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Full Length Research Paper

The determinants of Saudi Islamic Bank profitability

Ali Medabesh

Assistant professor, CBA, Jazan University, KSA
Email : alim@jcba.edu.sa

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This paper is focused on identifying the determinants of Saudi bank profitability. The economic literature, classifies them into two types: internal and external for the banks. For the empirical investigation, we used solid scientific approach to find the financial and macroeconomic factors affecting generation of profits by Saudi banking sector. In this survey, we estimated an econometric model using the method of ordinary least squares, for a period dating from 1990 to 2008, and we used variables covering several financial and monetary factors, which could be related to creation of value by banks in economic literature. The model elaborated using the effectiveness approach to judge the acting of banking institutions, contribute in consolidating the operating behaviour of Saudi banks, which are targeting long run investment, not concentrated on generation of short term profit and avoiding exposure to risk. This attitude gave to Saudi banking sector in international market, a good reputation and solid credibility by borrowers.

Keywords: bank, financial institutions, profitability.

JEL Classifications: D4, G21, G34.

INTRODUCTION

The main object of this paper is focused on defining the factors affecting the profitability of Saudi banking sector, which allow us to judge the performance of the Islamic banking practices of Saudi Arabia. To realize that purpose in this paper, we used an econometric approach focused on the effectiveness optic.

In this paper, we begun by reviewing the economic literature and focusing on the different optics developed to measure the bank profitability, and to determine the different factors altering profits generation by banks, and we will apply it for the Saudi case like an empirical validation.

In this paper, we used two different measures to judge the performance of the Saudi banking sector, using the effectiveness approach, which will be explained above. This econometric method used in this paper, should consolidate the role of the Islamic finance in economy and preserves its reputation in the economy. In fact, the Islamic finance theme is not a new subject to debate, therefore, many studies consider it to be more effective than conventional banks, because, it respects the principles of the moral hazard and avoid exposure to high risk. In fact, many surveys reinforce the role and the success registered by the Islamic finance, because it is source of optimised use of financial funds in the economy.

The empirical investigation applied to the Saudi banking sector should give explanations using solid scientific methodology, it should explain if the profits generated by the Saudi banks depend on specific factors, based on the Islamic finance behaviour of banks when operating on the market.

The assumptions

In empirical investigation of this survey, we used many financial indicators that we could classify into two categories: the first includes financial variables summarising aggregates of the short run, like: liquidity and the second is focused on indicators representing long run aggregates. This will allow us to judge if the Saudi banks are motivated with profits of short run or they prefer investments of long run.

The measure of banking profitability

The banking sector is important in economy by responding to the financial demand of the different economic actors, following their wants and needs. The well operating of the banking sector represents warranty of stability for the financial environment of countries, and contributes on creating business in countries. The banking sector contributes in improving the wealth of the different actors: private and public actors (consumers and producers), by creating new financial products matching with their demand.

The review of the economic literature to identify the best indicator of profitability and performance for banks, allows us to conclude various financial indicators, which elaborated by many researchers, in fact, the authors used three different approaches to define profitability concept, making this task more complex to achieve.

So, we can classify the indicators representing profitability of banks into three different sections:

- The first one is focused on the analysis of the bank balances, the authors developed various indicators by using financial aggregates depending on the bank operating, like: the net operating income or the gross operating income.
- The second approach is centred on the analysis of other data showing the operating of the banks, like: the operating costs and the yield of the various financial products supplied by the banking sector.
- The third approach remains the most interesting, because it is focused on the analysis of other data showing the banking structure, for example, we could refer to the return on asset (ROA) and the return on equity (ROE), and the last approach is the most used in recent papers.

Depending on the approach to use, some performance indicators of the banking sector remains complex and tedious to collect, because they contain confidential and sensitive data about the bank acting, this problem forces us in this paper, to use the third type of aggregates to measure the performance of banking sector. So, the performance indicators used in the empirical investigation are the ROA and the ROE.

The profitability of the banking sector

The question of the profitability of the banking sector is not a new subject, it were widely broached by various working papers. The economic literature distinguishes two types of factors, affecting the profitability of banks: internal and external factors.

The internal factors

The internal factors represent some features that banks contain, affecting them profit directly, these factors depend on the rules of management followed by the banks. However, the problem in collecting the internal factors could be explained by the threat of the bank after the showing of these indicators. Therefore, this could affect the bank profitability because some of these factors remain confidential.

Using internal data are compulsory in econometric panel modelling, in this paper, this couldn't limit the contribution of this study, because, in our case we will use macroeconomic data summarising the performance of the Saudi sector banking.

The external factors

The external factors affecting the profitability of banks remain the most used in the recent surveys, they represent the environment: economic and institutional background, not depending necessary on the management rules of the bank.

The major external factors affecting the profitability of banks can be summarised in these lines:

The size: it appears that there is a positive correlation between the size and the profitability of bank, Edward C. Gallick (1974) has found that "the long run systematic behaviour of banks profitability across bank size is found to be representative". The author consider that the smallest banks registered the lowest average of returns, proving that size and profitability were significantly joined.

The economies of scale: the question of the real effect of the economies of scale remains unresolved, the surveys elaborated about the relation between economies of scale and profitability shows contradictory results. For Goddard et al (2001), there is a positive correlation between the economies of scale and the profitability of banks in Europe, Although, this result is denied by Scholtens (2000), the author found that the profit of small banks were growing faster than the larger banks.

The institutional quality: we expect that an improvement in the institutional quality has positive impact on the profitability of banks and any firms, by reducing the administrative costs borne by the producer, Marcelin (2010) has found that an improvement of the institutional quality are contributing in simulating the efficiency of the banking sector: by decreasing the limits for an external finance and improving the quality of financial portfolio detained by banks.

Concurrence: it seems that in country with a huge number of banks, concurrence among banks decrease the banking sector profitability, the profits generated depend on their market share. So with the globalization, there is no limits among the banks acting, this has grown the competition among all the financial institutions, affecting the profit of banks. Tanimoune (2003) argued that the rise of competition among financial institutions caused by the globalization, has diminished the benefits of the banks in West Africa.

The empirical validation

The model elaborated in this paper will agree the development elaborated by many authors to explain the bank profitability, like: Short (1979), Bourke (1989), Molyneux and Thornton (1992) and Goddard et al (2004), the authors used a linear simple model to estimate the effect of various types of explanatory variables.

METHODOLOGY

In this section, we describe the sample, the data and its source. We also provide a brief presentation about the model and the explanatory variables.

The sample

The sample used in this paper covers the banking sector of kingdom of Saudi Arabia, from 1990 to 2008.

The object

The aim of this paper is to determine whether the Saudi banking sector is working with effectiveness by using the data covering the period 1990 – 2008. In this survey, we will focus on the effectiveness approach, to determine whether the Saudi banks are motivated by the profit of short run, tied to the liquidity liabilities. Or the Saudi financial institutions prefer to generate profits by financing long run investments.

The model

The econometric modelling followed in this paper has this form:

$$\text{profitability}_t = Constant + \alpha \mathrm{A}_t + \beta \mathrm{B}_t + \delta \mathrm{C}_t + \theta \mathrm{D}_t + \rho \mathrm{E}_t + \varepsilon_t \qquad \text{(I)}$$

For the explained variable, in this work we used two different indicators, it's ROA and ROE.

- A_t, B_t, C_t, D_t and E_t are the explanatory variables, they should cover the two types of factors affecting the bank profitability: internal and external.
- ε_t is the error term.

To examine the effect of the internal and the external factors affecting the bank profitability, we used the variables presented above. And we applied the OLS estimation method (ordinary least squares).

The internal variables

The internal explanatory variables used in the modelling of this paper could be summarised in these lines:

The liquidity indicator is represented by the liquid liabilities of the bank, and is calculated by using the aggregate M3 as a share of GDP.

The private credits as share from GDP, introduced as measure of credits provided to private sector. The life insurance shows some financial products provided by banks and could be used as measure of risk exposure.

The bank concentration ratio used in this paper to estimate the impact of the fragility of the Saudi banking system on the profitability of the sector, this ratio is widely used in studies focused on the banking vulnerabilities.

The share of "offshore bank deposits" by the domestic bank deposits, this indicator measure the confidence level of international firms in the banking system of the country.

The financial system deposits ratio is measured as a part of GDP, it includes: demand, time and saving deposits in bank and other financial institutions.

The stock market capitalization is introduced to find out if the kingdom banks are creating from profits from intermediation operations on this market, and if this market is effective and efficient to contain business opportunities to generate value.

The ratio cost/income of the bank was important in other studies focused on the profitability theme, that's why it is used in this paper, and it's calculated as a ratio of the income to estimate the effect of the cost on the profitability of banks.

The z-score indicator is widely used in various banking surveys, as meaning the bankruptcy degree of the banks, and we will try to determine its effect on the banking profitability.

Also, we have used other financial indicators, like: other financial institutions assets and the net interest margin, which could be important in motivating banks to give credits.

Table 1. The indicators and the source of data.

The variable	The source
ROA	
ROE	
The private credits	
The liquid liabilities (M3/GDP)	
The life insurance volume (% GDP)	
Net interest margin	Beck et al (2006)
The z score ratio	
The bank concentration ratio	
The cost income ratio	
Other financial institutions assets	
The bank credit (% Bank deposit)	
The Stock market capitalization	
Consumer price index (%)	World development indicators 2012.

The external factors

These factors are used to show the macroeconomic environment of the country, we used the consumer price index as an indicator showing the inflation, that could affect the bank's profitability.

The data and the source

In this empirical study, we used macroeconomic and financial data, collected from two different sources, presented in the table 1:

RESULTS AND INTERPRETATION

The results

After estimating the model using the software Eviews, we found the following results presented in Table 2:

The table 2 reports the estimated models for ROA and ROE, for the overall explanatory power measured by R^2 ratio is high, this indicator allows us to conclude that the models elaborated in this paper, contribute well to explain the reality of the determinants of profits generated by Saudi banks.

For the Fisher test, we found a p-value near zero for all estimated models, this indicator shows that the estimated models in this survey are statistically significant in global, giving more credibility to the elaborated.

Interpretation

From table 2, it seems that private credits tend to raise the profits of Saudi banks. In fact, using the private credits indicator in financial models is so important, because it isolates the value of credits attributed to private sector from the total credits given to private and government. The private credits indicator remains a good proxy to represent the financial development in countries[1] Levine, R. Loayza, N. and Thorsten, B. (2000), "Financial intermediation and growth: causality and causes.", journal of monetary economics 46 (2000), pp: 31 – 77.

From table 2, the effect of the private credits on ROA of Saudi banks is positive and statistically significant, this allow us to deduce that the high level of financial services provided by Saudi banks and the improvement of financial intermediary in the kingdom.

The life insurance tends to decrease the profits registered by Saudi banks, its negative coefficient is statistically significant at 5%. It seems that life insurance by banks represents a challenge for them, because securing these insurance policies to be more predictable investments is not easy, and the Saudi banking system is avoiding the risk exposure, allowing the safety of the financial operations and the stability of the banking system, and economic stability.

For the bank concentration, the concurrence among Saudi banks is decreasing the profits generation in the kingdom. The negative coefficient of this variable is statistically significant at 1%. This conclusion means that the Saudi banking market remains in line with the "traditional concentration collusion", conducting banks to apply weak margin interest on credits. The same conclusion was argued by Nguyen, J. (2011) Nguyen, J. (2011), "Market concentration and other determinants of bank profitability: Evidence from Panel Data", International Research Journal of Finance and Economics. "The more concentrated the market, the

Table 2. the results of the determinants of Saudi banks profitability.

Models	ROA			ROE		
Equations	(1)	(2)	(3)	(4)	(5)	(6)
constant	0.07***	0.1***	0.07***	0.48***	0.5***	0.91***
	(14.4)	(2.73)	(18.2)	(24.4)	(21.4)	(3.92)
Dprivatecredit	0.12*	0.05	0.06	0.17	0.67**	0.56
	(2.25)	(1.33)	(1.42)	(0.79)	(2.41)	(1.5)
Dliquidliabilities	-0.10	0.16	0.18	1.04	-0.61*	-0.52
	(-1.75)	(1.24)	(1.39)	(1.45)	(-2.08)	(-1.18)
Dlifeinsurance	-6.13	-4.38	-6.6**	-22.9	-13.97	4.73
	(-1.73)	(-1.31)	(-2.6)	(-1.65)	(-0.79)	(0.26)
Dinterestmargin	0.2	0.85	0.62	0.62	-2.18	0.22
	(0.37)	(1.69)	(1.37)	(0.25)	(-0.81)	(0.06)
Dbankconcentration	-0.17	-0.1**	-0.14***	-1.93***	-2.43***	-1.89**
	(-1.69)	(-2.44)	(-3.82)	(-9.92)	(-4.89)	(-2.92)
Cost/income	-0.02***	-0.03***	-0.03***	-0.53***	-0.59***	-0.57***
	(-4.5)	(-3.77)	(-3.87)	(-11.01)	(-12.12)	(-10.55)
Other financial institutions assets	-0.14***	-0.14***	-0.13***	-0.52***	-0.58***	-0.62***
	(-5.7)	(-7.36)	(-7.43)	(-5.32)	(-4.87)	(-5.64)
Offshores bank deposits	0.02*	0.01	0.02*	0.16***	0.22***	0.17***
	(1.97)	(1.69)	(2)	(3.87)	(3.95)	(2.78)
Dscore Z	-0.0007	--	--	--	-0.007	-0.003
	(-0.68)				(-1.43)	(-0.55)
Dfinancial system deposits	--	-0.29	-0.33*	-1.73*	--	--
		(-1.79)	(-2.07)	(-2)		
Dstock market capitalization	--	-0.01*	--	--	--	-0.03
		(-2)				(-0.77)
Consumer price index	--	-0.0004	--	--	--	-0.004
		(-1.03)				(-1.69)
R^2	95.9%	97.6%	97.2%	98.7%	98.5%	99.1%
Fisher test	**0.0000**	**0.0001**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

lower bank margins".

For the cost to income ratio, it's clear that a rise in the cost of financial operations and services, provided by Saudi banks, decreases their generated profits. The negative effect of the cost on bank profitability is highly significant. Vu and Turnell (2011) Vu, H. and Turnell, S., (2011) "Cost and profit efficiency of Australian banks and the impact of the global financial crisis", Department of Economics, Macquarie University, Australia.

argue that: "banks might experience high profit efficiency but low cost efficiency".

For the variable "other financial institutions assets", a rise in this indicator is joined by decrease in the Saudi bank profits. In economic literature, the variable means the development of financial services performed by banks

Beck, T. and Demirgüç-Kunt, A. (2009), "Financial institutions and markets across countries and over time – Data and analysis".

, this allow us to argue that: despite the improvement of the financial services in the Kingdom relatively to other developing countries, the quality of banking intermediation is not meeting the international standard.

A rise in the "offshore bank deposits" is joined with a rise in the profits of the banks, this effect is statistically significant at least at 10%. So the Saudi international loans are contributing to raise the profits generated by banks in the kingdom. Some authors argue that this ratio was to identify if the international firms have confidence in the banking system, in general, and from the results found it seems that Saudi banks have good reputations in outside, that is motivated by good infrastructure quality of its banking system.

For the financial system deposits, this ratio decreases the profitability of Saudi banks. This negative relationship should not represent problem, because, for a country like Saudi Arabia, there is huge amount of deposits not used in the financial services provided by banks, these funds rise the opportunity cost of banks while it's not transformed into credits.

The “stock market capitalization” introduced in this empirical investigation, to find if Saudi banks are generating profits from the stock market of the kingdom, shows that a rise in the stock market capitalization, finish by decreasing the profitability of Saudi bank, the negative impact of this market is statistically significant at 10%. Despite the Saudi stock market evolution, compared to developing countries, the value creation on this market remains difficult to reach. the stock market of the kingdom did not meet the standard of efficiency, unable to offer to banks liquidity and financial products at competitive prices and vulnerable to external financial chocs.

For the consumer price index, its negative impact on bank profitability is not significant, representing the harmful impact of inflation on creating profits.

The bankruptcy degree measured by the variable scoreZ, has a negative impact statistically not significant, because the Saudi banking sector has solid financial means, and applying financial rules giving the Saudi banks safety from any risk of bankruptcy.

For the margin of interest rate, this explanatory variable rise the profitability of Saudi banking sector, but it remains statistically non-significant. That we could explain by the focusing of the Saudi banks on the long run investment and international loans, than the short run loans for domestic borrowers.

CONCLUSION

The paper has investigated the determinants of profitability of Islamic Saudi banking sector, between 1990 and 2008. We finished by deducing some findings in favour of the actual banking system of the Saudi Arabia kingdom.

The focusing of Saudi banks on international loans could be considered as a strategy to reinforce long run investments, and to generate profits from international financial operations, just like international trade assumed in economic literature to be source of sustainable growth. Therefore and in the elaborated model, we found a non-significant impact of the interest margin that could represent short run and domestic investment.

The Saudi banks were decreasing the exposure to risk, this finding is consolidated by founding a negative impact of life insurance on their profitability. This behaviour allows arguing that banks of the kingdom were preserving them safety from bankruptcy, by applying strict financial rules (Islamic) when operating, and this gave them good reputations and more credibility in the market.

The focusing of Saudi banks on generating profits from offshore acting, means that Saudi Islamic banks has a good reputations in international market, and we could consider their behaviour as commercial strategy to capitalize on international capital openness, to generate profits.

The empirical analysis of sources of profitability of Saudi banks helped us to deduce some findings, which allow us to judge the Islamic banking system of the kingdom as effective, by focusing on generating profits from long run investment and international loans, and decreasing exposure to risk, and avoiding generating profits from short run investments, this finished by giving to this banking sector good reputation and more credibility in international market.

From the recent different approaches applied in econometrics, there’s a new scientific methodology focused on the “efficiency concept”, developed to find out the optimised use of funds by banks to generate profits, and then we can speak about effectiveness and efficiency of the Saudi banking sector, this idea could form new subject to debate in future working papers.

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