CEO FINANCIAL EDUCATION AND BANK PERFORMANCE

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ABSTRACT

In this article I examine the impact of the educational background in general and the financial education particularly of Chief Executive Officers (CEOs) on bank performance of the Tunisian resident banks. This area of research is important given that researchers in this area argue that CEO characteristics such as educational orientation, age and functional career influence the way business problems are perceived and the decision making process. The information gathered from the annual reports of these banks and using a research questionnaire shows that the educational path ways for most CEOs in the Tunisian bank system are financially educated. This paper finds that CEO educational attainment, both level and field, matters for bank performance. More specifically the regression analysis offer robust evidence that banks led by CEOs with higher education outperform their peers. The main result of this paper is that CEO financial education positively affects bank performance. Such CEOs improve performance when he is longer serving, financially educated and when he delegates more decision making authority. Our findings suggest that financial education delivers skills enabling CEOs to manage increasingly larger and complex banks and achieve higher performance outcomes. But our findings also partly support the view that engineering background also positively affects bank performance.

Keywords: CEO, Educational Background, Bank Performance, Educational Level, Financial Education.

INTRODUCTION

Nowadays financial markets and products become increasingly complex. Everyone have to take financial decisions in his/her everyday life concerning saving, investment, money management and participating in the stock market. That is why being financially literate is now an important skill like reading, writing, and math that everyone needs to know in order to endure the complicated financial world. Given that financial education has long-term consequences, one must start at a very young age, before the first job. Financial education provides the knowledge and tools to manage financial risks.

The concept of financial education has gained weight in the personal finance literature nowadays given the important role it plays in society. Several path-breaking articles were published in this area to show the importance of financial education (Lyons & Neelakantan, 2008; Wagner, 2015; Krische, 2019; Servon & Kaestner, 2008; Eugster, 2013; Lusardi & Scheresberg, 2013; Lusardi & Mitchell, 2011; van Rooij et al., 2011). Since, spending is part of the everyday life of everyone, hence the need for financial education. Individuals should be

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equipped with the basics of finance to enable them make effective financial decisions as well as make appropriate choices based on their needs and budget parameters.

Nowadays the amount of Tunisian dept., both public and private, has reached significant proportions. Not to say worrying. Since 2011, the country has had to borrow to ensure its monthly ends. Concomitantly the population is getting poorer and lives more and more on credit. Given these potentially severe frictions, Tunisia seems to be a relevant and meaningful environment for analyzing the drivers of bank performance.

Furthermore, the literature concerning the position of top management teams as a whole and the chief executive officer (CEO) in particular within the firm is continuously growing. It is one of the most discussed topics in corporate finance today (Almansour et al., 2016; Alkhuzaie & Asad, 2018). The job description of a CEO is not as simple as most people think. It includes everything that cannot be delegated to colleagues. The most important task is to define a strategy for the company. In addition, he/she must shape and define the company's culture, build and lead the management team, and allocate capital to the company's priorities. Thus, to perform better, such company has to choose well educated CEOs.

The principle of the UET suggests that the management team in general and the CEO particularly make decisions based on their educational background. This paper tries to investigate whether this hypothesis is true in the bank sector. Results show that financially educated CEO makes better financial decisions and ameliorates bank performance. Hence, this paper confirms the principle of the UET.

Two alternative measures of bank performance have been used to assess the robustness of our findings. Our first measure is Average Return on Asset (AROA). The second measure is Average Return on Equity (AROE). The period is between 2017 and 2019. Bank's performance is heavily influenced by CEO's vision (King, 2016). The CEO have been considered by Bertrand & Schoar (2003) as the first responsible for the overall operations of the institution. Being the architect of his or her bank overall structure, CEO's personal characteristics really matter on bank profitability March & Simon (1958). In this context CEO's educational background could exert a substantial influence on the decision-making process of organizations, which, in turn, could affect its future performance (King, 2016). This paper makes contribution by answering this question if CEO educational background really matter for bank performance, which background define a good CEO?

The late literature has mostly focused on the lower or middle management of firms or on the CEOs or founders of companies. There is no quasi-experimental evidence from executives of banks, although their potential impact on economic development is also larger since they effectively control a large part of the economy. This paper fills in this gap by studying the impact of educational background, both level and field, on bank performance. Also this work investigates whether or not CEOs with particular educational background perform better.

While this topic is not completely new in the area of research, certain aspects make this study different. This paper makes three contributions to the literature by highlighting first that CEO educational background matter on bank performance; higher educated CEOs and financially educated CEO have causal effects on bank performance. Furthermore, our study also extends the literature addressing the role of the delegation of decision-making authority on improving bank performance. Finally, our results suggest that financially educated CEO delegates more which in turn positively affects bank performance.

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CEO FINANCIAL EDUCATION

A growing number of studies have shown that financial education is necessary for individuals, communities and government. Every student needs to know how to manage his/her financial resources and how to deal with financial difficulties. Families also have to manage their resources well, which in turn affects economic progress positively. A country is always faced with financial difficulties and may resort to prioritize one sector over another. Firms always have to make financial decisions concerning financial resources, investment, and financial market participation. That is why it is important to equip students who are the fundamental basis of the economy with the necessary financial skills. Therefore, public financial education plays an important role in planning for a financial future because citizens need this information to make effective financial decisions.

Financial education is a curriculum that begins with learning about finances and the financial environment. Servon & Kaestner (2008) in their study show that financial literacy is the accomplishment of proficiency that allows a rational decision-making about gathering, spending, and managing money. Thus, the strength and the health of the economy are determined by how young people are educated today.

Several studies have shown that people with less knowledge in finance make ineffective decisions. Lyons & Neelakantan (2008) argue that the goal of financial knowledge is to improve financial behavior and it should not be considered as failure if there are no immediate effects. Financial education may have long term positive effects; students learn finance at an early age but they usually do not have financial resources to manage. They may use this knowledge in the future to make effective financial decisions; in this case financial education has no immediate effect but rather an important role and protects students from becoming victims of financial ignorance. According to Wagner (2015) people who are more financially literate tend to make viable financial decisions, such as comparing mortgages, diversifying risk and paying down debt on time.

The role that financial literacy plays on improving investors financial behaviors is thoroughly studied. According to Krische (2019) investors who are well educated in finance are able to detect CEO's misbehaviors and can filter good firms from bad ones. Thus, financial education of investors can be seen as a governance mechanism that alleviates the agency's costs by constraining the managers' irrelevant driving. This point of view is supported by Sun et al., 2019 who view that investors with a high level of financial literacy are more likely to understand investment information and less likely to be trapped. Moreover, the positive effect of financial education on income quality exists only in countries with a high level of financial education (Sun et al., 2019).

Financial education will not be meaningful if it does not positively affect financial behavior and decisions. Several studies have investigated the relationship between financial education and financial decision making. (Eugster, 2013; Lusardi & Scheresberg, 2013; and van Rooij et al., 2011 document that individuals who participate the most in the stock market and people with the highest saving rates are the most financially literate. Eugster (2013) argues that there is a positive association between financial literacy and stock market participation regardless of an individual's propensity for financial planning.

Lusardi & Scheresberg (2013) shows that peoples that borrow with high costs majority lack knowledge of basic financial concepts at the basis of financial decision making. Van Rooij et al., 2011 note that the understanding of basic economic concepts related to inflation and

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interest rates is far from perfect, what is needed to be known are the following concepts equities, bonds, the concept of risk diversification and the functioning of financial markets which, not only, impacts sound financial decision making but also the financial health and confidence of the individual. Also they have shown that People with low financial literacy are significantly less likely to invest in equities. As mentioned by Hogarth *"Logically, financially-educated consumers should make better decisions for their families, increasing their economic security and wellbeing …. Secure families are better able to contribute to vital, thriving communities, further fostering community economic development"* (Hogarth, 2006).

Rooij et al., (2011) have shown that financial education changes human behavior through two important mechanisms: financially enlightened individual are (1) more likely to invest in the stock market (2) think more to the retirement plan. They argue that for people who are financially literate, collecting and processing information and planning is less costly, making it easier to make financial decisions and lowering the economic and psychological thresholds for stock market participation or retirement savings calculation.

Historical Trends in CEO Financial Education Preferences

Ocasio & Kim (1999) in his study has suggested that financially educated CEOs gained more popularity between the 1960s and 1970s given the success and performance of finance-managed firms. During this period, financially oriented CEOs had a great influence on corporate strategies that could negatively affect the performance of organizations because they focused only on market operations. According to Ocasio & Kim (1999) the period of dominance of financial CEOs was characterized by the privileging of short-term operations to the sacrifice of long-term investment and management operations that were very important for the survival, sustainability and success of the company (Fligstein, 1990).

Since the 1980s, several changes in the business world doubting the effectiveness of the financial conception of control (Ayaba, 2012). In response to these changes, Hayes et al. (1990) showed that the financial conception of control is being challenged due to the neglect of long-term objectives. The financial conception of control has been confronted with ideological challenges as to how the strategic objectives of the company could be pursued (Ayaba, 2012). At the end of the 1980s, the financial conception of control decreased in favor of other areas (management, engineering, etc.). Lemire (2017) in his study of Educational backgrounds of the CEOs of the top corporations in the US founds that the CEOs of the top 5 corporations are engineers. Ocasio & Kim (1999) suggests that the decline of CEOs with a financial background is explained by their inability to respond to the changing business environment. With this decline in control posed by the business environment, finance CEOs is losing power in favor of CEOs with technical and operational backgrounds (Ayaba, 2012; Ofe, 2012).

Upper Echelon Theory (UET)

According to Hambrick & Mason, who are the founders of upper echelon theory (UPT), managers' decisions are automatically influenced by their educational and professional backgrounds. Despite the fact that CEOs tend to become generalists because they are responsible for the whole company, it is still noticeable that they focus more on the decisions in their field than on other decisions (Hambrick, 2007; Hambrick & Mason, 1984). As such, the theory is built on the premise of bounded rationality (Cyert & March, 1963; March & Simon, 1958). If we want

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to understand why organizations do the things they do, or why they perform the way they do, we must consider the biases and dispositions of their most powerful actors (Hambrick, 2007).

This line of reasoning was supported by several studies, among others; Dearborn & Simon (1958) who demonstrate in their empirical study that in case of problem, the top manager will resolve it based on his or her background and experiences. (Stone 1998) has confirmed that career path has a significant influence on the decision-making process. Calori et al., (1994) showed that the CEO makes references to his experiences and knowledge to solve problems in case of uncertainties. Alice (2000) has supported this theory *"CEOs may rely on known patterns of strategy and action in making decisions during chaotic times"* (Alice et al., 2000).

New Institutional Theory

The new institutional theory was developed in the 1980s (Meyer & Rowan, 1977; DiMaggio & Powell, 1983). The basis of this theory is that organizations adopt structures in response to environmental influences external of the firm (Meyer & Rowan, 1977). Today's world is full of rules and requirements in every sector, industry and nation state. Institutional theory appears in the United States during the 1970s to explain *"the elaboration of rules and requirements to which organizations must conform if they are to receive support and legitimacy*" (Scott & Meyer, 1983). Organizational structure could not be explained without reference to wider environmental forces. The institutional theory seeks to explain how the regulatory framework impacts on the way organizations achieve their long term goals of sustainability (Abaya 2012). According to Abaya 2012 firm strategy and decision making process are influenced by environmental factors and beyond the control of the CEO this concern is shared by Bruton et al., (2010). Meyer & Rowan (1977) the founders of Institutional theory state that decision making process of the CEO and firm strategy are guided by this regulatory framework this concern shared by (Bruton et al., 2010). Abaya 2012 concludes that CEO educational background has no significant impact in firm performance, so according to him firm profitability is a result of environmental and social regulatory framework which influence the way organizations are managed and decisions are made. The new institutional theory is a continuity of institutional theory developed by DiMaggio & Powell in 1983 who argue that firm performance could better be explained by a series of events, regulatory framework and other forces that were totally beyond the influence of the CEO (Abaya, 2012). Old institutionalism saw organizations as organic whole, focused on the state or governments, and rational-choice approaches and New institutionalism has more focus on individuals, and their conceptions, and does not only deal with governments and states (Johan, 2012). Hannan & Freeman (1977) who view firm performance from the perspective of population ecology also support the principle of the Institutional theory (DiMaggio & Powell, 1983) which suggest that firm strategy is better explained by regulatory framework and other forces that beyond CEO abilities.

THE ROLE OF BANK CEO

The chief executive officer (CEO) is the bank manager, whose main responsibilities include the decision-making process and the control of the whole organization. A CEO is chosen by the board of directors and shareholders (Kenton, 2019). The central bank regulates the liabilities of the bank CEO, but the unregulated missions are settled by the decision-makers of the bank's management team, which is managed by the bank officer. Adams, et al. (2005) claimed that the CEO is always responsible for major decisions in the organization. The overall

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success of the bank's operations and policies is the main responsibility of the CEO; as many authors suppose CEOs should be entrusted with decision-making authority to make strategic decisions under all the internal and external pressures of the uncertainty (Bebchuk et al., 2011; Bellofatto et al., 2018; Morse et al., 2011; Han et al., 2016; Herrmann & Datta, 2006).

Hambrick (2007) had argued that generally when we want to understand why banks perform the way they do, focus must be paid on understanding the values, perceptions, and dispositions of the CEO. An opinion not shared by (Jim, 2009) who considers that the CEO is not the sole responsible for the success or failure of a firm, from a rational point of view. The power delegation may help the bank CEO by the ongoing review and the regular monitoring to ensure that his organization is on the way to serve client's needs. The CEO must monitor all of his direct subordinates to ensure that bank performance and all the returns are maximized.

Agency Theory

In agency theory terms, the owners are principals and the managers are agents. The principle engages the agent to do something on his behalf .There is agency problems that may happen when the CEO look for maximizing his own interest (Jensen & Meckling, 1976). To avoid this conflict of interest owners give financial rewards to the agent to maximize their interest. This principal-agent problem is caused by information asymmetry between opportunistic CEO and distant principals when one part is well informed than another one (Miller & Sardis, 2011; Fama & Jensen, 1983).

The agency theory is based on the fundamental assumption that human or agents are selfish and opportunistic the agents do whatever they can to exploit the owners to satisfy their personal interests. As Gur N. et al 2016 highlight that when the decision making authority is delegated there is no guarantee that the delegate decisions are made in line with the interests of the principal.

According to the agency theory, which generalizes the theory of property rights, the firm can be considered as a nexus of contracts. This contractual vision of the firm is explained by the transfer of decision making; we speak of the delegation of tasks and responsibilities; the principal ask the agent to do something on his behalf. According to this theory the agency relationship can cause problems due to asymmetry of information and moral hazard.

According to Donaldson when the CEO has dual roles (the Chief Executive Officer and the Chairman of the Board), the conflict of interests increase, owners have to practice incentive programs such as tie CEO compensation to stockholders benefits to make the interest of the CEO aligned to that of shareholders (Donaldson & Davis, 1991). The literature provides mixed evidence on the relation between CEO duality and firm performance but the majority confirms that CEO duality increases interest's conflict.

LITERATURE REVIEW

CEO educational background and firm performance as a topic is thoroughly studied, that's why in the literature there is evidence to support divergent opinions which are contrasted. The first school of thought supports the evidence that educational background affects firm performance. The second one does not confirm.

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Educational Background Affects Firm Performance

CEO Ayaba (2012) examines the impact of CEO educational background on firm performance, as measured by ROA ratio, on 100 of listed firms in the Stockholm stock exchange, during the period between 2008 and 2010. He confirms that except finance background the CEO educational background does not have any significant impact on corporate performance (Ayaba, 2012). In addition, he demonstrates that there is no evidence that organizations headed by CEOs with an educational background in engineering perform better than others headed by CEOs with other backgrounds such as law, marketing and finance. Also, he points out that CEO educational level have no relationship with organization's performance. The results of their study also provided some support for the earlier work of Koyuncu et al., (2010), who examines the impact of CEO educational background on firm performance based on a sample of 437 CEOs from different firms between 1992 and 2005. They claim that firms managed by CEOs with an operations background perform better than firms managed by CEOs with law, marketing and other background except those controlled by a CEOs in the area of finance (Koyuncu et al., 2010).

Custodio & Metzger, (2014) assumes that the appointment of a financial expert CEO is a better way to benefit from financial expertise by confirming that financial expert CEOs communicate better with external investors can make investments less sensitive to the company's internal resources and follow more dynamic financial policies. In addition, they confirm that financial expert CEOs are able to obtain financing in times of worse credit conditions given their relational contacts in the financial market and they are more financially sophisticated because they are more dynamic in their reaction to changes in the environment (Custodio & Metzger, 2014). According to Custodio & Metzger (2014), financial expertise enhances corporate performance.

Daellenbach, et al., (1999), based on the sample of 57 firms over the period between 1988 and 1993, by calculating the average of each three-year period separately; investigate the impact of the top management team characteristics on firm's commitment to innovation. They have confirmed the principle of the UET (Ham brick & Mason, 1984) which suppose that the top management characteristics influence the way organizations are managed and influence the decision-making process. Daellenbach et al., (1999) support Hayes & Abernathy's (1980) contention that technically oriented organizations spend more in Research and Development and gives greater support for technology initiatives. According to Hayes & Abernathy (1980), companies that predominantly upon financial control, corporate portfolio management, and excessively market-driven behavior are going to decline in the long term. In addition, marketing, finance and legal executives have been and will continue to be favored for promotion over production and engineering executives. They confirm that CEOs with educational background in the financial and legal areas focus more on market operations thereby paying little or no attention to innovation.

Andrews & Welbourne (2000) based their study on the sample of 126 firms (for the year 1988) and 261 firms (for the year 1993) that were preparing for an initial public offering (IPO). They confirm that financially oriented CEOs are less likely to create the favorable conditions for employees to move the firm forward in the turmoil of the IPO. According to Andrews & Welbourne (2000) financially oriented CEOs can damage firms' long-term survival prospects in the short term. This study provides further support for the upper echelon theory (Hambrick & Mason, 1984) and the proposition that CEOs can rely on known models of strategy and action to

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make decisions in times of difficulty (Andrews & Welbourne, 2000). They conclude that CEO financial education may damage firm performance in the short term.

Amore et al., (2019) analyze the effect of CEO's educational background on environmental decision-making; based on the sample of 428 manufacturing Danish firms from 1996 to 2012 they found out positive association between CEO education and firms' energy efficiency: well educated CEO use less energy input per employee. They show also that high educated CEO gives stronger personal concern for climate change (Amore et al., 2019). Also, (Orens & Reheul, 2013) are among the advocates of the UET, they argue that the training of CEOs is reflected in the particularities of their organizations.

Gounopoulos & Pham (2018) examine the association between financial expert CEOs and earnings management (EM) around initial public offerings (IPOs) based on the sample of U.S. common share IPOs over the period 2003-2011 from Boardex. They mention that the financial skills and experience that CEOs have accumulated over the course of their careers give them a good understanding of financial and accounting issues, which they can use to make better accounting decisions and improve the financial reporting process (Gounopoulos & Pham, 2018). Also, financial expert CEOs are very conscious of the type of information that investors are looking for, and they have a greater incentive to provide the market with high quality financial information to enable investors to correctly valuing companies (Gounopoulos & Pham, 2018). They provided supporting evidence consistent with the predictions of the upper echelon theory regarding the effect of functional management experience on the strategic choices of the company. Gounopoulos & Pham (2018) conclude that CEO financial expertise can improve firm performance.

Anderson et al., 2018 investigate the impact of Marketing and finance skills on business performance based on the sample of 852 firms in South Africa. Results show that finance and marketing skills enhance corporate performance. But, the manner to attend this profitability differs between the two types of training (Anderson et al., 2018). Finance training may enhance profitability by minimizing costs however, marketing training attends higher profitability by increasing sales, improving inventory, and hiring more employees (Anderson et al., 2018).

Educational Background Does not Affect Corporate Performance

Bhagat et al., (2010) in their study which includes more than 14,500 CEO-years and more than 2,600 cases of CEO turnover from 1993-2007 have shown that while education does play an important role in CEO hiring decisions, it does not significantly affect firm performance. They suggest that CEO education may be a poor proxy for CEO ability. Gottesman et al., (2010) examine the relationship between Chief Executive Officer (CEO) educational background and firm financial performance as measured by Tobin's Q using the sample of all firms listed in the New York stock exchange from 2000-2003 which are managed by CEOs who had at least an undergraduate degree. They found evidence in support that educational background of the CEO does not affects organizations' financial performance (Gottesman et al., 2010). They demonstrate also that firms managed by CEOs with MBA (Master of Business Administration), law, and other graduate degrees do not perform any better than firms with CEOs without graduate degrees. This suggests that the skills learned by CEOs in these programs have little impact on firm performance (Gottesman et al., 2010). Educational background has no impact on financial performance, however, age, leverage and liquidity are significantly related to performance, but these variables are not specifically related to CEO educational background (Gottesman et al.,

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2010). They also suggest that there is no difference between firms run by CEOs from more selective schools and firms run by CEOs from less selective schools (Gottesman et al., 2010). However, there is a positive correlation between the education levels of new CEOs and those of the CEOs they replace.

According to Ting et al., (2015) the principle of UET is that the CEO's characteristics such as age, career and experiences affect their decision's process which in turn directly influences firm's strategy and performance. Ting et al., (2015) explore the effect of CEO personal characteristics on financial leverage in the Malaysian context from 2002 to 2011. They confirm that CEO profile photo, age, prior experiences are significantly and negatively related to leverage and CEO's tenure is significantly and positively related to leverage. In addition, they show that the more the CEO is well educated, the more the debt of the organization is higher. They also conclude that younger CEOs, female CEOs and longer serving CEOs are risk taker and more aggressive in regardless their educational background (Ting et al., 2015). According to Ting et al., 2015 there is no evidence that CEO's educational background affects firm performance.

Lin et al., (2007) investigate the link between a CEO's background and firms' performance in family-controlled firms based on the sample of 375 listed non-financial firms in Taiwan during the 1991-2000 periods. Tobin's Q and return on asset (ROA) were used as measures for firm performance. They found that there is a significant relationship between a firms' operating characteristics and the CEO's background. They demonstrate that a CEO who is from within the family is a better choice to enhance firm performance than a professional CEO. They provide a static picture of the relationship between the CEO's background and a firm's performance (Lin et al., 2007).

Wasserman et al., (2001) based on the sample of 531 companies from 42 industries examine the importance of CEOs to affects performance across organizations and industries. They use ROA ratio and Tobin's Q as a measure of firm performance. Results show that CEO's influence on firm performance differ between industries as he said *"CEOs in different industries are not driving identical cars, the other cars on the road are driving faster in some industries than in others, and the roads on which they are driving may be unpaved and steeply uphill, or paved and moderately downhill"* (Wasserman et al., 2001). According to Wasserman et al., (2001) the educational background has no matter in corporate performance.

Findings have been mixed, but they generally favor the conclusion that the financial education is survival for corporate sustainability and profitability. Also, despite the remarkable shift from finance in favor of other backgrounds today, he still has an edge over other backgrounds. Financial literacy is very important nowadays because generally financially educated CEOs perform better than others with different educational background.

The main purpose of this paper is to investigate whether or not banks headed by financially educated CEOs perform better than others headed by CEOs with other educational background.

EMPIRICAL ANALYSIS IN THE TUNISIAN CONTEXT

Data for the sample are obtained first using a questionnaire. Indeed, our empirical study is based on quantitative research, which relies on the use of a questionnaire as a mode of data collection. The first data source of this work is the questionnaire while some of data have been manually collected from the annual reports of banks for the period between 2017 and 2019,

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which were checked via the sites of the banks, central bank of Tunisia BCT and the site of the Tunisian stock exchange BVMT. Also the personal characteristics of CEOs have been collected by consulting their profiles on social networks, from articles published on line and others were asked directly by visiting them at their banks.

Population and Sampling Plan

The analysis is based on a sample of CEOs at Tunisian banks. Our sample period is from 2017 to 2019. We begin by collecting data on CEOs by a direct research questionnaire and match accounting data obtained from annual reports sourced from the Tunisian stock exchange site for listed banks and from the annual reports published on line for other banks. This produces a sample of 152 banks. From this initial list, we retain only those banks for which we could collect detailed data on CEO educational backgrounds that capture information on the types of degrees held (undergraduate or postgraduate). We collect this information by visiting CEOs directly to ask them about personal information and from their profiles on social networks.

The questionnaire is addressed to 152 bank agency's directors of public and private Tunisian bank and 21 CEO of banks (91.3%) from the total banks in Tunisia. Only two banks are eliminated from the sample because they are not listed on the stock exchange and their annual rapports are not published on line. In addition, their number of branches is less than 5. So this paper encompasses the entire Tunisian banks.

Table 1
DISTRIBUTION OF CEO EDUCATIONAL BACKGROUND AND EDUCATIONAL LEVEL

Educational Background	N	Sum
Field of Study		
Finance	100%	24%
Engineering	100%	10%
Management	100%	24%
Economics	100%	19%
Other background	100%	19%
Educational level		
Postgraduate	100	62%
Undergraduate	100	38%

CEO educational background shown in Table 1 comprised of five educational backgrounds. CEOs with financial background constituted 24%, and the same part for management background, it represents also 24% the highest proportion of the sample. Engineering 10%, and both Economics and other backgrounds 19%. From the table 1, 62% of the CEOs had a postgraduate (Masters, Doctorate) while 38% had an undergraduate degree.

Definition and Coding of Independent Variables

In this study both dependent and independent variables have been used. These independent variables were mostly centered on CEO and bank characteristics. Control was also made for traditional factors which have been found to affect bank performance. This study makes use of various discrete and continuous variables. Dummy variables have been used to account for discrete variables. Dummy variables can assign the value of 0 or 1. 0 would indicate the absence of the variable and 1 would indicate the presence of the variable. The dummy variables were used because of the presence of qualitative independent variables. These dummy

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variables have been used to represent the various types of CEO educational backgrounds (finance, engineering, economics, accountability or management). The independent variables were used to explain variations in the dependent variable.

CEO Educational Background

CEO Educational backgrounds have been considered as the area of training in which a CEO has his/her highest qualification. To measure the CEO educational training, dummy variables have been created to represent each educational background. Finance is a dummy variable that takes the value of 1 if CEO has a finance-related degree, and zero otherwise. The same coding process has been used for economics, management, engineering and other backgrounds. To ensure that the actual education of the CEOs was well-specified, I visit each one of them to ask him about his educational background. Also their profiles on different social networks are consulted. The goal was to provide accurate and reliable data for the study. In situations where the CEO does not give me enough information he was completely excluded from the sample. Given that there was a lot of training associated with CEOs, the educational backgrounds have been limited to Engineering, finance, management and economics training because they are the most represented in the dataset with four or more CEOs all the other backgrounds are represented in the same dummy variable *"other"*. Finance is the reference background used for this work.

CEO Educational Level

I grouped educational level into two main groups. We define a dummy variable that is equal to one if the CEO is Postgraduate. Under the Undergraduate group CEO's with only Bachelor's degree (baccalaureate + three years or baccalaureate + four years) have been grouped. In the Postgraduate group CEO's with master's degree and CEO's with doctorate degree have been grouped. To facilitate this I ensure that only CEOs that they have at least bachelor's degree were considered to be included in the educational background variable.

CEO Gender

CEO gender is an interesting variable that constituted an aspect of CEO characteristics intended to examine the impact of the involvement of women in the composition of top management teams. However the observed sample is totally composed by men (100%). This variable takes the value 1 when the CEO gender is male.

CEO Tenure

CEO tenure is introduced as a control variable in this work. CEO tenure refers to how long the CEO has been working in the same bank. Many authors have confirmed that long serving CEOs improve bank performance given that, he has spent his entire job in the same environment so he is able to deal with varied set of problems. (Ayaba, 2012) points out that *"CEO who has spent a longer time in a company is a vital asset for firm performance"* (Ayaba, 2012). Although, no period is commonly accepted as shorter, intermediate or longer for CEO tenure (Ayaba, 2012).

I guess that banks with longer-serving CEOs outperform others.

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CEO Age

CEO age is discrete variable used on this work. (Hermann & Datta, 2006) on their work have shown that the younger the CEO is, the more he is risk taker. Also they have mentioned that older CEO's have low propensity for risk while younger CEO's are dynamic to change (Hermann & Datta, 2006). So according to them younger CEOs have higher physical and mental capacity to process and analyze information. Based on this conclusion I guess that banks with younger CEOs outperform others guided by older CEOs. This sample is composed by CEOs with more than 40 years old.

Dependent Variable

Bank Performance

I used the return on asset (ROA) which is the ratio of net income-to-the book value of assets, and return on equity (ROE) which is equal to the ratio of net income to shareholders' equity as measures of bank performance. Many authors have mentioned that there are many drawbacks of using ROA or ROE as a measure of bank performance. Because such a measure does not take into account the impact of inflation, risk and the lapses (Mc Gahan, 1998; Whittington, 1983 Ayaba, 2012). To well measure bank performance and to ensure that the bank performance was actually related to the period under study, an average of the bank performance over a period of three years has been used because a one year value may make the result unrealistic. A single year bank performance may be largely influenced by events not related to the CEOs who are currently managing the bank. This three year period interval has also been used by (Carpenter & Fredrickson, 2001; Koyuncu et al., 2010; Ayaba, 2012).

1. ROE=(Net income/shareholders' equity)
2. ROA=(Net Income/Average Assets)

The Different Models Used on this Paper

1. Model 1.1.1: $ROE_{it} = \beta_{0+} \beta_1 FIELD + \beta_2 LEVEL + \beta_3 Age + \beta_4 Tenure + \varepsilon_{it}$
2. Model 1.1.2: $ROA_{it} = \beta_{0+} \beta_1 finance + \beta_2 Economics + \beta_3 Management + \beta_4 Engineering + \beta_5 other + \beta_6 POST + \beta_7 UNDER + \beta_8 Age + \beta_9 Tenure + \varepsilon_{it}$
3. Model 1.2.1: $ROA_{it} = \beta_{0+} \beta_1 FIELD + \beta_2 LEVEL + \beta_3 Age + \beta_4 Tenure + \varepsilon_{it}$
4. Model 1.2.2: $ROA_{it} = \beta_{0+} \beta_1 finance + \beta_2 Economics + \beta_3 Management + \beta_4 Engineering + \beta_5 other + \beta_6 POST + \beta_7 UNDER + \beta_8 Age + \beta_9 Tenure + \varepsilon_{it}$

Validation of the Items Concerning Educational Background

Cronbach's Alpha of the items representing personal characteristics and educational background is very low 0, 2. But when we have eliminated the insignificant item such as Age, the results show that the variables are consistent and have a practical meaning, hence this index is satisfactory α=0,667.

Once the internal consistency between the items is checked, it is necessary to ensure the reliability of these items. Indeed, we will carry out a principal component analysis (PCA).

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First, we began our analysis with Bartlett's and (KMO) tests. The (KMO) test showed a higher value than 0.5 (KMO=0.551), also the Bartlett's sphericity test has a high Chi-square recorded at a value of satisfaction equal to (Chi-square=0.000). Bartlett's tests and the KMO's confirmed the feasibility of factor analysis.

Next, we performed a principal component analysis (ACP) on all the items, which revealed that they have a strong factor contribution and good discriminating power. This (PCA) suggests a two-factor structure representing 81,113% of the total variance.

For the sake of simplification we see the factor solution presented in Table 2.

Table 2
FACTOR SOLUTION OF MODEL NUMBER 1

	Component	
	Component1: CEO educational field: 53,874 % from the total variance	Component2: CEO educational level 34,900% from the total variance
What is your educational field?	0,881	
What is your educational level?	0,678	
How long do you have been working In the same bank?	0,827	
Age		0,914

Empirical Validation of Research Hypotheses

Once the reliability and validity of our questionnaire has been verified, it is appropriate to test the empirical validity of our hypotheses.

Empirical Tests to be Carried Out

I chose to use linear regression on the different variables: The aim is to explain bank performance using the various variables selected. In the first model (model 1: CEO educational background and bank performance) ROE in a first level (model 1-1) and ROA in a second one (model 1-2) are used as a dependent variables which are a measures of financial performance. Since there were 5 CEO educational backgrounds, I created 5 dummy variables as independent variables such as finance, engineering, management, economics and other backgrounds. Also tenure and age are introduced as variables of control.

Descriptive Statistics

The below Table 3 shows the means, deviations of the major variables that have been used in our analysis in this work.

Table 3
DESCRIPTIVE STATISTICS

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
How long do you have been working in the same bank?	103	2.00	7.00	3.9903	1.46525	0.665	0.238	-0.467	0.472

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Age	103	47.00	68.00	60.6699	5.55258	-0.858	0.238	1.061	0.472
Average ROA	103	-2.13%	2.05%	1.1900%	0.88824%	-1.955	0.238	4.415	0.472
Average ROE	103	-22.65%	26.27%	12.9212%	9.28988%	-1.424	0.238	3.371	0.472
How many branches are there in your bank?	103	15	209	139.27	53.348	-0.846	0.238	0.160	0.472
Finance	103	0.00	1.00	0.4078	0.49382	0.381	0.238	-1.892	0.472
Management	103	0.00	1.00	0.0777	0.26896	3.203	0.238	8.420	0.472
Economics	103	0.00	1.00	0.1845	0.38976	1.651	0.238	0.740	0.472
Engineering	103	0.00	1.00	0.1748	0.38162	1.738	0.238	1.042	0.472
Other	103	0.00	1.00	0.1553	0.36400	1.931	0.238	1.764	0.472
Undergraduate	103	0	1	0.56	0.498	-0.258	0.238	-1.972	0.472
Postgraduate	103	0	1	0.44	0.498	0.258	0.238	-1.972	0.472
Valid N (listwise)	103								

The total number of bank agencies is 103 to represent 21 banks from 23 resident banks in Tunisia. As a result this work includes 91.30% from the bank sector. I visit 103 bank agencies 41% Finance, 18% Economics, 17% engineering, 8% Management and 16% other backgrounds. Out of this sample, the population of CEO was made up of men totally and their average age is approximately 61 years and 57% are under graduate. The mean tenure of CEO is approximately 4 years.

To test the normality of the data we notice that the Skewness value is positive for the majority of variables. This means that the distribution tail is asymmetrical to the right. So we reject the null hypothesis of data normality from which the distribution does not follow the normal distribution.

Indeed, the *"Kurtosis"* coefficient is a coefficient that measures the distribution's degree of flattening. However, in our case we notice that the majority of the flattening coefficients of the variables are less than 3, which means that the distribution is more flattened than the normal law. Thus we reject the null hypothesis of normality.

Linear Regression Results

Model 1-1: CEO Educational Background and Bank Performance: In the model 1-1 educational background and bank performance using average return on equity ratio (AROE) as a measure of bank performance.

The R^2 for the model 1-1-1 which was used to test for hypothesis 1 is 0.437 this means that, 43.5% of the regression model or variation in the dependent variable (ROE) is explained by the independent variables. This R^2 gives a significance value of 0,000 this is less than the p-value of 0.05 at 95% level of confidence. This thus indicates that the regression model is significant at this level of confidence. The most important variable of interest is CEO Field of study. Variables related to the CEO personal characteristics (tenure and age) have been introduced as variables of control (Table 4).

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Table 4
SUMMARY OF MODEL 1-1-1 EDUCATIONAL BACKGROUND AND BANK PERFORMANCE USING RETURN ON EQUITY RATIO (ROE) AS A MEASURE OF BANK PERFORMANCE

Variables	Beta	Significance	Expected Relationship	Found Relationship
(Constant)		0. 547		
How long do you have been working in the same bank	0.022	0.822	+	+
CEO Age	-0.102	0.238	-	-
CEO Field of study	0.454	0.000***	+	+
CEO educational level	0.285	0.006***	+	+

Dependent Variable: ROE
*, **, ***, respectively signification at 10%, 5%, 1%

The result of regression analysis indicates that the educational background both field and level positively and significantly affects bank performance. To investigate this issue in detail, CEO's are classified based on their field of study and partition the sample into 5 groups which are: i) Finance ii) Economics iii) Management iv) Engineering v) Other backgrounds. Since there were 5 field of study (in the model 1-1-2) five dummy variables have been created (finance, engineering, economics, management and other backgrounds) to represent the variable field of study. In addition two dummy variables undergraduate and postgraduate are created to represent the variable educational level. The results of this model are presented in the Table 5.

Table 5
SUMMARY OF MODEL 1-1-2 EDUCATIONAL BACKGROUND AND BANK PERFORMANCE USING AVERAGE RETURN ON EQUITY (ROE) RATIO AS A MEASURE OF BANK PERFORMANCE

Variables	Beta	Significance	Expected Relationship	Found Relationship
(Constant)		0.000***		
Management	-0.549	0.000***	-	+
Finance	0.383	0.000***	+	+
Engineering	0.061	0.473	+	+
Other	-0.248	0.000***	+	-
Undergraduate	-0.145	0.062**	+	-

Dependent Variable: average return on equity ratio (AROE)
, **, *, respectively signification at 10%, 5%, 1%*

Hypothesis 1 states that CEO financial education is positively associated with bank performance. To test for this hypothesis, I entered variables related to CEO educational background. Since there were 5 CEO educational backgrounds (finance, management, economics, engineering and other backgrounds) 5 dummy variables have been introduced. In addition two other dummy variables concerning educational level have been added (undergraduate and postgraduate). The variables take the value 1 to indicate the presence of the variable and 0 otherwise.

The results of the linear regression of the model 1-2-1 in the table 6 show that 78.1% from the variation in the dependent variable (AROA) is explained by the independent variables. This R^2 gives a significance value of 0,000 this is less than the p-value of 0.05 at 95% level of confidence. This thus indicates that the regression model is significant at this level of confidence.

The table 5 above presents the regression results for hypothesis 1. The main independent variable of interest is the interaction term of the CEO financial education and bank performance.

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The coefficient of this interaction is positive (β=0,383) and statistically significant at the 1% level. This result is consistent with the idea that banks led by CEOs with finance-related degree achieve significantly higher levels of bank profitability that is statistically higher than banks headed by others with different backgrounds such as management engineering and economics.

However those managed by CEOs with management background have lower performance advantage compared to finance, engineering and economics. The coefficient of this interaction is negative (β=-0,539) and statistically significant at the 1% level. In addition the results show that CEO undergraduate educational level has negative and significant impact on bank performance at the level of 10%. Thus it is evident that banks run by CEO who has a finance-related degree outperform others which are run by a CEO who has a background in other fields such as economics, management and engineering. These results confirm those found by (Custodio & Metzger 2014; Anderson et al., 2018; Gounopoulos & Pham, 2018) and confirm the hypothesis number 1 of our research. Yet this concern is not shared by (Andrews & Welbourne, 2000).

In addition the result indicates that the CEO educational level has a significant effect on bank performance. Thus we can conclude that banks headed by post graduate CEOs deliver significantly higher bank profitability.

Model 1-2: Educational Background and Bank Performance Using Average Return on Equity Ratio (AROA) as a Measure of Bank Performance

Table 6
SUMMARY OF MODEL 1-2-1 EDUCATIONAL BACKGROUND AND BANK PERFORMANCE USING AVERAGE RETURN ON ASSETS RATIO (AROA) AS A MEASURE OF BANK PERFORMANCE

Variables	Beta	Significance	Expected Relationship	Found Relationship
(Constant)		0.435		
How long do you have been working in the same bank	0.024	0.819	+	+
CEO Age	-0.116	0.214	-	-
CEO Field of Study	0.305	0.016**	+	+
CEO Educational Level	0.358	0.00***1	+	+
Dependent Variable: ROA **, **, ***, respectively signification at 10%, 5%, 1%*				

The results of the linear regression of the model 1-2-1 in the table 6 show that 34,3% from the variation in the dependent variable (AROA) is explained by the independent variables. This R^2 gives a significance value of 0,000 that is less than the p-value of 0.05 at 95% level of confidence. This thus indicates that the regression model is significant at this level of confidence.

Since our key variable is the interaction term between the educational field and bank performance. Results confirm the findings of Model 1-1-1 that educational background both level and field are associated with a higher performance level.

Table 7
SUMMARY OF MODEL 1-2-2 EDUCATIONAL BACKGROUND AND BANK PERFORMANCE USING RETURN ON ASSETS RATIO AS A MEASURE OF BANK PERFORMANCE

Variables	Beta	Significance	Expected Relationship	Found Relationship
(Constant)		0.000***		
Management	-0.644	0.000***	-	-
Finance	0.255	0.003***	+	+

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Engineering	0.279	0.001***	-	+
Other	-0.330	0.000***	-	-
Undergraduate	0.005	0.950	-	+
Dependent Variable: average return on Assets ratio (AROA) **, **, ***, respectively signification at 10%, 5%, 1%*				

Using the average return on Assets ratio (AROA) as dependent variable in model 1-2-2, which explains 77.6% from the total variance (R^2= 0.776%) in the table 7 confirms that not only CEO finance background affects bank performance positively but also engineering background might enhances bank profitability. However results show that it is evident that banks controlled CEO with management related degree report lower profitability than others with different background.

Despite the emergence from finance to economics engineering and other backgrounds financial education still has a positive and significant impact on bank performance.

DISCUSSION

Results show positive and significant coefficient for the interaction between CEO financial education and delegation of decision making authority. Financially educated CEO delegate more decision making authority which ameliorates bank performance. So as a conclusion, banks run by financially educated CEOs delegate more the decision-making authority which in turn affects bank performance positively. These results confirm our third research hypothesis which states that CEO financial education and delegation of decision-making authority affects bank performance positively. However, CEO who has management related degree are less likely to delegate and they are more powerful. These results confirm the finding of Gounopoulos & Pham, 2018.

Using the average ROE as a measure of bank performance results show that financially educated CEOs are more likely to perform better. However using the average ROA, our findings show that not only the finance background of the CEO affects bank performance positively, but also banks managed by a CEO who has an Engineering background generate greater profitability. But it is evident that banks managed by a CEO with management related-degree have lower performance advantage (using AROA and AROE) compared to finance, economics and engineering an opinion not shared by king 2016.

Financially educated CEOs are more likely to make effective financial decisions and manage well financial institutions such as banks. This result confirms the principle of the UET (Hambrick & Mason, 1984). This theory confirms that managers' decisions are automatically influenced by their educational and professional backgrounds.

CONCLUSION

This thesis was motivated by the need to discuss the current changes in the financial system and the increasing role of bankers in meeting these challenges and enhancing bank performance. Given these challenges, management team as a whole and CEO in particular, needs to make adjustments on the way bank strategic objectives and organizational vision is defined. Banks are facing enormous competition and challenges in how products are differentiated, the way customer’s needs are fulfilled, and the way they communicate to the market to meet these needs. These challenges have maintained vigilant CEOs to continuously implement a strategy that reflects the present and the future Challenges.

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This paper looks to investigate how the CEOs personal characteristics and decisions could affect bank performance. Using the sample of 21 resident banks (which represent 91.3% from the Tunisian bank system). 152 bank agencies have been visited to collect information about the organizational structure of the different banks from the sample. In situations where the CEO does not give me enough information he was completely excluded from the sample. The final sample is composed by 100 bank agencies.

The results of the linear regression analysis suggest that banks led by a CEO with an educational background in the area of finance generate higher performance level compared to banks controlled by CEO in some other educational background. From a general perspective, the results of this study suggest that CEO educational background and educational level have a positive and significant impact in accounting for differences in bank performance. This study is important because it adds to existing literature in the field of bank performance and CEO orientation an area which has not been researched of recent.

The main results of this work are summarized as follows. We have clear evidence that financial expert CEOs are more sophisticated and secure superior bank performance outcomes but also there is low evidence that CEO with engineering background positively affects bank performance (ROA). Also the findings in this thesis tend to show that the era of the finance conception of control in which the majority of organization are led by CEOs in the area of finance in 1970s and 80s as postulated by Fligstein (1990) still show significant impact on bank performance. As indicated in the sample, a majority of the CEOs in the Tunisian bank sectors have an educational background in the area of finance. This shows that despite the remarkable shift from finance to engineering and other backgrounds financial education still remain very vital for banks.

The findings are consistent with a causal effect of financial education on bank performance. In addition, results show that financial education delivers skills enabling CEOs to manage increasingly larger banks and achieve higher performance level. Results suggest that CEOs with finance-related degree would be better at handling complex organizational problems and improve firm performance.

The first limits of our work are of technical order. We have analyzed a relatively small set of institutions. We had indeed to remove some banks from our sample because of missing data. The sample is relatively small (100 banks), also the period of time is short only 3 years.

The findings of our study have broad economic and policy implications, which extend beyond the banking sector. In particular, our evidence on the importance of CEO financial education and may be engineering-related degree on improving bank performance. Especially that higher educated CEO and CEO with finance related degree are more likely to meet with the board of directors and delegates more which in turn ameliorate bank performance.

Although the findings of this study may give policy makers an insight about the effects of CEO educational background both field and level on bank performance, we caution readers and investors that our measurement of CEO personal characteristics may have shortcomings. More direct measurements may be considered in the future. In addition, there may have been other incentives that we have not examined; we have shown that the most obvious (at least to us) possible CEO personal characteristics in determining bank performance. One obvious future empirical extension to this study is to explore the effect of CEO perspective, CEO compensation, CEO race and CEO attitude about risk taking on bank performance. Understanding which related degree and what education is most efficient nowadays remains an important avenue for future research.

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