What Factors Affect the Profitability Determinants of Commercial Banks in the MENA Region?

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Abstract The aim of the work empirically investigates financial performance determinants. We use the ordinary least squares method to run a regression of bank profitability on bank-specific and macroeconomic variables using panel data. We collected data from World Bank Databases and Orbis Bank Focus for the period of 2005–2017 in MENA regions. The findings show that bank-specific variables explain profitability substantially more than macroeconomic variables.

Keywords Banking profitability · Government stability · GDP · Unemployment

Introduction

The bank is a financial institute that is included in borrowing and lending money. Banks should be able to absorb losses and fulfill their payment responsibilities. Safe and effective must be the banks' payment systems. Banks play an important role in the development of a country. Banks provide funds for the business.

According to World Atlas, MENA countries possess 45% of the world's natural gas resources, 60% of the world's oil resources, and 6% of the population in the world. MENA is an important wellspring of resources due to significant petrol and natural gas reserves. MENA countries are the Middle East and North African countries.

Many researchers studied profitableness in Europe, but few people only analyzed some aspects of profitableness in the MENA countries. Olson and Zoubi (2011) note that countries observed a quick rise in terms of populace and welfare. The MENA countries represent a bridgework betwixt Asia and Europe.

The goal of my work is to determine the profitability determinants by using bank-specific and macroeconomic variables.

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After decades of novation, on the verge of a financial market crash, the banking sector flourished. The working conditions of the banking sector have changed market developments. Framework and efficiency influence external and internal factors, which is why a basic overestimation of the banking sector is required (Rosenthal, 2011). Assessment of bank working is important for all parties: bank managers, investors, and regulators. Bank performance provides a signal to bank managers whether to develop its loan service or deposit service or both to promote its finance.

Literature Review

Profitability Determinants Review

Faizulayev et al. (2021) empirically investigated the profitability determinants of the banking industry in CIS countries between 1991 and 2017. To do the regression analysis, they employed a feasible generalized least square (FGLS) method. They found that some of the bank-specific variables influence positively the profits of the banks in the CIS countries. But, macroeconomic variables negatively affect profitability. However, political stability has no impact on the financial performance of these banks.

Curak et al. (2012) researched industry-specific, bank-specific, macroeconomic determinants of bank profitability. In the banking system of Macedonia, a dynamic panel analysis was used on a sample of 16 banks from 2005 to 2010. The most important internal factor of the bank is operating expense management. The Republic of Macedonia indicates the result in bank profitability such external variables as economic growth, banking system reform, and concentration.

Faizulayev et al. (2020) researched the effects of bank-specific and macroeconomic variables on the financial performance of conventional banks operating in newly classified countries over the period of 1997 to 2017. To do the regression analysis, they employed the OLS method. The results indicate that bank-specific and macroeconomic variables are very crucial in explaining profitability.

Athanasoglou et al. (2008) researched the impact of industry-specific, bank-specific, macroeconomic determinants of bank profitableness, using an empirical basis. They employ a GMM technique in a panel of Greek banks between 1985 and 2001. The outcomes illustrate that profitability continues to a moderate stage, illustrating that departures from perfectly competitive market structures may not be that large.

Şamiloğlu (2017) researched the determinants of firms' financial performance indicators (ROA, ROE). They used financial ratios of selected 51 firms quoted at the Istanbul Stock Exchange (BIST) between 2006 and 2015. There is a considerable and negative relationship between ROA and the Price-to-Earnings (PE) ratio.

Bank Specific Variables

Size: Log of Total Assets basically refers to economies of scale (Athanasoglou et al., 2008).

Larger banks have more ability to use the advantages of scale efficiency in transactions which results in higher profits. Large banks can influence market power through a stronger brand image or implicit regulatory protection. A positive relationship might be expected between the bank's size and its profitability (Kosmidou, 2008).

Liquidity: Liquidity risk shows the disability of a bank to perform its obligations which can eventually lead to bank failure. The ratio of loans to deposits is usually measured as exposure to liquidity risk. The bank holds a higher amount of liquid assets which can be easily converted to cash to decrease the insolvency problems. Lower rates of return usually have liquid assets. Lower profitability would mean higher liquidity (Kosmidou, 2008).

Asset quality: Credit risk as the quality of bank assets can be measured using loan loss allowances according to some authors (e.g., Kosmidou, 2008). Profitability will be negatively impacted by higher provisions, as provisions exhibit higher risk and a higher likelihood of loans becoming non-performing. (Kosmidou, 2008).

Management efficiency: Management Efficiency is another important variable that determines banking profitability. Management Efficiency is usually measured by the quotient of operational costs to assets (Athanasoglou et al., 2008). Rationale assumes a minus relationship because improved management of operating expenses improves efficiency and eventually leads to higher profits. External determinants relate to those that furnish macroeconomic characteristics and industry. Previous studies (e.g., Pervan et al. 2010) have aimed to control industry externalities.

Macroeconomic Variables

Government stability: The survey by Yahya et al. [2017] indicates that the profitability of Islamic banks in Yemen has a decisive influence on political stability. Political instability had a plus influence on the profitability of Islamic banks between 2010 and 2014.

Inflation: the positive impact of inflation on profitability attributed to accurate prediction of future inflation, where banks increase their margins with expected inflations. Inflationary periods are usually accompanied by higher GDP rise, which enables banks to have higher profits. (Athanasoglou et al., 2008).

Scale Efficiency Theory

Scale efficiency theory says the more services a company produces, the more efficient the company becomes. Scale efficiency is the capacity of every firm to act as closely as possible to its most productive scale size, with an inability to do so resulting in a growth in average costs.

Data and Methodology

Data: The investigation includes panel data statistics of banks in MENA regions. The period of the analysis is considered between 2005 and 2017 for all the variables. We use government stability and inflation from the World Bank database, but other variables we use from Orbis Bank focus.

Table 1 consists of the symbol, the empirical evidence, and the information on the proxy of measurements.

Methodology

Hypothesis 1: The size of banks (LTA) has a negatory/affirmative influence on profitability.

Hypothesis 2: The asset quality of banks (NPL) has a negatory/affirmative influence on profitability.

Hypothesis 3: The management efficiency of banks (LTA) has a negatory/affirmative influence on profitability

Table 1 Variables Description

Symbol	Variables	proxy	Researchers
Dependent variables			
ROA	Return on assets	Return on assets = net income/Total assets	Faizulayev et.al [2].; Perera et al. [5]
Independent variables			
LIQ	Liquidity ratio	Liquid assets/total assets (%)	Dietrich and Wanzeneried [17]; Faizulayev et al. [2]
NPL	Credit risk	Non-performing loans to gross loans (%)	Titko et al. [10]
INFL	Inflation	Consumer price index	Riaz and Mehar [6]
GS	Government stability	The rank of government stability (world competitiveness report)	Yathya et al. [1]
CTI	Management efficiency	Cost to income	Munyambonera [10]
LTA	Log of Total Assets	Just taken Log of total assets	Athanasoglou et al. [6]

Table 2 List of banks

No. of bank	Bank
1	*Al Rajhi Bank- Saudi Arabia*
2	*Bankque Saudi Fransi- Saudi Arabia*
3	*Arab National Bank- Saudi Arabia*
4	*Bank AlJazira- Squdi Arabia*
5	*Riyad Bank- Saudi Arabia*
6	*Samba Financial Group- Saudi Arabia*
7	*The Saudi British BK.- Saudi Arabia*
8	*The Saudi Investment BK.- Saudi Arabia*
9	*Commercial Bk. Of Qatar - Qatar*
10	*Doha Bank - Qatar*

Hypothesis 4: The liquidity of banks (LIQ) has a negatory/affirmative influence on profitability.

Hypothesis 5: The inflation of banks (INFL) has a negatory/affirmative influence on profitability.

Hypothesis 6: The government stability of banks (GS) has a negatory/affirmative influence on profitability.

Methodology: The target of this exploration is an experiential analysis of the influence of bank-specific, macroeconomic, and government stability variables on the banks' financial performance in MENA (the Middle East/North Africa) countries.

For experiential analysis of the variables, we employ the Ordinary Least Square method.

Our regression model is as follows:

$$Yit = B0 + B1^* LTAit + +b2LIQit + b3NPLit + b4INFLnt + b5CIit$$
$$+b6GSnt + b7^* t + e$$

$$Yit = B0 + B1^* LTAit + +b2LIQit + b3NPLit + b5CIit$$
$$+b6^* n(\text{nation fixed effect}) + b7^* t + e$$

Y introduces the dependent variable, β introduces the coefficients, and β0 and ε introduce constant terms and error terms, respectively (Table 2).

Empirical Results (Table 3)

As we can see from Table 1, descriptive statistics, on average ROA, which is the profitability ratio, is 0.023612. Whereas the size is proxied as LTA, from the same table we can see that on average LTA is 17.11692. Furthermore, on average NPL is

Table 3 Descriptive statistics on banks of MENA region

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	130	.023612	.0144621	.0008757	.1256264
LTA	130	17.11692	.6927074	15.14472	18.33172
NPL	130	.6910612	.1090262	.0238525	.9074092
CI	129	6.118661	6.758681	1.692076	40.59183
LIQ	130	.0649037	.0365696	.0210855	.2337271
INFL	130	4.763893	12.6027	-24.33841	30.5427
GS	130	9.505128	1.063436	7.75	11.5

Table 4 Correlation matrix on banks of Mena regions

	ROA	LTA	NPL	CI	LIQ	INFL	GS
ROA	1.0000						
LTA	-0.2580	1.0000					
NPL	-0.0727	-0.1707	1.0000				
CI	0.0826	0.5041	0.0492	1.0000			
LIQ	-0.0168	0.0293	-0.1806	0.1087	1.0000		
INFL	0.2858	-0.3095	-0.0195	-0.0772	-0.1795	1.0000	
GS	0.2220	-0.5614	0.1787	-0.2771	0.0046	0.2466	1.0000

0.6910612. Likewise, on average CI is 6.118661. Moreover, on average LIQ is 0.0649037. Furthermore, on average INFL is 4.763893. Moreover, on average government stability is 9.505128 (Table 4).

The correlation between ROA and LTA is negative, 25.80%, and weakly correlated. Furthermore, the correlation between ROA and NPL is negative, 7.27%, and weakly correlated. Likewise, the correlation between ROA and CI is positive, 8.26%, and weakly correlated. Moreover, the correlation between ROA and LIQ is negative, 1.68%, and weakly correlated. Furthermore, the correlation between ROA and INFL is positive, 28.58%, weakly correlated. Likewise, the correlation between ROA and GS is positive, 22.20%, weakly correlated.

The correlation between LTA and NPL is negative, 17.07%, and weakly correlated. Furthermore, the correlation between LTA and CI is positive, 50.41%, with a moderate correlation. Likewise, the correlation between LTA and LIQ is positive, 2.93%, and weakly correlated. Moreover, the correlation between LTA and INFL is negative, 30.95%, and weakly correlated. Likewise, the correlation between LTA and GS is negative, 56.14%, a strong correlation.

The correlation between NPL and CI is positive, 4.92%, and weakly correlated. Furthermore, the correlation between NPL and LIQ is negative, 18.06%, and weakly correlated. Moreover, the correlation between NPL and INFL is negative, 1.95%, and weakly correlated. Likewise, the correlation between NPL and GS is positive, 17.87%, and weakly correlated.

The correlation between CI and LIQ is positive, 10.87%, and weakly correlated. Furthermore, the correlation between CI and INFL is negative, 7.72%, and weakly correlated. Moreover, the correlation between CI and GS is negative, 27.71%, and weakly correlated.

Table 5 Regression analysis of profitability determinants in the MENA region

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  Source |       SS           df       MS            Number of obs   =        129
---------+----------------------------------        F(6, 122)       =       4.91
   Model |  .004998613         6   .000833102        Prob > F        =     0.0002
Residual |  .020700216       122   .000169674        R-squared       =     0.1945
---------+----------------------------------        Adj R-squared   =     0.1549
   Total |  .025698828       128   .000200772        Root MSE        =     .01303


     ROA |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
---------+----------------------------------------------------------------
     LTA | -.0065304    .0023335    -2.80   0.006    -.0111497    -.001911
     NPL | -.0254766    .0132883    -1.92   0.058    -.0517821    .0008289
      CI |  .0006317      .000204    3.10   0.002     .0002279    .0010355
     LIQ | -.0154401    .0331357    -0.47   0.642    -.0810355    .0501553
    INFL |  .0001933    .0001002     1.93   0.056    -5.01e-06    .0003915
      GS |  .0015024    .0013204     1.14   0.257    -.0011115    .0041163
   _cons |  .1348126    .0486679     2.77   0.006     .0384696    .2311557
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The correlation between LIQ and INFL is negative, 17.95%, and weakly correlated. Likewise, the correlation between LIQ and GS is positive, 0.46%, and weakly correlated.

The correlation between INFL and GS is positive, 24.66%, and weakly correlated (Table 5).

$$ROA = 0.1348126\{0.0065304(LTA)\{0.0154401(LIQ)\{0.0254766(NPL)$$
$$+0.0001933(INFL)+0.0006317(CI)+0.0015024+E$$

From the perspective of regression analysis in Table 4, we can see that the majority of the independent variables are statistically significant. LTA has a negative impact on the profitability ratio, which is statistically significant at 1%. With increasing size, banks will face higher costs and then will reduce profitability. It is supported by scale inefficiency theory. Credit risk influences the ROA negatively, and it is statistically significant at 10%. The more bad loans, the yield will fall. CI has a positive impact on the profitability ratio, which is statistically significant at 1%. LIQ influences the ROA negatively, and it is not statistically significant. INFL has a positive influence on the profitability ratio, which is statistically significant at 10%. Inflation is forecast correctly, which has a positive result on profitability. GS influences ROA negatively, it is not statistically significant.

19.45% variations or changes in ROA, can be explained by variations in independent variables. Though two independent variables are not significant, the whole model is best fitted or statistically validated at 1%.

Conclusion

The aim of this work empirically investigates financial performance determinants. We collected data from Orbis Bank Focus and World Bank Databases for the period of 2005–2017 in MENA regions.

LTA has a minus influence on the profitability ratio, which is statistically significant at 1%. Credit risk influences the ROA negatively, and it is statistically significant at 10%. CI has a positive impact on the profitability ratio, which is statistically significant at 1%. LIQ influences the ROA negatively, and it is not statistically significant. INFL has a positive impact on the profitability ratio, which is statistically significant at 10%. GS influences the ROA negatively, and it is not statistically significant.

We recommend banks not to expand because expansion will lead to additional costs. We recommend banks keep management efficiency and inflation forecasts because it improves their profitability. We do not recommend banks lend bad loans because the yield will fall.

References

Athanasoglou, P. P., Brissimis, S. N., & Delis, M. D. (2008). Bank-specific, industry-specific and macroeconomic determinants of bank profitability. *Journal of International Financial Markets, Institutions, and Money, 18*(2), 121–136.

Ćurak, M. et al. (2012). *Procedia – Social and Behavioral Sciences*. *44,* 406–416.

Faizulayev, A., Bektas, E., & Ismail, A. G. (2020). Profitability and persistency in the service industry: the case of QISMUT+3. *Service Industries Journal, 40*(3–4), 290–314. https://doi.org/10.1080/02642069.2018.1461210

Faizulayev, A., Wada, I., Kyzdarbekova, A. S., & Parmankulova, I. (2021). What drives the banking competition in Islamic finance oriented countries? Islamic vs conventional banks. *Journal of Islamic Accounting and Business Research, 12*(4), 457–472.

Kosmidou, K. (2008). The determinants of banks' profits in Greece during the period of EU financial integration. *Managerial Finance, 34*(3), 146–159.

Olson, D., & Zoubi, T. A. (2011). Efficiency and bank profitability in MENA countries. *Emerging Markets Review, 12*(2), 94–110.

Şamiloğlu, F. (2017). The Determinants of Firm Financial Performance: Evidence From Istanbul Stock Exchange (BIST). *IOSR Journal of Economics and Finance (IOSR-JEF), 8*(6), 62–67.

Pervan, I., & Kuvek, T. (2013). The relative importance of financial ratios and nonfinancial variables in predicting of insolvency. *Croatian Operational research review, 4*(1), 187–197.

Rosenthal, J. (2011, May 12). Chained but untamed. The Economist.

Yahya, A. T., Akhtar, A., & Tabash, M. I. (2017). The impact of political instability, macroeconomic and bank-specific factors on the profitability of Islamic banks: an empirical evidence. *Investment Management and Financial Innovations, 14*(4), 30–39. https://doi.org/10.21511/imfi.14(4).2017.04