



**The Effects of Human Resources Management on Financial  
Performance: The Tunisian Banks' case**

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**Abstract**

This research explores the relationship between the human resource management and financial performance in Tunisian banks. Data has been collected from Tunisia's Professional Banking and Financial Association for years ranging 1994 to 2007.

We mainly observed that changes in human resources structure are not only organizational but also managerial and paradigmatic. Our purpose is, therefore, to highlight the human resources changes, as explanatory variable of bank's financial performance. This research revealed significance ties between the qualification structure change and profitability by employees. One of the major contributions of this paper lies in its interdisciplinary character. Investing in human resources is considered as an efficient strategic decision. We advance that the qualification structure form is not neutral. Strategic human resources management determines Tunisian Banks performance.

Keywords: Financial performance, qualification structure, bank's demography, Human Resources Management.

## أثر إدارة الموارد البشرية على الأداء المالي: دراسة على البنوك التونسية

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### ملخص البحث:

يتناول هذا البحث الميداني العلاقة بين الموارد البشرية والأداء المالي في القطاع المصرفي التونسي بأكمله بالاعتماد على رصد وتحليل إحصائي لقاعدة بيانات الجمعية المهنية المصرفي في المدة بين ١٩٩٤ و٢٠٠٧. ولقد أظهرت هذه الدراسة أن التغييرات التي شهدتها القطاع لا تقتصر على الجوانب البشرية، الهيكلية والتنظيمية بل تشمل البعد الإداري الاستراتيجي. كما أبرزت أيضا العلاقة المعنوية الوثيقة بين طبيعة القوى العاملة والأداء المالي، حيث إن التغيير على مستوى الكفاءات في القطاع المصرفي ليس تغييرا فنياً بل إستراتيجياً. وبمفهوم أوضح وكما أشارت نتائج البحث يعد الاستثمار في الموارد البشرية مربحاً مالياً. كما أن الموارد البشرية أصبحت تعد موارد بالمفهوم الواسع لنظرية الموارد (Resource-based perspective).

## Introduction

The majority of the studies on HRM are still focalised on the practices and activities in big companies especially in USA (Paauwe and Richardson, 1997; Huselid, 1995; Fey et al., 2007). Prior studies indicated that the HR performance depend both on the managers capabilities to obtain financial results and on the strategic choice (Pfeffer, 1994; ). The relationship between HRM and company performance has been investigated and explored over the last two decades; research starting in USA and spreading in UK, and others occidental countries. Yet, research on this link remains restricted to large, industrial and occidental firms. Little is known about this relationship in Arab world.

A review of the existing literature on the relationship between human resources management (HRM) and bank financial performance has revealed that the studies dealing with this relationship are rare. However, there still exist some attempts trying to join together these two perspectives. In this article, we are focusing mainly on the quantitative as well as the qualitative evolutions of the Tunisian banks' employment structure in order to determine their effects on banks' financial performance. We use a longitudinal approach; data collection on qualification structure cover a long period, about two decades. A significant observation of Tunisia's Professional Banking and Financial Association (TPBFA) was that the proportion of low skilled occupation is decreasing and the high skilled occupation is increasing (Figure 4). Job positions and their relevant practice have also been identified.



Few researchers (Delery and Doty, 1996; Arcand et al. 2002) studied the financial sector with regard to its human resource management performance simultaneously. However, the strategic HRM theories according to the categorization of Delery and Doty seem to neglect a number of highly relevant factors especially if we want analyze the relationship between HRM and performance in thorough way. Hence, we would put forward that the changes taking place in human resources management are closely related to the Tunisian banks performance.

For the last two decades, the Tunisian banking sector has known a great transformation. Changes in banking workforce have induced some kind of modification in bank qualification structure (professional staff: Figure 4). One might well wonder, then, what the significance of the major qualification change occurring in Tunisian banks is?

This study investigates the relationship between human, social and demographic (gender, age, education as a contingency variables) changes and financial performance. Indeed, its contribution is both theoretical and empirical. Our findings are interesting because they revealed empirically a link between the way human resource qualification structure was shaped and financial performance in Tunisian bank sector. This link is not linear. They showed to that these changes are more than organizational and managerial but strategic one.


This paper is organized as follows: section one introduces the topic. Section two discusses the literature review on the relationship between human resources management and financial performance and then we present the Tunisian

banking system and its main changes. Section three we outline the methodology used in this research. Then, we report and discuss the results, and finally we conclude and suggest new directions for future research.

## **Section 2: Theoretical background**

In this section we present an overview of the research on HRM and performance in banking sector. We recapitulate the main results and conclusions of studies on this subject within different organizational contexts.

The literature review on human resource management could be classified in three main approaches: the universalistic, the contingent and the configurational. The first one is associated with the terms best practices and high performance represented by Pfeffer (1994) and Huselid (1995). The focus is on the practices. The second one showed that the relationship between HRM depend on the contingency factors or variables such as company size, age company, technology, capital intensity, the degree of unionization, industry/ sector, ownership and location. Differences in HRM practices could be explained by institutional and cultural factors (DiMaggio & Powell, 1983; North, 1990; Hofstede, 1993). This approach is represented by Delery and Doty inspired by Mintzberg studies. The last one was based on the idea that HRM performance depend on the appropriateness degree to the business model. MacDuffie's (1995) and Arcand et al., (2002) researches, respectively in automobile industry and financial institutions, are seen as representative of this approach. Our approach could be labelled as realistic (Guest, 1997) we try to provide through empirical investigation relationship between HRM and financial performance.




Very few empirical studies have dealt with studying the relationship between human resources management and financial performance in both the global as well as the Tunisian contexts. Among these rare studies, we can mention those realized by Delery and Doty (1996). In fact, these authors have analysed the interaction between practices in human resources management and corporate performance. They demonstrated that “merit appraisals and internal promotion opportunities have a stronger impact on financial performance of American banks”. On the same line, Arcand et al. (2002) have tested whether coherent practices of human resources management can produce higher performance or not. The performance is a wide concept (Lee et al., 2012; Weber, 2008). But in the Arcand’s study this concept is apprehended through two sets of variables: financial variables (return on investment and added value) and non-financial variables (employee satisfaction and productivity). Their study showed a significant statistical result of the non-financial variables.

Certainly, the human resources management problematic is not absent in financial literature; it deals with such issues as competence, leaders’ remuneration and risk management. The measurement of performance related to human resources management, through a panoply of ratios, is also present in several researches (Louarn et al., 2007; Vatteville, 1999; Savall, 2007). However, the HRM was treated through financial perspective, which can be considered as simplistic and limited. Likewise, the link between HRM and performance is not directly.



In managerial literature, the human resource management contribution to the corporate performance has become increasingly accepted. Indeed, theoretical and empirical researches, from the human-relation school, the resource-based perspective, the human capital theory, the intellectual theory, and the strategic approaches have highlighted the human contribution to the performance process (Edvinsson et al., 1997; Guérin, 1997; Galambaud, 2002). In fact, the human is considered as both a resource and a source of added value.

Many researchers (Delery et al., 1996; Huselid et al., 1995; Barette et al., 1997, 2003; Welbourne et al., 1996; Guerin et al., 1997; Bowne et al., 2004) tried to validate the relationship between the human resources management practices and corporate performance. These empirical studies have shown significant links existing between investing in the human resources management activities (employment protection, profit share, evaluation, incentives, compensation, carrier, communication) and organisational effectiveness (banks or companies). Yet, all these researches do not seem to give conclusive results about the relationship between human resources management and financial performance. Still, despite the achieved empirical results, some areas of research need to be further clarified and better explained mainly concerning the significant correlation between human resources commitment and corporate performance (the employee's involvement, higher satisfaction degree, social climate, economic value).



In addition, a certain division seems to dominate researches related to these two perspectives whose epistemological assumptions are rather different. In fact, while researches in finance are usually based on a hypothetical and deductive bases (a postulate of rationality), researches concerning human resources management are rather based on an inductive approach. A realistic approach could allow us to reach a certain mediation.

In fact, the performance concept is multidimensional. It could be treated in financial perspective, organizational and strategic perspectives (Lin et al., 2009; Weber et al., 2008). This concept depends on the context, situations and actors' interpretations. Studies carried out by Galambaud (2003) and Allouche et al. (2003) highlighted the diverse character of the performance as well as the diversity of its used indicators in the literature, with the appearance of such terms as stock exchange courses, return on equity, return on assets, sales growth, turnover, customer satisfaction, labour productivity and quality. These different and various definitions of the performance notion have, consequently, allowed us to conclude that this concept remained ambiguous but perceptible through tangible ratios.

To reinforce their performance, banks have been gradually constraint to reconsider and redefine their commercial strategies, their structures, their technologies, their organizations and human resources management. It is a basic tendency that has been throughout the whole banking sector.


The investigation of many research data base on the relationship HRM and performance, over the last two decades, concerning Arab companies, showed the studies absence on this topic. Generally, researches on the HRM topic are related to the activities exploration in descriptive or/and normative perspectives. The couple HRM/performance in banking sector remains opaque.

### **2.1 The Tunisian banking organization and its main changes**

Recently, the Tunisian banking system has undergone a deep transformation, mainly characterized by two interdependent aspects: the opening of the international competition and the banking profession reorganization. These changes have been undertaken in order to reach the best banking services while, at the same time, maintaining a much keener competition in the banking sector.

To describe the current Tunisian banking system structure, we will have to review the major transformations. Initially, in 1958, since the Tunisian Central Bank (CBT) creation and its organization, and up until 1986, the Tunisian banking system has evolved within a much regulated framework dominated mainly by the State massive presence (through participation in the capital, credit rationing, interest rates administration and the exchange total control).

Since 1987, the banking system liberalization has started to gradually take place. Initially, the monetary market reform has participated in making the banking regulation more flexible. Thus, a certain dynamism has been created following the introduction of new banking products, the banking liberalization and the suppression of the rationing credit. For the same aim, several reforms were introduced mainly to improve the banking efficiency, to consolidate its



financial bases and to stir competition. These reforms consisted in the issuing of new prudential rules<sup>1</sup>, the setting up of a new reserve obligatory policy<sup>2</sup>, the banking restructuring following the merging of some banks<sup>3</sup>, the adoption of the “universal bank” concept, the transformation of development banks<sup>4</sup> and, finally, the privatization of some public banks and the arrival of some foreign banks<sup>5</sup>.

Currently, the banking system in Tunisia includes: 20 commercial banks (also called universal banks mainly private or with mixed capital, and of which 11 banks are quoted in the Tunis Stock Exchange), 8 banks offshore, and 2 corporate investment banks.

## **2.2 Major changes in the banking sector**

The main changes that occurred in the Tunisian banking sector are numerous and different.

At the financial level

During the recent decades, the banking sector has known some radical changes. Actually, within the deregulation process, the intermingling of different economies, and the disintermediation of the capital market, the financial

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<sup>1</sup> Banks circular letter number 91-24, December 17<sup>th</sup> 1991, modified and completed by banks circular letter number 99-04, March 19<sup>th</sup> 1999, banks circular letter number 2001-04, February 16<sup>th</sup> 2001 and banks circular letter number 2001-12, May 4<sup>th</sup> 2001.

<sup>3</sup> The merger of « Banque de Développement Economique de Tunisie, Banque Nationale de Développement Touristique and Société Tunisienne de Banque » in 2000.

<sup>5</sup> In 2002, the French bank “Société Générale” bought the government share in the “Union Internationale des Banques” (UIB) (52,36%). The Morocco bank Attijari Wafa Bank and the Spanish group Santander, bought, 54,61% of “Banque du Sud” in 2005. Likewise “Caisse d’épargne group” bought, 60% of the capital of “Banque Tuniso-Koweïtienne (BTK)” in 2007.

institutions prerogatives have all changed. Counselling has taken the greatest priority of banks' activities.

The transformation of the financial landscape under the globalization market effect, the rising needs for financial services and the new foreign operators run are all factors governing the activity of the Tunisian financial system.

The maximization and improvement profit objective is becoming more and more pressing. Hence, the rise of commercial activity (points of sales) and the reducing overhead costs. Moreover, the banking activities have become more intellectual. They are more focused on the development of direct contact with customers rather than on the administrative and procedural tasks.

#### **At the technological level**

The productivity gain is undoubtedly reached through the process of products standardization and the introduction of information and communication technologies (ATM). The information and communication technologies have actually modified the relationship between the customers and the bankers and the employers and employees as well as between the bank structure and the financial market. In fact, technologies seem to redefine the job contents.

#### **At the regulative level**

The intermingling of different economies widened the banking activity scope. In addition to the usual bank operations, such as the assistance with financial management and financial engineering, banks have the possibility of developing such new activities as the issuing of insurance products. Indeed, the competition rules have been changed.



### **At the human and organizational levels**

The banking development involved an important recruitment rate. The employment nature itself has been changed. The implementation of computerization has led to a growth in technical employees (having a first level qualification). Hence, the technological skew thesis which postulates that the ICT are skewed in favour to higher skilled occupations (Sneessens, 2002).

Space-redistribution activities of employment, new responsibilities distribution in the head office, the different departments and the commercial networks, the customer segmentation and the personalized advice are all actions observed in the banking structure which need more technological competencies.

Activity reconfiguration and the banking structure are closely related to the major changes of various natures that are taking place. A whole set of new features characterize the human resources management in the banking environment, such as: decreasing the number of execution employees (downsizing, Hammer approach) in favour of the technical and managerial employees; intensifying the employees' tasks; modifying the qualification structure and adopting the competency approach.

Reducing executive-employee in the favour of middle and top management  
A new tendency has been observed in the Tunisian banking sector. During the last fifteen years, the commercial banks have known a clear increase in the number of employees in the managerial staff (from 820 in 1987 to 2850 in 2007). The recent qualitative change has been materialized by a decrease in execution employees, with first level qualification (from 1175 in 1987 to 350 in 2007) and

the emergence and the reinforcement of the technical employees, such as: service marketing, data processing, supervision and control, planning, expertise, council and sales (1835 in 1987 to 4675 in 2007).

### **Increased employees' workload**

It is worth noting that an increasing of the departures is not always exclusively compensated (10 departures against two new recruits: doing more with less employees). Generally, the quantitative and qualitative employment and workforce adjustments under the new conditions are all the easiest as the renewal rate is high. Yet, in the banking environment, this rate is very low. This weakness is due to the non-compensation of departures.

To note, the employee turnover weak rate, the population aging and high seniority, and the protective statute of the collective agreements revealing banks' resistances towards the unfair dismissals are factors shaped the human resources management methods.

All these elements can be explained by the reducing workforce capacity to cope with these adjustments. Indeed, the need for using original methods of manpower reduction seems to be necessary. For instance, there should be some incentive mechanisms (early retirements, voluntary departures accompanied with a compensatory allowance, various advantages such as assistance provided for company creation, outsourcing, etc.).



### **New qualification configuration**

Previously, staff recruitment used to be accomplished on the basis of a minimum level of general training and the banks would ensure the basic training and career building by intensive permanent training.

However, the new structure reflects and stems from the combined effects of progress which the banking environment has known. Hence, various recruitment phases have to be identified: recruitment rate has been raised according to the growth of the activities rate; recruitment of employees having a bachelor degree and recruitment of graduates and post-graduates, specialists in Law, Finance and Management have all allowed and facilitated the fast access to the top managerial functions.

The training tax rate spent in the Tunisian banking sector slightly exceeds the minimum required by the law, i.e. the standard of 2%. The new permeability of the bank labour market has implied a rising interest directed to training. Training intended to raise the level of general knowledge is frequent with an aim of preparing the staff for the potential future evolutions (general training ensuring and supporting social dialogue, adaptation, perfection, etc.).

Hence, more and stricter recruitment rules imposed by the labour market as well as the rise of the training levels during recruitments are the two outstanding features following the new qualification configuration characterizing Tunisian banks.



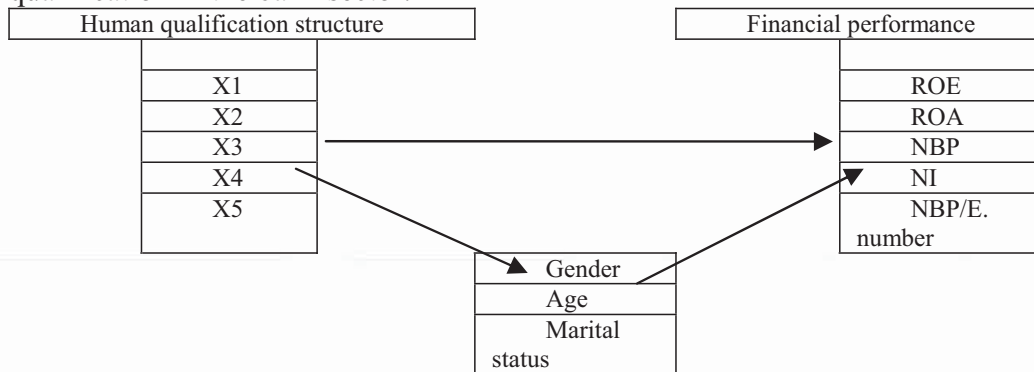
### **Approach based on competencies**

In Tunisia, banks are among the first leading institutions to have adopted management by a competency approach. Hence, a large reform movement in favour of integrative work organization (job enlargement and job enrichment) with the setting up of a horizontal polyvalence by integration of all elementary tasks of the same complexity level and/or then of a vertical polyvalence by integration and connected operations of various complexity levels. Going through the vertical polyvalence enables personnel mobility as well as a reduced-cost training and selecting salaried people having access to go through a vertical polyvalence.

Actually, the new features relative to human resources management are more than just simple organisational arrangements responding to a new context. They represent a signal of a strategic change, combining some intrinsic variables related to the Tunisian banking with extrinsic environmental variables.

From our review of the literature we have reached these hypotheses: H1: Positive link between human qualification structure and financial performance

H2: All the profitability indicators did not move positively with the staff variation; only the NBP is affected positively by the higher competences and qualification in the bank sector.



Research Model : The link between Human qualification structure and financial performance

### Section3: Research methodology

Our major issue raised in this research consists in clarifying the relationship between the human resources and financial performance.

#### 3.1 Sample and Data collection

We have retained a sample consisting of twelve Tunisian banks studied over a 17 year period ranging from 1994 to 2010, which led us to reach 168 observations. At first, these twelve selected banks used to represent the entire banking-sector population. Yet, this number rose to thirteen in 1999, then to fourteen in 2001, to seventeen in 2004 and finally to twenty in 2005. Besides, there has been a second fact marking the banking sector; it is the appearance of the universal bank concept starting from the year 2004 as a substitution to the deposit bank concept.


It is worth mentioning that our sample has remained unchanged during all the study period. This choice is intended to secure a certain kind of sample homogeneity. Indeed, recent bank converting into universal banks represents an activity that is less developed than those of the old banks.

The sample is presented in table 1 (see appendix A). As for the relevant required financial data as well as data relating to the various professional categories, they were collected from the annual reports of Professional Banking and Financial Association.

### **3.2 Variables and measures**

#### **Dependent Variables:**

Bank profitability can be appreciated in several ways and a list of different indicators exists. As for stockholders, the most frequently used indicator is the return on equity (ROE), which represents the ratio of the net income divided by the capital stock, which represents stockholders' investment return. Concerning external people, in particular the borrowers, the customers, the State etc., they often use the return on assets ratio (ROA) as a performance indicator. This ratio is equal to net income divided by all assets. Concerning other outsiders, in particular financial analysts, prudential authorities and the supervising control organizations, they take into account the Net Banking Proceeds (NBP) which is obtained by calculating the difference between the bank operating proceeds and the bank operating charges. It is used as an indicator of the bank economic reliability.



In our study, we focus exclusively on the profitability indicators to appreciate the bank financial performance. Thus, we will try to detect any possible relationship between the financial performance and the various professional categories and bank demographic characteristics. In fact, we have determined five dependent variables showing bank financial performance:

Return On Equity (ROE): equal to the net income divided by the bank capital stock for each year. Return On Assets (ROA): defined as being the net income divided by the total bank assets for each year. Growth rate of the Net Banking Proceeds (NBP): calculated for each bank according to the following formula:  $\frac{NBP_t - NBP_{t-1}}{NBP_{t-1}}$ , where t represents the year. Growth rate of the Net

income (NI): calculated for each bank according to the following formula:  $\frac{NI_t - NI_{t-1}}{NI_{t-1}}$ , where t represents the year. Profitability by employee

equal to the ratio, Net banking Proceeds divided by the number of employee, calculated for each bank for the studied years.

### **Independent variables**

The explaining variables cause us to return the various professional staff of the bank personnel members which are, in the Tunisian case, five, namely: service employees, executive staff, supervisory staff, executives and the senior executives. Thus the selected variables are calculated for the various banks of the sample over all the study period:

Service staff percentage is equal to the service staff number divided by bank staff number. Considered as service staff are the bank employee such as the guards and the cleaners, etc. The clerkish staff percentage is equal to the clerkish staff number divided by the total bank staff number. The employees having an educational level lower than the bachelor degree belong to this group. The supervisory staff percentage is equal to the supervisory staff number divided by the total bank staff number. This professional staff is made up of the employees having an educational level that is equal to higher education (bachelor). The managers' percentage is equal to the managers' number divided by the total bank staff number. Belonging to the managers' staff are the employees holding a diploma equivalent to the higher education (graduate). Upper managers' percentage which is equal to the upper managers' number divided by the total bank staff number. The post-graduate employees are considered as senior managers.

Other explaining variables are also considered. They are related to social and demographic characteristics such as gender (man or woman), age category, and marital status: G1: Percentage of men equal to the men number divided by the total bank staff number. G2: Percentage of women equal to the women number divided by the total bank staff number. SF1: Percentage of married personnel equal to the married personnel divided by the total bank staff number. SF2: Percentage of singles equal to the singles number divided by the total bank staff number. A1: Percentage of staff aged less than 25 years equal to the number of staff aged less than 25 years divided by the total bank staff number. A2:

Percentage of staff aged between 25 and 35 years equal to the number of staff aged between 25 and 35 years divided by the total bank staff number. A3: Percentage of staff aged between 35 and 50 years equal to the number of staff aged between 35 and 50 years divided by the total bank staff number. A4: Percentage of staff aged over 50 years equal to the number of staff aged over 50 years divided by the total bank staff number.

### 3.3 The analytical method

The univariate statistical analysis:

Some dependent variables, such as the professional staff variations, are the subject of an individual statistical analysis and for the sake of releasing the tendency during the period of study (See Figure 1 to Figure 4, Appendix C).

#### Multivariate statistical analysis :

We considered a panel data model, and for each dependent variable Y (Y1, Y2, Y3, Y4, Y5), we have established a linear regression equation using the various explanatory variables, as mentioned above, in the following form:

$$Y_{it} = \alpha_0 + \alpha_1 X1_{it} + \alpha_2 X2_{it} + \alpha_3 X3_{it} + \alpha_4 X4_{it} + \alpha_5 X5_{it} + \alpha_6 G1_{it} + \alpha_7 G2_{it} + \alpha_8 SF1_{it} + \alpha_9 SF2_{it} + \alpha_{10} A1_{it} + \alpha_{11} A2_{it} + \alpha_{12} A3_{it} + \alpha_{13} A4_{it} + \varepsilon_{it}$$

Where, i represents each bank and t represents the year.

Hence, the selected estimation method is the WITHIN fixed effect method. All the tests were carried out by using the SPSS software. A bivariate simple correlation matrix was run initially to examine the relationships of variables and to eliminate highly correlated independent variables. Two highly negative correlations are observed: first, between the variables G1 (percentage of men staff) and G2 (percentage of women staff) (- 0,82), and second between the

variables SF1(percentage of married) and SF2 (percentage of single) (- 0,997). No other critical correlation was observed, (table n°2, Appendix B).

Different tests were then carried out using various possible combinations of the remaining independent variables (X1, X2, X3, X4, X5, G1, SF1, A1, A2, A3, A4). Each model was judged according to the coefficient sign relating to each independent variable and its significance.

#### **4-Main Results and discussion**

According to the univariate analysis we can notice: From figure n°2 (Banks staff evolution by marital status), that the percentage of married personnel increases for most banks. From figure n°3 (Banks staff evolution by age category), that the percentage of employees aged less than 25 years and of age ranging between 25 and 35 years is decreasing while that of those aged between 35 and 50 and of age over than 50 years is increasing. From figure n°4 (the evolution of staff qualification structure) that banks tend to decrease the number of employees with low level of education and increase the number of employees with a high level of education.

According to the multivariate analysis, the tests carried out through the use of endogenous variables such as the return on equity, the return on assets, the growth rate of the Net Banking Product or the result growth rate have not led us to any significant results. However, the use of the endogenous variable profitability by employee, in a logarithmic form, has led to certain significant results.

**R-squared = .819400**

**Model summary**

Model	R	R-squared	Adjusted R-squared	Std. error of regression
LY5	.9052072	819400	.806500	.131912

**Summary of SPSS Results estimation**

Model	Sum of squared	Mean	Std. error	Std. dev	Variance	Log likelihood	Schwarz B.I.C	Durbin-Watson	LM het. test
Regression LY5		1.710	.1319	.2998		222.34	-152.19	1.0170,000	.0243 [.876]
Residual	5.603				.01740				

**Estimated Standard**

Variable	Coefficient	Error	t-statistic	P-value
X1	-.834301	221901	-3.75979	[.000]
X2	-1.34809	.102190	-13.1920	[.000]
X3	0.202397	.138078	-1.46582	[.144]
X5	0.584141	.196180	2.97758	[.003]
G	0.592763	.153575	3.85975	[.000]
SF1	-0.12823	.074783	-.171475	[.864]

F test of A, B=Ai, B:  $F(17,322) = 19.681$ , P-value = [.0000]

Critical F value for diffuse prior (Leaner, p.114) = 6.3029

Variance Components (random effects) Estimates:

VWITH (variance of Unit) = 0.17401E-01

VBET (variance of Ai) = 0.16301E-01

(computed from small sample formula)

THETA (0=WITHIN, 1=TOTAL) = 0.50668E-01

(evaluated at TMAX = 20)

Hausman test of H0: RE vs. FE:  $CHISQ(6) = 13.339$ , P-value = [.0380]

The model selected appears as follows:




$$\ln(Y5) = -0,8343 X1 - 1,3481 X2 + 202397 X3 + 0,5841 X5 + (-3,75979) (-13,1920) (-1.46582) (2,97758) 0,5928 G1 + -012823 SF1(3,85975) (-1.71)$$

The results showed a significant link between the banks' financial performance appreciated through the profitability by employee (Net Banking Proceeds / Numbers of total employees) and some professional staff and staff gender. It seems that the banking performance improves when the percentage of the upper manager increases while the percentage of the service employees and of the clerkish staff decreases, and also when the percentage of men increases.

These empirical findings are not necessarily contradictory to tendencies suggested by human resources literature; they emphasize on the linkage between the human resources practices and performance but especially on the linkage between the qualification (the staffing) and the financial performance.

Our results are issued from a longitudinal study covering all Tunisian banks. They could be seen as natural consequences. This kind of studies is also rare in the managerial literature, even absent in the Tunisian context. Second, we can think of developing a measurable mechanism and of validating many economical activities. Third, our results are respecting the methodological rules and finally, the significance of the results are based on statistical analysis (regression analysis).

Through the empirical analysis, we showed the ties between the qualification structure changes and the profitability by employees. What is the meaning of this linkage? First, when you increase the competencies portfolio you increase in the



same way the employee performance. Second, through the qualification change you grow not only the productivity but also the quality. Third, the added value and the competitive advantages could be reached especially by the human and intellectual investment, which means that human resource management is in the equation (Welbourne & Andrews, 1996; Pfeffer, 1998; Tung, 2001; Wright et al., 2005).

The hexagonal configuration of the labor force in the banking sector denotes an increased importance of the human resources perceived as strategic resource. Many ratios confirmed these trends such as the qualification rate, banking training expenses and profitability by employee. Several other indicators such as the organizational change (sales point, organizational structure, manual and chart) reinforce this perception.

We also develop a theoretical logic that some linkages exist between Human Resources and firm financial performance. The empirical approach showed that the Human Resources changes are measured and subsequent changes in financial performance are observed in the banking sector. Empirical results give us some evidence that the Human Resource effects on financial performance are “real.” Human Resources and firm performance being jointly determined will be very difficult to model. We are not likely to know when an HR change is implemented or how much time is required before any effects will be realized (Guest, 1997; Guest et al., 2003). Recent works by both Wright et al. (2005) and Guest et al. (2003) rely on analyses of HR measures at time T and measures of firm performance at time T + 1 and T - 1. They argue that the absence of Human


Resources has an effect on Performance at  $T + 1$ , controlling for Performance at  $T - 1$ , calls into question any interpretation that Human Resource effect in prior cross-sectional research is a causal relation. Guest et al., (2003: 297) however, correctly observed that this approach is really a “test for the impact of Human Resources practices on change in performance”.

Indeed, we argue that “dual causation” model might well explain their results. The single equation results could be understated by a lot or little. The dual-causation hypothesis requires empirical testing, and to our knowledge, one paper (Huselid, 1995) has tested these effects in a simultaneous equation system. In that study, the Human Resource effects and ties with the financial performance were slightly significant. However, the empirical tests do not respond to the problem complexity. The most likely explanation is the systematic influence of other differences among our variables, differences that may also be correlated with other Human Resource dimensions more than the qualification structure and the social and demographic structures.

### **Conclusion**

This research major contribution consists in highlighting the actual labour issues concerning the banking sector. The qualification structure noticed over a longtime period at the level of each bank separately and globally has revealed a qualification structure characterized by a hexagonal feature.

The new configuration analysis has led us to one major observation: the new professional pattern is connected to the financial performance. In fact, a



statistical connection has been shown among qualification structure variations, demographical ones and financial performance (employee profitability).

This study itself is not entirely free from limitations. The empirical result must therefore be treated with caution. In fact, performance explanation cannot be solely restricted to a single dimension, i.e. social and demographic. Indeed, this performance concept is wide in scope and should integrate different banking dimensions (i.e. technological, regulative, economic, organizational, cultural, cognitive, etc). Therefore, this socio-demographic structure should be taken into consideration to gain better insights into the present/current topic; thus establishing a direct link between the Human Resource Management and financial performance. Future research should be focused on the relationship between management by competencies (the intellectual capital) and strategic performance rather than financial performance.

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## Appendices: Appendix 1/A

**Table 1: Sample and bank population from 1994 to 2007**

Year	Sample [Banks] + others [Banks]	Sample/Total
From 1994 To 1998	Sample : (BNA), (STB), (BS), (BH), (AB), (ATB), (BT), (UBCI), (UIB),(BIAT),(BFT),(CB)].	12 / 12
From 1999 to 2000	Sample + others : [Banque Tunisienne de Solidarité].	12 / 13
From 2001 to 2003	Sample + others : [Banque Tunisienne de Solidarité (BTS), Arab Banking Corporation (ABC)].	12 / 14
2004	Sample + others : (BTS), (ABC), (BTE), (BTK), (TQB)].	12 / 17
From 2005 to 2010	Sample + others : (BTS), (ABC), (BTE), (BTK), (TQB), (BFPME), Stusid Bank, (BTL)].	12 / 20

## Appendix 2/B Table 2

**Table 2: Pearson Correlation Matrix**

	X1	X2	X3	X4	X5	A1	A2	A3	A4	G1	G2	SF1	SF2
X1	1	0,48	-	-	-	0,45	0,12	-	-0,46	0,1	-0,2	0,35	0,35
X2	0,48	1	-	-	-	0,64	0,32	-	-0,71	0,04	-0,08	0,52	0,52
X3	-	-	1	0,16	0,48	0,56	-0,29	0,6	0,52	-0,01	0,06	0,43	-0,43
X4	-	-	0,32	1	0,42	-0,4	-0,11	0,3	0,46	0,01	0,01	0,23	-0,23
X5	0,52	0,78	0,48	0,42	1	0,52	-0,29	0,6	0,65	-0,13	0,2	0,55	-0,54
A1	0,45	0,64	0,56	-0,4	0,52	1	0,22	-	-0,53	0,12	-0,16	0,52	0,52
A2	0,12	0,32	0,29	0,11	0,29	0,22	1	-	-0,36	0,003	0,001	0,25	0,25
A3	0,45	-0,7	0,63	0,31	0,65	0,72	-0,39	1	0,58	-0,1	0,13	0,56	-0,56
A4	0,46	0,71	0,52	0,46	0,66	0,53	-0,36	0,5	1	-0,08	0,14	0,51	-0,51
G1	0,1	0,04	0,01	0,01	0,13	0,12	0,003	-	-0,08	1	-0,82	0,11	0,11
G2	-0,2	0,08	0,06	0,01	0,2	0,16	0,001	0,1	0,14	-0,82	1	0,12	-0,12
SF 1	-	-	-	-	-	-	-	0,5	0,51	-0,11	0,13	1	-
SF 2	0,35	0,52	0,43	0,23	0,55	0,52	-0,25	0,6	0,51	-0,11	0,13	1	0,997
	0,35	0,52	0,43	0,23	0,54	0,52	0,25	0,6	-0,51	0,11	-0,12	-1	1

## Appendix 3/C Figures

Figure 1: Banks staff evolution by gender 1994-2007

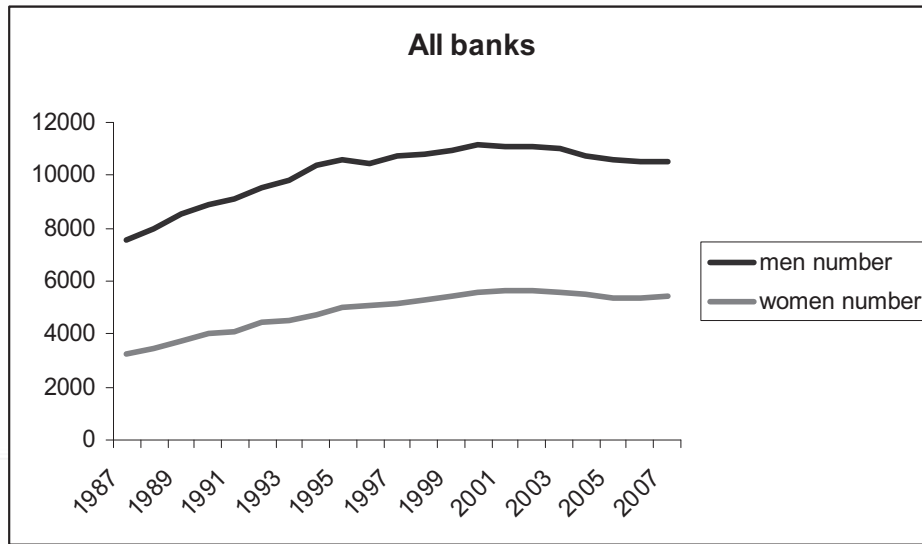
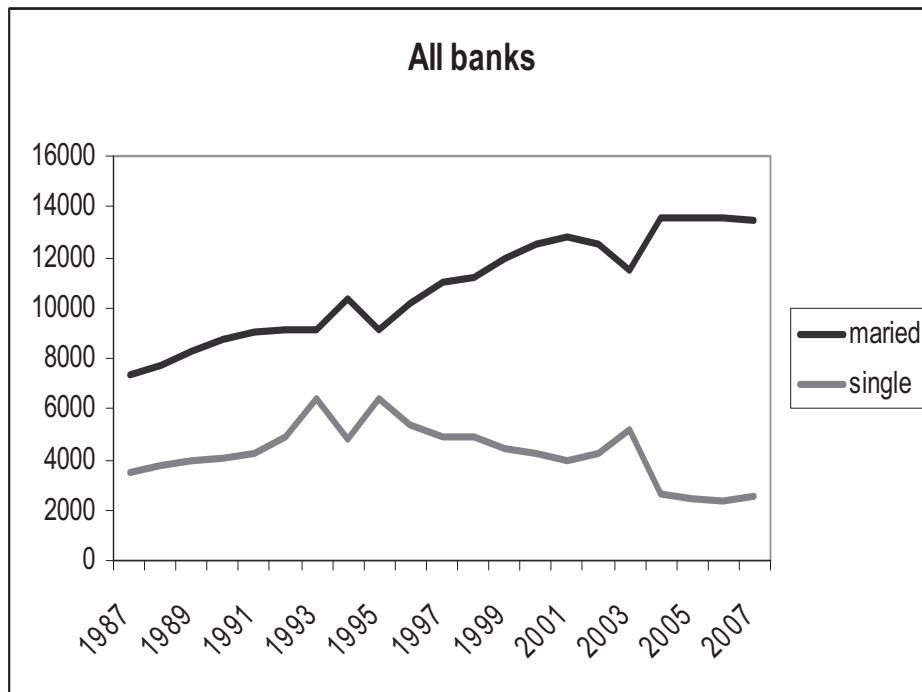
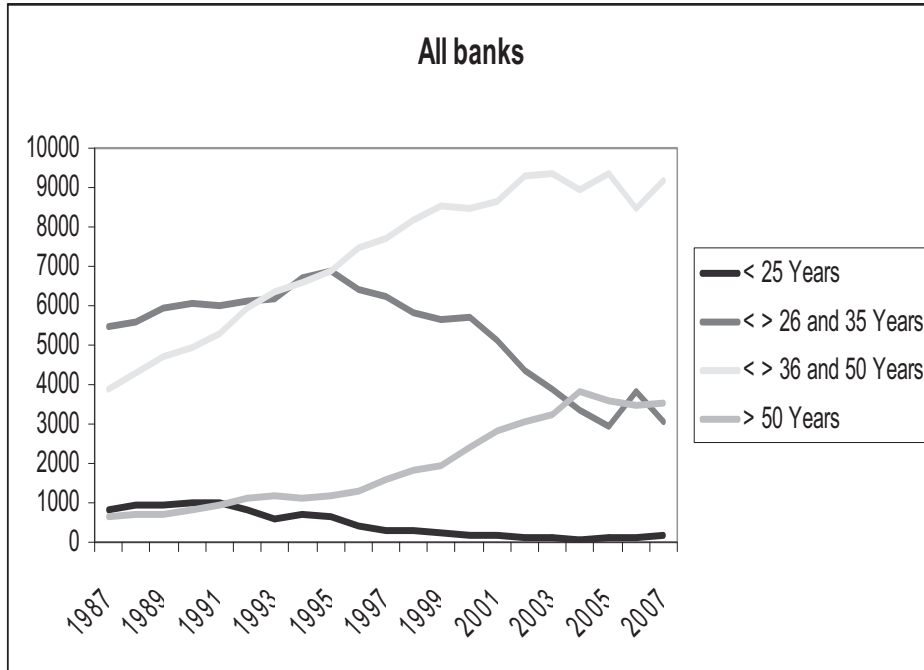


Figure 2: Banks staff evolution by marital status 1994-2007



**Figure 3: Banks staff evolution by age category 1994-2007**



**Figure 4: Banks staff professional evolution 1994-2007**

