



Fusion Banking Acquirement: The Case of Tunisia

El Ouni Nizar¹, Faculty of Economics and Management Sfax, Tunisia
Miled Faouzi², Faculty of Economics and Management Sfax, Tunisia

Abstract

Nowadays, the experiences of Tunisia in the realm of fusions and banking acquirements are taking a new size. The banking sector offered some examples that could be beneficial due to the operations of banking regroupings. In fact, we did a survey concerning the Tunisian market of fusions and acquirements during the period starting from the 90s to investigate whether some contexts are more favorable than others aiming at achieving successful operations. In the first place, we attempt to adapt a theoretical framework to evaluate the reasons and the consequences of consolidating the industry of financial services, notably the banking services, in order to reconsider the reasons and the implications for the emergent countries. In second place, in order to determine whether these types of regroupings are then beneficial for banks, we attempt to evaluate the effects of fusions and banking acquirements in Tunisia. Opting for Tunisia as a case study aims to examine whether the regroupings of varied type could be more creative of value than those of extract type.

Keywords: Fusion Banking Acquirement, Tunisian Banking System, Structure and Banking Efficiency, Industrial Logics, CAR, Conditions of Success of the F&BAs operations.

Introduction

In a context of a banking environment characterized by a competition that is getting more and fiercer, several emergent countries' banks tend to seek for a better competitive position to lower the costs of the banking activities. It pushed these latter to opt for numerous typologies of fusions and acquirements operations. The beginning of the 90s witnessed a vigorous resumption of banking regroupings in the emergent countries in view of an improvement of competitiveness

¹ Teacher-researcher at FSEG Sousse, Tunisia / Member COFFIT.

² Manager at the bank habitat, Tunisia/ Member COFFIT.

*We will particularly like to thank Professor Bouri Abdelfattah for his careful and for his advice. All remaining errors or omissions we are fully accountable.

shifting toward the irresistible globalization of markets. This obstruction paves the way for the need for the operations of regroupings emanating from the hyper-competition and the intense financial globalization which reinforce, in turn, the competitiveness and the necessity of actions on local and foreign emergent markets. Among the means to adjust and to take advantage of these deep financial mutations of the banking environment, it seems crystal clear that the regroupings were a swift and efficient solution.

The operations of fusions and banking acquisitions that appear in the emergent countries are of two types: one can find operations of the banking regroupings that are led by the strengths of market" the market-driven mergers and acquisitions" and a second type of the transactions that are pushed or stimulated by the governments" the Government-led deals"³. Although these types of fusions and acquisitions sound different, the incentives of the operations are nearly the same (research of scale savings, research of the power of the market, the diversification of risks, and the realization of savings of range or envergure.etc). These same incentives vary from a country to another; all depends on the competitive environment of the banks. The realization of both scale savings and savings of ranges, the increase of market part and the diversification of risks are probably the most evident incentives mentioned to justify the intensification of the operations of fusions and banking acquisitions in the emergent countries.

In fact, in most countries, the operations of fusions and banking acquisitions have been considered as a beneficial procedure to improve the structure and the efficiency of the banking sector. The international experiences of banking fusions are sometimes beneficial in terms of costs and incomes. In many other cases, fusions and banking acquisitions don't necessarily show some gains for the regrouped entities. The works of research that are centered on the reasons of diversity, at the level of the results found, tried to study the nature of the relation that could exist between the signs of the abnormal returns achieved by the regrouped firms and the different typologies or categories of the fusions and/or acquisitions. We find that fusions and/or acquisitions reinforce the diversification or the concentration of the geographical profiles and the initial activities of firms before regrouping.

Most analyses related to fusions and acquisitions of the banks build their findings on the verification of the different incentives that have been mentioned in this flow of research. Although using some different econometric methods and functions of distinct costs, most studies have shown global advantages that emanate from the operations of fusions and banking acquisitions. These works concluded, in some cases of banking regroupings, that the banks that doubled size, recorded, all other factors staying otherwise constant, a reduction of their average costs. This result affirms the global advantages of the operations of fusions and banking acquisitions. Other studies verified hypotheses related to the power on the market while examining the relation price-concentration. All these studies gave results that seem to be identical. Whether efficiency is verified or not: the banks operating on markets more extracts offered prices that are simultaneously slightly favorable to the particular depositors of small size.

From the 80s, this environment became turbulent and subject to fast changes. Indeed, more and more numerous banks that have been tempted by the diversification in search for new synergies of more profitable sectors. According to this reasoning do the deep mutations of the Tunisian economic environment as well as financing banking institutions incarnate threats pushing toward regroupings or an opportunity of diversification via the F&A in order to palliate to the turbulences noted in the Tunisian banking sector? As such, the importance of the

³ Amel, D, C.Barnes, F.Panetta et C.Salleao(2002).

recurrence to determine the explanatory factors of the intensification of the operations of fusions and banking acquisitions in Tunisia seems to be too persistent to investigate.

Empirical Study

The main objective in this work is to determine the success of conditions of the operations of fusions and banking acquisitions (F&A) in Tunisia. We are going to adopt this methodology of study of event averaging the determination of the abnormal returns. This necessitates a categorization of these cases of fusions and banking acquisitions that occurred in Tunisia according to their industrial logics (varied or extract) taking into account their geographical localizations and their activities' profiles. This categorization enables to have four categories of banking regroupings that are mutually exclusive⁴. The first category concerns the cases of fusions and banking acquisitions that reinforce the geographical concentration and the activities of the banks meanwhile. The second category includes the cases of the regroupings that reinforce the geographical diversification and the activities at the same time. The third category includes the cases of fusions and banking acquisitions that reinforce the geographical concentration, however, vary the activities, and the last category concerns the banking regroupings that vary geography but reinforce the concentration of the activities⁵. In order to determine whether the cases of fusions and banking acquisitions are profitable or not, we tried to test, for each, the possibility for the regroupings reinforcing the geographical diversification and activities to be more creative of value than those of type extracts.

➤ Methodology:

We recall that in our work, we are going to adopt the technique of study of event for the evaluation and the quantification of the reaction of the courses of the banks that are cited in the stock of the movable values. In a first time, we are going to identify the operations of fusions and acquisitions that occurred in the Tunisian banking sector as well as their dates of realization. This stage seems to be a prerequisite before starting the analysis of the evolution of the stock courses of the banks that are implicated in the operations of fusions and acquisitions. Theoretically, the date to which the piece of information concerns is made public and considered as a date of fusion or banking acquisition. In the practice, we assimilate this date to the one of the first announcement emanating from the stock of the movable values of the Central Bank of Tunisia or from the banks implicated in these operations of regroupings.

However, this choice doesn't allow to completely eliminating the uncertainty concerning the exact date of fusion or acquisition. On the one hand, the existence of other concomitant events that intervenes before the public announcement date is shown by an anticipated reaction of the stock market⁶. Thus, all operators don't act at the same time on the market. Due to that action, a reaction spreads on a certain period. We choose in nearly all cases of fusions and banking acquisitions in Tunisia, as period of event a monthly time interval [-6, +6] that is specific to every regrouped bank and centered on the date $t=0$ (month of announcement), a date that is presupposed from the first announcement of fusion or acquisition (the event)⁷. If one admits

⁴ De Long, G.L. (2001).

⁵ In our work we selected only those cases combinations where the acquisition is a transaction that takes place on the basis of a final share purchase estimated at more than 50%. If both mergers and acquisitions took place during the same period or a period close, that is to say, there is an overlap in the event windows (same event window), they be considered as a single group.

⁶ Garar A., (1997).

⁷ Ball C.A., Torous N.W., "Investigating Security-Price Performance in the Presence of Event-Date Uncertainty", Journal of Financial Economics (1988) 22, p. 123-154

that the quotation on the Tunisian stock market takes place in continuous time, the profitability of a title of the bank i between two date's t and $t-1$ is calculated as follows:

$$R_{it} = \frac{P_{it} - P_{it-1}}{P_{it-1}} \quad (1)$$

Where P_{it} is the stock course of the title of the bank i corresponding to the date t . Once the operation of fusion and acquirement and its date of realization are identified, we will be able to choose an interval of months $I = [-6, +6]$ as period of event that is centered on this date of announcement or realization. Outside this interval, the rates of profitability are supposed to be generated by a process that describes how they are dynamic through time. The evaluation of the reaction of a title to an event passes then by the analysis of the profitabilities that are really achieved on the interval I supposing that they are different from those that are produced by the process in charge of generating the evolution of the stock courses in an ordinary period. We call this profitability then "an abnormal profitability" (Abnormal Return) of a title of the bank i , to a date of fusion or acquirement t (AR_{it}), the gap between the real profitability noticed on this date R_{it} and the one estimated in an ordinary period. Let's define R_{it} as the return (noticed) achieved by the actions of the bank i during the month t and $E(R_{it})$ as the estimated or anticipated return of the titles of the bank i during the month t , that is, the return of these actions that we estimated if the proposition of fusion was not announced. The movement of the courses that can be assigned to the announcement is the difference between R_{it} and $E(R_{it})$. We can call this difference unexpected return (e_{it}) of the titles during the month t according to the following equation:

$$e_{it} = R_{it} - E(R_{it}). \quad (2)$$

In order to determine the value of e_{it} , we must estimate $E(R_{it})$: the unobservable and estimated return on the actions of the bank i during the month t . The most used model to estimate $E(R_{it})$ is the one of the market (Fama and others. (1969)⁸ and Fama (1976)) and which is adopted to do this work. According to this model, we admit that the returns of the banks titles that are implicated in operations of fusions and acquirements in Tunisia follow an ordinary and multivariated distribution. The returns of titles are generated by the following stochastic process:

$$R_{it} = \alpha_i + \beta_i R_{mt} + e_{it}, \quad (3)$$

With $i = 1, \dots, n$,

$t = 1, \dots, w$,

R_{it} = rate of return on title i during month t ,

R_{mt} = rate of return on the value weighted market index in month t ,

$\beta_i = \text{Cov}(R_{it}, R_{mt}) / \text{Var}(R_{mt})$,

$\alpha_i = E(R_{it}) - \beta_i E(R_{mt})$,

⁸ Fama E.F., Fisher L., Jensen M.C., Roll R.W., (1969). Op. Cit

e_{it} = the residue random security i t wherein during the month following a normal distribution centered and reduced (with an average zero), which are not correlated in time and having a constant variance (δ^2).

$$Cov(e_{it}, e_{js}) = 0, \text{ for all } i \neq j \text{ and } t \neq s,$$

$$Cov(e_{it}, R_{mt}) = 0, \text{ for all } t.$$

We move, afterwards, to make a regression according to the method of Least Ordinary Squares (MCO) of the individual returns R_{it} on the rates of monthly returns of the banking market R_{mt} (with the rate of monthly returns finishing 6 months before the proposed announcement of fusion or banking acquirement and outside of the period of event). We can estimate the parameters for every bank belonging to the sample. Using these estimated parameters, we can rewrite the equation (3) as follows:

$$\hat{e}_{it} = R_{it} - [\hat{\alpha}_i + \hat{\beta} \cdot R_{mt}] \quad (4)$$

When we are going to deduce anticipated returns of those that are really noticed, this allows us to get an evaluation of the unexpected returns \hat{e}_{it} that are also called the abnormal returns. In other words, $[\hat{\alpha}_i + \hat{\beta} \cdot R_{mt}]$ represent the abnormal return of the bank i during the month t , this latter is simply equal to \hat{e}_{it} . The deduction of R_{it} neutralizes the effect of the systemic movements of the banking market but doesn't permit to neutralize the variations of the stock courses that are specific to the concerned bank. These variations and these fluctuations could come from the other events under which study fusion or acquirement lies (the proposition of fusion or the decision of the regulators). We can take the average in a transversal cut of the unexpected returns (the abnormal returns) for the titles in our sample during a period of 13 months for every title. This permits to have a period of fusion or banking acquirement that is centered on the month of announcement. We have:

$$AR_t = \bar{e}_t = \frac{1}{n} \sum_{i=1}^n e_{it}, \quad (5)$$

The period of time could spread on nearly one year (13 months). Therefore, $t = -6, -5, 4, \dots, 0, \dots, +4, +5, +6$ and AR_t is the average abnormal return that is identical to the average unexpected return during the month " t " and " n " represents the number of banks that are implicated in operations of fusion and acquirements in Tunisia. The average in a transversal cut neutralizes the variations of the stock courses of those banks in question and which are specific to the bank. Those are not joined to fusion or acquirement under study since this regrouping didn't take place at the same time for the banks " n " of the sample. The last stage in this analysis, it is the calculation of the average Cumulated Abnormal Returns (CARs) of month t_1 to the month t_2 during the period of fusion or acquirement ($t = -6, -5, 4, \dots, 0, \dots, +4, +5, +6$). The month of the announcement of the banking regrouping is the month 0. The period of pre-announcement spreads over the 6 months preceding the date of announcement and the period of post-announcement covers the 6 months after the announcement of regrouping. The average Cumulated Abnormal Return for the banks " n " regrouped of the sample from the month t_1 to the month t_2 is calculated as follows:

$$CAR[t_1, t_2] = \sum_{t=t_1}^{t_2} AR_t. \quad (6)$$

By doing so, another stage in our empirical part consists in evaluating the abnormal returns of the combined bank (that is the target bank in addition to the purchasing bank). Examining only the abnormal returns of the two banks separately, it could generate a partial or biased interpretation of the reaction of the stock market to the announcements of fusions and acquisitions. Therefore, we calculate the abnormal returns of the combined bank using the method adopted by Houston and Ryngaert (1994).

$$\text{Rendement Anormal Combiné} = \frac{MV_t \cdot AR_t + MV_b \cdot AR_b}{(MV_t + MV_b)} \quad (7)$$

With MV_t as the value on the market of titles of the target bank one month before the date of announcement and MV_b as the value on the market of titles of the purchasing bank one month before the date of announcement, AR_t and AR_b are respectively the abnormal returns of the target and purchasing bank along the window of the event. Houston and Ryngaert (1994) showed that this method gives the true percentage of changing the value of the combined bank before fusion. Besides the calculation of the abnormal returns based on these techniques mentioned before, we should also make resort to other types of data as the date of announcement, the date of rumour and the one of achievement of these operations of fusions and banking acquisitions in Tunisia in order to specify well the window of event which will serve as a probable period for the apparition of the effects of the banking regroupings⁹. The accounting data are gotten through the yearly reports of the Central Bank of Tunisia. A database called "Bankscope" represents another detailed and rich source allowing us to select the banking institutions that underwent operations of fusions and acquisitions owing to the detailed presentation of the history of each bank "Bank Mergers and Acquisition Deals". The monthly stock courses have been gotten either from the stock of the movable values of Tunisia (BVMT) or from the database "DataStream" that provide the information relating to some stock, economic and financial indicators of several Tunisian banks. Practically, the sample includes all banks that are publicly quoted on the Tunisian stock market and in which monthly financial information are available. In order to determine the exact dates of announcement of the regroupings and the financial, stock and accounting data which are specific to both: the target bank and the purchasing one, we collected the set of the data relating to the fusions and acquisitions announced from a database called "Thomson Financial Data - SDC M&A". The collection operation of database is completed by some reports and articles of press. The fact of crossing the geographical dimensions with the activities can help us highlight the different categories of fusions and banking acquisitions that could submerge in the context of Tunisian banking sector. This network could show six types of operations of fusions and banking acquisitions that are resulting from these geographical dimensions and activities. We can distinguish a first type that reinforces the banks' initial activities before regrouping (type 1). The second type, however, sheds light on the activities domestically but geographically dispersed (type 2). Another type leads to a diversification of the activities which take place between banks localized in the same regions (type 3).

⁹ Grar A., "Incidence de la division d'actions et de l'attribution d'actions gratuites sur la valeur : une étude empirique sur le marché français », Thesis for the doctorate in management sciences, University of Paris IX-Dauphine, 1994

The fourth category could result from the regroupings reinforcing the diversification of the activities in dispersed regions though they are domestic (Type 4). Two other types (5 and 6) bring about operations of fusions and transnational acquisitions. We notice that the regroupings that reinforce the initial activities of the banks before fusion while taking place between banks are localized in different countries (type 5). A last category (type 6), concerns the operations of fusions and banking acquisitions that reinforce meanwhile the geographical diversification and the activities on an international scale.

Please See Table I: Summary of the typologies of banking regroupings

These different types of operations of fusions and banking acquisitions should be tested in order to draw conclusions relating to the success of banking regroupings in Tunisia. We keep recalling that the cases of fusions and banking acquisitions that occurred in Tunisia do not exceed three regroupings. Our objective in this paper is to verify and to determine the effects of the operations of fusions and banking acquisitions (F&BAs) in the case of Tunisia. In the same way, we try to put the stress on the presentation and the analysis of the regrouping strategies through the case of absorption of the BDET and the BNDT by the STB, the case of acquisition of the Bank of the South by "Andalumaghreb S.A. of a portion of 53,54% (done the 5 /12/2005) and the case of acquisition of a portion of 52% of the International Union of Banks (UIB) that is done by the General Society (SG).

The realizations of these operations of banking regroupings can constitute a watershed in the banking policies and strategies that are put into force in the Tunisian banking sector. These operations of absorption and acquisition can be viewed as valuable in the context of restructuring the Tunisian banking sector and could probably contribute to the building of banking institutions that are becoming bigger and bigger.

➤ **Presentation and interpretation of the results:**

1) Case of regrouping between "Andalumaghreb S.A. "and" Bank of the South":

On 05/12/2005, it has been announced that "Andalumaghreb" acquired a portion of 53.54% of the "Bank of the South" which is a Tunisian bank of deposits. "Andalumaghreb" acquired the equivalent of 10, 708,805 actions on the stock of the movable values (the Tunis Stock Exchange). The closing price of the actions of the "Bank of the South" is of 7.41 Tunisian dinars. On 02/12/2005, this acquisition could be estimated to 79.352 million of dinars. The portion includes a proportion of 33.54% of government. The two banking institutions» Spanish Banco Santander" and "Moroccan AttijariWafa Bank" were called to detain some parts in "Andalumaghreb ". The following table describes this operation of regrouping between the "Bank of the South "and" Andalumaghreb S.A. ", (cf. table 3.1).

Please See Table II: Case of regrouping between "Andalumaghreb S.A." and "Bank of the South"

2) Case of regrouping between" General Society "and "UIB":

It has been noticed¹⁰ that, on 29/03/2002, ten banks were interested in the acquisition of 52% of the parts detained in the Tunisian bank "International Union of Banks (UIB)" that is quoted

¹⁰ This information is obtained from the database BANKSCOPE

publicly on the stock of the movable values of Tunis (BVMT). The banks that are interested in this offer of acquirement are the "Credit Lyonnais" and the "General Society" of France and "Monte dei Paschi di Sienna". On 26/09/2002, it has been announced that the "General Society" and the "Caisse d'Epargne" are interested in the acquirement of a portion of 52%. On 07/10/2002, it has been announced that the two firms that will probably take the initiatives of the acquirement operation of the UIB are the "General Society" and the "Caisse d'Epargne". On 10/10/2002, it has been announced that the "General Society" is going to acquire a part of 52% for an amount of 75.5 millions of euro. This banking acquirement operation is subject to an authorized approval. On 05/11/2002, it has been announced that this transaction has been accomplished. The following table represents a description of this banking acquirement operation, (cf. table 3.2).

Please See Table III: Case of acquirement of Union International de Banques by the Société Générale

It can be noted that this acquirement operation is of transnational type taking place between two institutions having similar initial activities (concentrated).

3) Case of regrouping between the "STB", the "BNDT" and the "BDET":

This strategy of fusion adopted by the "STB" bank has as an objective the reinforcement of its position as a bank of detail, and so, through a fusion/acquirement of horizontal type. This bank aims, via this strategy of regrouping, to the diversification and the widening of its activities. This strategy adopted by the managers of the "STB" aims to widen the range of the offered services through acquiring activities and complementary expertises to those which are already existing in order to meet the increasing demand of its clients. The choice is finally set on the absorption of two banking institutions of investment which are the "BDET" and the "BNDT". The objective of internalizing the profits of the big expertise in the professions of development and investment banks in addition to the increase and the consolidation of its financial foundation. The following table sums up the different found results in the different cases of fusions and banking acquirements in Tunisia (cf. Table 3.3)

Please See Table IV: The significant empirical results of fusions and banking acquirements in Tunisia

In order to determine the effects of fusions and banking acquirements in Tunisia, the two cases of regroupings (UIB case and STB case) reinforce the concentration of the initial activities of banks before being implicated in these regroupings. In the case of fusion by absorption (STB case), the "STB" bank shows the cumulated abnormal returns which are statistically significant and positive in the third and fourth month after the announcement of fusion. In the case of acquirement (UIB case), the UIB bank shows cumulated abnormal returns which are statistically significant. However, they are negative from the second to the sixth month after the announcement of the acquirement. Therefore, we are able to keep only the concentration of the initial activities of banks which represents a good indicator for the success of fusions and banking acquirements in Tunisia.

Concerning the effect of the concentration of the banking activities on a geographical scale, the case of fusion by absorption (STB case) took place between banks which are geographically concentrated (a case of domestic regrouping) and having cumulated abnormal

returns that are statistically significant and positive. According to the results found, we can note that the case of regrouping (STB case) is a case of fusion-absorption of geographically extract type reinforcing the initial activities of banks before fusion. The cumulated abnormal returns which are statistically noted significant and positive confirm the expected theoretical results (positive cumulated abnormal returns). Therefore, according to the found results, we can note that the operations of banking regroupings that reinforce the concentration of the initial activities of banks benefited from a favorable climate of the financial market (success) in the case where this regrouping reinforces the concentration of the activities on a geographical scale (STB case). However, they show a failure in the case where they reinforce the diversification of the activities on a geographical scale (UIB case). The banks of "UIB" and "Société Générale" tend towards similar activities (banking activities), however, operating on two geographically dispersed markets (transnational acquirement type). The unfavorable situation by the stock markets for this type of acquirement is probably due to the effect of the geographical diversification that prevails over the concentration of the activities.

On the other hand, it is noted that this case of fusion (STB case) that is kept to determine the effect of concentration on the value of the banks in which they are implicated represents a complete fusion or absorption (complete fusion by absorption for the case of STB). This allowed us to note that this typology of regrouping (fusion or absorption) could be an explanatory factor for the success of banking regroupings. Globally, we can keep that the industrial logic (concentration or geographical diversification and/or the activities) only is not enough to conclude that it is a determining condition for the success of the operations of fusions and banking acquirements in Tunisia.

The geographical criterion of the operations of fusions and banking acquirements have been directly verified through having a look at the site of the head office of the banks implicated in the operation of regrouping. In contrast, the profile of activity of the banks implicated in the operation of fusions and acquirements is verified averaging the initial specialty of the banking institution (before fusion or acquirement). However, by thinking that the generic term of the bank (commercial bank, investment bank, hypothecary credit bank, cooperative bank, bank of saving and others) doesn't necessarily show the real activity of the bank, it seems to us necessary to review the range of the activity of the banks through resorting to financial ratios extracted from balances and accounts of result of the purchasing and target banks before getting involved in the operation of fusion and acquirement. These ratios will be constructed and calculated for all banks implicated in the operation of fusion or acquirement through decomposing the banking balance and the account of the result. On the other hand, the regroupings between the banks having a domestic profile have been considered as regroupings that reinforce the geographical profiles whereas, in several cases, the regional markets are neither correlated nor related. Thus, this is what pushes us to both look for and verify the other factors or conditions for the success of fusions and banking acquirements for the case of Tunisia.

➤ **The conditions for the success of the banking fusion and acquirements in Tunisia :**

The main objective in this work is to determine the conditions for the success of the operations of fusions and banking acquirements in Tunisia. Among the factors of the success of the banking regroupings, we can find some features that are related to the target bank (acquired) such as the approximate size of the target bank in comparison with the purchasing bank, the profitability (efficiency in terms of profit) of the target bank and/or target bank compared to the purchasing bank and the stock performance of the target bank before the operation of regrouping.

To determine these factors and these conditions that could have an impact which is statistically significant on the success of the operations of fusions and banking acquisitions in Tunisia, we adopted a dichotomic¹¹ and multivariate analysis. That's to say, each of these conditions should be either tested or verified through opting for a methodology of comparative statics. According to this latter, we classify all these cases of banking regroupings according to the value of a particular driving variable allowing us to specify and distinguish each of the factors of the success of banking regroupings. The success of such regroupings is determined by the creation of the value which is measured by the abnormal returns and/or the Cumulated Abnormal Returns (CARs) of the merged banks.

The potential of reducing the risks due to regroupings :

According to the hypothesis of the diversification of the risks, the volatility of banks' returns due to the operations of fusions and acquisitions should be reduced. Thus, this reduction should stem from the effect of regroupings¹². The total risk of the bank could be measured by the value of the variance of the stock courses of the banks concerned. If we keep the equation (3) of the model of the market in which the returns of the titles are generated by the following stochastic process:

$$R_{it} = \beta_i R_{mt} + e_{it},$$

If we keep this equation, the variance of the returns of the titles of the regrouped banks could be determined as follows:

$$\text{Var}(R_{it}) = \beta_i^2 \text{Var}(R_{mt}) + \text{Var}(e_{it}),$$

Given that the Cov(R_{mt} , e_{it}) is equal to zero for every month t with:

- $\text{Var}(R_{it})$ designates the variance of the rates of the returns of the bank i ,
- $\text{Var}(R_{mt})$ is the variance of the rates of the returns of the indication of the stock market and
- $\text{Var}(e_{it})$ the variance of the abnormal returns of the bank i (the vestigial variance).

The first component of the total variance $\beta_i^2 \text{Var}(R_{mt})$ relates to the systemic risk. However, the second component $\text{Var}(e_{it})$ relates to the asystemic or the so-called also specific risk. This latter could be diversified whereas the systemic risk is not diversifiable. As the number of the titles detained in a portfolio increases, the systemic risk tends toward the variance of the returns on the market [$\text{Var}(R_{mt})$] and the systemic risk tends toward zero. In the case where there is a possible effect of the regroupings concerning the reduction of the risks incurred by the banks in which they are implicated, this should decrease the systemic risk (by the decrease of beta), the specific risk, or both, together. In order to test the possible change of the estimated variances of the returns, we make a comparison of the estimated variance of the returns of the bank during the period of pre-regrouping (from month $-T$ to the month -1 that precedes the announcement month of regrouping) with the estimated variance of the returns after the announcement of regrouping (from the month $+1$ to the month $+T$ after regrouping).

¹¹ This information is obtained from the database BANKSCOPE

¹² Amihud, Y., Lev, B., (1981).

In the case where a change of the variance took place, we are going to determine if this variation is generated by an evolution of the systemic risk (beta), of the specific risk, or of both¹³. The total variance, the beta coefficient, the variance of the market and the vestigial variance (the specific risk) are estimated for every bank of the sample. A test (t of Student) of the average of the variances will allow us to determine if this difference of the averages of the risks is statistically significant. For the case of Tunisia, the table below represents an acquirement taking place between the "Union Internationale des Banques" and "Société Générale" (UIB case). This latter shows statistically significant change in terms of the variances of returns of these banks before and after the date of announcement of the regroupings.

Please See Table V: Test of equality of the variances of returns before and after regrouping: UIB case

According to the results mentioned in this table, we can note that this case of acquirement displays a change that is statistically significant of the risk. The empirical results show that there is an increase of the total variance which is statistically significant. Thus, this increase is due to a noticeable growth of the asystematic risk (specific) although there is a decrease of the systematic risk i.e., a decrease of the coefficient of beta. These changes of the variances before and after the acquirement don't confirm the hypothesis of the diversification because this operation is a transaction between two institutions which are geographically diversified; however, they indulge in similar activities.

Thus, this result partially seems not to be consistent with the hypothesis of the diversification. On this ground, we could consider that the effect of the concentration of the activities could prevail over that of the geographical diversification, especially which the "UIB" bank continued to extend its initial network of agencies (74 agencies) in Tunisia. Furthermore, being a target bank, the maneuvering margins of the "UIB" remain limited and it should fall into line with the orientations and the strategic vision of the bank "Société Generale" which became a majority shareholder (52%).

i. The size effect of banking regroupings :

The impact of the approximate size of banks on the value of the entities that are implicated in the operations of fusions and banking acquirements has been studied by Hawawini and Swary (1990). These two authors analyzed 123 cases of fusions and banking acquirements in the United States between the years 1972 and 1987. They found that the transactions of fusions and banking acquirements are more encouraged by the stock markets for the purchasing banks once the target banks are of smaller size compared with the purchasing ones. They also found that the purchasing banks having a smaller and smaller size tend to be more and more prosperous than those of large size. Zollo and Leshchinskii (2000) analyzed 579 cases of American fusions and banking acquirements during a period from 1977 to 1998 and found that the size of the purchasing bank has a considerably negative impact on the success of fusions and banking acquirements in the case of the purchasing banks.

Seidel (1995)¹⁴ analyzed 123 purchasing banks in the case of operations of American fusions and banking acquirements between 1989 and 1991 and he found that the banks which reached an optimal size following the regrouping (in terms of assets) were more prosperous. He concludes that these regroupings are more successful in the case where the banks in which they

¹³ Brennan M. J., Copeland T.E., (1988).

¹⁴ Seidel, G.R. (1995).

are implicated reach a total of assets between 2 bn of \$ and 30 bn of \$ after an operation of regrouping. In order to test if the dimension of the target bank has an impact on the success of fusions and banking acquisitions, we analyze the evolution of the approximate size of the target bank in relation to the one of the purchasing bank. To do that, we classified the banks of every country that underwent operations of regroupings according to the assets total report of the target bank on the total of assets of the purchasing bank. We wait to what the acquisition of small targets considerably creates a bigger excess in terms of cumulated abnormal returns for the shareholders of the target and purchasing banks. The following table recapitulates the obtained results of the different cases of fusions and banking acquisitions in Tunisia (cf. Table 3.5).

Please See Table VI: Recapitulatory table of the conditions of success of the operations of fusions and banking acquisitions

Being the weak ratio "total of target/purchasing assets" for the "UIB" case (0, 0024), we can consider that the cumulated abnormal returns that are statistically significant and positive in the case of "STB" fusion confirm the theoretical expectations and allow us to bear in mind that the relative size of the target bank compared with the one of the purchasing bank stands for a significant factor of the success of banking regroupings in Tunisia.

ii. The effect of efficiency in terms of the profits of transactions :

The efficiency of a fusion and acquisition operation is measured by the relative profitability estimated by the ratio "return on equity" of the target bank (ROE) and the "return on equity" of the purchasing bank. The ROE, as the most important indicator of measuring profitability, is frequently used by financial analysts. A weak relative profitability indicates that the purchasing bank is much more profitable than the target bank. According to the hypothesis of efficiency (Pilloff and Santomero (1998), Hawawini and Swary (1990)), we expect to what the transactions are more prosperous if the purchasing banks are more profitable than the target banks. In this case, the purchasing banks can be able to achieve capacities of efficiency through effectively transferring their management techniques to the assets of the target bank. Profitability is studied by Banerjee and Cooperman (2000). These latter examine differences in terms of profitability between the target and purchasing banks. For instance, the examination of the operations of fusions and banking acquisitions in 30 purchasing banks and 62 target banks in the United States between 1990 and 1995 resulted in concluding that purchasing banks are more prosperous when they are more profitable than their target banks.

Similarly, Hawawini and Swary (1990) found that the purchasing banks which are relatively more profitable than their target banks significantly create more value in the cases of the operations of fusions and banking acquisitions. Houston and Ryngaert (1994) who studied the combined entity of the purchaser and the target came to the same conclusion while analyzing 153 cases of American fusions and banking acquisitions between 1972 and 1987. In this piece of research, we try to verify if the transactions of the banking regroupings, having a report (Profit of target after tax / Profit of purchaser after tax) which is inferior to 1, are fostered by the stock markets (their cumulated abnormal returns are distinctly positive). The following sums up the results which are gotten in Tunisia (cf. Table 3.6).

Please See Table VII: Recapitulatory table of the conditions of success of the operations of fusions and banking acquirements

Among the cases of the banking regroupings, showing the cumulated abnormal returns which are statistically significant, and in which the target banks are implicated are less profitable than the purchasing ones. For example, the "UIB" case didn't benefit from a favorable reception by the stock market. Thus, we can generally admit that efficiency in terms of the profits of transactions could represent a condition of success of fusions and banking acquirements in the emergent countries.

iii. The effect of the performance of target banks before regrouping:

DeLong (2001) and Hawawini and Swary (1990) examine the performance of target banks before fusion and acquirement. DeLong (2001) finds that banking regroupings are more prosperous (in terms of value creation) in the case where the stock performance of target banks is weak compared with the one of other banks having similar features before the announcement of the transaction. Hawawini and Swary (1990) find that the acquirement of target banks having a bad performance of the titles before the transaction significantly creates more value for purchasing banks (see also Jensen and Ruback (1983)). To analyze the performance, we use the ratio of the market-to-book (M/B-ratio) of the target bank which is often used by the analysts of banking activities to assess the performance of a firm.

We expect whether the acquirement of target banks, having a bad quality of management (under-performer), enables to transfer better techniques of management and from where it creates more value. The target banks having an "M/B" ratio inferior to 1 are clearly underestimated. They could have relatively bad future perspectives based either on the losses in their operations or on heavy debts that are intolerable. The target banks having the ratios M/B inferior to 1 are less effective. Hence, they are promising in terms of profits after regroupings. We are going to try to establish a relation between the variation of the ratio "market to book value" and the abnormal returns of the banking institutions following the regroupings. The following table sums up the gotten results, (cf. Table 3.7).

Please See Table VIII: Recapitulative table of the conditions of success of the operations of fusions and banking acquirements

For the case of Tunisia, the ratio "market-to-book" is about 1,26 for the case of the "UIB" bank which is a target bank in the case of regrouping: "UIB" case. This ratio, distinctly superior to 1, shows that this bank is endowed with a good quality of the management. The growth rate of this ratio, one year preceding the announcement of the transaction, is distinctly negative (-6,46% in the case of regrouping: "UIB" case). That's what confirms more that this target bank adopts more effective management techniques. The worked out calculations showed that the abnormal returns, which are distinctly negative for this bank, allow us to resound that these types of acquirement didn't benefit from a favorable reception of the stock markets.

We can indirectly note that the good performance of the target bank before the transaction could then have a statistically significant and negative impact on the creation of the value in this case of banking acquirement. The stock data, related to the indicator of performance measure

(ratio "market-to-book") of the target banks before the regrouping in the "STB" case, don't allow deciding on this latter as requisite condition for the success of the operations of fusions and banking acquirements in the emergent countries.

Conclusion

The results of the studies of the cumulated abnormal returns that we did show that the success of fusions and banking acquirements in the case of Tunisia is determined by features that relate directly to the target banks implicated in these regroupings. The motive of acquirement of a target bank having a relatively smaller size in relation to the purchasing bank showing the big potential of realization of the synergies following the operations of regroupings. The operations of fusions and banking acquirements are more prosperous (in terms of value creation) when they take place with less efficient target bank and in the case where the stock performance of the target firms is bad compared with the one of the other banks having similar features (Peer-group or also named as banks of control group) before the announcement of the transaction.

In addition to these conditions relating directly to the target banks, we found that the complete acquirement (STB case) could be a condition of the success of banking regroupings even in the cases where the target banks are more effective. If we recapitulate the results that we found according to the financial approach, based on the calculation of the abnormal returns, we can say that the performance gap between the regrouped banks and the banks forming the group of the control and between the target banks and the purchasing ones could be a condition for the improvement of performance.

We can indirectly transpose these reports to reinforce the idea that it was necessary to have a curbed gap between the indicators of performance and the financial features relating meanwhile to both target and purchasing banks. The sizes and the relative profitabilities of the target banks in relation to the purchasing banks should have shown an acceptable gap allowing bringing back the targets to a superior efficiency level through the exchange of better practices of management, better work procedures and savoir faire. Therefore, we can resound that in the cases where the target firms present the above indicated features; this could represent a condition that significantly determines the success of fusions and banking acquirements in Tunisia.

List of Tables

Table I

Geographical Scale Clusters				
Types of banking activities grouped		National		Foreigner
		Same Cities	Different Cities	
	Same	Concentration of activities at the regional level	Concentration of activities at national level.	Strengthening of international trade
		TYPE 1	TYPE 2	TYPE 5
	Different	Diversification (expansion) activities at the regional level	Diversification (expansion) trades nationally	Diversification (expansion) trades internationally
		TYPE 3	TYPE 4	TYPE 6

Table II

Case BS	Name of purchaser	Country	Target Name	Country	Announcement date
Acquisition 53.54%	Andalumaghreb SA	ES	Banque du Sud	TN TUNIS	05/12/2005
			Commercial Banks		

Table III

Case UIB	Name of purchaser	Country	Target Name	Country	Announcement date
Acquisition 52%	Société Générale	FR Paris	Union Internationale de Banques	TN Tunis	10/10/2002
	Security brokers, dealers, and flotation companies / National commercial banks		Commercial Banks		

Table IV

Month	t-statCARt	CARt	ARt	t-statARt	target/acq	Types of grouping	
Case UIB		UIB		10/10/2002		geographical	activity
+2	-1,96	-0,19	-0,06	-1,22	Target	Diversified	Concentrated
+3	-2,56	-0,25	-0,05	-1,17			
+4	-3,56	-0,35	-0,09	-1,92			
+5	-3,87	-0,38	-0,03	-0,61			
+6	-2,55	-0,25	0,13	2,57			
Case STB		STB		January, 2001			
+3	2,38	0,23	0,10	2,08	Buyer	Concentrated	Concentrated
+4	2,07	0,19	-0,03	-0,71			

Table V

	Method	Df	Value	probability
	t-test	74	1.716190	0.0903
Variable	Count	Mean	Std. Dev.	of Mean
var (e _{it}) after	38	0.003181	0.004997	0.000811
var (e _{it}) before	38	0.001648	0.002312	0.000375
var (e _{it}) total	76	0.002415	0.003944	0.000452
	Method	Df	Value	Probability
	t-test	74	2.229251	0.0288
Variable	Count	Mean	Std. Dev.	Std. Err.of Mean
Var (R _{it}) after	38	0.004369	0.007133	0.001157
Var (R _{it}) before	38	0.001656	0.002320	0.000376
Var (R _{it}) total	76	0.003013	0.005442	0.000624
	Method	Df	Value	Probability
	t-test	74	1.969782	0.0526
Variable	Count	Mean	Std. Dev.	of Mean
Var (R _{mt}) after	38	0.001984	0.006831	0.001108
Var (R _{mt}) before	38	0.005445	0.008406	0.001364
Var (R _{mt}) total	76	0.003714	0.007805	0.000895

Table VI

Case	CAR	Type	Target / acquirer	Total asset target / acquirer
Case UIB	-	Acquisition	Target	0,0024 ¹⁵
Case STB	+	Absorption	Buyer	0,5284 ¹⁶

Tableau VII

¹⁵The total assets of the bank "UIB" which is a target bank the total assets of the bank "Societe Generale" which is acquiring in the year before the acquisition.

¹⁶The sum of total assets of the "BDET" and "NTO" are banks that target the total assets of the "STB" is an acquiring bank.

Case	CAR	Type	Target/acquirer	Target profit after tax / Profit after tax from buyer
Case UIB	-	Acquisition	Target	0,0053 ¹⁷
Case STB	+	Absorption	Buyer	0,3567 ¹⁸ and 0,8122 ¹⁹

Table VIII

Case	CAR	Type	Target/acquirer	% Change in M / B ratio	M/B-ratio
Case UIB	-	Acquisition	Target	-6,46	1,26
Case STB	+	Absorption	Buyer	NA	NA

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¹⁷ Profit Bank "UIB" before tax / Profit bank "Société Générale" before tax during the year prior to the acquisition

¹⁸ Ratio "ROE" target bank "NTO" the ratio "ROE" bank absorbent "STB" during the year prior to the merger.

¹⁹ Ratio "ROE" target bank "BDET" the ratio "ROE" bank absorbent "STB" during the year prior to the merger.

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