CEO remuneration and firm performance: an analysis of the FTSE100

Author: F.M. Lommers
University of Twente
P.O. Box 217, 7500AE Enschede
The Netherlands

ABSTRACT,

This study looked into the relationship between the performance of a firm and its policy regarding CEO remuneration. There are two main conflicting theories that have been used. The Agency Theory states that objectives of executives should be aligned with that of the owners of a firm and that the directors are in place to make sure of this. The managerial power theory however states that directors are not able to fulfill this because of the power by executives. This research was done on the basis of both the Return On Assets (ROA) and Return on shares (RET) as proxies for firm performance. For the former, ROA, the regression results came back significant and positive; a relationship was found. For the latter, RET, a positive coefficient was found, but this variable was not significant in the regression. The results of the study thus suggest that there is a positive relationship between firm performance and executive remuneration, following the Agency Theory when looking at ROA as a proxy for firm performance. This can however not be concluded on the basis of shareholder return.

Graduation Committee members:
X. Huang
R. Kabir
H. van Beusichem

Keywords
Compensation, Executive, CEO, FTSE100, Performance

1. INTRODUCTION

Payment of Chief Executive Officers has been a subject of discussion for many years as dissatisfaction has arisen about the payment of these executives. The payment of a Chief Executive Officer (hereafter: CEO) is often a large multiple of that of a regular employee of the same firm. In the Dutch public sector, the so-called 'Balkenendenorm' has arisen, which basically states that any person working in the public sector should not be allowed to earn more than 130% of the salary of a minister. However, one might question whether this is the right decision to make, as the best managers will require the highest pay to accept a job and a firm will thrive more when the best possible manager is in place. Limiting compensation for a CEO might thus mean that these people will find a job elsewhere and the firm may be left with lower quality management. Obviously, a firm would like the best possible managers in order to get the most out of the firm. In order to clarify the vagueness around this topic and in an attempt to show the effect of remuneration standards in firms, this paper will attempt to answer the following research question:

'Do firms with better performance compensate their CEOs for this performance by giving them higher remuneration?'

The Financial Stock Exchange Index (hereafter: FTSE100) requires the firms listed on it by law to be open about their executives' pay, which is why the FTSE100 is a viable market for conducting this research in. This paper will add to existing research by taking up research in a time frame which has not been studied yet and in an attempt to identify a relationship between executives' pay and firm performance for firms listed on the FTSE100.

2. CONCEPTUALS & THEORETICAL FRAMEWORK

When talking about the compensation paid to managers and the firm performance, one wanders into the area of Corporate Governance, which is defined as 'the process of aligning the economic interests between the shareholders on the one hand and the executive management team on the other hand' (Monks & Minow, 1996). Which is essentially what happens when paying out a compensation to a management team who manage capital for a group of owners. First off, it has to be understood what executive compensation entails and what it is composed of and how it is derived. The most important theory regarding executive compensation is the so-called Agency Theory.

2.1 Pay & Pay decision

There are three different constituents that make up executive's remuneration; A fixed pay component, annual bonusses and LTIP rewards. The remuneration of executive managers is awarded by the Board of Directors, which will be elaborated upon in the next paragraph.

2.1.1 Board of Directors

All of the large firms that will be analysed have a board of directors which are put in place to monitor and advise top management (Coles et al., 2008) and thereby protect shareholders. The board of Directors is elected by shareholders and this board in their place elects a firm's executives. The board's members are independent from the firm in all senses and can thus not profit from the firm's well-doing. A part of the Board of Directors is the remuneration committee, which is the part of the Board that decides upon the Executives' pay and the value of each of the constituents. The committee decides on performance indicators on the basis of which bonusses can be achieved in such a way that the Executives' objectives are aligned with the objectives of the firm.

2.1.2 Fixed pay component

The fixed pay component consists out of an executive's salary, pension and possible other costs which executives have to be compensated for, such as travel, moving or hotel costs. This component is not influenced by firm performance in any way and is therefore said to be fixed.

2.1.3 Annual bonusses

Annual bonusses are those that are awarded for meeting certain objectives throughout the year. These bonusses can either be in cash or shares and are available as soon as they are awarded. These bonusses are awarded on the basis of meeting certain criteria which have been set by the Remuneration Committee and are seen as a proxy of firm performance.

2.1.4 LTIP

LTIP is an abbreviation for Long Term Incentive Plans. These LTIPs intend to improve the executives' long-term performance by awarding them shares that they can only vest years after they are awarded. These LTIPs are awarded when certain requirements are met and when the executive has helped sufficiently to increase shareholder value. As stated in the upcoming Agency Theory, it is essential for the objectives of executives and a firm to be aligned. By awarding LTIP shares, an executive should be increasingly aligning their objectives with that of the firm as the shares they receive can only be cashed after some time. Executives will therefore be increasingly inclined to make sure that the firm performs well, so that the shares of said firm perform well.

2.2 Agency Theory

The Agency Theory states that a firm consists out of two main sides; on the hand there are the managers of a firm who make the decisions in a firm (the 'agent') and on the other there are the owners of a firm, namely those who hold shares (the 'principal'). The agent is supposed to act on behalf of the principle. (Ross, 1973). The interests of the agent and principal might conflict, which would not be good for the owners of a firm. For this reason, a firm has a board of directors which supervises the actions of management and represent the shareholders. Such a supervisory board attempts to adhere to the stewardship theory, in which 'managers are not motivated by individual goals, but rather are stewards whose motives are aligned with the objectives of their principals' (Davis et al. 1997).

2.3 Managerial Power Theory

Directly in contrast with the Agency Theory, which assumes boards control executives in such a way that they represent the needs and wishes of owners of a firm. The Managerial Power Theory as set out by Bebchuck, Fried & Walker (2002) states that 'CEOs often have power over board members because of specific structural and social-psychological mechanisms that have an important influence over board-level decision-making processes about executive compensation' (van Essen, Otten, & Carberry, 2012, pp. 165). With regard to the research question, this would mean that there exists no relationship between the performance of the firm and CEO remuneration.

2.4 Empirical research

Executive remuneration has been studied by a number of scholars, whose research has led to differing conclusions. There is research that states there is no significant relationship between

performance and executive pay, research that finds that there is a negative relationship and research that shows a positive relationship.

2.4.1.1 Positive relationship
A number of scholars have studied the pay-performance relationship and come to the conclusion that there is a strong positive relationship between corporate performance and executive compensation. A positive relationship would support the agency theory as this theory expects executive compensation to increase when firm performance goes up. Research that has found a positive relationship is for example, Murphy (1984), who has found such a relationship upon studying the shareholder return and growth in firm sales. Abowd (1990) also found a positive relationship when studying a market-based metric. Hall & Liebmann (1998) and Mehran (1995) find a positive relationship between incentive compensation and motivation to increase firm value.

2.4.1.2 Weak relationship
When the managerial power theory were to hold in practice, one would expect to find no relationship when statistically attempting to find correlation between CEO compensation and firm performance. In the scenario of the managerial power theory being active, the directors would have no say in the CEO pay as the power of these CEOs over the directors is too large. There is research that has drawn such a conclusion. Namely, Kerr & Bettis (2017) find that neither variation in abnormal returns nor overall market movements influence compensation of top executives.

2.4.1.3 Negative relationship
Balafas & Florackis find a negative relationship between CEO pay and short-term returns of a firm. Additionally, Core et al (1999) argue that firms in which governance structures are less effective will have CEO's that earn greater compensation. This is directly opposite to the agency theory.

3. HYPOTHESIS
When taking into account both of the theories that have been introduced in combination with past research, there are a few hypotheses that could be drawn. The agency theory in combination with the positive relationship, the managerial power theory in combination with the non-existent relationship or even a negative relationship. One would assume that as this research will span the largest 100 firms on the London Stock Exchange, that their directors are well trained and of a high level. It could be argued that the managerial power theory should be least likely to arise in large firms like these. This would mean that the agency theory would be a more likely possibility, which is supported by the vast amount of research showing a positive relationship between firm performance and CEO remuneration.

For this reason, I hypothesize that the higher-paying firms will be able to afford the better managers and that higher pay for CEO will lead to better firm performance. Although this relationship could be weak, this leads to a hypothesis as follows.

H1: Firms with better performance show higher CEO remuneration

4. METHOD & DATA
4.1 Method
An Ordinary Least Squares (OLS) regression will be run to see to what extent the dependent variable, CEO remuneration, is affected by the independent variable firm performance. Firm performance will be assessed on the basis of the development of share price plus any paid out dividends and by dividing net income by the total assets. Manager's pay is given by the sum of all aspects that a manager's pay can consist out of; fixed pay,

bonus and LTIP (Ozkan, 2011). Additionally, the model will use three control variables, as past research has shown these variables can influence the level of executive pay in a firm.

The aforementioned variables come out to the following regression equation.

$$ER_{it} = \alpha + \beta_1 FP_{it} + \beta_2 FS_{it} + \beta_3 FL_{it} + \gamma_i + \delta_t + \varepsilon_{it}$$

Where

ER = Total Executive Remuneration (for firm i at time t)

FP = Firm Performance (for firm i at time t)

FS = Firm Size (for firm i at time t)

FL = Firm Leverage (for firm i at time t)

γ_i = Dummy variable for firm's industry

δ_t = Dummy variable controlling for time

In order to run this aforementioned regression, a statistical software package called Stata will be used. By running the gathered data as a regression analysis in Stata, it will be possible to find coefficients for the Betas and thus show the relation of each of the regressors on the regressand and ultimately find the relationship between firm performance and executive pay.

4.2 Measurements
The constituents of the regression as seen above can be roughly split up in performance ratios, remuneration and executive remuneration. The way these all have been calculated and will be used in the regression is as follows.

4.2.1 Performance ratios
The firm's will be rated on performance on the basis of two different methods. Firstly, the income for the firm will be assessed in relation to the total assets. Secondly, the shares of the firms will be investigated to be used as a basis of assessing firm performance.

4.2.1.1 Income
The Return on Assets is an indicator of profitability based on the Net Income of a firm divided by its total assets. The Net Income can be gathered from a firm's income statement. This indicator is thus calculated via the following formula:

$$ROA = \frac{Net\ Income}{Total\ Assets}$$

This formula for the ROA was chosen as it has been used as a proxy for firm performance by Ely (1991).

4.2.1.2 Shares
By subtracting the start of year price of a share from the end of year price of a share, the progress in share price can be found. When adding the dividend paid over this period to the result of the first calculation, the total result can be used to assess performance of a firm. In formula:

$$RET = \frac{EYSP - SYSP + DP}{SYSP}$$

Where

FP = Firm performance

EYSP = End of Year Share Price

SYSP = Start of Year Share Price

DP = Dividend paid over period

4.2.1.3 Leverage

The leverage ratio displays how much of the firm's total assets are financed through debt. The Leverage ratio can thus be found by the formula:

$$Leverage = \frac{Total\ Liabilities}{Total\ Assets}$$

4.3 Data

Data on the 100 firms that make up the FTSE100 will be hand-picked from their respective annual reports and compiled into an Excel sheet. The data will be gathered for the five years 2014-2018 (inclusive). The needed data is on Executives' remuneration, firm specific data and performance ratios. One of the firms listed on the FTSE100 does not have a clear CEO and has therefore been excluded from the dataset. This firm is the Scottish Mortgage & Investment fund. This brings the total amount of firms studied to 99 per year, giving 495 observations over the five years studied.

4.3.1 Executives' remuneration

Annual reports tend to have a chapter focused on the governance of the firm, which includes the remuneration report for both executive and non-executive directors of the firm and the reasoning behind the remuneration amounts. Although not all annual reports are similar in the fields of renumeration, they can all be normalized to the three components that were mentioned in the Conceptual Framework; fixed pay, bonusses and LTIPs. The sum of these three different components will be taken and used in the regression.

As the firms are in many different sectors and come in various sizes and thus have differing remunerations, the data was not normally distributed. In order to acquire a normal distribution, the natural logarithm of the total remuneration was taken.

4.3.2 Firm specific data

The Total Assets and Total Liabilities can be gathered from the firm's Balance Sheets. These two aspects of the firm can be used to calculate leverage ratios for the firms. Additionally, the total assets of a firm, which was used as a proxy for firm size, had to be transformed via a natural logarithm as the firms were so different in nature.

4.4 Control variables

There are two control variables that are taken into account in the regression; a variable for the firm's industry and a variable controlling for time. Both of these variables have been coded as dummies in such a way that coefficients for different industries will be included in the output regression. Additionally, coding these variables as a single regressor is not possible as there is no linear relationship between the different years or industries. Lastly, for both of the control variables, respectively one industry and one year have been excluded when running the regression to prevent multicollinearity from arising.

4.4.1 Firm size

A positive significant relationship between firm size and executive compensation has been found by several scholars (Mellow, 1982; Zhou, 2000; Kostiuk, 1990). This means that the larger firms are, the higher executive compensation is, keeping all other aspects constant. This means that firm size has to be taken into account when attempting to draw a conclusion regarding the relationship between firm performance and executive pay.

4.4.2 Time

Markets tend to change over time, so it's not possible to flat out compare today's market with the market five years ago. For this reason, a dummy variable for time has been set up to control for the differences throughout time.

The control variable of time most accurately attempts to describe the differences between firms at a given moment in time. However, one issue that arises is that firms' annual reports are not issued simultaneously. Some firms have financial years ending at the 31st of March, where others have financial years ending at the 31st of December, with firms ranging throughout the year. This control variable attempts to most thoroughly grasp and account for differences in time, but it is not fully accurate in doing so.

4.4.3 Firm leverage

Additionally, the leverage of a firm will also be taken as a controlling variable, as it has been done in similar research. Duffhues & Kabir, for example, used firm leverage as a key control variable in their research on the relationship between executive pay and firm performance. Leverage is an interesting variable as it has two sides. When a firm has a high leverage ratio, this might be dangerous for the firm subsequently its owners. While on the other hand, a low leverage ratio could mean that the firm is not using its full potential and could possibly achieve a larger margin than they are at that very moment.

4.4.4 Sectors

Previous research done on this topic has found that the levels of executive remuneration are influenced by the industry in which a firm operates (Murpy, 1999; Duffhues, Kabir, 2008).

The London Stock Exchange lists the firms of the FTSE100 and their ICB sector and ICB subsector ("FTSE 100 constituents shares prices - London Stock Exchange," n.d.). However, this would mean that there would still be 36 different sectors, which would not give meaningful regression results. For this reason, these sectors have been transformed into the appropriate industries, following the FTSE Industry Classification Benchmark ("icb Industry Classification Benchmark," 2012). This meant that there were nine remaining sectors. The division of firms among these nine sectors can be found in Table 1.

Sector	Frequency	Percent
Basic Materials	60	12.12
Consumer Goods	70	14.14
Consumer Services	105	21.21
Financials	110	22.22
Health Care	25	5.05
Industrials	65	13.13
Technology	10	2.02
Telecommunications	10	2.02
Utilities	40	8.08
Total	495	100.00

Table 1 Division of firms among industries

Although there is a noticeable difference of the amount of firms allocated to each industry, the firms were so different in nature that the amount of industries could not be cut back any further.

5. EMPERICAL RESULTS

5.1 Descriptive statistics

Table 2 displays the descriptive statistics for the variables used in the regression analysis. The top half of the table displays the executive remuneration and the way it is divided amongst the different forms of compensation. These figures are in thousands

of pounds (£'000). The bottom half displays firm-specific characteristics.

	Obs.	Mean	Std. Dev.	Min	Max
Salary	495	1251.99	745.15	251.1	9782.75
Bonusses	495	1091.82	922.57	0	6900
LTIP	495	2371.93	5408.86	0	62783
Tot Rem	495	4715.74	5806.73	367.3	68864
Ln Tot Rem	495	8.14	0.75	5.91	11.14
ROA	495	0.85	0.23	-0.28	2.52
RET	495	1.33	0.33	-0.73	2.87
Tot Ass	495	92995.15	256298.80	43.2	1958637
Leverage	495	0.66	0.25	0.05	2.81

Table 2 Descriptive statistics for variables used in regression analysis

It can be seen that both the bonusses and LTIP can be set to zero in the case that executives do not meet the qualifying standards to get paid these bonusses. Additionally, it can be seen that LTIP's tend to make up roughly half of the entire compensation, on average. In the Appendix, Table 1, an overview of the Executive Remuneration throughout the years can be found. It can be seen that there are no big differences throughout the years 2014-2018; remuneration is relatively stable.

The other variables used in the regressions can be found in the lower half of Table 2. What is striking from these regressors is that there is a large difference in firm performance based on share development. It can be seen that there is a range from -73.3% to 287.4% when looking at share performance. Also, the average firm seemed to have a ROA of 8.5% with a large range of numbers surrounding this mean.

5.2 Regression analysis

Two different regressions have been run; the first with ROA as a proxy for firm performance, the second with share development for the same measure. Besides the different proxies, the regressions are identical.

5.2.1 Correlation matrices

The first regression uses Return On Assets (ROA) as firm performance. This regression shows a correlation matrix as shown in Table 3.

	Ln Tot Rem	ROA	Ln Tot Ass	Leverage
Ln Tot Rem	1.00			
ROA	-0.06	1.00		
Ln Tot Ass	0.35	-0.41	1.00	
Leverage	0.02	0.01	0.29	1.00

Table 3 Correlation matrix for ROA regression

There seems to be a positive correlation between the size of a firm and its executive remuneration. Where the ROA and total remuneration variables seem to have a slight negative correlation.

	Ln Tot Rem	ROA	Ln Tot Ass	Leverage
Ln Tot Rem	1.00			
ROA	0.02	1.00		
Ln Tot Ass	0.35	-0.17	1.00	
Leverage	0.02	0.03	0.29	1.00

Table 4 Correlation matrix for ROA regression

When comparing this correlation matrix to the correlation matrix of the first regression in Table 3, it can be seen that the difference is that there is a slightly positive correlation between the performance proxy rather than a slightly negative correlation in the previous regression. The output of running the regressions which have been introduced by the correlation matrices above can be found in Table 5.

	Ln Tot Rem	Ln Tot Rem
ROA	0.62***	
	(0.000)	
RET		0.24
		(0.09)
Ln Tot Ass	0.23***	0.190***
	(0.00)	(0.00)
Leverage	-0.267*	-0.152
	(0.04)	(0.30)
Cons	6.19***	6.47***
	(0.00)	(0.00)
N	495	495
Adj. R-sq	0.20	0.19
F	12.53	10.80
df_m	14	14
df_r	480	480

p-values in parentheses

* p<0.05, ** p<0.01, *** p<0.001

Table 5 Regression results

5.2.2 Regression with ROA as a proxy

When studying left side of Table 5 and starting out with the statistics about the model, a few conclusions can be drawn. First off, when conducting a test with the F-statistic, the p-value comes out to be $p < .00001$. This means that it can be said with more than 99.99% certainty that something is going on in the model; not all of the coefficient in the model are zero. Additionally, the regressors that have been chosen for the model help explain the variation in 20% of all cases, as displayed by the R^2 statistic. It can also be deduced that there is a significant correlation between the ROA of a firm and the executive remuneration. For every percentage increase in ROA, an increase of 0.62% in executive remuneration can be found throughout the entire set of data. This follows the agency theory in that there exists alignment between the objectives of the shareholders of a firm and that of its executives.

Additionally, the control variable of size is also seen to have a significant positive effect on the executive remuneration. This is in line with prior research, which states that larger firms have higher executive pay. Leverage is seen to have a slight negative effect on the remuneration of executives. A higher leverage ratio states that the firm has a larger share of liabilities compared to their total assets compared to firms with a lower leverage ratio.

5.2.3 Regression with RET as a proxy

The second regression is identical to the first, apart from the fact that the regressor for firm performance is a market-based metric rather than an accounting-based metric. The correlation matrix for this regression can be found on the right side of Table 5.

When looking at the model statistics for this regression, when looking at the F-statistic and conducting the test, the p-value once again comes out to be $p < .00001$. This once again means that it can be said with more than 99.99% certainty that the coefficients in the model are nonzero; there is something going on. In relation to the first regression, there is a slightly lower explanatory value; only 19% of all variation is described by the model. The statistic that is of interest in this regression is the coefficient of the RET variable. The coefficient seems to be slightly positive with a value of 0.24. This means that for every percent increase of returns to shareholders per year, executive remuneration would increase by 0.24%. However, the coefficient is not significant at the 5% level, thus it cannot be used as a ways of meaningful interpretation. The other two reported variables with regard to size and leverage are very comparable to the first regression.

5.3 Robustness checks

To test for robustness and look at the relationship between performance and executive pay in more detail, the regression has been conducted over every year separately and over the largest two industries.

5.3.1 Years

Firstly, the regressions will be run on a yearly basis, to see whether there are big differences between the regression results between the years. The results of these regressions can be found in Table 6 and Table 7.

Ln Total Remuneration

	2014	2015	2016	2017	2018
ROA	0.60**	0.87**	0.57*	0.62*	0.42
	(0.01)	(0.01)	(0.02)	(0.05)	(0.16)
Ln Tot Ass	0.26***	0.23***	0.20***	0.22***	0.21***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Leverage	-0.33	-0.36	0.21	-0.55	-0.39
	(0.14)	(0.37)	(0.41)	(0.08)	(0.26)
Cons	5.90***	6.19***	6.12***	6.40***	6.50***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
N	99	99	99	99	99
Adj. R-sq	0.20	0.17	0.21	0.24	0.16
F	12.77	5.79	40.05	6.16	3.16
df_r	88	88	88	88	88

p-values in parentheses

* p<0.05, ** p<0.01, *** p<0.001

Table 6 Regression results per year with ROA as a proxy for performance

When using ROA as a proxy for firm performance and inspecting the model specific statistics first, a few conclusions can be drawn. Based on the F-tests, all of the regressions return statistical significance. However, the results are not as significant as in the earlier regressions, they still hold at the 5% level.

Furthermore, it can be observed that the models range in their ability to explain the variety in results, from a mere 16% in 2018 to 24% in 2017. With regard to the coefficients in the regressions, it can be seen that for four out of five years the coefficient regarding ROA is significant. The coefficients themselves range quite a bit, which means that the average reward for a firm running well differs per year. In 2016, every percentage of extra ROA resulted in 0.57% increase in CEO remuneration, where this was 0.87% in 2015.

Ln Total Remuneration

	2014	2015	2016	2017	2018
ROA	0.60**	0.87**	0.57*	0.62*	0.42
	(0.01)	(0.01)	(0.02)	(0.05)	(0.16)
Ln Tot Ass	0.26***	0.23***	0.20***	0.22***	0.21***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Leverage	-0.33	-0.36	0.21	-0.55	-0.39
	(0.14)	(0.37)	(0.41)	(0.08)	(0.26)
Cons	5.90***	6.19***	6.12***	6.40***	6.50***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
N	99	99	99	99	99
Adj. R-sq	0.20	0.17	0.21	0.24	0.16
F	12.77	5.79	40.05	6.16	3.16
df_r	88	88	88	88	88

p-values in parentheses

* p<0.05, ** p<0.01, *** p<0.001

Table 7 Regression results per year with RET as a proxy for performance

In the second case, taking RET as a proxy, the situation is a little different. For the entire set of data, all firms for the years 2014-2018, the regression did not produce a statistically significant result. However, as can be seen in Table 7, there are several years in which significant results are seen. For the years 2014, 2015 and 2018, a positive relationship between firm performance and CEO remuneration can be seen. These coefficients are significant at the 5% level. Furthermore, the regressions themselves are significant when conducting F tests.

5.3.2 Industries

Ln Total Remuneration

	Consumer Services		Financials	
ROA	2.49** (0.00)		1.40 (0.12)	
RET		0.60* (0.02)		0.13 (0.68)
Ln Tot Ass	0.35*** (0.00)	0.29*** (0.00)	0.21*** (0.00)	0.19*** (0.00)
Leverage	-0.11 (0.64)	-0.07 (0.00)	-0.58 (0.11)	-0.70 (0.07)
Cons	4.79*** (0.00)	5.46*** (0.00)	6.03*** (0.00)	6.38*** (0.00)
N	105	105	110	110
Adj. R-sq	0.21	0.18	0.24	0.23
F	4.05	4.66	4.99	5.05
df_r	97	97	102	102

p-values in parentheses

* $p<0.05$, ** $p<0.01$, *** $p<0.001$

Table 8 Regression results for Consumer Services and Financials

To test for robustness, the two largest industries have been taken. These two industries are the Consumer Services and Financials industries. As can be seen in Table 1, these industries have 22 and 21 firms respectively. This comes out to be 110 data points for the former and 105 for the latter. On the basis of the F-tests, both models are statistically significant (at the 5% level). However, it can also be seen that the consumer services industry produces significant results when it comes to the coefficients of the proxies for firm performance. It is striking to see that there is a large difference between the two industries. The coefficient of the Consumer Services industry is far higher when looking at the ROA proxy than when looking at the RET proxy. A CEO in the Consumer Services sector would gain an additional 2.49% of remuneration for every 1% increase on the ROA, where this would only be 0.60% in the case of RET.

6. CONCLUSION

CEO compensation and firm performance are two heavily studied subjects. Many scholars have dived into the subject and attempted to find a relationship between these two aspects of firms. Results have differed, ranging from negative, positive to no significant results. When looking into the relationship, there are two main conflicting theories that arise; the agency theory and managerial power theory. The former states that directors of a firm are in place to make sure that CEOs objectives are aligned with that of the firm's owners and that the remuneration is adjusted accordingly. According to this theory, if a firm does well, a CEO should be awarded for this course of business. Exactly opposite this theory is the managerial power theory. This theory states that the power of the CEO means that directors cannot fulfill their job and remuneration is not aligned. In order to calculate the effects, two proxies have been taken for firm performance; return on share and return on assets (ROA).

In order to study this relationship, the firms of the FTSE100 have been investigated. For every CEO, remuneration details have been set out against firm specific characteristics. Two different proxies have been used for firm performance; Return on Assets and a market based metric, RET. The results when taking ROA as a proxy were positive and significant, which is in line with what some previous research has yielded. However, when taking RET as a proxy, the results are positive, but not significant. There has also been research that has concluded that there is no significant relationship between firm performance and CEO remuneration. However, in the robustness checks it came to light that for several years a positive relationship could be found between RET. All in all this comes down to a somewhat two-sided conclusion, as there are positive significant results and insignificant results. It could be stated that this conclusion is most in line with the agency theory, which expects a positive relationship between firm performance and CEO remuneration.

7. LIMITATIONS

As mentioned throughout this paper, there are a few limitations to this research. First off, not all firms have their financial years end simultaneously. Although the majority of firms end their financial year on the 31st of December, there are firms ranging throughout the year. When then controlling for time in a regression, the different times of annual reports makes the measurements somewhat inaccurate. Secondly, there are many more aspects of firms outside of the sectors, time, indu size, leverage that have been used as controlling variables in this paper. In future research, many more firm aspects could be taken into account when conducting similar research.

8. REFERENCES

Abowd, J. (1990). Does Performance-Based Managerial Compensation Affect Corporate Performance? Industrial and Labor Relations Review, 43(3), 52-73.

Balafas, N., & Florackis, C. (2013). CEO Compensation and Future Shareholder Returns: Evidence from the London Stock Exchange. SSRN Electronic Journal, 27, 97–115.

Bebchuk, L. A., Fried, J. M., & Walker, D. I. (2002). Managerial Power and Rent Extraction in the Design of Executive Compensation. SSRN Electronic Journal, 69, 751–846.

L. Coles, J., D. Daniel, N., & Naveen, L. (2008). Boards: Does one size fit all? Journal of Financial Economics, 87(2), 329–356.

H. Davis, J., D. Schoorman, F., & Donaldson, L. (1997). Toward a stewardship theory of management. Academy of Management Review, 22(1), 20–47.

Duffhues, P., & Kabir, R. (2008). Is the pay–performance relationship always positive? Evidence from the Netherlands. Journal of Multinational Financial Management, 18(1), 45-60.

Ely, K. M. (1991). Interindustry Differences in the Relation between Compensation and Firm Performance Variables. Journal of Accounting Research, 29(1), 37–58.

FTSE 100 constituents shares prices - London Stock Exchange. (n.d.). Retrieved June 4, 2019, from https://www.londonstockexchange.com/exchange/prices-and-markets/stocks/indices/summary/summary-indices-constituents.html?index=UKX

Hall, B. J., & Liebman, J. B. (1998). Are CEOs really paid like bureaucrats? The Quarterly Journal of Economics, 113(3), 653–691.–60.

icb Industry Classification Benchmark. (2012). Retrieved June 4, 2019, from https://research.ftserussell.com/products/downloads/ICBStructu re-Eng.pdf?_ga=2.258571978.1757103477.1560434591-258608634.1560434591

Kerr, J., & Bettis, R. A. (1987). Boards of Directors, Top Management Compensation, and Shareholder Returns. Academy of Management Journal, 30(4), 645–664.

Kostiuk, P. (1990). Firm Size and Executive Compensation. The Journal of Human Resources, 25(1), 90–105.

Mehran, H. (1995). Executive compensation structure, ownership, and firm performance . Journal of Financial Economics, 38(2), 163–184.

Mellow, W. (1982). Employer Size and Wages. The Review of Economics and Statistics, 64(3), 495–501.

Monks, R., & Minow, N. (1996). Corporate Governance. The Journal of Finance, 51(2), 774–778.

Murphy, K. J. (1999). Chapter 38 Executive compensation. In Handbook of Labor Economics (Volume 3B, pp. 2485–2563). North-Holland: Elsevier Science & Technology.

Murphy, Kevin J. (1985). Corporate performance and managerial remuneration. Journal of Accounting and Economics, 7(1–3), 11–42.

Ozkan, N. (2011). CEO Compensation and Firm Performance: An Empirical Investigation of UK Panel Data. European Financial Management, 17(2), 260–285.

Ross, S. A. (1973). The Economic Theory of Agency: The Principal's Problem. The American Economic Review, 63(2), 134–139.

van Essen, M., Otten, J., & Carberry, E. J. (2012). Assessing Managerial Power Theory. Journal of Management, 41(1), 164–202.

Zhou, X. (2000b). CEO Pay, Firm Size, and Corporate Performance: Evidence from Canada. The Canadian Journal of Economics / Revue canadienne d'Economique, 33(1), 213–251.

9. APPENDICES

9.1 Appendix 1

Tot. Remuneration	Obs.	Mean	Std. Dev.	Min	Max
2014	99	4612.82	4872.56	367.30	41690.00
2015	99	4835.71	7352.10	534.00	68864.00
2016	99	4275.88	4935.02	823.50	46390.00
2017	99	5221.98	6732.60	395.01	45739.5
2018	99	4632.28	4690.77	403.70	38967.3

Table 1 The total Executive Remuneration throughout the years