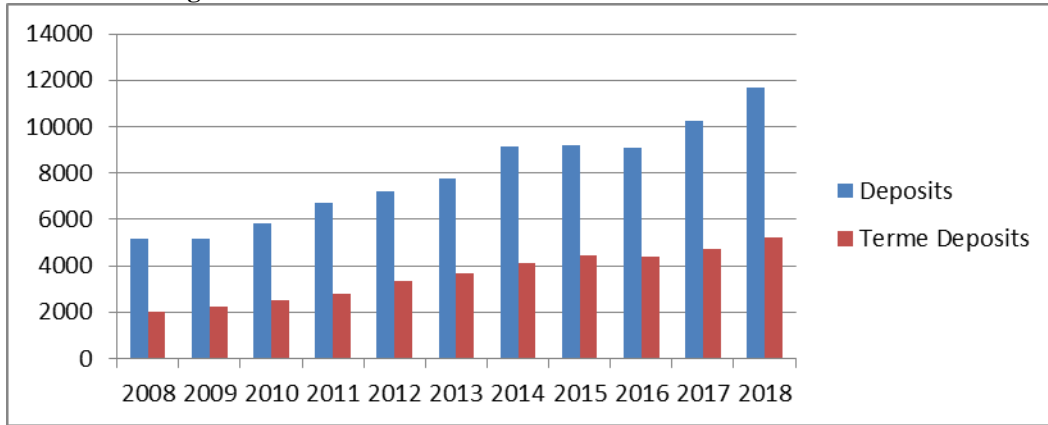
**Unit: 1 billion Algerian dinars**

Years	CPS	GDP	CPS/GDP
2008	1411.9	10993.8	0.128
2009	1599.2	11664.57	0.137
2010	1805.3	12049.5	0.149
2011	1982.4	14384.8	0.137
2012	2245.0	15843.0	0.141
2013	2722.0	16647.9	0.163
2014	3121.7	17228.6	0.181
2015	3588.3	16702.1	0.21
2016	3957.1	17406.8	0.23
2017	4568.3	18906.6	0.24
2018	5032.2	20189.6	0.25

The source: prepared by researcher based on bank of Algeria reports (2008-2018).

**Figure1: the evolution of deposits and term deposits in the Algerian banking system for the period of (2008-2018)**

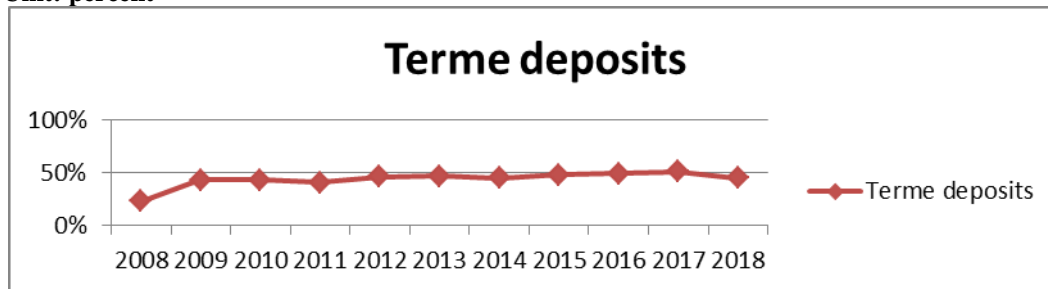
**Unit: 1billion Algerian dinars**



**The source: prepared by researcher based on bank of Algeria reports (2008-2018).**

**Figure2: the evolution of the term deposits to deposits ratio in the Algerian banking system for the period of (2008-2018)**

**Unit: percent**



**The source: prepared by researcher based on figure1 in the same period.**

**Figure3: the evolution of the banking branches in the Algerian banking system for the period of (2008-2017)**

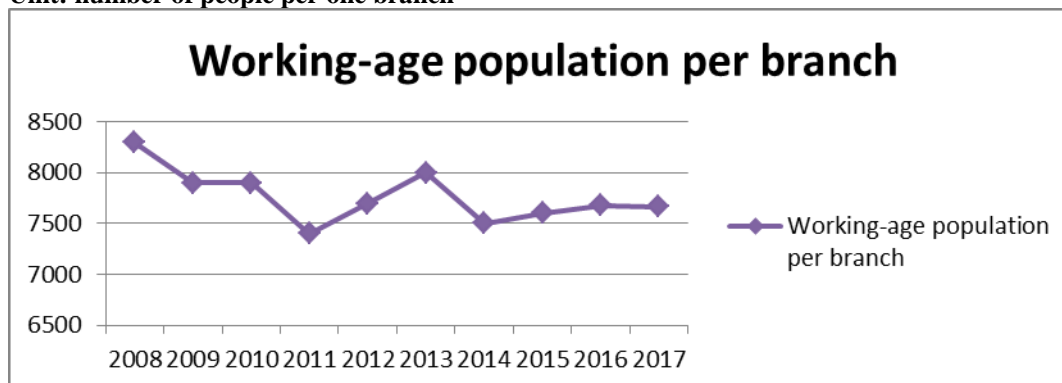
**Unit: one branch**



**The source: prepared by researcher based on bank of Algeria reports (2008-2017).**

**Figure4: the evolution of working-age population per branch in the Algerian banking system for the period of (2008-2017)**

**Unit: number of people per one branch**



The source: prepared by researcher based on bank of Algeria reports (2008-2017).

**Table5: The banking density in the Algerian banking system for the period of (2008-2017)**

**Unit: number of branch for 10000 people**

Years	Banking density
2008	0.37
2009	0.37
2010	0.38
2011	0.38
2012	0.38
2013	0.39
2014	0.39
2015	0.39
2016	0.39
2017	0.38

The source: prepared by researcher based on bank of Algeria reports (2008-2017).

## 8- References:

- **Articles:**

- 1- Alshadod, A. A., & Alsadi, S. Z. (2013). Specifying the direction of the relation between the depth and the economic development in Iraq for the period of (1990-2010) Qadissiya journal of Management and Economic sciences, 15(1), 67-87.
- 2- Bouflih, N., & Torchi, M. (2016). Study of financial depth indicators in Algeria under financial and monetary reforms. Journal of financial and banking studies, 24(3), 42-47.
- 3- Lynch, D. (1996). Measuring financial sector development:A study of selected Asla-pacific countries. The development Economies, XXXIV(1), 4-33.
- 4- M. L. (2001). Effects of financial deepening on economic growth in kenya. International journal of business and commerce, 4(7), 1-50.
- 5- Setiaman, S. (2015). Financial depth and financial access in indonesia. journal of Indonesian Economy and Business, 30(02), 139-158.

6- Sindain, M. (2013). The impact of financial sector deepening on economic growth in Kenya. International Academic Journal of information sciences and project Mangement, 1(1), 41-64.

7- Tan, Y. (2016). Efficiency and competition in chinese banking. Chandos publishing, Elsevier.

8- Yakov, M., & Kuznetsova, O. K. (2013). Financial depth of the BRIC: The Russian Dimension. The journal of Global Business and political Economy, 17(2), 156-175.

- **Books:**

1- Letrech, T. (2015). Monetary and Banking Economic (Vol. 2). Algeria: University Publications Bureau

- **Reports:**

1- Bank of Algeria. (2008-2018). Banking intermediation and banking sector infrastucture. annual, Bank of Algeria.

- **Theses:**

1- salem, & elrazek, a. (2011-2012). Algeria's banking sector in the face of globalization - performance assessment and reform requirements, phd theses , Management sciences, university of Algerie's3, Algeria.

2- Zegrer, A. (2008-2009). Modernizing the arab banking system to keep up with the chalenges of comprehensive banking -study of the state of the Algerian banking system. Master's Thesis, university of Biskra, Economics, Algeria.