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The financial soundness of the Algerian commercial banks

السلامة المالية للبنوك التجارية الجزائرية

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Abstract:

The Algerian banking system has passed through many stages and reforms that have encouraged opening the banking sector to private investment to increase the competition level and improving the bank's performance. Due to these reforms, the banking system is facing deep and varied challenges which has increased in recent years. This study aims to investigate the soundness of the Algerian banking system after the reforms of the banking system in 2011. The study measures the financial stability by using the Financial Soundness Indicators, which include 3 main indicators: capital-based; asset-based; and income- and expense-based indicators. The study utilizes a sample of 08 Algerian commercial banks (public and private) for the period 2012-2018. The findings reveal that both capital-based and asset-based indicators showed that Algerian banks were unable to maintain a sustain performance, while, income- and expense-based indicators revealed that Algerian banks are able to uphold a strong position.

Keywords: Financial Soundness Indicators; Financial stability; Commercial banks; Algerian banking system.

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ملخص:

مر النظام المصرفي الجزائري بعدة مراحل وإصلاحات شجعت على فتح القطاع المصرفي أمام الاستثمار الخاص لزيادة مستوى المنافسة وتحسين أداء البنوك، بسبب هذه الإصلاحات، يواجه النظام المصرفي تحديات عميقة ومتنوعة زادت في السنوات الأخيرة. تهدف هذه الدراسة إلى التحقق من سلامة النظام المصرفي الجزائري بعد إصلاحات النظام المصرفي في 2011. تقيس الدراسة الاستقرار المالي باستخدام مؤشرات السلامة المالية، والتي تشمل 3 مؤشرات رئيسية: مؤشرات رأس المال، مؤشرات الأصول ومؤشرات الدخل والانفاق. تستخدم الدراسة عينة من 08 بنوك تجارية جزائرية (عامة وخاصة) خلال الفترة 2012-2018. كشفت النتائج أن كل من مؤشرات رأس المال والأصول أظهرت أن البنوك الجزائرية لم تكن قادرة على الحفاظ على أداء ثابت، في حين كشفت المؤشرات القائمة على الدخل والمصروفات أن البنوك الجزائرية قادرة على الحفاظ على مركز قوي.

الكلمات المفتاحية:

مؤشرات السلامة المالية؛ الاستقرار المالي؛ البنوك التجارية؛ النظام المصرفي الجزائري.

Introduction

The Algerian banking system has passed through many stages. Therefore, the Algerian authorities had made some reforms in which the banking system development was the primary goal of these reforms. The most important one was issued on February 14, 1990 (Act 90-10), and it represented the turning point in the Algerian banking system; it included new ideas related to the performance of banks. All these reforms had a significant impact on the Algerian banking system, where these reforms have allowed liberalizing the banking sector from the state intervention. Furthermore, the reforms have encouraged opening the banking sector to private investment to increase the competition level in the banking sector and improving the bank's performance. Due to both financial liberalization and banking

openness, the banking system is facing deep and varied challenges which has increased in recent years.

Despite social strife and unique challenges posed by the large hydrocarbon sector, Algeria has bravely attempted to modernize its financial system over the last decade. However, state-owned banks continue to dominate financial intermediation, mainly to public bodies, financial markets are still in their infancy, and otherwise commendable regulatory reforms are lagging.

This study came to investigate the soundness of the Algerian banking system after the reforms of the banking system in 2011. The study measures the financial stability by using the Financial Soundness Indicators, which include 3 main indicators: capital-based; asset-based; and income- and expense-based indicators. The study utilizes a sample of 08 Algerian commercial banks (public and private) for the period 2012-2018.

1. Algerian banking system

Algeria's banking sector is characterized by low intermediation and penetration rates, although both have increased dramatically in recent years thanks primarily to ample liquidity stemming from abundant hydrocarbons revenues. The sector's regulator, the Bank of Algeria, has licensed 20 banks – including six public banks that essentially dominate the sector. In light of the rapid decline in hydrocarbons receipts in late 2014, the authorities have accelerated implementation of planned reforms and announced new measures to empower the sector to finance broad-based economic development. In 2015 important steps were taken to integrate the very large informal economy into the formal financial system (Oxford Business Group, 2015, p. 63).

1.1. banking reforms

The Algerian banking system, just like other banking systems, has seen several reforms which began in 1971. Their objectives were to conduct and monitor the financial operations of public institutions (banks), and impose strict control on cash flows. However, a radical reform was introduced on the banking function on August 19, 1986 (Act 86-12), to establish the general principles of public banks and unify the legal framework which runs the banking institutions. Act 01-88, issued on December 1, 1988, aimed at guiding the public institutions; the banks became more independent in managing their financial resources and granting loans. Therefore, banks turned into economic institutions whose objective is to make profit and profitability. Other financial reforms came later. The most important one was issued on February 14, 1990 (Act 90-10), and it represented the turning point in the Algerian banking system; it included new ideas related to the performance of banks, i.e., liberalizing banks from the restrictions imposed on them, limiting the monetary authority to one party which is the Central Bank and the Council of Money and Credit, all owing the establishment of private banks, and encouraging the entry of foreign banks (Benahmed-Daho, Bouteldja, & bendob, 2015, p. 890).

In order to realize the objectives of the economic reforms, it was necessary to make fundamental financial reforms. To this end, the Law on Money and Credit (LMC) was issued in 1990, in which it aimed to construct a modern banking system that it is able to meet the requirements of the market economy system. The main objectives of this law were moving from the directed credit banks to market-determined credit banks and enhancing the modernization and competitions in the banking sector. Thus, the authorities have proceeded to a gradual withdrawal of the role of treasury in financing the state-owned enterprises and transferred this role to banks. Moreover, the role of the central bank in financing the deficit of the treasury has been reduced by determining a specific ceiling in

financing the deficit. The LMC was focused on the liberalization of banks' activities from the centralized management through breaking down of state interferences in the banks' decisions; such as the administrative determination of interest rates and the orientation of loans allocation. For the first time, Central Bank of Algeria was charged for the monetary policy and interest rate determination. LMC has neutralized the role of treasury in setting preferable interest rates for the public sector, where the lending interest rates have been unified for the private and public sectors. On the other hand, the law has allowed deregulating the interest rates on deposits by removing the interest rates ceiling. Hence, ceilings on lending interest rates were substituted by limits on banking spreads, and in 1995, these limits were removed. Furthermore, the law had unified the interest rates for the public and private banks (Hacini & Dahou, 2018, p. 152).

The revision of the 2003 banking law through the Ordinance on Money and Credit of August 2010 extended the missions of the central bank to include an explicit objective of financial stability in addition to the price stability mandate. The 2010 banking law emphasized the role of the Bank of Algeria in ensuring banking system stability, safety and soundness. In this regard, it has been endowed with larger prerogatives to carry out any investigation at the level of banks or financial institutions, thereby enabling greater capacity for early detection of vulnerabilities in the system. Accordingly, the Bank of Algeria intensified micro-prudential controls, including with regard banks' anti money laundering and financing of terrorism mechanisms. Improved efficiency of these controls enables an orderly development of the banking system. For a comprehensive monitoring of the banking sector stability, the Bank of Algeria periodically assesses its 4 BIS central bankers' speeches soundness, based on stress tests which have been developed since 2007 and strengthened in 2013–2014 (Laksaci, 2014, pp. 3-4).

2. financial soundness indicators

The international monetary fund established a framework for financial institutions and others in 2006 to measure the financial soundness using a set of indicators. This framework namely financial soundness indicators compilation guide was revised in 2019.

Financial soundness indicators (FSIs) are indicators of the current financial health and soundness of the financial institutions in a country, and of their corporate and household counterparts. They include both aggregated individual institution data and indicators that are representative of the markets in which the financial institutions operate. Supervisory data are important sources for calculation of FSIs. FSIs are calculated and disseminated to support macroprudential analysis. They focus on indicators of financial soundness directly relevant for the financial sector. The reason is twofold: FSIs have traditionally been associated to financial institutions and the necessary data sources are sufficiently available. For the same reasons, this Guide gives less emphasis to non-financial corporations or other areas of the financial sector, like shadow banking (IMF, 2019, p. 1).

Table 01 presents the financial soundness indicators for deposit takers (banks). There are 12 core and 14 encouraged FSIs for deposit takers. Other than the two interest-rate-based indicators.

Table 01: financial soundness indicators

Capital-based indicators	Regulatory capital to risk-weighted assets (core)
	Regulatory Tier 1 capital to risk-weighted assets (core)
	Capital to assets
	Nonperforming loans net of provisions to capital (core)
	Return on equity (net income to average capital [equity]) (core)

	Large exposures to capital
	Net open position in foreign exchange to capital (core)
	Gross asset and liability positions in financial derivatives to capital
	Net open position in equities to capital
Assets-based indicators	Liquid assets to total assets (liquid asset ratio) (core)
	Liquid assets to short-term liabilities (core)
	Customer deposits to total (non-interbank) loans
	Return on assets (net income to average total assets) (core)
	Nonperforming loans to total gross loans (core)
	Sectoral distribution of loans to total loans (core)
	Residential real estate loans to total loans
	Commercial real estate loans to total loans
	Geographical distribution of loans to total loans
	Foreign-currency-denominated loans to total loans
	Foreign-currency-denominated liabilities to total liabilities
Income- and expense-based indicators	Interest margin to gross income (core)
	Trading income to total income
	Noninterest expenses to gross income (core)
	Personnel expenses to noninterest expenses

Source: (IMF, financial soundness indicators compilation guide, 2006)

For the purpose of the study and due to unavailability of the data we eliminated several indicators and only analyzed the financial soundness of the Algerian banks with the indicators that are mentioned in the following.

2.1. capital-based indicators

2.1.1. Capital to assets

This is the ratio of capital to total assets, without the latter being risk weighted. It measures the extent to which assets are funded by other than own funds and is a measure of the capital adequacy of the deposit-taking sector. The FSI is calculated by using capital as the numerator and assets as the denominator (IMF, 2006, p. 189).

The debt-to-capital ratio is another measure of financial leverage that could be considered in addition to the capital-to-assets ratio (IMF, 2006, p. 203).

2.1.2. Return on equity (ROE) (net income to average capital)

This FSI is intended to measure deposit takers' efficiency in using their capital. Over time it can also provide information on the sustainability of deposit takers' capital position. The ratio needs to be interpreted in combination with FSIs on capital adequacy, because a high ratio could indicate high profitability and/or low capitalization, and a low ratio could indicate low profitability and/or high capitalization. Return on equity is calculated by dividing net income by the average value of capital over the same period (IMF, 2006, p. 78).

2.2. Asset-based indicators

2.2.1. Liquid assets to total assets

This FSI provides an indication of the liquidity available to meet expected and unexpected demands for cash. It assesses the extent to which an asset is liquid or not involves judgment, and, particularly for securities, it depends on the liquidity of secondary markets. The latter can be monitored using market-based indicators such as bid-ask spreads and turnover figures. This FSI is calculated by using the core measure of liquid assets as the numerator and total assets as the denominator (IMF, 2006, p. 83).

2.2.2. Return on assets (ROA) (net income to average total assets)

This FSI is intended to measure deposit takers' efficiency in using their assets. It may be interpreted in combination with the FSI on return on equity described above. The return on assets is calculated by dividing net income by the average value of total assets (IMF, 2006, p. 85).

2.3. Income-and expense-based indicators

2.3.1. Interest margin to gross income

This FSI is a measure of the relative share of net interest earnings—interest earned less interest expenses—within gross income. This ratio may be affected by the deposit takers' capital to asset ratio, as for a given level of assets, higher capital results in lower borrowing needs, thus lowering interest expenses and increasing net interest income. This FSI is calculated by using net interest income as the numerator and gross income as the denominator (IMF, 2006, p. 87).

3. Research design

This part includs data and methodology used in the study, in addition to the description of the variables used in the study.

3.1. Data

Our empirical analysis is based on a data set that consists of 08 Algerian commercial banks, which are public and private commercial banks. The banks have been selected primarily based on the availability of the data, the study then ended with 48 observations. table 02 presents the banks studied along with some of their specific factors.

The data we employ in our analysis are of annual frequency and cover the period 2012-2018. We do not examine the years before 2012

mainly for one reason, we analyzed the financial soundness of the banks after the initiation of banking reforms of 2011.

The study is mainly based on secondary data. Secondary data sources were the reports of the bank of Algeria, and the annual reports, and financial statements of the Algerian commercial banks studied.

Table 02: List of Algerian commercial banks studied

Name of bank	abbreviation	Size as in 2018[1]	ownership
Banque Extérieure d'Algérie	BEA	3297324991	Public
Banque Nationale d'Algérie	BNA	3082299350	Public
Sociéte Générale Algérie	SGA	376390494	Private
Gulf Bank Algeria	AGB	263014799	Private
Bnp Paribas El Djazair	Bnp	262007545	Private
Arab Banking Corporation Algérie	ABC	74905737	Private
Trust Bank Algeria	trust	80400258	Private
Fransabank El Djazair	fransa	62682702	Private

Source: Researchers

3.2. Method

The study is empirical in nature which attempts to analyze the financial soundness of the Algerian banks, a measurement technique is used namely a ratios analysis, and for the purpose of the study, we use the financial soundness indicators.

[1] In thousand of DZ

3.3. Variables

The following table presents all variables that we use in the analysis. The definition of each variable and the sources we use to collect the data are also reported.

Table 03: The analysis variables

Ratio		**Definition**	**Data source**
Capital to total assets	Capital / assets	Capital is defined as (capital + reserves) and total assets include both nonfinancial and financial assets	The banks' annual reports and financial statements
Return on equity	net income / average (capital + reserves)	net income (before extraordinary items and tax), and the average value of capital over the same period.	The banks' annual reports and financial statements
Liquid assets to total assets	Liquid assets / total assets	Liquid assets are those assets that are readily available to an entity to meet a demand for cash and total assets include both nonfinancial and financial assets	The banks' annual reports and financial statements
Return on assets	Net income / average total assets	net income (before extraordinary items and tax), and the average value of total assets over the same period.	The banks' annual reports and financial statements
Interest margin to gross income	Interest margin / gross income	Interest margin is the difference between interest expense and interest income, and gross income is net interest income together with noninterest income	The banks' annual reports and financial statements

Source: Researchers based on (IMF, 2006).

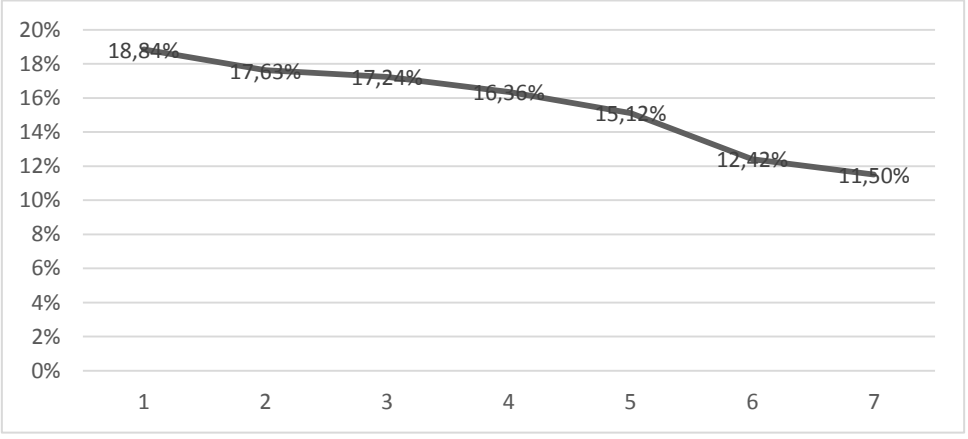
4. Results and analysis

The analysis and the discussion of the results are divided in to the three main indicators: capital-based, asset-based, and Income- and expense-based.

4.1. capital-based indicators

Capital to assets: according to the results the average capital to assets has decreased (figure 01) from 18,84% in 2012 to 11,50% in 2018. However, the ratio stayed above 10% which means that assets are funded by banks' own funds not more than 11,50% in 2018, and funded by other than own funds i.e. debt by 89,50%.

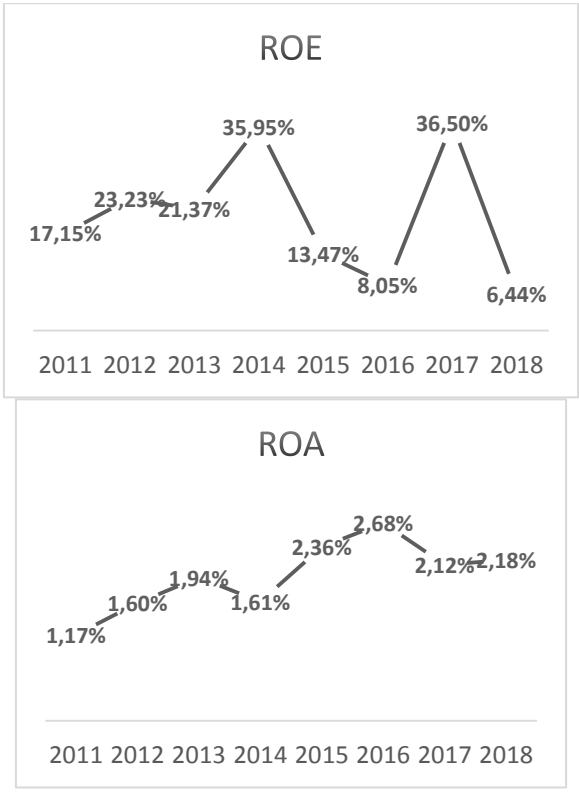
Figure 01: Average capital to assets (2012-2018)



Source: Researchers own calculations

Return on equity (ROE): as demonstrated in figure 02, average return on equity has been unstable through the period, recording the lowest value during 2018 with 6,44%. This ratio shows the management's ability to generate income from the equity available to it, thus according to the results Algerian banks managements were unable to maintain a sustain return on equity during the period.

Figure 02: Average return on equity and average return on assets (2012-2018)



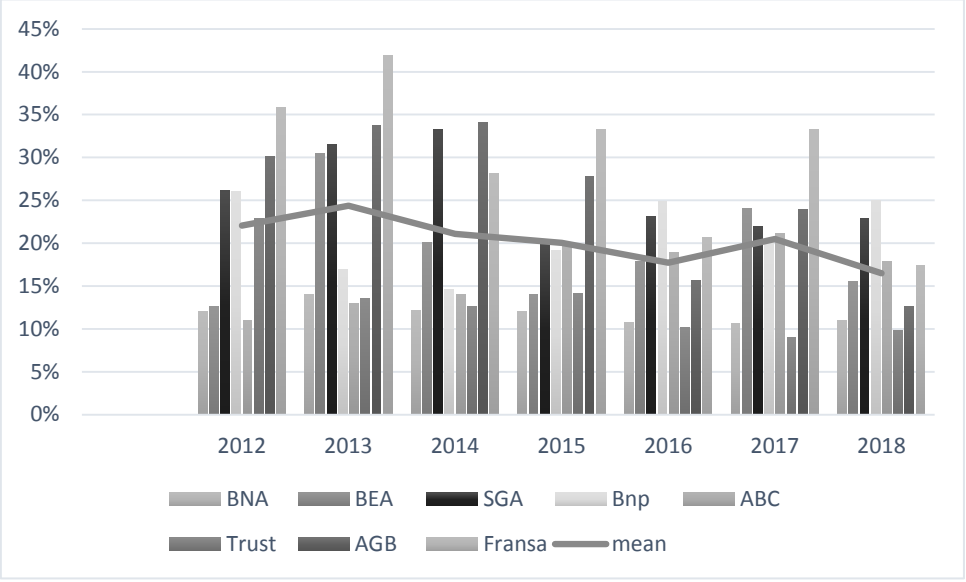
Source: Researchers own calculations

4.2. asset-based indicators

Liquid assets to total assets ratio provides an indication of the liquidity available to meet expected and unexpected demands for cash. It assesses the extent to which an asset is liquid or not. It is known that good liquidity ratio is more than 1, which means that the business has at least 1 time more current assets than liabilities to cover its debts. A current ratio below 1 means that the business doesn't have enough liquid assets to cover its short-term liabilities. The results show that current ratio is always less than 45% during the period (figure 03),

therefore, Algerian banks may not meet expected and unexpected demands for cash

Figure 03: Liquid assets to total assets (2012-2018)



Source: Researchers own calculation

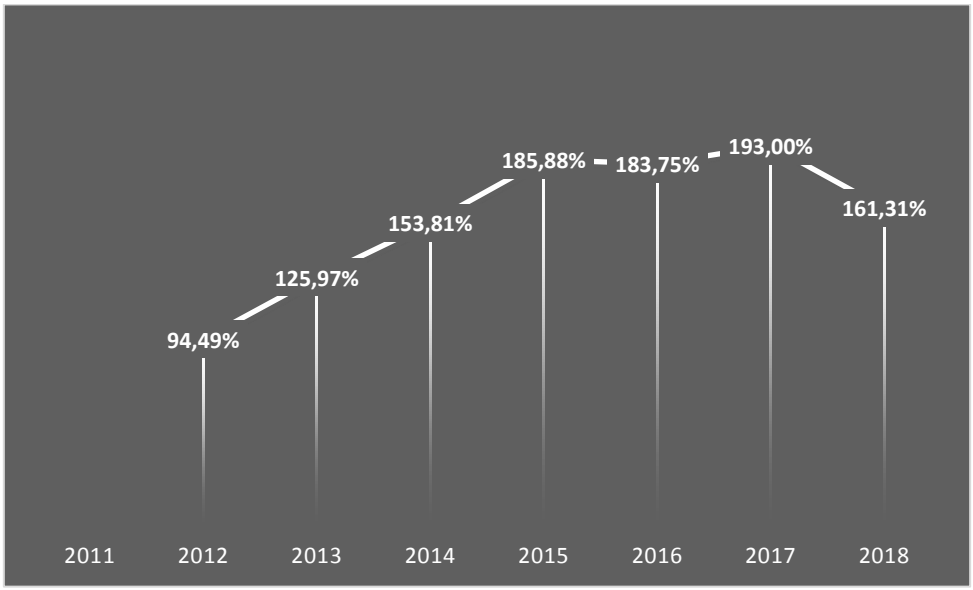
Return on assets (ROA): as mentioned earlier in return on equity, and presented in figure 02, this ratio shows the management's ability to generate income from the assets available to it, thus according to the results Algerian banks managements were unable to maintain a sustain return on assets and recording very low values during the period.

4.3. Income- and expense-based indicators

Interest margin to gross income: the results show that net interest income share is highly relative within gross income, this may be affected by the capital to asset ratio, and may also be affected by leverage. Figure 04 displays that interest margin to gross income ratio has recorded the lowest value in 2012 with 94,49% and the highest

with 193% in 2017. This means that Algerian banks were maintaining a high share of interest margin within gross income.

Figure 04: Average Interest margin to gross income (2012-2018)



Source: Researchers own calculations

Conclusion

Despite social strife and unique challenges posed by the large hydrocarbon sector and oil crisis, Algeria has bravely attempted to modernize its financial system over the last decade. Therefore, the Algerian authorities had made some reforms, and due to both financial liberalization and banking openness, the banking system is facing deep and varied challenges which has increased in recent years.

In this paper we examined the soundness of the Algerian banking system after the reforms of the banking system in 2011. The study measures the financial stability by using the Financial Soundness Indicators, which include 3 main indicators: capital-based; asset-based; and income- and expense-based indicators. The study utilizes a

sample of 08 Algerian commercial banks (public and private) for the period 2012-2018. The findings reveal that both capital-based and asset-based indicators showed that Algerian banks were unable to maintain a sustain performance, while, income- and expense-based indicators revealed that Algerian banks are able to uphold a strong position.

In terms of capital-based indicators that assets are funded by banks' own funds not more than 11,50%. According to the results Algerian banks managements were unable to maintain a sustain return on equity during the period. Asset-based indicators showed that in terms of liquidity, Algerian banks may not meet expected and unexpected demands for cash. Algerian banks managements were unable to maintain a sustain return on assets and recording very low values during the period, thus, the management's ability to generate income from the assets available to it is in low levels. Finally, the results of Income- and expense-based indicators, especially interest margin to gross income ratio revealed that Algerian banks were maintaining a high share of interest margin within gross income.

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