Profitability determinants in the Tunisian Banks

Sarra TROUDI
High Institute of finance and taxation system of Sousse
Sousse University

Naoufel LIOUANE
High Institute of finance and taxation system of Sousse
Sousse University

ABSTRACT

The present work has as objectives to both investigate the different variables of profitability of the Tunisian banks and to analyze the mechanisms through which the banks features and specificities may influence it. For this purpose, a sample panel consisting of 10 Tunisian banks was used over the period ranging from 1999 to 2010. The banks selected are those which provided the necessary data all along the period of research. The generalized method of moments (GMM) was used to generate the results of the econometric estimation data of the dynamic panel. These results indicate that many institutional and structural factors significantly influence the Tunisian banks profitability.

Key words: Tunisian banks, Profitability, Determinants, Panel, GMM.
JEL Classification: G21; G23: L25.

1. Introduction

During the last two decades, the Tunisian financial system has undergone a structural reform which aims at improving its efficiency and strengthening the monetary growth and stability in order to meet the development requirements. As a matter fact and before adopting the structural adjustment plan (SAP) in 1986, the Tunisian financial system suffered a series of failures which have led to a noticeable inefficiency in terms of funding. Accordingly, the banks performance and their determinants have become an important issue within the framework of the different mutations which required a restructuring of the banking system that characterizes numerous financial institutions. Within Tunisian boundaries, banks are considerably universalized, reorganised, computerised, diversified and are currently in the process of internationalisation thus giving rise to firms which need a new examination. Indeed, the deep changes in the different banking activities are the result of long debates about the banking industry itself.

In this respect and with reference to such restructuring, it becomes of undeniable importance to measure the activity of banks as prominent contributors to the economic growth and to understand their behaviors and the impact of the latter on the variations of banks profitability as well as their impact on the overall national economy.

In fact, the current work follows the same path as it explores the profitability determinants of a sample of Tunisian banks over the period from 1999 to 2010 by conducting an analysis of panel data.

In the economic and financial researches, the focus was on analyzing the determinants of banks profitability in both developed and developing countries. In Tunisia, however, little interest was paid to this crucial issue. This may be attributed to the fact that the financial and banking reforms have emerged relatively later and to the difficulty to access data about banks. Therefore, the analysis of the banks performances, especially in terms profitability, has become of great interest. In fact, it allows banks to better understand the factors that affect their profitability and thus offer them more powerful lever for action, control and prevision. The current work addresses this issue starting from the specification and the estimation of a model which incorporates measurable aspects that are organizational, structural and institutional. Actually, a better understanding of the banking policies necessitates a thorough understanding of the banks profitability determinants, a key objective this paper

aims to achieve. Hence, it set out to answer the following question: how does banks profitability react to its main determinants?

To begin with, most of the researches on banks profitability determinants divided them into two categories: internal and external. The internal factors are all the factors relating to the management of each particular bank while the external ones are those that represent both the legal environment within the banking industry and the macroeconomic environment of the country as a whole. Thus, for each category, several explanatory variables have been suggested depending on the particular nature of the study. In this respect, the works of A. Heggestad and J. Mingo (1976), Short (1979) and Bourke (1989) are of great relevance to this topic. Indeed, there existed two groups of researchers who dealt with this subject. The first analysed the determinants focusing on one country among whom are N. Berger (1995), Angbazo (1997) and more recently Liu and Wilson (2010). The second group, on the other hand, used a panel of several banks from different countries (Molyneux and Thornton (1992), Abreu & Mendes (2001) and Goddard, Molyneux and Thornton (2004)). The difference in results generated from the several studies was due to the difference in the data used, the periods when the studies were carried out and to the particularities of the macroeconomic environment. However, there are several determinants whose effect on profitability was agreed on by many researchers. Similarly, there existed several studies that investigate banks profitability in the Arab countries. Ben Naceur (2003) and Mansouri and Afroukh (2008), for instance, analyzed the profitability determinants of commercial banks in Tunisia and Morocco, respectively. To measure profitability, these authors focused on the return on assets (ROA) and the interest margin. In this vein, the determinants were divided into three categories. First, the managerial and organizational determinants that include the banks operating expenses, equity, loans and the bank's size. Second, the micro- financial determinants which incorporate the banking concentration, the size of the banking sector, the size of the capital market and the relative size of the banking sector in relation to the capital market. Third, the determinants related to the macro- financial environment, namely; the economic growth and inflation.

The economic theory has shown that the operating fees have a negative impact on profitability. Mansouri and Afroukh (2008) research was in line with this theory. By contrast, Ben Naceur (2003) argued that they have a positive impact in the sense that profit realization is conditioned by an increase in the operating fees. He added that the total equity, in turn, has a positive effect on profitability even if the excess in the capital ratio may harm the profitability of assets as when raising this ratio, banks tend to a make small fructification of the available capital.

It can also have a negative effect to the extent that the Moroccan banks for example, sought to strengthen their financial foundations in order to meet the international financial institutions requirements thus ignoring the amelioration of their current profits. (Mansouri and Afroukh (2008)).

Additionally, several studies have shown that banking concentration is conducive to profitability in both Moroccan and Tunisian cases. Indeed, the concentration strategies allow the realization of economies of scale.
In another vein, many authors disagree on the effect of the size of the banking sector on profitability. Demerguç-Kunt and Huizinga (2001) and Ben Naceur (2003), for example, asserted that it positively impact profitability as the financing of the economy by the banking sector reflects the system's ability to meet the needs of the economic actors. Mansouri and Afroukh (2008), on the other hand, claimed that it may have a negative effect and, in this case, the size of the bank is not conducive to profitability. These authors, however, agreed on the macroeconomic variables positive effects on profitability.

The economic growth in Tunisia and Morocco was strongly in favour of the profitability of banks which benefited from the restructuring of the economies within the framework of the diversified sector- based policies. The latter have led to improved economic conjuncture and required the introduction of automation to facilitate banking tasks. In another vein, the positive effect of inflation in the two countries is explained by the imputation of prices variations on the charges assumed by the depositors and borrowers.

This paper is organized as follows: the first part is devoted to presenting the data and the variables used. The second explains the model and the econometric methodology. The third part displays the estimation results while the final part covers the conclusion and the recommendations.

2. Data and variables

2.1. Data presentation

The data was collected from a sample panel that is consisted of 10 Tunisian banks over a period of 11 years ranging from 1999 to 2010. The banks selected are those that provided all the necessary data during the research period. The banks chosen namely; BNA, BIAT, STB, BS, ATB, BT, UIB, UBCI, AB and BH, are all commercial. This choice is for two main reasons: Firrst, because of the flexibility and regularity when collecting information during the period of research. Second, investment banks and the other financial institutions do not collect deposits and do not have access to the Central Bank refinancing.

The banks under research are all listed in the Tunisian stock market. Data about the income statements of these listed companies, their balance sheets and their various activity reports was gathered from the BVMT and the Central Bank. (Appendix1).

2.2. Variables definitions

2.2.1. The performance variables (dependent variables)

Even though there existed in literature three measures that are more frequently used than others, namely; ROA, ROE and Tobin's Q (Short and Keasey (1999), Weir and Laing (2000) ... etc.), in our model, we will just use the following:

- Return on Asset (ROA): which is the ratio of the assets return. It is the operating income/ total assets.

- **Return on Equity (ROE):** that is the ratio of equity return. It is the net profit/ equity.

2.2.2. The explanatory variables

These are the variables that characterise the banks under focus and that influence profitability. In our model they refer to:

- Size: it is measured by the logarithm of the total assets. In literature, the size is often held as a determining variable of the level of performance. The variable representing the size of a bank, in terms of assets, was used to reveal the presence of economies of scale. Short (1979) assumed that, in general terms, the bigger the size of a bank is the more profitable it becomes. However, no supporting results for this assumption were found in his study. In the same respect, Benston, Hanweck & Humphrey (1982) came to the conclusion that large banks do not benefit from economies of scale. They went further to add that very large banks could potentially face the diseconomies of scale. It seems evident, therefore, that the bank's size affects its profitability.

- Market capitalization: it is assumed that the higher the bank capitalization is, the lower the need for external funds becomes, and subsequently, profitability increases. Indeed, the advent to the stock market becomes an opportunity as the shareholders of origin leave a portion of their stocks at a good price so as to avoid a decline in the company's performance. But this act also affects its operating performance when taking risk into account and thus prompts to behave in a conservative way.

- Concentration : Molyneux and Thornton (1992) claimed that a high level of concentration in the banking sector may lead to monopolistic profits. According to Short (1979), banks that belong to a highly concentrated market are more likely to operate in collusion. In this respect, a positive correlation between concentration and profits can be expected. This lends a strong support to the hypothesis that claims that a great market power leads to monopolistic profits.

- **Credit risk:** it can be measured by various financial ratios. The ratio of outstanding bad credits / total credit (net), for example, is a measure that indicates the quality of the credit portfolio. Indeed, a high value of this ratio reflects a deteriorated banking activity that is of low quality. It also implies a higher risk of default for the bank.

- Dividend: it is argued that the more dividends the firm pays, the lower internal funds it accumulates. Therefore and according to the hierarchy theory of funding, it should hold less cash. The arbitration theory, as well, predicts a weak availability of cash in the firms that pay high amounts of dividends. For other reasons, however, firms which pay valuable dividends can raise funds at lower costs when reducing their payments of dividends. Indeed, their dividends can be substituted by cash. These firms will hold, all other things being equal, smaller amounts of cash.

- The government stake: it represents the part of the capital held by the government. This variable is measured by the number of shares held by the state/ total number of shares.

- DUMMY_private variable: it refers to the origin of the social capital of banks. It equals 1 if the bank is private and 0 if it is public. According to the agency theory, private banks are relatively more efficient.

- DUMMY_Foreign variable: it equals 1 if the bank is foreign and 0 if it is national.

3. Model and Methodology

3.1. The model specificities

The basic function can be written with reference to the explanatory variables:

$Y_{it} = c + \varphi_1 Y_{it-1} + \varphi_2$ Market capitalization $+ \varphi_3$ Government Stake $+ \varphi_4$ Size $_{it} + \varphi_5$ Dividend $_{it} + \varphi_6$ Credit Risk $_t +$ φ_7 Concentration $_{it} + \varphi_8$ Dummy $_{it} + \mathcal{E}_{it}$

With :

i : refers to the bank.

t: time.

Performance is an endogenous variable;

The variables (market capitalization, size, dividend, credit risk, concentration, government stake.....etc.) are exogenous through which it is intended to explain the profitability determinants of the Tunisian banks.

$\mathcal{E}_{it}$: error term.

3.2. The econometric methodology: The dynamic model specificity:

The dynamic models are characterized by the presence of one or more delayed endogenous variables among the explanatory ones. The following is the dynamic model to be evaluated:

$y_{it} = \alpha\, y_{it-1} + \beta\, x_{it} + \mu_i + \nu_{it}$

where y_{it} refers to the bank profitability i (i=1…N) within the period t (t=1…T), while $\mathcal{E}_{it}$ indicates the error term and X_{it} designates the group of the explanatory variables.

In this respect, Anderson and Hsiao (1981-1982) found out a correlation between the dependent variable and the error term. They also suggested implementing the variable of first difference in terms of delays in its levels or differences.

Arellano and Bond (1991) went further and generalized Anderson and Hsiao' approach. They suggested applying the generalised moments method (GMM) through exploiting all the orthogonality conditions that exist between the delayed endogenous variable and the error term.

The advantage of this method in analyzing growth lies in both the correct treatment of the problem of correlated individual effects and in the possibility to take into account the potential endogeneity of the explanatory variables X_{it}. Thus, the assumption of no autocorrelation of residues is essential to use the delayed variables as instruments for endogenous variables. The validity of these instruments is tested through the implementation of the Sargan test of over identification.

However, Alonso-Bonégo and Arellano (1996) assumed that if the variables of the first difference are weakly correlated with their values delayed in terms of level, the instruments available for the equations of first differences are as well weak.

Furthermore, the simulations conducted by Blundell and Bond (1998) suggested that if the variables are very persistent in time, then the MCG estimator of first differences suffers from a strong bias -an underestimation of small samples, especially when T is small. In this very respect, Arellano and Bover (1995), Blundell and Bond (1998) proposed a GMM estimator of first difference, using as an instrument equations in levels for the instrumentation of equations of first difference. It can be concluded that the choice of the best method to estimate a model depends on several factors. As a matter of fact, the use of the GMM dynamic panel provides solutions to the problems of simultaneity bias, reverse causality and omitted variables. A dynamic model is a model in which one or more delays of the dependent variable appear as explanatory variables.

4. Results of estimations and interpretations

Table 2 (appendix 1) displays the descriptive statistics of the different variables of the estimated model: performance indicators, and the different explanatory variables. The statistics analysed are the following: means,

the standard deviations, and the maximum and minimum of these variables. The correlation matrix for the variables is reported in Table 3 (appendix 1).

The results of the econometric estimates of GMM method on panel data models are presented in Tables 4 (Appendix 2). We can say :

- The market capitalization variable has a positive and significant effect, at a threshold of 1%, on banks profitability measured by ROA and ROE. This confirms the results found by Ben Naceur (2003) who claimed that the higher the bank capitalization is, the lower the needs for external funds are, and subsequently, profitability becomes higher.
- The dividend variable is significant with a positive coefficient and the analysis reveals that it has positive effect on profitability.
- The bank's size positively affects its profitability. This can be attributed to the fact that commercial banks are able to grant big loans and to easily get access to market products. A result which corresponds to that of Guru et al (2002) who found out that large banks have a higher profitability which is not the case for small- sized banks. In France, however, Goddard et al (2004) did not find a significant relationship between size and profitability. Pasiouras and Kosmidou (2007) identified a negative but significant effect of size on the profitability of European banks. Similarly, this result corroborates those of Mark and Ong (1999), Boyd and Runkle (1993) Pinteris (2002) Adams and Mehran (2003), Godard (2001), Fernandez and Arrondo (2002) and Kwan (2003) who came to the conclusion that the size of the bank has a significant and positive effect on profitability, suggesting the existence of economies of scale. This result indicates that the largest banks in terms of total assets are public banks namely STB, BNA and BH which are known to be less efficient. This explains the positive sign related to the variable Dummy private.
- The concentration variable, by contrast, has a negative effect on banks' profitability. In other words, it is less beneficial than competition in terms of profitability of Tunisian banks. In this respect and in order to make larger profits, it becomes necessary to better the competition environment within the banking sector. As a matter of fact, Kotler and Dubois (1997) asserted that if a bank has a considerable market share, it will adopt the strategy of a leader in order to protect this share and defend its position in that market, accordingly. A highly concentrated sector is frequently accompanied by mergers and acquisitions. Results in terms of profitability have first an impact on the activity because they determine the financial resources available to the bank.
- The credit risk has a negative but a significant effect at a threshold of 10%. It negatively reacts with banks profitability. This negative effect reveals the risk- averse strategy that the Tunisian banking sector seems to adopt, through the selection and control of the credit risk. This implies that the capital market is not perfect in the Tunisian banking sector given that with the presence of asymmetric information, highly capitalized banks can access funds at better terms because they are considered less risky.
- The DUMMY private variable: is related to the origin of the social capital of banks. It equals 1 if the bank is private and 0 if it is public. The coefficient of this variable is positive and significant. According to the agency theory, private banks are relatively more efficient. This efficiency reflects the improved quality of risks. In recent years, private banks have significantly improved their position in collecting non-performing loans. In fact, the hooked assets rate fell sharply from 14% in 2008 to 11.32% in 2009. This amelioration conveys the considerable effort made by these banks to reduce the level of credit risk.
- The DUMMY_Foreign variable: it equals 1 if the bank is foreign and 0 if it is national. Results show that foreign participation is a significant variable. Indeed, it can be said that foreign properties contribute to the amelioration of Tunisian banks profitability. Levine (1996) shows that foreign banks can improve the quality and availability of financial services in the domestic financial market, and making banks more competitive in terms of technological development, stimulating the development of banking regulation and allow access to international capital markets. Bush and Golder (2001), considered the advent of foreign banks as 'a double-edged weapon'. They argued that even though these banks improve the quality and the availability of financial services in the domestic financial market and allow access to international capital markets, they can cause the bankruptcy of less competitive domestic banks, on the other hand. In another vein, several studies on profitability in the banking sector show that this variable is highly significant and negative for both ROA and ROE variables. This asserts that foreign ownership has a significant and negative impact on bank profitability when compared to the performance of domestic banks which is proved to be higher. (Demirguç-Kunt and Huizinga (1999), Claessens, Demirguç-Kunt and Huizinga (2001) and Kosmidou et al (2006)).

5. Conclusion

The present paper aimed at identifying the determinants of the banking profitability in Tunisia. Therefore, our estimations were based on the GMM panel data method. The results of these estimations show that the following variables namely; size, market capitalization and dividends significantly and positively affect the banking profitability. While the credit risk and concentration of the banking sector variables perform a negative and significant effect. Similarly, the integration of DUMMY variables, related to private and foreign banks, is significant showing they are relatively more profitable than their public counterparts.

The dynamism of the Tunisian banks allowed initiating a radical transformation in the banking sector. Thus, an examination of the characteristics of listed banks and prospects of reforms can help understand the achievements and open up to future perspectives. Moreover, in order to facilitate the adjustment and face competition, it becomes absolutely imperative to increase the banking facilities extension rate and simultaneously introduce concentration and reconciliation movements between banks. This necessitates a better banks performance and larger profits which will be increasingly under pressure.

It is noteworthy, however, that the banking sector is quite fragmented or even limited in terms of volumes (medium- sized). Indeed, this sector is expected to explore the possibilities of triggering a restructuring phase which aims at increasing the financial potential of Tunisian banks through mergers and the internationalization activities.

In the same respect, the Tunisian banks are exposed to credit risks. In order to limit the risk of bankruptcy, save the interests of depositors and guarantee the stability of the banking system as a whole, banks have long been subject to various prudential regulations. This requires that bank equity should increase with credit risk to which the banks are exposed.

At this level, banks are required to prove their financial soundness by having a considerable capital and overcoming the prudential constraint so as to get a favourable access to financial markets in the best conditions, and can therefore improve their gross interest margins or have more competitive prices compared to their competitors.

By contrast, the objective of the conducted profitability is that banks acquire a minimum level of shareholders equity in order to increase the return of their financial operations by reducing the total cost of their capital. Hence, the best management is to achieve a balance between the financial power on the one hand and the equity returns on the other. As a matter of fact, several researches highlighted the performance of the banking sector in terms of financial results, equity consolidation, compliance with the prudential ratio, control of costs and even profitability improvement. Certainly, the deep changes both operational and structural undertaken inside the banking sector have led to increased competition.

To conclude, in accordance with the recent measures proposed by the Basel Committee on Banking Supervision (BCBS) several reforms were applied in order to strengthen the financial stability and, in particular, to better regulate the systemic risk. However, several challenges still exist and the Tunisian banks are called to meet so as to improve competitiveness and modernization of their financial services so as to obtain better banking performance in the future.

Appendix

Appendix 1 :

Table 1: Distribution of banks listed on the BVMT (Securities Exchange Tunis):

Companies	Date of advent
UIB	August 1996
UBCI	September 1990
BNA	September 1990
Amen Bank	February 1994
BH	December1992
ATB	September 1990
BT	September1990
BIAT	September 1990
STB	September 1990
BS	September 1990

Table 2 : Descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
roa	120	0.7684167	1.438708	-10.35	2.91
roe	120	9.372917	14.66843	-111.9	42.4
Dividend	120	58.97558	11.00987	20.09	78.55
Market Cap	120	9.442	3.025608	-1.09	17.48
Gov stake	120	20.72725	27.42618	0	68.4
Credit risk	120	101.6636	20.93798	54.18	139.45
Concentration	120	32.70583	17.3871	5.61	64.24
Bank size	120	6.388167	0.2268639	5.96	6.83

Table 3 : Matrix of variables correlation :

	dividend	Market cap	Gov stake	Credit risk	Concentration	Bank size
Dividend	1.0000					
Market Cap	0.3006	1.0000				
Gov stake	0.3289	-0.1490	1.0000			
Credit risk	0.6124	0.3984	0.4784	1.0000		
Concentration	-0.4565	-0.2981	-0.3629	-0.3839	1.0000	
Bank size	-0.1129	-0.3016	0.4426	0.0165	-0.3053	1.0000

Appendix 2 : Results of estimations

Table4 : Results of estimations (Estimation by two-step System GMM)

DEP.VARIABLE	**ROA**			**ROE**		
IND.VARIABLES	M1	M2	M3	M4	M5	M6
ROA_{t-1}	-1.0822 (-1.57)	-0.1183 (-1.97)**	-0.0532 (-0.43)			
ROE_{t-1}				-0.0732 (-0.87)	0.4592 (1.38)	0.2545 (0.96)
Size	6.6869 (1.81)*	19.5381 (1.90)**	12.00065 (2.98)***	56.4261 (4.71)***	443.3113 (1.85)*	368.0987 (1.82)*
Concentration	-0.014743 (-1.88)*	-0.60751 (-1.58)	-0.39812 (-2.64)***	-0.1820 (-0.68)	-8.5108 (-1.88)*	-8.1704 (-1.82)*
Credit risk	0.0047419 (0.33)	0.10706 (1.65)*	0.0810 (2.46)**	0.2549 (1.52)	2.0975 (1.87)*	1.7196 (1.85)**
Market _capitalis	0.3846 (1.82)*	0.9332 (2.54)***	0.8668 (3.08)***	4.7960 (5.51)***	-14.8011 (-1.35)	-9.0642 (-1.12)
Govern_stake	-0.0089 (-1.42)	1.740263 (1.52)	1.1348 (2.45)**	0.0815 (0.38)	5.0772 (2.75)***	6.1360 (2.50)**
Dividend	0.0656072 (2.12)**	0.1242 (2.01)**	0.07696 (2.78)***	0.8431 (3.45)***	1.8392 (2.05)**	1.6541 (2.00)**
Dummy_private		111.0126 (1.52)			367.79 (2.46)***	
Dummy_Foreigne			72.4070 (2.46)**			425.464 (2.26)**
Constant	-48.58148 (-1.9)**	-23.0149 (-1.75)*	-131.108 (-3.23)**	-467.667(- 5.19)***	-307.88 (-1.95)*	-253.39 (-1.90)**
P-value AR(1)	0.9189	0.9341	0.552 0.1207	0.5712	0.8385	0.6429
P-value AR(2)	0.2289	0.2436	1.0000	0.4984	0.5184	0.1685
P-value Sargan test	1.0000	1.0000	120	1.0000	1.0000	1.0000
Observation	120	120	10	120	120	120
Number of BANK	10	10		10	10	10

T-students are provided in parentheses.***, ** and * represent statistical significance at the 1%, 5%, and 10% levels, respectively. Sargan statistic is a Sargan-Hansen test of overidentifying restrictions. AR (k) is the test for k-th order autocorrelation. Estimation by two-step System GMM.

We note that there is no second-order autocorrelation of errors for difference equation, because the test of second order autocorrelation (AR2) does not allow rejecting the hypothesis of absence of second-order autocorrelation. the instruments used in our regressions are valid, because Hansen test does not reject the hypothesis of validity of lagged variables in levels and in difference as instruments.

Appendix 3. EVOLUTION OF TUNISIAN BANKS PROFITABILITY

Equities yields « ROE»

Over the past five years, Tunisian banks have focused on improving the profitability of their own funds. This fact draws its core through the continued growth results obtained from different banks. The BNA was rewarded the Golden palm with a mean score of growth of 48.71% in its ROE, followed by UBCI which managed to grow its ROE at a mean score of 26.41%. In 2009, Attijari Bank was placed at the top with a mean score of 19.4%, followed by the BT and then ATB with a mean score of about 15%. It should be noted, however, that the year 2009 witnessed the return to equity profitability of the UIB with an ROE of 9.3%.

Evolution of the equity returns over the period (2005-2009)

	ROE						
	2005	2006	2007	2008	2009	**Variation 08/09**	**Mean growth 2005-2009**
AMEN BANK	9.23%	8.85%	10.79%	13.17%	12.9%	**-2.05%**	**8.73%**
ATB	10.57%	12.06%	13.33%	13.70%	14.8%	**8.03%**	**8.78%**
ATTIJARI BANK	-	-	-	29.77%	19.4%	**-34.83%**	**NA**
BH	9.10%	15.07%	15.85%	14.70%	13.0%	**-11.56%**	**9.33%**
BIAT	6.71%	5.54%	5.06%	7.57%	12.2%	**61.16%**	**16.12%**
BNA	2.29%	4.46%	7.27%	11.42%	11.2%	**-1.93%**	**48.71%**
BT	11.80%	12.61%	16.71%	15.65%	14.9%	**-4.79%**	**6.00%**
STB	8.48%	4.97%	6.87%	6.66%	7.8%	**17.12%**	**-2.07%**
UBCI	4.70%	8.47%	10.65%	13.75%	12.0%	**-12.73%**	**26.41%**
UIB	-	-	-	1.27%	9.3%	**632.28%**	**NA**

Source : Maxula stock market

Assets profitability « ROA »

The assets return measure (ROA) is an indicator that allows examining the effectiveness degree of the use of available assets, that is to say its ability to generate profits from the bank assets. An examination of assets shows that over the period 2005-2009, all banks witnessed an ROA increase at varying degrees. Exceptionally, The STB experienced an annual decline mean score in its ROA of 4.8%. The BNA, UBCI and BIAT ranked high with a mean score of annual growth in their ROA of 38.6%, 21.8% and 17.0% respectively.

Evolution of the equity returns over the period (2005-2009)

	ROE						
	2005	2006	2007	2008	2009	**Variation 08/09**	**Mean growth 2005-2009**
BNA	0.19%	0.36%	0.56%	0.57%	0.71%	**25.3%**	**38.6%**
UBCI	0.58%	0.96%	1.16%	1.43%	1.27%	**-10.9%**	**21.8%**
BIAT	0.52%	0.51%	0.44%	0.61%	0.97%	**60.9%**	**17.0%**
BH	0.63%	1.00%	1.30%	1.24%	1.03%	**-17.0%**	**13.2%**
BT	1.99%	2.20%	2.91%	2.62%	2.53%	**-3.5%**	**6.2%**
ATB	0.97%	1.02%	0.96%	1.19%	1.2%	**0.6%**	**5.4%**
AMEN BANK	0.91%	0.82%	1.05%	1.24%	1.12%	**-9.7%**	**5.3%**
STB	0.82%	0.46%	0.62%	0.56%	0.68%	**20.2%**	**-4.8%**
ATTIJARI BANK	-	-	-	1.44%	1.35%	**-6.2%**	**NA**
UIB	-	-	-	0.04%	0.31%	**606.5%**	**NA**

Source : Maxula stock market

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