The Competition in Libyan Banks industry and the Role of Financial Ratios

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Abstract

Notwithstanding its rapid growth during the last ten years, Libyan Banks competition is risky because of industry risk and influential.

This study evaluates how financial ratios effect on profitability in the Banks Libyan industry.

An initial statistical analysis indicates an affect some financial ratios on profitability, Specifically, profit/fixed assets ratio (PFAR), profits/paid capital (PPACA), profits/retained earnings and distributable profits (PREEDIP) is positive significant statistically. Qualitatively speaking, the results are mix for instance, profits/branches (PBR) is negative affect for ROA, but positive significant statistically for ROE. Lastly, profits/employment numbers (PEMNU) is positive significant statistically for ROA, while is insignificant statistically for ROE.

Accordingly, Herfindahl-Hirschman Index (HHI), we argue that banking industry in Libya is considered moderately concentrated marketplace. Consequently, we must capture this chance to improve bank services, bank products, and seek to opportunity foreign investment. In future studies, we should focus related exchange rate changes, where add as dummy variables and another side as independent variables on dependent variables.

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1. Introduction:

Libya is one of Middle East and North Africa (hereafter MENA) nations have implemented banking deregulation measures since the middle of the 1990s. All of these measures attempted to boost competition in the banking industry (Turk Ariss, 2010). They want to capture development of universal banking status and a ımprove in the role of the private sector, which expect to increased competition (Caporale, Lodh, & Nandy, 2017). In our focus, in 2010 the Libyan General National Congress as the banking supervisory authority encouraged banks to conduct 9/2010 for Investment Funds. Under the regulation, an investor whether as individual or institutions that conducts investments will receive several benefits. By conducting investment funds policies, it is expected that the banking sector will have a more competition. Therefore, the performance of the banking industry plays a significant role. Banking industry is a major financial source in Libyan economy. from 2012 to 2021, for example, the total asset of the banking industry is increase from 84400 million to 136000 million. That is, an increase of nearly 40%, while the profits and equity increased about 50% and 25% respectively, also it increased of employments and branches numbers to same percentage 10% with same period. In that regard, the performance of the banking sector is important to be analyzed, where banking performance can be measured in many ways. Banking profitability is one measurement of banking performance. Profitability is important for the bank to survive and grow.

The key aim of the banking industry is to continuously increase its value and maximize the return on investments. Various strategies are taken by Central Bank of Libya to increase competition, up cash flows, and profits other financial measures which positively impact the value of the bank. To sum up, our question here what are the value of a Libyan banks' competition, and what are the effect of financial ratios on banks' profitability for period from 2012 to 2021?

2. Literature Review:

” Cambridge and Oxford dictionary explain competition as situation and condition; in that regard, many aspects can describe a condition and situation. Hence, there is some aspect that can be used to measure competition as a description of situation or condition.

There are two primary streams of competition measurement in the literature. The first category is referred to as the structural approach, and it makes use of market structural information. Market share, firm count, entrance barriers, and market concentration are a few examples of structural information. The second one, a non-structural measurement directly measures the competition without using any knowledge of the market structure. The Lerner index, H statistic, or Panzar-Rosse method (H-Statistic), and the Bresnahan Model are a few examples of non-structural approaches.

Smirlock (1985) discovered that there is a relationship between profitability and market shares. The non-relation exists between profitability and market structure. Furthermore, Samad (2008) investigates competition in Bangladesh banking. Their findings that there is a positive relationship between market concentration and profit, as well as the concentration is matter.

Bhatti and Hussain (2010) use data from the Pakistani commercial banking market for the analysis of the banking sector there from 1996 to 2004. They contend that increasing business efficiency will not result in more profits or a bigger share of the market. In same line, Seelanatha (2010) discovered competition in Sri Lanka banking. Their findings that there is a positive relationship between efficiency and performance.

According to, Lü and Liu (2012), the market structure coefficient is significant when compared to market shares; they also discovered a link between the degree of oligopoly and bank performance. Besides, Nabieu (2013) investigates a number of Ghana commercial bank. He discovered that there is a positive relationship between profit and market concentration. Using Vietnamese banking data from 2005 to 2012, Hien and Hanh (2014) support that there is a positive relationship between market concentration and profit, i.e., they mention that concentration is core motif. Lloyd-Williams et al. (1994) pointed out that there is a positive relationship between profit and market concentration and the concentration is matter. According to Molyneux and Forbes (1995), market share is a more crucial indicator of market structure than any other. In Malaysia, Katib (2004) examines a panel of twenty Malaysian commercial banks from 1989 to 1996. He shows that market structure determines profitability. Recently, Athoammar and Muharam (2015) examine the impact of competition on efficiency. Their findings that there is a negative effect on efficiency. In African business environment, Sahile, Solomon, Tarus, and Cheruiyot., (2015), utilizing forty-four banks from 2000 to 2009 in Kenya. They discovered that profit help to capture highly efficient. Recently, El Moussawi and Mansour (2022) empirically test the relationship between competition, cost efficiency and stability on a sample of about 222 (MENA) banks over the period 1999−2018. Using the Generalized Method of Moments (GMM). The findings demonstrate that competition, has a favorable impact on both the cost effectiveness and stability. Furthermore, the findings show that most macroeconomic, institutional factors, and bank-specific, have a major impact on the cost effectiveness and stability of banks. These findings suggest that MENA nations' banking regulatory policies should be cautious about over-consolidating the industry to the detriment of both stability and efficiency.

3. Data and Methodology:

3.1 Data and Descriptive Statistics:

This paper used yearly balanced data from 2012 to 2021 for Libyan banks. The data ere gained from https://cbl.gov.ly/en/annual-reports/.

Table 1: Descriptive Statistics

Varibles	obs	Mean	Std.Dev	Min	Max
ROA	10	.0054	.0027968	.002	.01
ROE	10	.1103	.0563009	.044	.209
PCR	10	.436	.2211686	.16	.85
PFAR	10	.379	.1895287	.15	.76
PIR	10	.378	.2338471	.120	.84
PCTR	10	.032	.0214994	.010	.07
PCTPU	10	.1045	.0656781	.04	.24
PCTPR	10	.051	.0327278	.015	.11
PTR	10	.04691	.027689	.018	.0931
PFUR	10	3.168	6.240213	.37	20.66

PPACA	10	.15	.0819553	.06	.31
PUNALRE	10	13.929	4.642993	7.1	19.52
PREEDIP	10	.764	.4574616	.24	1.49
PBR	10	1.133	.6708047	.41	2.31
PBDE	10	1.572	.9701752	.54	3.19
PEMNU	10	.03157	.0188503	.0111	.0635

Note: 1. ROA (return on assets), 2. ROE (return on equity), 3. PCR (profit/cash ratio), 4. PFAR (profit/fixed assets ratio), 5. PIR profit/investments ratio, 6. PCTR profit/credit total ratio, 7. PCTPU profits/credit total for public, 8. PCTPR profits/credit total for private, 9. PTR profits/timely ratio, 10. PPACA profits/paid capital, 11. PUNALRE profits/unallocated reserves, 12. PREEDIP profits/retained earnings and distributable profits, 13. PBR profits/branches, 14. PBDE profits/bank density, 15. PEMNU profits/employment numbers.

Table (1) shows Capital yield statistics show that the average yield is very low 0.005%, with minimum and maximum values of 0.002, 0.01 respectively, while, equity yield statistics show that the average yield is very high 0.10 with minimum and maximum values of 0.044, 0.21respectively. Regarding of the positive average yield statistics the analysis appears that independent variables, arranged in ascending order as following profits/retained earnings and distributable profits (PREEDIP), profit/fixed assets ratio (PFAR), profits/paid capital (PPACA), (0.379, 3.168, 0.15, 0.764) respectively. On the other hand, profits/retained earnings and distributable profits (PREEDIP), profits/branches (PBR), profits/employment numbers and (PEMNU), are a positive statistically for one independent variable, while a negative statistically for other. Normality The aim is to ensure that the distribution of the sample to be observed is compatible with the Gaussian (normal distribution) distribution of the variable to be measured. When the distribution to be observed is not or is completely normal, we try to make it compatible with the Gaussian distribution by performing a transformation, logarithmic or otherwise.

Economically, we use Herfindahl-Hirschman Index (HHI) test for competition mesure of Libyan Banks where the result as following:

Table 2: Herfindahl-Hirschman Index (HHI)Test:

Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
HHI	2490	2370	2384	2336	2298	2318	2274	2254	2304	2248

The market with an HHI of less than 1,500 to be a competitive marketplace, an HHI of 1,500 to 2,500 to be a moderately concentrated marketplace, and an HHI of 2,500 or greater to be a highly concentrated marketplace. We note that HHI for between 2248 to 2490, this meaning the Banking Libyan industry considered moderately concentrated marketplace. Therefore, it is accepting to development and expanded.

3.2 Methodology:

A regression model provides a function that describes the relationship between one or more independent variables and a response, dependent, or target variable. For example, the relationship between profitability and financial ratios may be described by a linear regression model.

Accounting speaking, we used financial ratios analysis (FRA), via chose 17 ratios as independent variables which have link with dependent variables ROA, and ROE. the Ordinary Least Square (OLS) estimator has proved very popular due to several of its features. For example, dynamic panel regression accounts for the causality between the variables in the models.

The specific form of the two equations we estimate using STATA 12 are given below:

The First model of this study is:

$$ROA_{i,t} = \beta_0 + \beta_1 \mathrm{PCR}_i + \beta_2 \mathrm{PFAR}_i + \beta_3 \mathrm{PIR}_i + \beta_4 \mathrm{PCTR}_i + \beta_5 \mathrm{PCTPU}_i + \beta_6 \mathrm{PCTPR}_i + \beta_7 \mathrm{PTR}_i + \beta_8 \mathrm{PPACA}_i + \beta_9 \mathrm{PUNALRE}_i + \beta_{10} \mathrm{PREEDIP}_i + \beta_{11} \mathrm{PBR}_i + \beta_{12} \mathrm{PBDE}_i + \beta_{13} \mathrm{PEMNU}_i + \epsilon_i \quad (1)$$

The Second Model is:

$$ROE_{i,t} = \beta_0 + \beta_1 \mathrm{PCR}_i + \beta_2 \mathrm{PFAR}_i + \beta_3 \mathrm{PIR}_i + \beta_4 \mathrm{PCTR}_i + \beta_5 \mathrm{PCTPU}_i + \beta_6 \mathrm{PCTPR}_i + \beta_7 \mathrm{PTR}_i + \beta_8 \mathrm{PPACA}_i + \beta_9 \mathrm{PUNALRE}_i + \beta_{10} \mathrm{PREEDIP}_i + \beta_{11} \mathrm{PBR}_i + \beta_{12} \mathrm{PBDE}_i + \beta_{13} \mathrm{PEMNU}_i + \epsilon_i \quad (2)$$

where ROA, and ROE are the proxies of profitability, with i represent time. As we run Regression Test so the models include seventeen independent variables, which measures the persistence of them. β_0 represents the constant, and β_1 to β_{16} are parameters, and ϵ_{it} is the error.

4. Empirical Results:

We used two separate models to determine the consequence of the determinants on (Libyan Banks), where in Table 4 summarizes the experiential outcomes of the valuation models utilizing ROA, and ROE, as the Competition of Libyan Banks (CLBs) measures. Regarding the significance of the variables, the effect of the profit/fixed assets ratio (PFAR) on its profitability is positive significant statistically for both ROA, and ROE. Concerning the equity indicators, profits/paid capital (PPACA) is a positive statistically on ROE, while all pre-variables are insignificant for ROA, profits/retained earnings and distributable profits (PREEDIP) is a positive statistically for both ROA, and ROE. Concerning the qualitative indicators, such as profits/branches PBR is negative significant statistically for ROA, but positive significant statistically for ROE. Lastly, profits/employment numbers (PEMNU) is positive significant statistically for ROA, while is insignificant statistically for ROE.

On other hand, we document that these independent variables insignificant statistically such as, profit/cash ratio (PCR), profit/investments ratio (PIR), profit/credit total ratio (PCTR), profits/credit total for public (PCTPU), profits/credit total for private (PCTPR), profits/timely ratio (PTR), profits/bank density (PBDE) for both ROA and ROE.

Table 3: Empirical Result using Ordinary Least Square (OLS)

ROA as Depended Variable				ROE as Depended Variable		
Variable	**Coef.**	**Prob**	**Std. Err.**	**Coef.**	**Prob.**	**Std. Err.**
PCR	**-000764**	**0.678**	**.0015896**	**.0000106**	**1.000**	**.037835**
PFAR	**.016277**	**0.10***	**.0084821**	**.3597722**	**0.10***	**.201889**
PIR	**-.00347**	**0.415**	**.0033963**	**0967336**	**0.354**	**.080838**
PCTR	**.01011**	**0.931**	**.1030928**	**.010749**	**0.997**	**2.45379**
PCTPU	**.01545**	**0.610**	**.0258228**	**3767147**	**0.602**	**.614630**
PCTPR	**.05758**	**0.715**	**.1371416**	**-.110739**	**0.976**	**3.26422**
PTR	**-.02774**	**0.614**	**.046853**	**-.721238**	**0.584**	**1.11518**
PFUR	**-.00004**	**0.927**	**.000469**	**.011532**	**0.100***	**.006144**
PPACA	**.01978**	**0.630**	**.037945**	**1.54893**	**0.036****	**.496812**
PLERE	**.00014**	**0.814**	**.000573**	**-.013249**	**0.100***	**.007514**
PUNALRE	**.00019**	**0.092***	**.000086**	**.005211**	**0.010*****	**.001132**
PREEDIP	**.00178**	**0.100***	**.000847**	**.062642**	**0.010*****	**.01452**

PBR	**-.00748**	**0.100***	**.0053436**	**.212901**	**0.081***	**.09160**
PBDE	**-.00077**	**0.851**	**.0038587**	**.033145**	**0.643**	**.066150**
PEMNU	**.8717**	**0.047****	**.307046**	**-1.0251**	**0.855**	**5.26383**
Cons.	**0.0002**	**.0009888**	**0.148**	**-.04967**	**.002895**	**0.630**

Note: ***, **, and * are statistically significant at 1**%, 5%, and 10% respectively.

5. Discussions and Interpretation:

There were significant positive correlations captured between the financial ratios Banks' and the ROA and ROE ratios such as, profit/fixed assets ratio (PFAR), profits/paid capital (PPACA), profits/unallocated reserves (PUNALRE), profits/retained earnings and distributable profits (PREEDIP), profits/bank density (PBDE), profits/employment numbers (PEMNU). Consequently, the decision-makers must more interested for those items.

Although, having too few bank branches increases the danger of financial exclusion, having access to the financial services offered by bank branches has been shown to be advantageous for small regions.

There were significant negative correlations captured between the financial ratios Banks' and the ROA and ROE ratios such as. We note that items which negative affect and focuses on legal reserve, and branch density, this means your deposits are more likely to be used in other branches. Therefore, the decision-makers must focus to treatment for those items. However, separate cases of insignificant correlations have been identified between FR and dependent variables such as, profit/cash ratio (PCR), profit/investments ratio (PIR), profit/credit total ratio (PCTR), profits/credit total for public (PCTPU), profits/credit total for private (PCTPR), profits/timely ratio (PTR), we note that are focus related cash, investment and credit which means the banking industry suffers of function failure for those items, as result, we could be analyzed in further studies by conducting in-depth research of their functional strategies.

Understanding the elements that have a substantial impact on bank profitability is essential for the formulation and implementation of regional policy. Once these characteristics have been established, they can be useful for anticipating adjustments

that commercial banks would make to their branch networks in response to demographic, socioeconomic, technological, and other changes that are reflected in the factors.

The results show a strong positive slope of profits/employment numbers (PEMNU) and profits/paid capital (PPACA) (.8717232, 1.54893) respectively, and a significant impact less than (p = 0.05) on profitability.

6. Conclusion:

As more and more attention is given to competition issues, increasing banks branches and on the subject is leading to the demand for transparency on banks business activities. The Central bank of Libya already financial reports of banks together, therefore, it is making it a complex task to estimate performance and its impact on business value. However, in recent years, financial reporting has become a widely accepted reporting framework with increasing recognition. Besides disclosing various developments aspects, it also emphasizes the importance of success of business strategy. The policy of the banks still struggles to invest capital in branches increase and development, therefore, they need measure for the valuation of such investments. Also, internal processes of branches must be implemented in the planning stage of the investment strategy in order to maximize the bank's related sustainability contribution. Only dissemination of information can lead to long-term benefits from investing in performance development, and this should be the first step on the path to transparency and competition.

When conducting literature analysis contradicting and comprehensive considerations of competition and business value have been observed. However, most of the studies conducted so far agree that there exists a positive relation between competition and business value. In addition, special emphasis is placed on the long-term approach to competition approaches. Following the findings of the literature review, the paper further suggests an empirical approach to the issue. HHI test and several financial ratios representing business value are used for panel regression analysis for all over a selected period between 2012 to 2021.

Our study finds a strong positive effect on profitability via profits/paid capital (PPACA), profits/unallocated reserves, (PUNALRE), profits/unallocated reserves, profits/retained earnings and distributable profits,. No affect is found with profit/cash ratio (PCR), profit/investments ratio (PIR), profit/credit total ratio (PCTR), profits/credit total for public (PCTPU), profits/credit total for private (PCTPR), profits/timely ratio (PTR), profits/bank density (PBDE) for both ROA AND ROE. It is considered that these financial ratios might require more functions concentrated

approach as it also included balance sheet items into consideration. Banks should be interested in the findings since they identify important elements to consider when constructing and planning branch networks.

The literature analysis on various articles and empirical research conducted suggests that competition pays off and increases business value through profits/retained earnings and distributable profits (PREEDIP) as a valuable item. Lastly, such an analysis still comes with significant limitations such as the absence of a financial reporting auditing and process of earnings management, that are under limited access to the public. Further studies could be conducted with competition and financial performance in a larger sample and also quarterly or semi over a longer period of time. In addition, other financial ratios could be further investigated in more industry-concentrated study.

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الملخص

على الرغم من النمو السريع خلال السنوات العشر الماضية، فإن المنافسة بين البنوك الليبية محفوفة بالمخاطر بسبب مخاطر الصناعة وتأثيرها. تقيم هذه الدراسة مدى تأثير النسب المالية على الربحية في صناعة البنوك الليبية. يشير التحليل الإحصائي الأولي إلى تأثير بعض النسب المالية على الربحية، وعلى وجه التحديد، نسبة الربح / الأصول الثابتة (PFAR) ، ونسبة الأرباح / الأموال (PFUR) ، والأرباح / رأس المال المدفوع (PPACA) ، والأرباح / الأرباح المحتجزة والأرباح القابلة للتوزيع (PREEDIP) إيجابية ذات دلالة إحصائية. من الناحية النوعية، النتائج مختلطة، على سبيل المثال، الأرباح / الفروع (PBR) تؤثر سلبًا على العائد على الأصول، ولكنها إيجابية ذات دلالة إحصائية لعائد حقوق الملكية. أخيرًا، تعد أرقام الأرباح / التوظيف (PEMNU) إيجابية ذات دلالة إحصائية بالنسبة للعائد على الأصول، في حين أنها غير ذات دلالة إحصائية بالنسبة لعائد حقوق الملكية.

وفقًا لمؤشر Herfindahl-Hirschman (HHI)، فإننا نجادل بأن الصناعة المصرفية في ليبيا تعتبر سوقًا مركزة بشكل معتدل. وبالتالي، يجب اغتنام هذه الفرصة لتحسين الخدمات المصرفية ومنتجات المصارف للاستفادة من فرص الاستثمار المحلي والأجنبي. في الدراسات المستقبلية، يجب التوسع في الاختبارات الديناميكية. كذلك، يمكن إضافة متغيرات غير مالية، كما يجب التركيز على تغييرات سعر الصرف للعملات الأجنبية، كما يمكن النظر للمصارف كلا على حده لاستخلاص نتائج ذات مغزى أعمق، وأيضا يمكن التطرق الى صناعات أخرى لدراسة القدرة التنافسية.