

CEO characteristics and earnings management: empirical evidence from France

Empirical
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France

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Abstract

Purpose – The purpose of this paper is to investigate the impact of chief executive officer (CEO) characteristics on the earnings management examined by the discretionary accruals.

Design/methodology/approach – The sample includes 151 French firms listed on the CAC ALL shares index from 2006 to 2015. The paper uses the feasible generalized least square regression technique to test the relationship between CEO characteristics and earnings management.

Findings – Using discretionary accruals as a proxy for earnings management, the results obtained from the three models (Jones modified 1995; Kothari *et al.*, 2005; Raman and Shahrur, 2008) indicated that there is a positive and significant relationship between CEO duality, CEO nationality and the quality of financial communication. However, no significant relationship was found between CEO board member, CEO turnover and earnings management.

Originality/value – A literature review finds that fewer studies have investigated the relationship between earnings management practices and personal CEO characteristics in the French context. Furthermore, no study yet has examined the influence of CEO nationality and CEO age on earnings management practices. This study provides empirical data about the impact of CEO's characteristics on earnings management and how these different characteristics can facilitate the transition to manipulate and influence the quality of financial communication.

Keywords Discretionary accruals, Earnings management, CEO characteristics, CEO expertise, CEO gender, CEO nationality

Paper type Research paper

1. Introduction

Generally, the chief executive officer (CEO) is viewed as being the most powerful person in a firm. CEOs benefit from their position at the head of the company and their managerial latitude in order to improve their remuneration to simply stay in place. They are responsible for corporate performance and they exercise authority over the corporate decisions (Chou and Chan, 2018). Research that has investigated the impact of CEO characteristics on the quality of



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earnings management measured by discretionary accruals is limited (Lakhal *et al.*, 2015). Based on the previous studies, Zhang and Wiersema (2009) show the importance of the personal characteristics of managers in order to avoid reporting errors in the accounting and thus preserve the interests of the shareholders. Given this bias, we examine the relationship between earnings management practices and CEOs characteristics in the French context. The individual attributes of CEO's for a series of corporate activities and decision outcomes are examined by several studies (Bertrand and Schoar, 2003; Carpenter *et al.*, 2004; Hambrick, 2007; Nielsen and Nielsen, 2013; Hiebl, 2014; Kouaib and Jarboui, 2016). Previous studies (Klein, 2002; Fich and Shivdasani, 2006; Bergstresser and Philippon, 2006; Cornett *et al.*, 2008; Laux and Laux, 2009) affirm the relationship between the CEO's tenure, experience and profession, compensation and power with earnings management. A CEO which characterized by a better experience and knowledge may decrease possibility of earnings management could through the effective management (Falato *et al.*, 2015; Wang *et al.*, 2016). Emerging research analyzes the interaction between the gender of top management (Barua *et al.*, 2010; Francis *et al.*, 2015), the age of top management (Huang *et al.*, 2012), and earnings quality. Also, most previous research has studied the association between CEO characteristics (such as age, tenure and ethnicity) and earnings management, with a focus on developed countries (Davidson *et al.*, 2007; Yang, 2010; Peni and Vähämaa, 2010; Bozanic *et al.*, 2013). Our study contributes to the quality of financial communication by providing empirical evidence of an association between CEO characteristics and earnings management. Our results suggest that CEO characteristics have a significant effect on the earnings management. The findings of our study have several implications. First, the nationality and the gender of the manager add value to the manager's profile. These two characteristics may be important for assessing the CEO's effect on the earnings management. Second, we use three models to evaluate earnings management and to compare them to each other and find out which model gives the most important result. Third, we try to work on all these characteristics at the same time within the French context.

For several years, issues relating to accounting manipulation and transparency of accounting information have been attracting the attention of accounting researchers and practitioners (Amara *et al.*, 2013). Indeed, this responsibility may increase the probability of a manager's earnings management. According to agency theory, managers are motivated to defend their own interests at the expense of shareholder interests (Jensen, 1986). Consequently, the association between CEO attitudes and earnings management is a very rich topic and deserves further investigation. The upper echelons theory, argue that CEO's background characteristics and experiences can influence on CEO's decision-making and the organizational outcomes thereafter. According to the upper echelons theory, previous research has found international experience (Kirca *et al.*, 2012), the age (Davis and Harveston, 2000; Hsu *et al.*, 2013; Olivares-Mesa and Cabrera-Suarez, 2006), tenure (Herrmann and Datta, 2005), and duality of CEO (Hsu *et al.*, 2013) as important factors influencing the international behavior. However, the lack of managerial capability (Fernández and Nieto, 2006; Gallo and Pont, 1996; Graves and Thomas, 2006), the aversion to risk of the CEO (Fernández and Nieto, 2006; Gallo and Pont, 1996) are considering factors that constrain the internationalization process.

The definition of earnings management is criticized by several accounting scholars. Earnings management is the ability of the managers to manipulate reported earnings by using discretion in accounting principles. In fact, a well-known process called earnings management is adopted by several executives to manipulate the accounting results of the company through accounting choices and discretionary accruals (Alqatamin *et al.*, 2017). Several studies (DeFond and Jambalvo, 1994; Healy and Wahlen, 1999; Baker *et al.*, 2009) have proven that managers are encouraged to manage accounting results for several reasons, even though maximizing the

value of the company and improving its financial quality are objectives that must be respected by all members of the company. Earnings management is a strategy used by the CEO to deliberately manipulate a firm's earnings (Burgstahler and Dichev, 1997; Degeorge *et al.*, 1999). Earnings management may also be unethical when users of financial information are fooled by the reported earnings (Healy and Wahlen, 1999; Krishnan and Parsons, 2008). Earnings management should not be confused with illegal activities (Xie *et al.*, 2003). Further, Cornett *et al.* (2008) suggest that an increase in firm performance may reduce the use of discretionary accruals. In the context of the impact of the CEO's characteristics on the quality of financial communication, and respectively with the orientations of Shleifer and Vishny (1989), the manager seeks to make themselves useful to the shareholders through his/her ability to administrate the company he/she owns. The CEO is ultimately the first person responsible for this central task of reporting directly to the board of directors of his/her company (Lin *et al.*, 2014). The directors of the company are responsible for maximizing the value of their business (D'Ewart, 2015). We investigate the association between the CEO's characteristics and earnings management using a sample of 1,510 firm-year observations representing 151 non-financial listed French firms during 2006-2015. We use discretionary accruals as a proxy for earnings management, and we use the CEOs' age, tenure, duality, compensation, gender, turnover, expertise, nationality and board membership as a measure of CEO characteristics. Because of their primary role in providing better quality accounting information, CEOs benefit from the authority and power within their organizations in many areas, from strategic direction and decision-making, to the orientation of the different stakeholders. For this reason, it is important to study the different characteristics of the CEO that can facilitate the transition to entrenchment and influence the quality of financial communication. The entrenchment of the CEO is an undesirable action because it leads to a reduction in the wealth of shareholders (Jensen, 1986). Lail and Martin (2017) find a negative relationship between CEO and earnings management through discretionary accruals for a sampling period (1989-2013) of Compustat Capital IQ. The entrenchment expresses the will of the CEO to free themselves, totally or at least partially, from the control of the shareholders, while developing specific strategies that allow him or her to achieve the objectives: to increase his/her freedom of action, to improve his/her discretionary power and to neutralize the various disciplinary mechanisms. Nonetheless, the relationship between a manager's personal characteristics and performance management practices remains ambiguous and controversial (Alqatamin *et al.*, 2017). The purpose of this study is to gain an understanding of whether specific characteristics, such as age, tenure, duality, board membership, gender, compensation, turnover, experience, and nationality, influence earnings management practices.

The remainder of this paper is organized as follows. Section 2 offers a related literature. Section 3 an explanatory factor and hypothesis development. Section 4 describes the research methodology. Section 5 evaluates the empirical results and discussion. Section 6 offers the conclusion and policy recommendations.

2. Related literature

The Upper echelons theory attracts a lot of attention. The central idea of this theory is that the organization is a reflection of its principal CEO's (Hambrick and Mason, 1984). The theory recognizes that the CEO characteristics affect their strategic choices. In fact, the Upper Echelon theory assumes that CEO's by their personal characteristics and their specific skills can influence firm's value creation, strategic choices, and financial reporting decisions of companies (Hambrick and Mason, 1984). The theory holds that the personality, experience and values of CEO influence their strategic choices thanks to the interpretation of the situations they face and (Hambrick, 2007). Therefore, we can assume that the

characteristics of senior managers have a great influence on the design of management and control systems (Hiebl, 2014). Hambrick and Mason (1984) suggest that strategic choices are strongly influenced by the CEO demographics characteristics that affect their bases and cognitive values. In the same context, Hambrick and Mason (1984) added that CEO's personal characteristics can be used to predict their behaviors and their role in the success of the firm. Keeping the same meaning, Francis *et al.* (2008) indicate that executive characteristics are important because they affect the accounting results of the company.

Initiated by Spence (1973), the theory of signal was then developed by Ross (1977), which examined the relationship between managers and investors in a context of asymmetric information. According to Altamuro *et al.* (2005) signal theory explains the transparency of financial communication since managers always have more information than investors. In this context, recently, Mohd Thas Thaker *et al.* (2018) concluded that five variables are shown to have a strong association with the returns, and these are target price, earnings forecast, return on equity, cash flows to price and sales to price ratio. This theory is defined by the fact that information is asymmetric and unequally shared between managers and shareholders. Generally, the sender must choose whether and how to communicate (or signal) that information. On the other side, the receiver must choose how to interpret the signal.

Positive accounting theory interested in explaining accounting practice by predicting which firms (will/will not) use a particular accounting practice. Watts and Zimmerman (1978, 1986) seek to explain the concept of the economic consequences of the interests of managers and financial accounting and reporting.

Agency theory suggests that asymmetry of information incites managers to make the decisions necessary to improve their situation and maximize their usefulness, to the detriment of other stakeholders. Agency theory is defined by Jensen and Meckling (1976) as a contract in which one or more people engage another person to perform some services on their behalf which involves delegating some decision-making authority to the agent. This theory shows that managers have major incentives to manipulate the earnings management. These manipulations are very beneficial for the managers and allow them to improve their situation, to the detriment of other stakeholders. Agency theory predicts that managers are motivated in pursuit of their own interests at the expense of shareholders' interests (Jensen, 1986). Therefore, the association between a CEO's attitudes and a firm's earnings management requires a lot of research. According to Jensen and Meckling (1976), Fama (1980) and Fama and Jensen (1983), the agency theory defines the different possible control mechanisms and incentives. Indeed, the overall objective of these governance mechanisms is to align the interests of managers and shareholders and to mitigate the asymmetry of information between the two stakeholders in order to achieve management efficiency. Mokhtar (2017) reported a significant positive association between firm size, profitability, leverage and internet reporting. The results confirm the prediction of agency theory, signaling theory, political cost hypothesis.

Taking the case of the stakeholder theory, Mercier (1999) defines the stakeholders as "all the agents for whom the development and the good health of the company constitute important stakes". Freeman (1984) defines them as "any group or individual that can or can be affected by the achievement of the objectives of the enterprise". Stakeholder theory is concerned with managerial decision-making (Donaldson and Preston, 1995). Stakeholder theory has been used to describe the nature of the firm (Brenner and Cochran, 1991) and the way managers think about managing (Brenner and Molander, 1977). The manager is not the only person responsible for the progress of the business. Stakeholder theory advocates the integration of all partners in the approach. It is a concept based on constructive negotiation in which each stakeholder finds its interest in cooperating (managers and

shareholders). Ethical considerations are at the origin of the developments in the theory of stakeholders, considerations that have been used to develop its normative aspect (we would all be stakeholders). It is then necessary to specify the moral obligations the stakeholders have.

3. Hypotheses development and alternative explanations

The main objective of this work is to test the impact of CEO characteristics on earnings management. We develop the hypotheses about the effects of CEOs' characteristics on the earnings management, measured by the company's discretionary accruals. In response to this conceptual gap, other alternative explanations for earnings management have also been offered in the literature. Following its emergence as an explanatory model for earnings management (signal theory-Positive accounting theory-Agency theory-Stakeholder theory) became an appealing proposition as a rationale for earning management. From these theories we will find other factors that can explain the earnings management, such as the firm size, leverage, firm performance, the MTB and the firm age (Control variables).

3.1 Hypotheses development: CEO characteristics

3.1.1 CEO age and tenure. Several studies (Charreaux, 1997; Paquerot, 1997) have focused on the age and the tenure of CEOs in their position. These two criteria are equivocal, but certainly interesting. Hambrick and Fukutomi (1991) argue the importance of the CEO's age, which is generally correlated with his/her tenure in the position, and which plays with his/her risk aversion, time horizon and career aspirations. However, in recent decades, the age and tenure of CEOs have become increasingly separate (Ammari *et al.*, 2016). Indeed, these two criteria have a positive link with the creation of value for the company. In addition, the entrenchment of the CEO is based on his two criteria for achieving these priorities (Ammari *et al.*, 2016). According to Barker and Mueller (2002), the age of the CEO is a necessary quality to identify his sociological aspect. A study by Huang *et al.* (2012) shows that there is a relationship between the age of a CEO and the quality of financial reporting. Using a 2012 sample of 30,476 French firms, Belot and Serve (2018) find that a CEO's age is negatively correlated with the magnitude of discretionary accruals. Ali and Zhang (2015) agree with this result concerning the significant and negative relation between CEO age and earnings management. The study of Hambrick and Mason (1984) argues that younger CEOs contribute to the growth and development of the business more than older CEOs. In addition, the upper echelons theory (Hambrick and Mason, 1984) suggests that the personal characteristics of the CEO can affect the decision-making process. According to this theory, we expect a relationship between the CEO's age and earnings management practices. Studies by Dechow and Sloan (1991) and Davidson *et al.* (2007) point to an increase in earnings management by CEOs approaching retirement, while the study of Matta and Beamish (2008) has shown that when managers approach retirement age, they become more risk-averse. A CEO with a long tenure could have more experience, which allows him to provide the directors with important information about the company and its commercial environment (Cai and Sevilir, 2012). The tenure of the CEO has been studied by several researchers (Hambrick and Fukutomi, 1991). The oldest CEOs are characterized by having a long duration of experience and having accumulated significant knowledge concerning the smooth running of the company (Bergh, 2001). A long-term manager in the company benefits from several advantages to achieve his entrenchment strategy. Over time, he is more able to build relationships with the various partners of the company, expand his knowledge and stabilize his bargaining power. Ghosh and Moon (2005) argue that CEOs with longer tenure are more likely to use their power to manipulate the accounting results. In

addition, [Ali and Zhang \(2015\)](#) document a non-linear relationship between CEO tenure and earnings management and found that CEOs exaggerate the earnings management at the beginning of their mandate until the end of the term. [Deng et al. \(2018\)](#) show a negative relationship between CEO tenure and earnings management. Based on the above arguments, we propose the following:

H1.a. CEO age negatively affects earnings management practices.

H1.b. CEO tenure positively affects earnings management practices.

3.1.2 CEO duality and earnings management. CEO duality is the practice of a single person holding the position of both the CEO and the Chairperson of the Board ([Rechner and Dalton, 1991](#)). For the past two decades, CEO duality has been of interest to many researchers and academics ([Dalton et al., 1998](#); [Peng et al., 2007](#)). Studies of [Krause and Semadeni \(2013\)](#) show that the separation of chief executive and chairman positions is more efficient for firms. [Baker et al. \(2018\)](#) prove that earnings management is higher in companies with CEO duality and that the separation of roles prevents the use of accrual earnings management. According to the agency theory, the CEO duality facilitates the CEOs entrenchment behavior and weaken the general responsibilities of the board of directors ([Mallette and Fowler, 1992](#); [Finkelstein and D'Aveni, 1994](#); [Krause et al., 2014](#)). In coherence with agency theory, the results of [Worrell et al. \(1997\)](#) affirm a negative relationship between CEO duality and firm performance. Recently, [Sandhu and Singh \(2019\)](#) explored the posit of impact of CEO duality on the level of corporate internet reporting practices. In contrast, the stewardship theory suggests that the CEO duality facilitates accountability of decision making ([Donaldson and Davis, 1991](#); [Boyd, 1995](#)). The findings of [Al-Sraheen and Alkhatib \(2016\)](#) and [Triki Damak \(2018\)](#) suggest the existence of a positive and significant association between CEO duality and discretionary accruals. However, [Lakhali \(2005\)](#) has shown a negative relationship between CEO duality and earnings management. When the CEO also assumes the role of Chairman of the Board, this gives him a prominent place in the governance structure ([Godard and Schatt, 2005](#)) and allows him to take entrenchment easily ([Finkelstein and D'Aveni, 1994](#); [Godard and Schatt, 2005](#)). In this case, an empirical study carried out on 100 Vietnamese firms argues that the separation of the functions of CEO and director is more effective for organizations ([Krause and Semadeni, 2013](#)) and makes it possible to limit the scale of the earnings management ([Pham et al., 2015](#)). Accordingly, we propose the following hypothesis:

H2. CEO duality positively affects earnings management practices

3.1.3 CEO board membership and earnings management. The CEO board membership is when a person is both director and a board member. The CEO is then able to create friendships with other board members. The CEO board member has more power *vis-à-vis* the board and the organization because of his authority over all aspects of the organization's operations ([Yang et al., 2018](#)). According to [Bebchuk and Fried \(2006\)](#), CEO has an important effect over their board that can be used to obtain excessive compensation. On the other side, other directors have little incentives to reduce the CEO's compensation. [Xie et al. \(2003\)](#) advance that the CEO's board membership is not related to current discretionary accruals. [Adams et al. \(2005\)](#) argue that the CEO as board member influences decision-making. In addition, this can weaken the monitoring function of the board. However, [Yang and Zhao \(2014\)](#) argue that this duality (CEO board membership) provides relevant business benefits by improving the acquisition and transmission of information and facilitating faster decision-making. To be a CEO and a board member at the same time is greater assurance

that both the board and/or management do not challenge or constrain innovative projects (Daily and Dalton, 1993). Conversely, when the CEO is not a member of the board, he will have reduced contact with the board, which will limit the opportunities for optimizing social connections that can lead to personal benefits. Hence, the following hypothesis:

H3. CEO board membership positively affects earnings management practices.

3.1.4 CEO gender and earnings management. Following the 2008 financial scandals, gender diversity in the main positions of the company has received particular attention over the last decade (Lakhal *et al.*, 2015). Studies by Barua *et al.* (2010) suggest that women generally exhibit a higher level of ethical behavior than men. The work of Krishnan and Park (2005) seek to make a comparison between firms run by a male CEO and those led by a female CEO. The result of this research finds that male managers have the capacity to manage the firms as correctly as female managers. This idea is also confirmed by the studies by Cheng *et al.* (2010). Comparing women CEOs with men CEOs, Faccio *et al.* (2016) document that female CEOs tend to avoid riskier investment and financing opportunities. This idea aligns with (Johnson and Powell, 1994; Powell and Ansic, 1997; Jianakoplos and Bernasek, 1998; Byrnes *et al.*, 1999; Schubert, 2006) which argue that CEO females are more conservative and risk averse than men. As a result, firms with female CEOs are characterized by less leveraged and volatile earnings. According to Brennan and McCafferty (1997), female executives are better suited to understanding the needs of clients, make more ethical decisions in their jobs than men and are less likely to manage the accounting results (Gavious *et al.*, 2012). In addition, according with the organizational theory, the presence of women in firms is associated with better organizational performance. In fact, women make more rational decisions than men (Gul *et al.*, 2011). In French, Hili and Affess (2012) found no association between CEO gender and earnings management. Also, Peni and Vahamma (2010) and Soares *et al.* (2018) agree with this result, and they argue that there is a non-linear relationship between gender diversity and earnings management. However, using a sample of French firms listed on Euronext Paris during the period 2001-2010, Gull *et al.* (2018) find that female directors and earnings management are negatively associated. Based on the organizational theory and the above arguments, we propose the following:

H4. The presence of female CEOs negatively affects earnings management practices.

3.1.5 CEO compensation and earnings management. The study of the impact of remuneration on the quality of earnings management is motivated by several studies, such as Healy (1985) and Balsam (1998). According to Carter *et al.* (2003), agency theory argues that higher compensation helps to reduce agency problems. In addition, Smith and Watts, 1982; Datar *et al.*, 2001) show that according to the agency theory, the structure of CEO compensation contracts can help align their incentives with those of the owners. According with (Watts and Zimmerman, 1986) a positive accounting theory has shown that CEO's with a profit-based compensation system are incited to use procedures that will increase current profits. The policy of executive compensation is one of the important factors for the success of the company (Fama, 1980). The relationship between discretionary accruals and executive compensation varies according to the circumstances of the firms (Balsam, 1998). Indeed, two circumstances of the company must be studied, namely: the manager of the company uses exceptionally high (low) discretionary accruals to increase (decrease) the income. In the second circumstance, discretionary accruals are used to smooth income. According to Shuto (2007), US firms' CEOs are committed to managing results to maximize their premiums. Uygur (2013) shows that base pay (remuneration de base) is negatively related to earnings

management, while compensation premiums (prime de remuneration) and earnings management are not linked. [Cella et al. \(2017\)](#) argue the negative correlation between compensation and earnings management. [Sun \(2014\)](#) views executive compensation as a central contributor to the practice of earnings management. [Dechow et al. \(2010\)](#) show that compensation is as sensitive to highly discretionary. The relationship between earnings management and CEO compensation depends on whether these two variables exceed their respective thresholds ([Li et al., 2016](#)). According to the discussion above, the paper proposes the following hypothesis:

H5. Total CEO compensation positively affects earnings management practices.

3.1.6 CEO turnover and earnings management. In France, there are few studies on changes in management (CEO) within the company. A CEO who has reached or passed retirement age is more likely to be replaced by another younger person who is not yet at that age. According to upper echelons theory, ([Dooley and Fryxell, 1999](#); [Hambrick et al., 1996](#); [Hambrick and Mason, 1984](#)) argue that rotation is not exclusive to the company CEO but its entire management team, that shapes strategic decisions. [Murphy and Zimmerman \(1993\)](#) argue that the replacement of CEO and discretionary accruals are negatively correlated. [Hazarika et al. \(2012\)](#) argue that forced CEO turnover is positively related to earnings management. These changes have implications for companies' accounting policies, including the CEO incitation to manage the accounting result ([Wells, 2002](#)). [Huson et al. \(2001\)](#) argue that this governance mechanism is very important in terms of leadership discipline and efficiency improvement. CEO replacement is a particularly rich context for results management ([Choi et al., 2014](#)). According to [Choi et al. \(2014\)](#), earnings management and CEO turnover are likely to be associated with poor firm performance. Indeed, newly recruited directors are more likely to decrease the result management especially during the first year. Given the discussion above, our hypothesis is as follows:

H6. CEO turnover negatively affects earnings management practices.

3.1.7 CEO expertise and earnings management. CEO experience is a very important contextual factor ([Gounopoulos and Pham, 2018](#)). According to [Fredrickson \(1985\)](#), the decision processes of experienced CEOs clearly differ from those used by inexperienced CEO's. In fact, experience enables CEO's to take more successful decisions compared to the less experienced executives. The CEO's with less experience are more "naive" and did not yet have the benefit of a knowledge base developed that allows them to make adequate decisions. This means that, CEOs with financial experience are less likely to manipulate earnings than CEOs without experience. According to the upper echelons theory ([Hambrick and Mason, 1984](#)), previous study examines whether the CEO's operating and reporting decisions are influenced by personal characteristics such as age, financial and legal expertise ([Bamber et al., 2010a, 2010b](#); [Dyregang et al., 2010](#); [Chyz, 2013](#); [Call et al., 2017](#)). [Alderfer \(1986\)](#) suggests that CEO's with little experience have limited effectiveness because it takes time to understanding of the firm. However, managers with extensive experience are not associated with significant performance. [Matsunaga and Yeung \(2008\)](#) find that the expertise of the company's manager affects the company's discretionary accruals. [Jiang et al. \(2013\)](#) indicated that financially experienced CEOs are less inclined toward actual earnings management. The results of [Zouari et al. \(2012\)](#) show a positive relationship between CEO expertise and earnings management. In the same way, [Baatwah et al. \(2015\)](#) prove the positive relationship between CEO expertise and earnings management. This leads us to hypothesize the following hypothesis:

H7. CEO expertise positively affects earnings management practices.

3.1.8 CEO nationality and earnings management. Different nationalities can mean different business cultures (Jönsson and Tarukoski, 2017). It may be more difficult for a new CEO with a different nationality to adapt her entrepreneurial attitude than for a CEO with the same nationality. Huang (2013) examines the impact of CEO nationality and company's performance. The results show that there is no correlation between the manager's nationality and the company's performance. Accordingly, we propose the following hypothesis:

H8. The French CEO are more engaged in earnings management than CEO's with other nationality.

3.2 Explication alternative: control variables

Consistent with prior literature, CEO characteristics are not the only determinant for earnings management, we add several firms-specific characteristics in our regression models (Watts and Zimmerman, 1978; DeFond and Jiambalvo, 1994; Hambrick and Mason, 1984; Jensen and Meckling, 1976). In the extant literature we also undertake to analyze the following variables:

3.2.1 Firm size and earnings management. The relationship between firm size and earnings management remains ambiguous (Sellami and Slimi, 2016). In addition, firm size it's essential to affects the quality of reported information.

The size of the company varies, that's why the results of the studies which relate to the relation between the size of the companies and the quality of the financial communication measured by the discretionary accruals are numerous. The studies of Rangan (1998), Dechow and Skinner (2000); Barton and Simko (2002) find that larger firms use the accounting manipulation more than the other firms. Kim *et al.* (2003), Chandra and Wimelda (2018) argue a negative relation between firm size and earnings Management. Compared to small-sized firms, large-sized firms (characterized by a stronger internal control system and competent internal auditors). In addition, larger firms generally have more sophisticated internal control systems than small firms, which reduces the likelihood of earnings management (Zouari *et al.*, 2012).

3.2.2 Firm financial leverage and earnings management. The debt of the company can have an ambiguous effect on the earnings management. The association between financial leverage and discretionary accruals has been reported by many researchers (Zouari *et al.*, 2012). In addition, Jiang *et al.* (2008) find a negative relationship between debt and earnings management. However, Chandra and Wimelda (2018) document that Leverage has a positive effect on earnings management.

3.2.3 Return on assets (ROAs) and earnings management. This ratio is used to control the accounting performance of the company. Dechow and Dichev (2002) find that the earnings management quality is lower for companies with higher ROA. In Keeping with this finding, Barua *et al.* (2010), Alzoubi (2018) document a negative association between ROA and discretionary accruals. While Lopes (2018) finds that discretionary accruals is significantly and positively correlated with firm performance. This measure of performance may be influenced by the accounting manipulations made by the CEO. It shows how the firm is able to generate earnings with its available assets.

3.2.4 *Market to book and earnings management.* This ratio is used to evaluate the financial performance of the company as well as the growth opportunities of the firm. Specifically, [Menon and Williams \(2004\)](#), [El Guindy and Basuony \(2018\)](#) show that the absolute value of discretionary accruals is positively associated with the Market To Book ratio.

3.2.5 *Firm age and earnings management.* Older companies can improve their financial reporting practices over time ([Alsaeed, 2006](#)) and improve their reputation and image in the market ([Akhtaruddin, 2005](#)). Based on previous research, older firms tend to have a low level of earnings management than newly created firms ([Bassiouny, 2016](#)). [Liu et al. \(2018\)](#) find a negative relationship between firm age and earnings management ([Figure 1](#)).

4. Research methodology

This section is devoted to describing the study applied sample, tools as well as data collection procedures, variables measurement, empirical model and research design.

4.1 Data collection and sample selection

Our sample includes French firms listed on the CAC ALL shares index from 2006 to 2015. We have excluded financial companies since their atypical behavior in financial reporting, firms with an insufficient annual report and firms with insufficient data about the CEO. Our final sample includes 151 companies over 10 years. Data related to CEO characteristics were hand-collected from annual reports downloaded from the www.boursier.com/indices and the site Zone bourse website. Financial data were gathered from the Datastream ([Tables I](#)).

The companies in the sample belong to several sectors of activity. The following [Table II](#) gives an idea of the number of companies by sector.

4.2 Variable measurement

4.2.1 *Measuring the dependent variable: earnings management.* In this paper, earnings management is evaluated by discretionary accruals. The present literature relies on

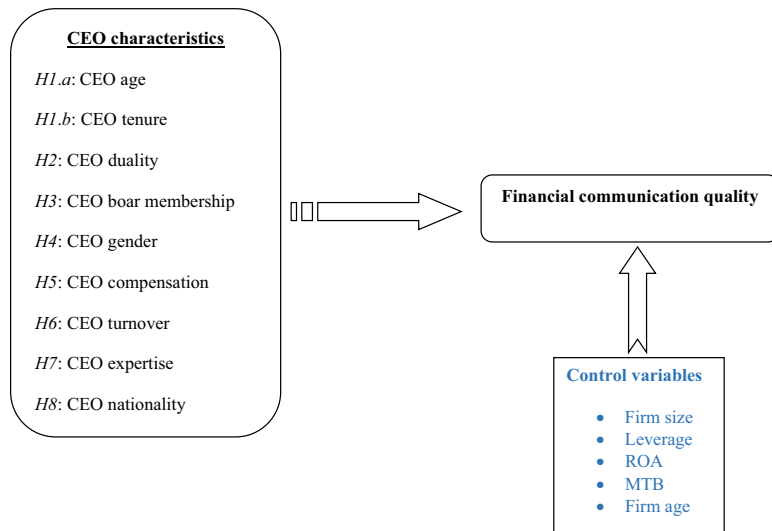


Figure 1.
CEO characteristics
and earnings
management

discretionary accruals to detect such a practice. The difference between earnings management and fraud is very fine that's why it must be clearly identified. [Schipper \(1989\)](#) defines earnings management by observing that 'earnings management [...] mean[s] "disclosure management" in the sense of a purposeful intervention in the external financial reporting process, with a view to obtaining private gain for shareholders or managers". On the other side, the US National Commission on Fraudulent Financial Reporting (1987) defines fraud as an "intentional or reckless conduct, whether by act or omission, that results in materially misleading financial statements." ([Rocco, 1998](#)). In this way, [Brown \(1999\)](#), [Erickson et al. \(2006\)](#) says that earnings management is normally within the scope of GAAP, but the fraud is outside the GAAP boundaries. Despite the difference in terms of these two concepts, the goal remains the same.

Several definitions are provided on result management. [Ronen and Yaari \(2008\)](#) defined earnings management as "a collection of managerial decisions that result in not reporting the true short-term, value-maximizing earnings as known to management". [Healy and Wahlen \(1999\)](#) specified that

Earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers.

Previous research studies provide evidence that managers managed earnings for many reasons ([Baker et al., 2009](#); [DeFond and Jiambalvo, 1994](#); [Healy and Wahlen, 1999](#)).

Description	No. of companies
Initial sample listed on the CAC ALLShares index	335
Financial firms	(40)
Firms with insufficient annual report	(89)
Firms within sufficient data	(55)
Final sample	151
Duration study	10
Total observations	1510

Table I.
Sample selection
procedure

Sector	Observation
Industrial sector	
Construction material	6
Various industries	55
Total industrial firms	61
Commercial sector	
Total commercial firms	23
Service sector	
Computer service and consulting	16
Construction and Mining	6
Transport, communication, gas	12
Various service	33
Total service firms	67
Total firms	151

Table II.
Distribution of the
sample according to
sectors' type

The absence of earnings management in financial communication reflects a faithful image of the financial situation of the company and creates a positive image which leads to a robust economy and motivates to invest. Integrity and reliability generate trust which is the most important feature to facilitate investment.

In consistency with several previously-elaborated studies, estimates of discretionary current accruals (lagged by total assets) serve as a proxy for earnings management (Cohen and Zarowin, 2010; Gong *et al.*, 2008; Higgins, 2013; Louis, 2004; Teoh *et al.*, 1998).

More specifically, we use a cross-sectional model of accruals proposed by Dechow *et al.* (1995), Kothari *et al.* (2005), Raman and Shahrur (2008) to estimate discretionary accruals and to enhance the robustness of our results.

Modified Jones model: Dechow, Sloan and Sweeney (1995)

$$TA_{it}/A_{it-1} = \beta_0(1/A_{it-1}) + \beta_1((\Delta REV_{it} - \Delta REC_{it})/A_{it-1}) + \beta_2(PPE_{it}/A_{it-1}) + \varepsilon_{it}.$$

where, for fiscal year t and firm i , TA represents the total accruals defined as the difference between earnings and operating cash flows, A_{it-1} represents the total assets in $t-1$, ΔREV_{it} is the change in revenues from the preceding year ($REV_t - REV_{t-1}$), ΔREC_{it} is the change in net accounts receivables from the preceding year ($REV_t - REV_{t-1}$), and PPE it stands for the gross value of property, plant and equipment.

Model of Kothari et al. (2005)

$$TA_{it}/A_{it-1} = \beta_0(1/A_{it-1}) + \beta_1((\Delta REV_{it} - \Delta REC_{it})/A_{it-1}) + \beta_2(PPE_{it}/A_{it-1}) + \beta_2ROA + \varepsilon_{it}.$$

where ROA it represents the return on assets of firm i in year t .

Model of Raman and Shahrur (2008)

$$TA_{it}/A_{it-1} = \beta_0(1/A_{it-1}) + \beta_1((\Delta REV_{it} - \Delta REC_{it})/A_{it-1}) + \beta_2(PPE_{it}/A_{it-1}) + \beta_2ROA + \beta_3BTM + \varepsilon_{it}.$$

where BM it represents the book-to-market ratio of firm i in year t .

It should be noted that non-discretionary charges refer to adjusted values derived from the models above, while discretionary charges are defined as residuals.

4.2.2 Measuring the independent variables: CEO characteristics. For the sake of exploring the impact of CEO characteristics on earnings management, we undertake to classify the CEO characteristics into two groups, namely the dummy variables versus the continuous ones. Hence the following measures have also been applied to our case study:

- *CEO age (AGE):* we measure the age of the CEO by the logarithm of the age of CEO.
- *CEO tenure (TEN):* we measure the tenure of CEO as the number of years the CEO has served in the position.
- *CEO duality (DUAL):* we measure CEO duality as a dummy variable which takes the value 1 if the two positions are combined (duality), and zero when the two positions are separated.

- *CEO, board membership (MEMB)*: we measure CEO as a dummy variable which takes 1 if the CEO is a member of the board of director and 0 otherwise.
- *CEO gender (GEN)*: we measure CEO gender as a dummy variable which takes 1 if the CEO is a female and zero for a CEO male.
- *CEO compensation (COMP)*: we measure the compensation CEO by the total of the compensation of the CEO.
- *CEO turnover (TURN)*: we measure CEO turnover as a dummy variable which takes 1 if the identity of the CEO change during the fiscal year and 0 otherwise.
- *CEO expertise (EXPER)*: we measure CEO expertise as a dummy variable which takes 1 if the CEO holds (or used to) one of the top senior positions within other firms (CEO-chairman, CEO, COO, CFO, and President), and 0 otherwise.
- *CEO nationality (NATI)*: we measure CEO nationality as a dummy variable which takes 1 for the nationality in question and 0 otherwise.

4.2.3 Measuring the control variables: company characteristics

- *Firm size (SIZE)*: we measure the firm size by the logarithm of total assets.
- *Leverage (LEV)*: we measure firm leverage by the ratio of liabilities and total assets.
- *Firm performance (ROA)*: we measure firm performance by the ratio of net income and total assets in year t.
- *Market To Book (MTB)*: we measure Market To Book as total of the market capitalization and the total debt to the book value of the total assets.
- *Firm age (AGE)*: we measure firm age as the number of years of existence of the company since its creation.

4.3 Model design

We use a panel regression analysis of a sample of 151 firms listed on the French CACALL index for ten years (2006-2015). Our model which testing research hypotheses formulated is as follows:

$$\begin{aligned} |DA|_{i,t} = & \beta_0 + \beta_1(AGD\ it) + \beta_2(TEN\ it) + \beta_3(DUAL\ it) + \beta_4(MEMB\ it) \\ & + \beta_5(GEND\ it) + \beta_6(COMP\ it) + \beta_7(TURN\ it) + \beta_8(EXPER\ it) \\ & + \beta_9(NATI\ it) + \beta_{10}(SIZE\ it) + \beta_{11}(LEVER\ it) + \beta_{12}(ROA\ it) \\ & + \beta_{13}(MTB\ it) + \beta_{14}(AGE\ it) + \epsilon\ it. \end{aligned}$$

DA: discretionary accruals estimated using three models: Jones modified (1995), [Kothari et al. \(2005\)](#) and [Raman and Shahrur \(2008\)](#).

where the dependent variable takes the firm of absolute value of discretionary accruals in year t $|DA|$; is our measurement of earnings management in the current year, and the independent variables are, CEO age (AGD), CEO tenure (TEN), CEO duality (DUAL), CEO board membership (MEMB), CEO gender (GEND), CEO compensation (COMP), CEO turnover (TURN), CEO expertise (EXPER), CEO nationality (NATI), firm size (SIZE), firm leverage (LEV), Return on equity (ROA), Market To Book (MTB), firm age (AGE). These variables are defined in [Table III](#).

Table III.
Summary of
variables definitions

Variable	Definition	Measure	Authors
<i>Dependent variable</i>			
DA1	Discretionary accruals using Jones modified (1995) model	Absolute value of residuals estimated using Jones modified (1995) model	
DA2	Discretionary accruals using Kothari <i>et al.</i> (2005) model	Absolute value of residuals estimated using Kothari <i>et al.</i> (2005)	
DA3	Discretionary accruals using Raman and Shahrur (2008) model	Absolute value of residuals estimated using and Shahrur (2008)	
<i>Independent variables</i>			
AGD	CEO AGE	The logarithm of the CEO's age	Cornett <i>et al.</i> (2008), Lin <i>et al.</i> (2014); Belot and Serve (2018)
ACD	CEO tenure	The number of years since the appointment of the officer in the management position of the current company	Bebchuk <i>et al.</i> (2009), Hu <i>et al.</i> (2015)
DUAL	CEO duality	Dummy variable equal to 1 if the CEO is also the chairperson of the board and 0 otherwise	Wang <i>et al.</i> (2019)
MEMB	CEO board membership	Dummy variable equal to 1 if a CEO sits on the board of directors and 0 otherwise	Li and Roberts (2017)
GEN	CEO gender	Dummy variable that equals 1 if the CEO is a woman, and zero otherwise	Yasser (2012); Arun <i>et al.</i> (2015)
COMP	CEO compensation	The logarithm of total executive compensation	Price <i>et al.</i> (2015)
TURN	CEO turnover	Dummy variable which equal to 1 if the identity of the general manager changes and 0 otherwise	Paquerot (1997), Cooper (2017)
EXPER	CEO expertise	Dummy variable equal to 1 if the CEO holds one of the top senior positions within other firms (CEO-chairman, CEO, COO, CFO and President), and zero otherwise	Zouari <i>et al.</i> (2012)
NATI	CEO nationality	Dummy variable equal to 1 if the CEO has a French nationality and 0 otherwise	Huang (2013)

(continued)

<i>Control variables</i>			
SIZE	Firm size	Log of firm's total assets	Boone <i>et al.</i> (2010), Lopes (2018)
LEV	Firm leverage	Ratio of total liabilities to total assets	Triki Damak (2018)
ROA	Firm performance	Ratio of net income to total assets in year t	El Guindy and Basuony (2018)
MTB	Market to Book	Total of the market capitalization and the total debt to the book value of the total assets	Yasar (2013), Alzoubi (2018)
AGE	Firm age	The number of years of existence of the company since its creation	Muttakin <i>et al.</i> (2017)

Table III.

5. Empirical results and discussion

This study focuses on discretionary accruals as the way to manage earnings using three models: Jones modified (1995), Kothari *et al.* (2005) and Raman and Shahrur (2008).

The analysis will start by the descriptive statistics, followed by the correlation analysis and then the results of the regression analysis are shown and discussed to see whether the hypotheses are validated or not.

5.1 Descriptive statistics

Table IV presents a summary statistics for test variables used in our regression. Panel A of Table IV presents the descriptive statistics of the continuous variables in the discretionary accruals models (the mean value, the median, the standard error, and the maximum and minimum value) and Panel B of Table IV presents the descriptive statistics of the dichotomous and continuous variables for the firms in our sample:

Table IV Panel A shows the descriptive analysis; the minimum earnings management, according to the modified Jones model (1995), Kothari *et al.* (2005) and Raman and Shahrur (2008) is 0.000, and the maximum values are 8.452, 1.954 and 8.381 respectively, indicating a

Panel A: Summary statistics for continuous variables

Variable	N	Mean	SD	Minimum	Maximum	Median
Independent variable						
Jones modified (1995)	1510	0.084	0.253	0.000	8.452742	0.039
Kothari <i>et al.</i> (2005)	1510	0.067	0.112	0.000	1.954842	0.040
Raman and Shahrur (2008)	1510	0.084	0.252	0.000	8.381227	0.038
AGD	1510	54.104	8.065	23	78	54
ACD	1510	8.676	8.740	0	46	6
COMP	1507	966.789	988.557	50.000	5 647 963	523.378
Control variable						
SIZE	1510	1.02e + 07	2.74e + 07	3600	2.76e + 08	891930
LEV	1510	0.267	0.646	0	21.750	0.215
MTB	1510	1.846	2.557	-16.66	49.38	1.465
ROA	1510	3.473	9.678	-160.680	46.650	4.258
AGE	1510	51.044	44.917	1	187	33

Panel B: Summary statistics for dichotomous variables

Variables	Modality	Frequency	(%)
DUAL	0	700	46.36
	1	810	53.64
TURN	0	1388	91.92
	1	122	8.08
GEN	0	1453	96.23
	1	57	3.77
NATI	0	224	21.68
	1	809	78.32
EXPER	0	883	61.79
	1	546	38.21
MEMB	0	251	16.94
	1	1231	83.06

Notes: Where: in Panel A AGD is CEO age; ACD is CEO tenure, COMP is CEO compensation, SIZE is firm size, LEV is firm leverage, MTB is Market To Book ratio, ROA is return on assets, AGE is firm size; In Panel B: DUAL is CEO duality, TURN is CEO turnover, GEN is CEO gender, NATI is CEO nationality, EXPER is CEO expertise, MEMB is CEO board membership

Table IV.
Descriptive statistics

considerable dispersion in the rates; the mean values are 0.084, 0.067 and 0.084. In addition, the median values are 0.039, 0.040 and 0.038 with a standard deviation of 0.253, 0.112 and 0.252.

From panel A, the reached results demonstrate that CEO characteristics as age, tenure and compensation, respectively, own an average of 54.104, 8.676 and 966 789 of non-financial companies listed on the France Stock Exchange. Moving to the control variables, the results show that the average firm size for the sample is about $1,02e + 07$ with a minimum of 3600 and a maximum of $2,76e + 08$ and a standard deviation of $2,74e + 07$, the second independent variable which is the firms' financial leverage averaged to 27 per cent of the total assets which means that the average of the firms depend a little bit more on equity rather than debt and the third variable which MTB displays an average of 1.85 per cent. The sample firms are profitable with a mean ROA of 3.47 per cent. The average age for the sampled firms is 51.04 years, while the minimum firm age of the sample is 1 year and the maximum firm age is 187 years.

The descriptive statistics of dichotomous variables reported in Panel B of [Table IV](#) highlight that 53.64 per cent of the sample of French companies has their CEO who also acts as chairman, whereas only 46.36 per cent of the firms with separate roles. In addition, the mean value of gender is 3.77 per cent showing that the vast majority of sample firms appoint male CEOs. The percentage of 78.32 per cent presents the percentage of the firm CEO with French nationality and 21.68 per cent with other nationality. In addition, the results reported in Panel B of [Table IV](#) show that 38.21 per cent of the CEO-chairman of the French sample firms were, either managers of other firms or important decision agents in other companies while 61.79 per cent having no activity in other companies. Finally, 83.06 per cent of the CEO's are board membership and 16.94 per cent of the CEO are not members of the board of directors.

5.2 Correlation analysis

The correlation matrices, as depicted in [Table V](#), prove to illustrate the correlation coefficients as prevailing among the independent variables. The association between two continuous variables is assessed using Pearson correlation, between a continuous variable and a binary variable using point biserial correlation and between two binary variables using Phi correlation ([Welkowitz et al., 1991](#)). The correlation between independent variables should not exceed 0.8 to prove that there is no multicollinearity problem among the variables. As shown in [Table V](#), the highest correlation is between CEO compensation variable and the firm size variable with the amount of 0.7131 and this shows that there is no multicollinearity problem between the independent variables used in this research model, as it does not exceed the 0.8.

The Table also indicates that the variance inflation factors (VIFs), relevant to the entirety of our independent variables set, prove to be much lower than the 10-cutoff point, as set by [Greene \(2008\)](#). The findings show that the highest VIF value is 2.10. The multicollinearity is not likely to present an issue in the analysis.

The study also conducted normality test to test for the normal distribution of data ([Table VI](#)). In our study, we note that this normality is confirmed by the Skewness and Kurtosis statistics, which take probabilities of zero (Skewness is 0.2057) and (Kurtosis is 0.0646) Chi (2) is 0.1538 which is greater than 0.05 implying its significance at the 5 per cent level. Consequently, the null hypothesis cannot be rejected. Therefore, according to Skewness test for normality, residuals show normal distribution.

Table V.
Correlation matrix
and VIF coefficients

	AGD	ACD	DUAL	TURN	COMP	GEN	NATI	EXPER
AGD	1,0000							
ACD	0,2472(0,0000)	1,0000						
DUAL	0,1186(0,0001)	0,2838(0,0000)	1,0000					
TURN	-0,0736(0,0201)	-0,3759(0,0000)	-0,1368(0,0002)	1,0000				
COMP	0,1636(0,0000)	-0,0697(0,0364)	-0,0369(0,3074)	-0,0836(0,0018)	1,0000			
GEN	0,0325(0,3046)	0,0490(0,1223)	-0,0076(0,4632)	0,0308(0,3186)	0,1073(0,0007)	1,0000		
NATI	0,0486(0,1247)	-0,0263(0,2789)	-0,0304(0,4769)	0,0286(0,4274)	-0,0158(0,6786)	0,0696(0,0051)	1,0000	
EXPER	-0,0639(0,0437)	0,0669(0,0346)	0,1578(0,0000)	-0,0256(0,4528)	-0,1023(0,0012)	0,0472(0,2349)	-0,1547(0,0000)	1,0000
MEMB	-0,0476(0,4341)	-0,0736(0,0483)	-0,0386(0,4639)	0,0039(0,8246)	-0,1697(0,0000)	-0,0897(0,0362)	-0,1897(0,0000)	0,0367(0,3904)
SIZE	0,2627(0,0000)	-0,1758(0,0000)	-0,0914(0,0039)	0,0130(0,6817)	0,7139(0,0000)	0,0452(0,1574)	0,0574(0,3654)	-0,1896(0,0000)
LEV	0,0855(0,0069)	-0,0578(0,0683)	-0,0476(0,1278)	0,0348(0,4239)	-0,1023(0,0012)	-0,0863(0,0246)	0,0458(0,1872)	0,0587(0,0186)
ROA	-0,0917(0,0038)	-0,0343(0,2799)	-0,1896(0,0000)	-0,0347(0,3646)	0,1678(0,0000)	0,1248(0,0017)	0,0847(0,0273)	-0,1311(0,0000)
MTB	-0,0389(0,2200)	-0,1020(0,0013)	-0,1863(0,0000)	-0,0368(0,1841)	0,1946(0,0000)	0,0756(0,0012)	0,1864(0,0000)	-0,1871(0,0000)
AGE	0,2002(0,0000)	-0,0921(0,0036)	-0,1293(0,0000)	0,0483(0,1277)	0,2476(0,0000)	0,1027(0,0012)	-0,0611(0,0538)	-0,0493(0,1195)

(continued)

	MEMB	SIZE	LEV	ROA	MTB	AGE	VIF
AGD							1.26
ACD							1.33
DUAL							1.13
TURN							1.13
COMP							1.94
GEN							1.04
NATI							1.09
EXPER							1.07
MEMB	1,0000						1.11
SIZE	-0,0674(0,0369)	1,0000					2.10
LEV	0,0817(0,0046)	0,1698(0,0000)	1,0000				1.07
ROA	-0,0469(0,0746)	0,0219(0,4904)	-0,2350(0,0000)	1,0000			1.10
MTB	-0,0685(0,1873)	0,1504(0,0000)	-0,1743(0,0000)	0,4241(0,0000)	1,0000		1.05
AGE	-0,0714(0,0241)	0,3511(0,0000)	0,1649(0,0000)	0,1461(0,0000)	0,0159(0,6153)	1,0000	1.21

Empirical
evidence from
France

Table V.

5.3 Regression analyses results

In the baseline regression, we associate the level of earning management with the CEO variables. However, these results may be biased due to the endogenous matching between CEO characteristics and earnings management practices. In such cases, the causality can run from accrual management to CEO profile or vice versa.

We test for this possibility using the Wu–Hausman endogeneity test, the results of which (Table VII) lead us to conclude that the hypothesis of exogeneity cannot be rejected. They show that earning management has no effect on the profile of the CEO. We can also claim that our results are not motivated by a simultaneous relationship between these two variables.

In order to choose the appropriate panel estimation method, we conducted several tests of model specification. The homogeneity test of the constants is mandatory to determine whether the estimates will be achieved by the ordinary least squares (OLS) method or by using the panel data. Firstly, we run a test specification of individual effects. The result of the test shows an error probability of 0.000 for all the models. This allows us to reject the null hypothesis of no specific effects. The Fisher test answers this question perfectly. For the different models estimated, we find Fisher statistics higher than the critical values. Therefore, there are individual specific effects and the data used is panel data (Table VII). Then, we run the Hausman test which allows us to differentiate between random and fixed effects. What stands out from Table VII is that since the probability value of H_0 is less than 0.05 for the three models, the preference of the Fixed Effects Model is accepted and the Random Effects Model is rejected. Furthermore, we run the Breusch–Pagan test which indicates the presence of heteroscedasticity in all the models. The results showed in Table VII reveal the heteroscedasticity of the models (the Breush Pagan test appears to be noticeably significant at the 1 per cent level). All the chi-squared statistics are highly significant, hence suggesting the presence of heteroscedasticity issue in the model (It implies the presence of heteroscedasticity in the residuals), so that pooled OLS estimation is not recommended.

Besides the pesaran’s test, which is suitable for our data, shows the cross sectional dependence in all the models. Serial correlation in linear panel data models (random and fixed effects) can distort standard errors and reduces the efficiency of the results (Wooldridge, 2002). The hypothesis of the autocorrelation of errors is tested by the Wooldridge test.

The results show that heteroscedasticity and serial correlation are present in all cases. To conclude, the appropriate estimator when dealing with both Heteroskedastic error structures with cross sectional correlation and error autocorrelation is the feasible generalized least squares (FGLS).

- F-test provides a test of the pooled OLS model against the fixed effects model;
- the Hausman Test (the Hausman specification test);
- Breusch pagan test to check Heteroscedasticity;
- cross-sectional dependence in panels – Pesaran test;
- serial correlation is the Wooldridge test for autocorrelation in panel-data models; and
- Durbin–Wu–Hausman endogeneity test.

Table VI.
Test for normality

Variable	Observation	Pr (Skewness)	Pr (Kurtosis)	Sig.
Residu	1510	0,2057	0,0646	0,1538

Tests Models	Homogeneity test		Specification test		Heteroscedasticity		Cross sectional dependence		Serial correlation autocorrelation		Endogeneity test	
	Fisher test		Hausman test		Breush Pagan test		Pesaran test		Wooldridge test		Durbin—Wu-Hausman	
M1	5.864 (0,000)***		398,34 (0,000)***		727,78 (0,000)***		123,493 (0,000)***		818,279 (0,000)***		1.9260,154	
M2	6,082 (0,000)***		157,67 (0,000)***		2696,91 (0,000)***		136,963 (0,000)***		1666,143 (0,000)***		1.682 0,173	
M3	8,574 (0,000)***		384,38 (0,000)***		2122,366 (0,000)***		142,457 (0,000)***		1784,287 (0,000)***		0,831 0,467	

Table VII.
Econometric test

Table VIII reports the results of the discretionary-accruals regression on the explanatory variables. The adjusted R^2 for the first model (Jones modified 1995) and the third model (Raman and Shahrur, 2008) are close respectively, 10.01 per cent and 11.04 per cent. While in the model of Kothari *et al.* (2005) the adjusted R^2 is equals only to 32.38 per cent.

Testing H1.a, Table VIII presents that the relationship between the CEO age and earnings management is not significant at the level of 10 per cent using the three models to estimate discretionary accruals. This result is not similar to those found by Huang *et al.* (2012), Belot and Serve (2018) which agree the negative relationship between the CEO age and financial reporting with higher quality. This result is not agree with (Davidson *et al.*, 2007; Dechow and Sloan, 1991) which found that earnings management increase by CEOs approaching retirement and older CEOs are more likely to more incentive to manipulate accounting results. Our finding suggests that the CEO age does not have an impact on the earnings management for the three

Variables	Panel: CEO characteristics					
	Model (1)		Model (2)		Model (3)	
	Coefficient	<i>p</i> -value	Coefficient	<i>p</i> -value	Coefficient	<i>p</i> -value
<i>Independent variables</i>						
AGD	-0.0047	0.157	0.012	0.187	0.035	0.356
ACD	-0.0058	0.063*	-0.047	0.000***	-0.063	0.035**
DUAL	0.096	0.028**	0.087	0.000***	0.047	0.038**
MEMB	-0.017	0.348	-0.028	0.109	0.046	0.281
GEN	-0.028	0.117	-0.034	0.241	-0.018	0.038**
COMP	0.012	0.000***	-0.024	0.184	0.036	0.024**
TURN	0.012	0.252	-0.019	0.253	-0.017	0.759
EXPER	-0.028	0.141	-0.037	0.064*	-0.035	0.196
NATI	0.021	0.000***	0.046	0.052*	0.089	0.002***
<i>Control variables</i>						
SIZE	-0.027	0.000***	-0.0354	0.000***	-0.048	0.000***
LEVER	0.012	0.471	0.023	0.024**	0.074	0.394
MTB	0.014	0.018**	0.028	0.024**	0.074	0.142
ROA	0.004	0.429	0.014	0.000***	0.006	0.587
AGE FIRM	-0.001	0.052*	-0.005	0.000***	-0.008	0.005***
R-square	0.1001		0.3238		0.1104	
Prob>F	0.0000		0.0000		0.0000	
Wald χ^2	432.863		536.437		489.214	
Prob> χ^2	0.0000***		0.0000***		0.0000***	

Notes: Statistical significance: ***, **, * de note significance at the 1%, 5%, and 10% levels, respectively; The dependent variable is represented by discretionary accruals (DA). This variable is estimated via: the model of Dechow *et al.* (1995) is a model (1); the model of Kothari *et al.* (2005) is a model (2); the model of Raman and Shahrur, (2008) is a model (3). The explanatory variables are defined as follows: CEO age: The logarithm of the CEO's age; CEO tenure: The number of years since the appointment of the officer in the management position of the current company; CEO duality: Dummy variable equal to 1 if the CEO is also the chairperson of the board and 0 otherwise; CEO board membership: Dummy variable equal to 1 if the CEO is a member of the board of directors and 0 otherwise; CEO gender: Dummy variable that equals 1 if the CEO is a woman, and zero otherwise; CEO compensation: The logarithm of total executive compensation; CEO turnover: Dummy variable which equal to 1 if the identity of the general manager changes and 0 otherwise; CEO expertise: Dummy variable equal to 1 if the CEO holds one of the top senior positions within other firms (CEO-chairman, CEO, COO, CFO, and President), and zero otherwise; CEO nationality: Dummy variable equal to 1 if the CEO have a French nationality and 0 otherwise; Firm size: Log of firm's total assets; Firm leverage: Ratio of total liabilities to total assets; Firm performance: Net income divided by total assets in year *t*; Market to Book: Total of the market capitalization and the total debt to the book value of the assets; Firm age: The number of years of existence of the company since its creation

Table VIII.
Regression results
FGLS

models of regression. This means that no matter the age of the manager, it has no effect on the quality of the financial communication. The significant coefficient indicates that older CEOs are more likely to more incentive to manipulate accounting results.

In accordance with the *H1.b*, the multivariate-analysis results relevant to the three models show a negative and significant association between the discretionary accruals and the CEO tenure which aligns with [Deng et al. \(2018\)](#). These results are similar to those found by [Ghosh and Moon \(2005\)](#), [Ali and Zhang \(2015\)](#) which agree that CEO's manipulating the accounting results at the beginning of their mandate until the end of the term. A CEO with a long tenure are more serious to improve the situation of the company and contribute to the growth and development of the business than the younger CEO.As can be deduced, our achieved results provide strong evidence that CEO with cumul functions does have a significant and positive influence on earnings management using the three models. In support of *H2*, the result indicates that a CEO with double function is more likely to manipulate earnings. Indeed, this finding confirms with the research of [Adams et al. \(2005\)](#), [Liu and Jiraporn \(2010\)](#) and [Baker et al. \(2018\)](#) which predicts the positive relationship between CEO duality and the highest levels of accrual earnings management. This indicates well that a CEO with double function is more incited to manage earnings. The CEO duality allows the CEO to be more powerful. CEO with double function reduces the ability of administrators to monitor the director of the business which increases the agency problems and subsequently affects the board independence.

Testing *H3*, the model of Jones modified (1995), [Kothari et al. \(2005\)](#) and [Raman and Shahrur \(2008\)](#) presents an insignificant coefficient on CEO board membership at the level of 10 per cent. This result doesn't agree with [Yang et al. \(2018\)](#) which argue that the dual role of the CEO would reduce the risk of divided authority. These results corroborate with [Xie et al. \(2003\)](#) and agree that there is not relationship ship between CEO board membership and current discretionary accruals. Our finding indicates that CEO board membership has no effect on the quality of financial communication and the performance of the company's functions.

The relationship between CEO female and earnings management is negative as expected but not significant using the Jones modified (1995); [Kothari et al. \(2005\)](#) models to estimate discretionary accruals. These results are similar to those found by [Peni and Vähämaa \(2010\)](#); [Soares et al. \(2018\)](#) which argue that there is a nonlinear relationship between gender diversity and earnings management. While, the [Raman and Shahrur \(2008\)](#) model shows that the presence of women as a chair of the board is negatively and significantly affects earnings management at the level of 5 per cent. This result coincides with [Gavious et al. \(2012\)](#) and [Gull et al. \(2018\)](#) which found that firms with CEO female have less earnings management and income decreasing discretionary accruals. In a similar way, several previous studies prove many different characteristics between men and women and show that women are more likely to detect earnings manipulation and more cautious in their decision making to avoid litigation risk ([Lakhal et al., 2015](#)). Women are more ethical and more risk-averse than male managers, which leads to greater accounting conservatism in their businesses.

Testing *H5*, [Table VIII](#) presents evidence of positive and significant coefficient on CEO compensation for the two models (Jones modifies, 1995; [Raman and Shahrur, 2008](#)) at the level of 1 and 5 per cent. This coefficient agrees with the finding of [Sun \(2014\)](#) that CEO compensation as a central contributor to the practice of earnings management. In fact, the model of [Kothari et al. \(2005\)](#) presents an insignificant coefficient on CEO compensation at the level of 10 per cent. This result agrees that there is no relationship between CEO compensation and earnings management.

[Table VIII](#) shows that the relationship between CEO turnover and earnings management is not significant using three models to estimate discretionary accruals. This result does not

agree with [Choi et al. \(2014\)](#) which find that CEO's newly recruited is more likely to decrease the earnings management is especially during the first year.

The results depicted in [Table VIII](#) show well that the variable CEO experience does negatively and significantly influence the French companies of discretionary accruals using the model of [Kothari et al. \(2005\)](#). Indeed, this finding does not confirm with the research of [Hribar and Yang \(2010\)](#) and [Baatwah et al. \(2015\)](#) who say that CEO expertise has a positive effect on the discretionary accruals. In addition, a CEO with overconfidence affects his decisions to manage his earnings. However, the models of Jones modified (1995) and [Raman and Shahrur \(2008\)](#) show an insignificant relationship between CEO experience and the discretionary accruals. This result shows that whatever the CEO's experience has no effect on earnings management.

[Table VIII](#) shows that there is a positive and significant relationship between the CEO nationality and earnings management using the three models to estimate discretionary accruals. This finding suggests that was a French CEO motivated the earnings manipulation and the foreign nationality are less likely to manipulate the earnings. Our finding is not consistent with [Huang \(2013\)](#) which shows that the manager's nationality and the company's performance are not correlated. CEO with French nationality seeks to improve their situation whatever the means.

Among control variables, we notice that firm size and the age firm are significant for the 3 models regression.

[Table VIII](#) shows that firm size is negatively and significantly related to discretionary accruals at the level of 1 per cent for the three model regression. This result agrees with [Kim et al. \(2003\)](#) who argue a negative relation between firm size and earnings Management. Generally, if we compare larger firm and small firm, we notice that larger firm is less incentive to manage the accounting result ([Zouari et al., 2012](#)). Also, according to [Table VIII](#), we find that the leverage of the firm has positive but no significant coefficient in the regression of the model of Jones modified (1995) and [Raman and Shahrur \(2008\)](#). While for the [Kothari et al. \(2005\)](#), the leverage firm is positively and significantly related to discretionary accruals at the level of 5 per cent. This result is not consistent with the research of [Jiang et al. \(2008\)](#). However, our result aligns with [Chandra and Wimelda \(2018\)](#) which document that Leverage has a positive effect on earnings management. For the third control variable, MTB is positively and significantly related to discretionary accruals at the level of 5 per cent for the model of Jones modified (1995) and [Kothari et al. \(2005\)](#) which agree with [El Guindy and Basuony \(2018\)](#). In addition the same table shows a positive, but no significant relationship between both variables for the model of [Raman and Shahrur \(2008\)](#). The variable of firm performance is positively and significantly associated with discretionary accruals for the model of [Kothari et al. \(2005\)](#). This relationship is consistent with the results of [Kaszniak \(1999\)](#) but not align with [Barua et al. \(2010\)](#) who argue a negative association between ROA and discretionary accruals. The relationship between firm performance and earnings management is positive as expected, but no significant using the two models to estimate discretionary accruals respectively Jones modified (1995) and [Raman and Shahrur \(2008\)](#). Finally, we find that the size of the firm has negative and significant coefficient in the regression. This result agrees with [Bassiouny \(2016\)](#) which argue that older firms tend to have a low level of earnings management than newly created firms. Ultimately, we can state that the model 1 and 2 reached results do not confirm the empirical findings of model 3.

Our findings have implications both for theory and for practice. We have contributed to the debate about CEO characteristics and earnings management by investigating how a CEO's profile allows the CEO to manipulate the accounting results to improve his financial situation. Consistent with our prediction, the findings of the study indicate that there is a significant relationship between CEO characteristics and earnings management. For the CEO duality variable, our results indicate a positive relationship with the earnings

management. The results reported in this paper agree with previous results reported in [Al-Sraheen and Alkhatib \(2016\)](#) and [Triki Damak \(2018\)](#). The CEO nationality does significantly influence the earnings management. It is strongly recommended that the CEO places more emphasis on the quality of corporate governance and the characteristics of the board of directors and the audit committee in their economic decisions.

Consistent with agency theory, CEOs have objectives that diverge from those of shareholders and they are interested and risk-averse ([Serfling, 2014](#)). In this regard, our findings show that CEO tenure, CEO duality and nationality affect the quality of financial communication. Our findings show that female managers, managers who have greater experience and the managers with longer tenure are less likely to manipulate earnings, and at the same time, they have more power to improve the financial situation of a firm. In other words, independent managers cannot be affected by any characteristic to manipulate accounting results. Their goals are always to improve the financial position of the company as well as that of the other stakeholders.

6. Conclusion and policy recommendations

This study has been designed to examine theoretically and empirically the impact of CEO characteristics on quality of financial communication measured by earnings management by French-listed firms. The objectives of this paper are threefold: testing the impact of the nationality and the gender of the manager on the quality of financial communication. We use three models to evaluate earnings management to compare them with each other and find out which model gives the most important result. We work in the French context in addition to these two characteristics to enrich the profile of the manager. With reference to the evaluation model of earnings management as developed by [Dechow et al. \(1995\)](#), [Kothari et al. \(2005\)](#), [Raman and Shahrur \(2008\)](#), our elaborated work turns out to provide three major contributions to the relevant literature. Using a sample of 151 French-listed firms over the period 2006-2015, the empirical results show that the impact of a CEO's quantitative and qualitative characteristics on discretionary accruals are multiple. The result indicated that there is a positive and significant relationship between CEO nationality and quality of financial communication, while the CEO gender has an effect on the quality of financial communication only for the model of [Raman and Shahrur \(2008\)](#). The results obtained in our research process encourage us to imply the rules of good governance behavior in order to limit the opportunistic behavior of the manager. However, some limits are allocated to our paper. Of course, it should be noted that research constraints do not mean the research failure. The first limit is bound to the reduced size of our sample due to the non-availability of all necessary data for the period from 2006 to 2015. As for the second, it has to do with the measures relevant to some variables. In the third case, the complexity of collecting data on CEO profiles reduced the ability to study other behavioral biases and demographic traits. Therefore, future studies can be enriched if researchers could investigate the effect of other managerial traits on the CEO characteristics-earnings management relationship. The profile of the CEO may include other characteristics that may have an effect on the earnings management, such as religion, civil status, narcissism and many other characteristics that identify his profile. Further investigation must be conducted that includes all the French firms listed in the CAC ALL shares index in all the sectors, and including the financial companies, and make comparisons between the results of the sectors. In addition, we propose to take into consideration all French companies (listed and unlisted) and to use real earnings management as a measure of the quality of financial communication. This research has thrown up many questions that are in need of further investigation. Further work needs to be done to validate the effect of the CEO nationality.

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