Behavioral dominance of leaders: Performance impact study in listed companies FTSE100 in London

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C H R O N I C L E	A B S T R A C T
	The main objective of this research is to study the impact of the behavioral dominance of executives in listed companies regarding financial performance. Empirical tests were conducted on panel data from companies belonging to the FTSE 100 in London. To address this research issue, we analyzed the link between governance and the stock market in the first section. Then, based on financial theories we formulated a set of hypotheses related to the influence of compensation, the size of the board of directors, the presence of women and the independence of the board of directors on performance. The results of the empirical tests indicate that the importance of compensation had a positive effect on performance. Conversely, the empirical tests show that the size of the Board of Directors and the duality of function had negative effects on performance. Finally, the results of the tests on the behavioral dominance of executives are depending on the characteristics of the board's directors.

1. Introduction

Managers are the subject of numerous financial scandals concerning the granting of exorbitant remuneration. The 2000s saw a sharp increase in the bankruptcies of large groups. For example, the collapse of the Enron empire followed by WorldCom, leading Andersen into their downfall. Andersen, one of the big five, considered a reference in financial and accounting auditing, put an end to the American dream. The financial drifts have installed a loss of credibility in the publication of results and in the role of leaders in value creation. Performance sometimes at half-mast, however, coupled with ever-higher executive compensation, has fueled protests. In light of the above-mentioned findings, we have chosen to question the importance of the behavioral dominance of executives over corporate profitability. In particular, we wanted to focus on the executives of large listed companies (notably the FTSE100), as these have been the most contested and questioned in recent years regarding the compensation of their executive directors. We will also focus our research on the compensation of the most senior executive officers of these companies. This choice is explained by the key role played in strategic decision-making and in the creation of value that follows financial and economic performance. This institutional and cultural anchoring seems important and scientifically interesting. The United Kingdom is undergoing an important and already widely engaged transition from financial core capitalism to new forms of capitalism (Morin & Rigamontti, 2002). These are characterized by a greater dispersion of corporate capital and the growing influence of institutional and foreign investors, particularly under the impact of globalization on their sustainability. This is all the more important since little work has been done on this subject in a context other than the Anglo-Saxon (Alcouffe & Kuhn, 2004). While several studies have focused on the influence of behavioral dominance on

corporate performance, we have chosen to adopt a different perspective here. In particular, we wish to understand how behavioral dominance of managers is forming by studying its various variables. This research could shed some light on why behavioral dominance among managers has now disappeared and explain the underlying logic behind this phenomenon. Thus, we are determined to identify that the behavioral dominance of managers has an effect on the financial and economic performance of English companies listed on the FTSE100. Several theoretical fields have focused on the behavioral dominance of managers. We can contrast, in a caricatured way, two groups of theories that grant a passive or active role to executives in the formation of their remuneration and their relations with capital providers. The agency theory, which is the main theoretical anchor of our work, (Jensen & Meckling, 1976) is based on the hypothesis of the existence of conflicts of interest between the manager, an opportunist wishing to maximize his personal interest, and the shareholder wishing to optimize the financial profitability of his investments (Boyer, 2005). Agency theory approaches the shareholder-manager relationship from a contractual perspective (Fama & Jensen, 1983). Formalizing, by contract, the reciprocal obligations of the two parties makes it possible to frame the expected results, i.e. performance. However, since it is not possible to guarantee the total control over the managers, we note that the contracts are incomplete, thus allowing managers to exercise their discretionary power, particularly with regard to the amount of their remuneration. Control mechanisms should be activating to regulate the actions of executives (Williamson, 1985). In the presence of efficient control mechanisms, the manager's discretionary space would be reduced and shareholders would be protected from possible divergences of interest and forms of opportunism. However, practice and several empirical studies have highlighted the difficulties of maximum control of executives by shareholders and the reopening of space for them to exercise their freedom. The theory of managerial power has also been developed by the observation of the imperfect nature of managerial control mechanisms Bachmann et al. (2020).

This research aims to understand the determinants of executive compensation in listed English companies. Based on the questions raised by our theoretical framework, several research questions are posing. The theory of managerial power is also developing by the observation of the imperfect nature of managerial control mechanisms (Bebchuk & Fried, 2002). According to the theory of managerial power, behavioral dominance is part of agency problems and not a potential instrument for solving agency problems (Bebchuk & Fried, 2003) and rooting (Weil, 2014). On this subject, the rootedness theory shows how managers manage to make themselves irreplaceable in order to retain through substantial compensation. This is can be done by developing specific assets (Saito, 2019). In a complementary manner, the tournament theory (Chevance et al., 2020) reflects on the influence of competition between executives in setting their compensation, taking into account their personal characteristics and their comparative skills. This research aims to understand the determinants of executive compensation in listed English companies. From the questions posed by our theoretical framework, several research questions emerge. First, it is interesting to question the influence of company performance on executive compensation. This link is indeed of prime importance since its existence is questioned by the literature and by practitioners. Next, the effectiveness of the mechanisms of control of executives by shareholders, notably through internal governance mechanisms, will be investigating. The potentially concomitant influence of these elements and their links will also need to be understanding. Our research question will therefore be as follows:

Q1: What is the influence of the behavioral dominance of managers on the profitability of the company?

The answer to this research question will provide an interesting contribution to the existing literature and to practitioners. From a theoretical point of view, our research allows us to combine the influence of complementary theories, often mobilized separately, to understand the concept of managerial behavioral dominance in listed companies. Thus, the rest of this paper contains a review of the literature and the hypotheses, an empirical part and analysis of the results with econometric tests and ends with a conclusion.

2. Literature review and hypotheses

Governance theory presents the compensation policy of the director as a mechanism able to guide the behavior of the director in a desired direction. Jensen and Murphy (1976) were the first to study the sensitivity of executive compensation to company performance. According to Aghamohammadi et al. (1998), executive compensation can encourage and motivate managers to make decisions that maximize the value of the business and subsequently profitability (Broye & Moulin, 2010).

Hypothesis 1: *Executive compensation has a positive effect on performance.*

Inequalities in the performance of companies run by individuals of different genders may be due to the respective sectors in which their companies operate; these inequalities were discussed both by the theory of segmentation of the labor market and that of compensatory differences (Freeman, 2015).

Hypothesis 2: *Gender (male / female) has a positive influence on the performance of managers.*

Several studies have been conducted to highlight the relationship between the size of the board of directors and business performance, but the results are far from unanimous. The first trend considers that the relationship between the size of the board of directors and performance is negative. The larger the board of directors is, the less efficient it is, and the less efficient the

business. In this sense, studies in psychology show that smaller groups are better able to make good decisions. Companies whose board of directors is small, perform better than others do. The author, also, claims that small and capable boards are able to fire managers when the business becomes underperforming. Eisenberg et al. (1998) analyze a sample of Finnish small and medium-sized enterprises and find a negative relationship between the sizes of the board and performance. In the same vein, others consider duality as an obstacle to the role of the board since it makes it possible to weaken control by making administrators dependent on the manager and consequently a faulty control system makes it possible to encourage manager's expediency.

Hypothesis 3: *The duality of the functions of general manager and consulting management negatively affects the performance of the company.*

The board of directors, as an internal governance mechanism, has a main function related to the reduction of the discretionary power of the managers. Thus, subsequently manage the agency relationship between shareholders and managers as well as the various players in the company's activity. Its composition must therefore allow effective management of this relationship. Indeed, a scan of the main studies on the theme of the board of directors allowed us to identify several indicators associated with the effectiveness of the control exercised by this mechanism. This mainly concerns the independence of the directors serving on the board as well as the various committees of the board, the combination of the roles of chief executive officer and chair of the board, the size of the board of directors in accordance with the study.

Hypothesis 4: *The size of the board of directors negatively affects the performance of the company.*

Several studies have developed the importance of outside directors on the board of directors. Thanks to the relevance of their knowledge and their complementarities with the company, they play the role of independent management controllers. The significant presence of independent external directors reinforces the degree of autonomy of the control entities (Rosenstein & Wyatt, 1990; Byrd & Hickman, 1992; Morck & Nakamura, 1999; Kaplan & Minton, 1994). In this regard, the degree of independence of a board of directors is closely relating to its composition. However, a reading of the financial literature has enabled us to conclude that the link between the independence of the board and the effectiveness of control leads to contradictory conclusions. According to Charreaux and Pitol Belin (1990), as long as they can be appointed on the proposal of the managers, they are unable to question the skills or the choices of a manager who has selected them. Their neutrality thus has been biasing. In this perspective, Alexandre and Paquerot (2000) consider that "the cross participations in the boards of directors are also an excellent means to paralyze the critical spirit of the boards. This reciprocal exchange of services between managers does not promote the exercise of control and its efficiency. Consequently, the absence of a hierarchical or commercial link does not necessarily guarantee the independence of directors from managers". On the other hand, the discourses on the relationship of its members with performance are divergent. Some studies defend the hypothesis of an improvement in performance thanks to the presence of external directors (Rosenstein & Wyatt, 1990; Byrd & Hickman, 1992; Morck & Nakamura, 1999; Kaplan & Minton, 1994). Others, however, demonstrate the negative impact on performance. Yermack (1996) and Adams and Mehran (2003) conclude that increasing the percentage of independent directors does not improve business performance. We see, in this way, the strong ambiguity in the relationship between the composition of the board of directors and the performance of the firm. Should we, therefore, be a part of a logic agency regarding the weights of external people or deny their action on organizational performance?

Hypothesis 5: *The independence of the board of directors has a positive influence on the performance of companies.*

Industry: it is a variable control, which is, according to several empirical studies, their impact differs according to their impact with the other variables. Performance analysis is an important step in a sector study. In the spirit of the structuralism approach to industrial economics, performances are supposed to express the play of a set of variables relating to the structures of the sector and the behavior of its companies. This is why performance analysis is usually the last part of a sector study. In the "evolutionary" plan presented in Moati (2001), performance is the subject of the penultimate part of the study, before the analysis of the adaptation strategies which constitute the reactions of companies to performance.

Hypothesis 6: *The nature of activity has either a positive or a negative effect on company performance.*

Our study focuses on the analysis of executive shareholding and performance of English companies. Before presenting the data processing method adopted, it is important to operationalize the different concepts of executive shareholding and corporate performance in the United Kingdom.

3. Research methodology

In this section, we wish to explore the methodological approach, to present the results of the study and their interpretations. The hypotheses of the research, previously presented, will be verifying through multiple regressions. To do this, we will first present the sample selection and the source of data collection. Next, we will focus on the measurement of the variables and the presentation of the econometric models. Finally, we present the results and their interpretations.

3.1 Data collection and sample size

Thus, the sample selected in this study is extracted from the "FTSE100" database by examining the annual reports of each company. It is made up of 64 companies owned by the United Kingdom) during the period 2012-2017. The companies listed on the ftse100 exchange are from the banking and insurance sectors and several other industries.

Table 1

Description of the Business Sample

Initial sample ftse100	100	percentage
Excluded companies	36	36%
Final Sample	64	64%
Banking and Insurance	9	14%
Other sectors	55	86%
Total	64	100%

Source: Alexander et al. (2013)

3.2 Measuring variables

The main objectives of this chapter are to test whether the valuation model better reflects the economic and financial performance of the company. These will be carrying out through multiple regressions to test the relationships of the functional type between the dependent and independent variables.

3.3 Definition of the variables

- *ROE: Return On Equity:* Corresponds to the return of money brought by shareholders to the company. It quantifies the amount of profits made in (percentage) of the capital investment, and therefore the company's ability to remunerate shareholders.

$$ROE = \frac{Net\ income}{Equity}$$

- *ROA: Return On Assets:* it measures the ratio of Net Income to Total Assets in (percentage). It represents the company's ability to generate income using all of its resources.

$$ROA = \frac{Net\ Profit}{Assets}$$

The dependent variable is performance, Return on Equity (ROE) and Return on Asset (ROA).

3.4 Model presentation

The objective of this chapter is to examine the effect of executive compensation and other variables (gender, duality, board size, board independent, and industry) on the financial and economic profitability of companies in the United Kingdom ftse100. Our model aims to explain the dependent variable in this model, which is, the Return on Equity (ROE), as a function of Compensation, Gender, Duality, Board size, Independent Board and Industry. This model is representing as follows:

Return on equities

$$ROE_{it} = \beta_0 + \beta_1 CEORem_{it} + \beta_2 Gender_{it} + \beta_3 Duality_{it} + \beta_4 BSize_{it} + \beta_5 BIndep_{it} + \beta_{it} Industry_{it} + \varepsilon_{it} \quad (1)$$

Return on assets

$$ROA_{it} = \beta_0 + \beta_1 CEORem_{it} + \beta_2 Gender_{it} + \beta_3 Duality_{it} + \beta_4 BSize_{it} + \beta_5 BIndep_{it} + \beta_{it} Industry_{it} + \varepsilon_{it} \quad (2)$$

With:

ROA_{it} : the economic profitability of company i during 6 years of t

ROE_{it} : The financial profitability of company i for 6 years of t

CEORem: Remuneration of directors i for 6 years of t

Gender: Gender of company management (male/female)

Duality: dual functions of Chief Executive Officer and Chairman of the Board of Directors

BSize: Board size (total number of board members)

BIndep: number of independent members/total number of members on the Board of Directors Industry: The business sector (banking and insurance / other business sectors)

ε_{it} : Error term.

To test the above-mentioned hypotheses, we used two econometric models.

3. Results

3.1 Descriptive statistics

Descriptive statistics involve an exploratory analysis of the sample and research variables. Through this analysis, we will first determine the trend of each variable (uni-varied analysis). Table 2 summarizes the trend of each variable of the economic performance model. From these outputs we can retain that the average, min and max values of the dependent variables are (0.16), (-0.11) and (0.37) during the period (2012-2017), respectively. The average value of the Executive Compensation variable has a value of 587673.6 and the min and max values are respectively between 80,000 and 136, 66448. For the Gender variable, the average is equal to 0.29. The min and max values have increased, respectively, from 0.09 to 0.6. As for the control variable, i.e. the company's sector of activity, the average is equal to 0.13, means that almost 13% of these listed companies are in banking and insurance, and the min and max values are between 0 and 1 respectively.

Table 2
Descriptive statistics and parametric tests M1 model

Variable	N	Mean	MIN	MAX	Std. dev
ROE	384	0.1695485	-0.11	0.3781	0.0820636
ROA	384	0.0686643	-0.16	0.27	0.051947
CERem	384	587673.6	80000	1366448	276092.9
Gender	384	0.2981552	0.0911	0.6	0.0864821
Duality	384	0.2161458	0	1	0.4121519
B sise	384	11.23177	7	19	2.058145
B indep	384	0.5349089	0.1666	0.889	0.1700472
Industry	384	0.1354167	0	1	0.3426145

Source: Output of STATA

3.2 Correlation Analysis: Bivariate Analysis (M1)

Correlation Analysis aims to identify the relationships between variables.

Table 3
Correlation coefficients of variables related to the M1 model

	ROE	CEORem	Gender	Duality	Bsize	Bindep	Industry
ROE	1.0000						
CEORem	0.1809	1.0000					
Gender	0.2224	0.2441	1.0000				
Duality	-0.1184	-0.0963	-0.1941	1.0000			
Bsize	-0.0915	0.0667	-0.0577	0.0270	1.0000		
Bindep	0.3094	0.1839	0.2124	-0.2469	-0.1439	1.0000	
Industry	0.1250	-0.01338	0.0840	-0.0044	0.1553	0.0070	1.0000

Source: Output of STATA

Table 3 summarizes the correlation coefficients between the variables of the models discussed in this chapter, using the Pearson test. For the period from the year 2012 to the year 2017, the results show the existence of a positive correlation between the dependent variable (ROE) and the independent variables: Remuneration (CEORem), Gender and the independent Board variable (B indep) in the order of 0.1809, 0.2224 and 0.3094, respectively. This can be explained by the behavioral dominance of managers, remuneration and the gender of the company's management in explaining financial profitability. In addition, we detected the presence of a positive and statistically significant correlation between the gender variable and the compensation variable of the order of 0.2441, which explains the positive influence between the gender of the executive and compensation. Similarly, we noted the existence of a correlation between the independent board variable and the gender variable of around 0.2124. This correlation can be explained by financial reasons linked to the principle of financial dominance (Cole & Mehran, 1998). The correlation analysis between the control variable and the board size variable shows a weak positive correlation (r = 0.1553).

3.3 Multivariate Analysis of M1: Results and Interpretations

After having carried out an exploratory study dealing with the specificities of the sample and the functional relationships between the variables, we will conduct a multivariate analysis.

$$ROE_{it} = \beta_0 + \beta_1 CEORem + \beta_2 Gender_{it} + \beta_3 Duality_{it} + \beta_4 Bsize_{it} + \beta_5 Bindep_{it} + \beta_6 Industry_{it} \quad (3)$$
$$+ \varepsilon_{it}$$

The interpretation of the results presented in the table below allows us to advance some analysis concerning the general characteristics of the empirical models as well as the validation of the research hypotheses carried out by the multivariate analysis. Indeed, the value taken by the explanatory power of the first adjusted R^2 model = 0.1352 reflects a good quality of the model. The pseudo adjusted R^2 from the estimation of the second model takes the value of 0.1352. This postulate implies that the integration of the different explanatory variables makes it possible to explain 13.52% of the variation in the accounting conservatism of the firms in the sample. This postulate is also confirmed by the fisher statistic result which confirms the capacity of the independent variables of our econometric model to explain the variation in economic profitability (F= 10.98; p-value=0.0000). These regression results will be summarized in the table below. The estimates were performing using Stata 11 data analysis software. Econometric tests applied to the models showed that M1 is a fixed-effects model. The variance-covariance matrix cannot be estimating systematically and the generalized least squares estimator, which is an efficient estimator, cannot be computing. Rodríguez et al. (2018) and Modjarrad et al. (2019) proposed an asymptotically validated estimator of the covariance matrix of the estimated parameters entitled "Heteroskedasticity Consistent Covariance Matrix Estimator: HCCME". This estimator provides a valid estimate in the presence of heteroskedasticity in the model: it is a robust estimation method (Godfrey et al., 2005; Hodoshima & Ando, 2008).

The compensation variable

We can point out that the regression coefficient of the compensation variable, designating executive compensation, is positive and significant at the 5% threshold ($\beta1 = 3.27$; t-student = 2.21) for the M1 model. This postulate implies that an increase in the compensation value of the executives of the listed company by one unit is worth the performance increase of 3.27. We can confirm our first assumption that executive compensation in listed companies has a positive and significant effect on financial performance. Our result was confirmed by research conducted by Back et al. (2020).

The variable Gender

The regression coefficient associated with the variable "Gender" during the period 2012-2017, designating the presence of women on the Board of Directors, is positive (0.1180) and significant (t-student = 2.76). We can confirm our second hypothesis that the presence of women on the Board of Directors has a positive and significant effect on financial performance. Our result was confirmed by others.

The Duality variable

As for the "Duality" variable, designating the duality of the functions of Chief Executive Officer and Chairman of the Board of Directors of the listed company during the period (2012-2017), it has a negative regression coefficient (-0.0040)) and is statistically insignificant (t-student = -0.41). This postulate shows the duality of the functions of the chief executive officer who holds the position of chairperson of the board of directors at the same time. This result shows that the dependent variable is negatively associated with the dependent variable. We can confirm our third hypothesis, which states that the duality of the functions of chief executive officer and chair of the board of directors in listed companies has a negative effect on financial performance. Our result was confirmed by research conducted by eddine Mkadmi and Halioui (2013) and Al Shammari (2018).

The Board size variable

The Board size variable represents the size of the board of directors. This variable has a negative coefficient of (-0.0030) and t-student (-1.54). This explains why the size of the board has an insignificant negative effect on the financial performance of listed companies. We can confirm our fourth hypothesis stipulating that the size of the board of directors in listed companies have a negative effect on financial performance. These results confirm previous research conducting by Morgan & Rose, 2009

The independent Board variable

As for the variable Independent Board, designating the number of independent members/number of members sitting on the Board of Directors during the period 2012-2017, it has a positive coefficient de $\beta= 0.1187$ and t-student = 4.84, which explains the positive effect of the independent members of the Board of Directors on the performance of the company. We can confirm our fifth assumption that the independence of the members of the Board of Directors has a positive effect on financial performance. Several authors have confirmed these results.

The control variables (industry or sector of activity)

The regression coefficient of the industry variable (Industry), designating the banking and insurance sector, is positive (0.0301) and is significant at the 5% threshold (t-student= 2.60) for the M1 model. This result shows that firms in the banking sector have significant opportunities for financial performance. We can confirm our last hypothesis that the nature of listed companies'

activity has a positive effect on financial performance. These results confirm previous research by Morgan and Rose (2009) and Commons (2001).

Table 4
Regression results for the M1 model

Variables	Coef	T student	P value
Constant	0.0820879	2.72	0.007***
CEORem	3.27e-08	2.21	0.028**
Gender	0.1180771	2.46	0.014**
Duality	-0.0040405	-0.41	0.683
Bsize	-0.0030001	-1.54	0.125
Bindep	0.1187405	4.84	0.000***
Industry	0.0301762	2.60	0.010***

Adjusted R^2 = 0.1352 F-value = 10.98(0.0000) N = 384
***: Significant at the 1% threshold; **: Significant at the 5% threshold; *: Significant at the 10% threshold
Source: Output of STATA

3.4 Descriptive statistics of the M2 model relating to return on Assets (ROA)

Descriptive statistics involve an exploratory analysis of the sample and research variables. Through this analysis, we will first determine the trend of each variable (uni-varied analysis). Table 6 summarizes the trend of each variable of the financial performance model.

Table 5
Descriptive statistics and parametric tests M2 model

Variables	N	Mean	Std. Dev	MIN	Max
ROA	384	0.0686643	0.051947	-0.16	0.27
CEORem	384	587673.6	276092.9	80000	1366448
Gender	384	0.2981552	0.0864821	0.0911	0.6
Duality	384	0.2161458	0.4121519	0	1
Bsize	384	11.23177	2.058145	7	19
Bindep	384	0.5349089	0.1700472	0.1666	0.889
Industry	384	0.1354167	0.3426145	0	1

Source: Output of STATA

The average, minimum and maximum values of the dependent variable are of the order of compensation, gender, duality, board size, independent board and nature of industry during the period (2012-2017) As for the ROE variable, the average (median) increased by 0.0686643, the min and max values are respectively (-0.16) and 0.27. For the compensation variable, the average increased to 587673.6. As for the control variable, the average value is 0.1354167, the min and max values are respectively 0 and 1.

3.5 Correlation Analysis: Bivariate Analysis (M2)

The correlation analysis aims to identify relationships between variables. Table 6 summarizes the correlation coefficients between the variables in the models discussed in this chapter using the Pearson test. For the period from the year 2012 to the year 2017, the results show the existence of a positive correlation between the dependent variable (ROA) and the independent variables (CEORem, Gender, BIndep and Industry) of the order of 0.1304, 0.2111, 0.2609, and 0.1235. This can be explained by good governance and behavioral dominance in listed companies. In addition, we detected a positive and statistically significant correlation between the compensation variable and the gender variable of around 0.2441. This can be explained by the relationship between the importance of compensation value and gender. Similarly, we noted the existence of a correlation between the duality variable and the board size variable of around 0.0270. This correlation is explained by economic reasons related to the size of the board in relation to the duality of the chief executive officer. The correlation analysis between the control variable and the variable independence of the board of directors shows a weak positive correlation (r = 0.0070).

Table 6
Correlation coefficients of variables related to the M2 model

	ROA	CEORem	Gender	Duality	Bsize	Bindep	Industry
ROA	1.000						
CEORem	0.1304	1.000					
Gender	0.2111	0.2441	1.000				
Duality	-0.2188	-0.0963	-0.1941	1.000			
Bsize	-0.1900	0.0667	-0.0577	0.0270	1.000		
Bindep	0.2609	0.1839	0.2124	-0.2469	-0.1439	1.0000	
Indusry	0.1235	-0.0138	0.0840	-0.0044	0.1533	0.0070	1.000

*** Pearson's correlation coefficients are statistically significant at a threshold of 1
Source: Output of STATA

3.6 Multivariate Analysis of M2: Results and Interpretations

The interpretation of the results presented in the table below allows us to advance some analyses concerning the general characteristics of the empirical models as well as the validation of the research hypotheses carried out by the multivariate analysis. Indeed, the value taken by the explanatory power of the first adjusted R2 model=0.1454, reflects a good quality of the model. The pseudo adjusted R2 from the estimation of the second model takes the value of 0.1454. This postulate is also confirmed by the fisher statistic result which is confirmed by the capacity of the independent variables of our econometric model to explain the variation in economic profitability (F= 11.86; p-value=0.0000). These regression results will be summarized in the table below. The estimates were performed using Stata 11 data analysis software. Econometric tests applied to the models showed that M2 is a random effects model. We detected the presence of a heteroskedasticity problem. According to Cowell and Flachaire (2018), such a problem implies that the hazards do not have the same variance. The variance-covariance matrix cannot be estimating systematically and the generalized least squares estimator, which is an efficient estimator, cannot be computing. Rodríguez et al. (2018) proposed an asymptotique-validated estimator of the covariance matrix of the estimated parameters entitled "Heteroskedasticity Consistent Covariance Matrix Estimator: HCCME". This estimator provides a valid estimate in the presence of heteroskedasticity in the model. It is a robust estimation method (Godfrey et al., 2005; Hodoshima & Ando, 2008).

Variable compensation

We can point out that the regression coefficient for the compensation variable, designating executive compensation, is positive and significant at the 5% threshold ($\beta 1 = 1.41$; t-student = 1.51) for the M2 model. This postulate implies that an increase in the compensation value of the executives of the listed company by one unit is worth the increase in performance of 1.41. We can confirm our first assumption that executive compensation in listed companies has a positive effect on Return on Asset. Our results confirm the research conducted by Belot and Ginglinger (2013)

The variable Gender

The regression coefficient associated with the variable "Gender" during the period 2012-2017, designating the presence of women on the Board of Directors, is positive (0.0648285) and not significant (t-student = 2.15). We can confirm our second hypothesis that the presence of gender of women on the Board of Directors has a positive effect on economic performance. Our result was been confirmed by research conducted by Bauweraerts et al. (2017).

The Duality variable

As for the Duality variable, designating the duality of the functions of Chief Executive Officer and Chairman of the Board of Directors of the listed company during the period (2012-2017), it has a negative regression coefficient (-0.0183) and is statistically significant (t-student = - 2.95). This postulate shows that an increase in the number of CEOs holding the position of chairman of the board of directors at the same time. This result shows that the dependent variable is negatively associated with the independent variable. We can confirm our third hypothesis, which states that the dual functions of chief executive officer and chairman of the board of directors in listed companies have a negative and insignificant effect on economic performance. Our result was been confirmed by research conducted by Rachdi and El Gaied (2009)

The Board size variable

As for the Board size variable, designating the size of the board of directors or the total number of members sitting on the board of directors), it has a negative coefficient of (-0.0046) and (t-student = -3.77), which explains why board size has a significant negative effect on the economic performance of listed companies, in the case of British companies (ftse100). We can confirm our fourth hypothesis that board size in listed companies has a negative effect on economic performance.

The independent Board variable

As for the variable Independent Board, designating the number of independent members/number of members sitting on the board of directors during the period 2012-2017, it has a positive coefficient de (β= 0.0491) and (t-student = 3.19) which explains the negative effect of the independent members of the board of directors on the economic performance of the company. We can confirm our fifth assumption that the independence of the members of the board of directors has a positive effect on economic performance.

The industry variable

The regression coefficient of the industry variable (industry), designating the banking and insurance sector, is positive (0.0215) and is significant at the 1% threshold (t-student= 2.96) for the M2 model. This result shows that firms in the banking sector have significant opportunities for financial performance. We can confirm our last hypothesis that the nature of activity of listed companies has a positive effect on economic performance. These results confirm previous research by Ciobanu and Bobillier-Chaumon (2012).

Table 7
Regression results for M2 models

Variables	Coef	T_Student	P_value
Constant	0.0679068		
CEORem	1.41e-08	1.51	0.132
Gender	0.0648285	2.15	0.033**
Duality	-0.0183182	-2.95	0.003***
Bsize	-0.0046377	-3.77	0.000***
Bindep	0.0491586	3.19	0.002***
Industry	0.0215644	2.96	0.003***

Adjusted R^2 = 0.1454 F-value = 11.86 (0.000) N = 384
***: Significant at the 1% threshold; **: Significant at the 5% threshold; *: Significant at the 10% threshold
Source: Output of STATA

4. Conclusion

The aim of this article was to highlight the link between the behavioral dominance of managers and the performance of British listed companies (FTSE100). The literature review shows that the behavioral finance theory studies the influence of individual and collective behavior on the price of listed securities. It seeks to explain the several reactions of the financial markets that seem to run counter to conventional theory. Indeed, men in general, and investors in particular, are not very rational in their decisions. They are "under influence". Behavioral finance is interested in cases where these irrationalities («limited rationalities") bias the cognitions and behavior of investors. These biases create inefficiencies, in the form of price anomalies. Executive compensation as an independent (exogenous) variable is perceived as a governance mechanism whose role is to resolve conflicts of interest between shareholders and executives in order to improve corporate performance. Nevertheless, the literature has often focused only on the Anglo-Saxon context. In this sense, this research provides an international perspective since it focuses on English companies, for which data on compensation, board size, gender and duality have only recently become available. Our research is therefore a step forward in the generalization of the results on these different variables, thanks to an important work of data collection. The results of the test of the theoretical model demonstrate an essential point. We validate the hypothesis that executive compensation, duality, gender and independent board of UK listed companies are positively relating to performance. The results highlight the fact that the sensitivity of business sectors and board size are relatively low in the UK context. According to Jensen and Murphy (1990), this result is counter-intuitive and likely shows that British capitalism has undergone significant changes over the last two decades. Moreover, it is not unlikely that the very fact of having to make wages pay influences patterns of dominance, including social comparison effects. This study, like those on which it is based, has limitations. In particular, this type of approach simply characterizes the nature of behavioral finance as a function of executive compensation, without really studying the process leading to the definition and the implementation of executive compensation policy. This process is still largely unknown. A better understanding of this process would make it possible to better understand the reasons behind the characteristics of behavioral dominance and its evolution over time, as well as its interaction with the other mechanisms that make up the governance system as a whole. Future research should address the challenge of studying the process of behavioral finance policy-making in its dynamic dimension and by considering the roles of the various actors involved. However, working on the decision- making process of behavioral leadership dominance policy in relation to governance requires an empirical protocol incorporating a strong qualitative dimension (Wirtz, 2000).

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