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Executive Compensation: characteristics and impacts on company strategies and results

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ABSTRACT

This paper studies the relationship between Chief Executive Officer (CEO) pay and company performance in the U.S. stock market S&P 500. Executive compensation has significantly increased over the past several decades, and it has been in heated debates in both the academic and corporate world. This thesis aims to look into the impact of CEO pay on the firm's stock performance in the S&P 500 by analyzing CEO pay data of the Compustat, Execucomp database, and relevant financial data of the companies. The paper aims to find how top executive pay structure, salary, bonus, and other forms of pay are related to company performance. The study finds out that the company's size appears to be the most important factor in impacting the level of total CEO salary, besides other significant factors, such as tenure and age.

Keywords: CEO compensation, S&P 500, CEO characteristics, incentives

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CHAPTER 1

1. Introduction

CEO pay is a big, complex, and controversial topic. Chief Executive Officer (CEO) compensation is measured for its size, structure, and linked to performance. The theory shows that the goal of CEOs is adding value to the company and running the firm in the best interests of the shareholders. Usually, top executives have control over the company, and they can make the decision and take actions in their best interests. The most effective way to ensure that CEOs act in shareholders' interest is to tie their remuneration to the firm's performance. The greater the sensitivity of top executive compensation to company performance, the more their interest will agree upon to shareholders.

The paper investigates the theoretical and empirical literature on CEO remuneration. This study will use data from all companies on the S&P 500 index. This index consists of the 500 biggest listed firms in the United States measured by market capitalization. Chapter 3 shows the effects of various internal and external factors on CEO compensation. Firstly, it presents evidence on the level and composition of pay in different countries and recent survey findings on compensation in U.S. private companies. Secondly, it examines how the Covid-19 pandemic has affected executive compensation.

Chapter 4 examine the impact of executive characteristics on company value by using the findings and arguments of current literature. After, the data will be collected to test

the questions in this examination. The result will demonstrate whether there is a significant influence of age, remuneration, gender, or tenure on the company value and what the sign of the impact is.

CHAPTER 2

2. CEO compensation

The incentives of top executives are not always matched the incentives of the shareholders. There are two remuneration-based alternatives for solving this issue. First, the remuneration can be based on the company's performance. If the value of the company raises, then CEO's pay raises as well. Hence, Chief Executive Officer will have an incentive to enhance performance. In recent times, there is an increase in a new way of remunerating top executives. Previously, top executives were entirely compensated in cash. This did not depend and diversify with company performance. At the same time, equity-based compensation became part of financial policies. Top executives were received equity-based compensation. For instance, they will be paid by stocks of the firm or call and put option. When top executives earned stocks of the firm they were working for, they had an incentive to raise stock prices (Conyon et al., 2011). Mork, Schleifer, and Vishny (1988) discovered a gap where growth in ownership leads to a lower authority structure. During this period, an increase in the share of ownership leads to a weakening of management structures.

Figure 1 demonstrates how executive remuneration measured using exercised stock options has changed in parallel with the stock market as assessed by the S&P 500, reaffirming that executives reluctant to cash out their options when stock prices are high and collect unused options when stock prices are quite low. The financial crash and the accompanying stock market crash lowered executive remuneration based on exercised stock options around forty percent between 2007 and 2009.The stock market had

recovered all its damages during the slump by 2014. Executive compensation based on realized stock options has improved significantly. From 2014, the close link between stock market growth and CEO pay has weakened slightly, as we can see in the graph that CEO remuneration based on realized stock options has not gone after the sharp upward line of the stock market over the last four years.

Despite there is a relationship between total stock prices and CEO remuneration. As seen in Figure 1, it raises doubts on the theory that top executive enjoys high pay because their individual productivity is growing (for instance, since they lead larger corporations, have adopted new technologies, or for any other reason). Top executives' pay regularly increases significantly when the stock market increases, and companies' stock values rise along with it. The majority of top executives' compensation packages allow compensation to increase all time when the company's stock value raises. They allow top executives to cash out stock options, increasing the company's stock value significantly compared to other companies in the same sectors.

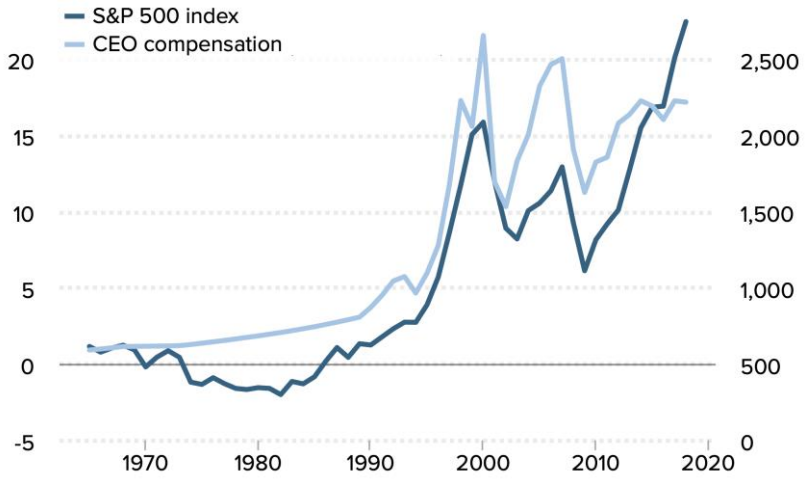

Figure 1 CEO Compensation and the S&P 500 Index
Notes: CEO average annual compensation is computed using the options realized compensation series, which involves salary, bonus, restricted stock awards, options realized, and long-term incentive payout for U. S firms ranked by sales**.**
Source: The analysis of data from Compustat's ExecuComp database

2.1. Components of CEO compensation

There are several methods to categorize the components of CEO pay. In the following, distinguishing between “cash pay” (salary and bonuses), “equity-based compensation” (restricted stock or performance shares and stock options), and “internal debt and other forms of pay” (deferred income and other benefits).

2.1.1. Base salary

The executive’s base salary is their typical annual salary. While job evaluation is used to determine employee salary, CEO base salaries are frequently affected by compensation committees (including some or all the members of a firm’s board) that usually depend on data from salary surveys of typical firms. In the market, CEO’s pay and other forms pay design to be competitive with other executive wages, which are also relatively high concerning other employees’ salaries in their own company. According to recent research, executive pay is on the increase.

2.1.2. Bonus

In the base salary od Chief Executive Officers, majority get variable payment, and remuneration that changes in accordance with the level of performance. The use of non-base salary pay means to inspire CEOs to meet specified organizational performance targets, such as particular profit levels, and compensate them for achieving the goals. One of the well-known types of variable compensation is the CEO’s bonus, a single payment related to some short-term performance target. Bonus can be based on different amount of performance results, including the board evaluations of CEO performance,

corporate earnings, or market share. Not all CEOs earn a bonus as part of their overall salary package. Performance can be calculated more than one or across several years. According to Li and Wang (2016), the percentage of S&P 500 companies' bonus plans per long-term accounting performance increased from 17% to 43%.

In Figure 2 illustrates the compensation structure of a typical bonus plan by formula. No premium given until productivity achieves the lower threshold from which pay begins the bonus, however, does not exceed the 2nd threshold which does not raise. In the "incentive zone" between, bonus productivity improvements. This increase can be linear, as demonstrated in Figure 2 but might also be convex/concave. In the center of the stimulating area is the "target" result, the level of performance at which the "target" bonus is compensated.

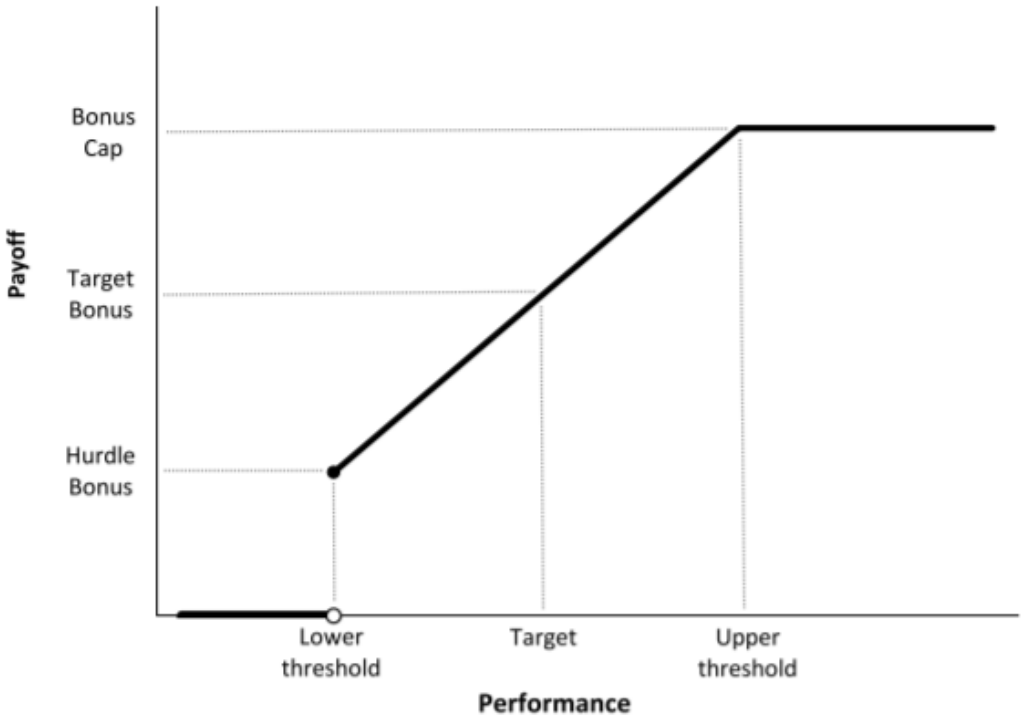

Figure 2 Bonus plans. The figure demonstrates a typical bonus plan (which uses only one performance metric). No bonus is compensated until the performance achieves the lower threshold, after which the pay goes to "overcoming difficulties bonus". However, the bonus is limited to a 2nd threshold. In the "enabling area" between the lower and upper thresholds, the bonus raises efficiency. This growth may be linear, as illustrated in the drawing, but can also

be convex/concave. In the center of the stimulus is the "target" level of performance at which a "target bonus" is compensated.

The difference in wealth caused much more due to changes in the value of participation interests than due to changes in bonus payments (Hall and Liebman, 1998). The connection between the actions of managers and the performance metrics that underlie bonuses are often more direct than the relationship between actions and changes in stock prices. For example, the manager can understand how entering into a new contract affects profits and sales, but maybe much less confident about the impact on the stock price. The resulting stimulating effects bonus plans can be stronger than suggested simply by measuring well-being and performance sensitivity (Murphy, 2013).

2.1.3. Equity-based compensation

Most CEOs' compensation packages come in the form of equity. Generally, equity-based compensation gives a strong incentive because there is a link between a firm's stock price performance and the value of the grant. When the value of a firm rises, the value of equity also rises, giving an incentive for the CEO to work hard to improve the company's performance and market value. There are two kinds of equity-based pay: restricted stock and stock options.

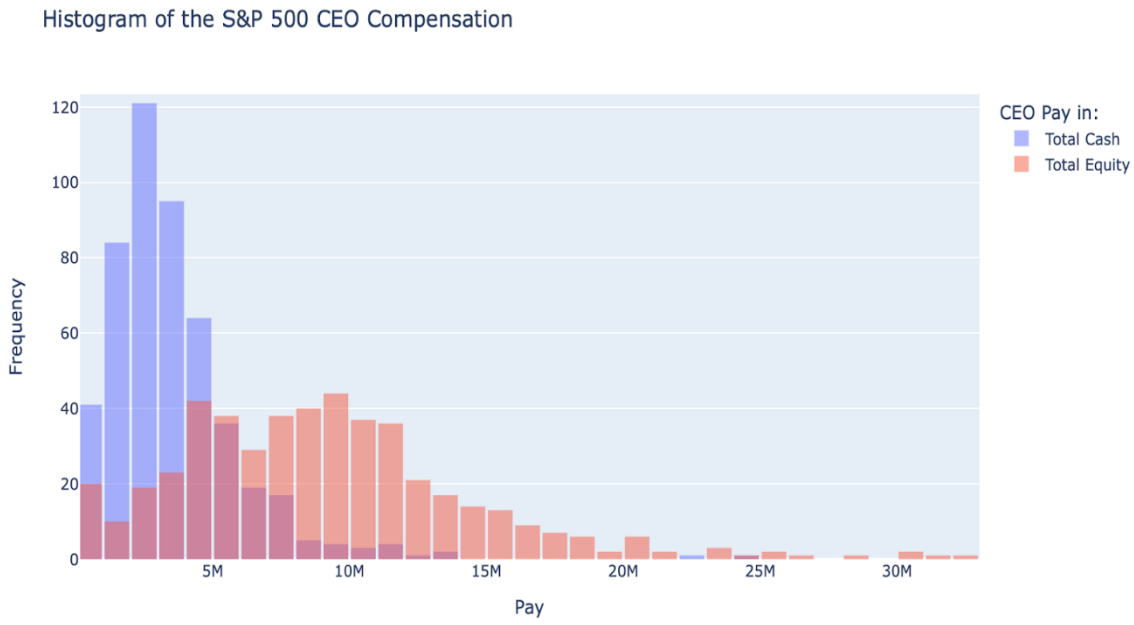

Figure 3 CEO Compensation in total cash and total equity.

The statement mentioned above was verified by analyzing S&P 500 CEO compensation data (refer to Figure 3). It is obvious from the chart that the total cash payment to executives has a lower mean value than the total equity. Furthermore, its distribution is peaky shaped, and the standard deviation is relatively lower; therefore, it can be concluded that the firms' total cash payments to CEOs do not differ a lot. On the other hand, the total equity payment distribution is flat shaped and is situated on the right side of the total cash data. It can be concluded that the firms prefer to pay their CEOs more in equity rather than cash and their amounts are not uniform.

Figure 4 Total equity compensation in various sectors

By analyzing the same data grouped by the sectors, we can conclude that the total equity payments within the groups are almost consistent (see Figure 4). Only consumer cyclical and technology sectors differ from others by having six and three outliers, respectively. The communication services sector pays relatively higher than the other sectors as equity compensation.

2.1.3.1. Restricted stock

The restricted stock awards are limited, meaning that CEOs must stay with the company for a certain period to avoid forfeiting the stock. Restricted stock awards have a vesting term of five years. The CEOs may have a strong motive to remain with the company to take advantage of the grants Oyer (2004). The CEO is unable to sell the shares during the vesting term. Generally, restricted stock grants make it is evident that CEOs' interests align with stockholders.

2.1.3.2. Stock option

During the 1990s, stock options were the principal method for aligning CEOs' interests with those shareholders. Most stock options are as given at the money. Usually, the duration of a stock option award is ten years. So, only a small percentage of options are kept at maturity; instead, most options exercise early, and the stock is sold. Because stock prices rise every year, most stock options will move into the money. Even though, Hall and Knox (2004) believe that a significant portion of option grants will remain submerged during a certain period of life. A vesting schedule is generally linked with stock options, like 25% vest per year, full award vests after three years, and matures after seven years.

In the past, options awarded at money or out of money did not calculate against earnings. Options that are in the money or options with a different exercise price did calculate against gains. This shows why most options are granted at the money and why not often see with indexed options. In the future, options will be more expensive, that it is less probably to see many or great option awards. Moreover, option expensing indicates that it is more probable to see indexed options and other forms of grant to CEOs.

Favorable tax treatment (regulating pension plans), the attention here is on non-qualified options, which are the stock option that CEOs often get. Non-qualified options do not have tax implications at the period that they are released. When the option is exercised, the CEO pays tax the variation between the stock price and the exercise price at the income tax rate. The company subtracts the variance between the exercise price and the stock price as compensation expenditure. If the CEO sells the stock in the future, then he or she must pay a tax contrast between the sale price and the market price is subsequently taxed when the option is exercised at the capital earnings tax rate. Due to

the company may subtract the variance between the stock price at exercise and exercise price as pay expenditure.

Favorable tax treatment significantly rises in the use of stock options, and it shows why the use of stock options raised during the 1990s. Most of the time, stock options do not appear on financial statements. In the past, companies were obligated to reveal awards of stock options; however, they had not taken an accounting charge for them. Consequently, stock options were an excellent way to provide deferred compensation to CEOs without incurring financial obligation, even though there is an economic cost related to option grants. Favorable accounting treatment only assessed to options given in or out of the money with a specific exercise price and date help clarify the spread of granting stock options at the money. According to Murphy (2002), accounting treatment leads corporations to mistakenly view stock options as a low-cost tool for remunerating CEOs.

In the past, stock options were reported in two methods in firm proxy statements. The value of an option award presumption the stock price rises around 5 % or 10 % yearly. From scholars' point of view is better using the Black-Scholes model. The essential point of utilizing the Black-Scholes model is that it might exaggerate the worth of the option award to CEOs. Hall and Murphy (2002) claimed that CEOs are risk-averse and keep large, non-varied positions in their own companies; they will value stock options at a low level rather than a well-diversified external investor.

On the other hand, CEOs have more information than external investors about their companies' prospects. Yermack (1997) stated that CEOs regularly get option grants before positive news is publicized, and they frequently exercise options before negative news. According to Lie (2005) and Heron and Lie (2007) claimed that stock option

grants a lot of CEOs had grant periods that are conspicuously close to the company's lower stock price. As exercise prices are imposed on the grant date, CEOs can earn a lot from the timing. The definite grant day is weeks or months after the selected grant date. Stock options had become the mechanism for providing incentives to CEOs. Obviously, stock options are linked to the company's stock price performance. In many cases, stock options do a great job of aligning the CEO's interests with those of the shareholders. It is confirmed that as options move to the money. On the other hand, stock options became a mechanism by that CEOs could get rents from companies.

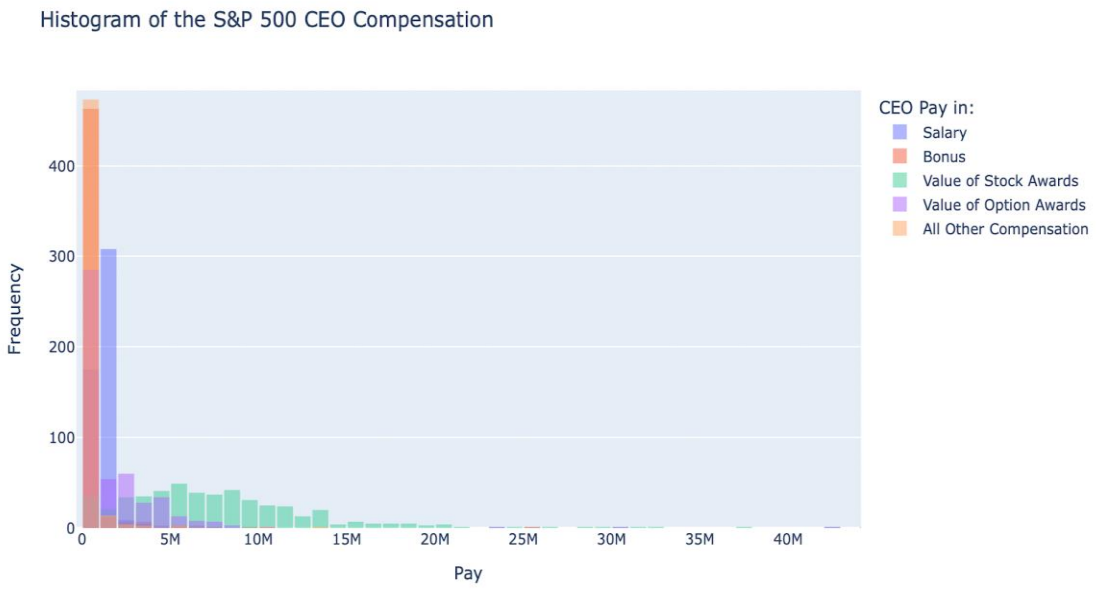

Figure 5 CEO pay in salary, bonus, value of stock awards, value of option awards and all other Pay

In the previous sections, it was discussed that the firms prefer to pay more in equity payment rather than cash (see Figure 5). In-depth analysis of the CEO compensation data revealed that within the former payment structure, stock awards are more preferred than option awards. The primary reason is that CEOs can abuse the option awards by taking high-risk short-term actions to increase the profit.

2.1.4. Other forms of pay

There are three essential components of CEO compensation that are perks, pension, and severance pay. Firstly, perks include a wide range of goods and services supplied to executives, club members, personal security, etc.

2.1.4.1. Perks

Perks include a wide range of products and services supplied to top executives, such as corporate aircraft, membership, and individual protection, and may account for a sizable amount of CEO salary. Because of not enough disclosures, perks (in common with pensions and severance pay have frequently been called to as "hidden" payment that can allow CEOs to secretly gather rents (Jensen and Meckling). As noted by Yermack (2006) and Grinstein et al. (2015), benefits seem to be a more general sign of poor corporate governance as the reduce in the value of the firm after the release of benefits significantly exceeds their actual price.

Nevertheless, benefits can result from optimum contracting; it is best to provide incentives. Delivering perks is desirable if a company's cost of getting the products and service that the management wishes is cheaper (Farma, 1980), if perks permit the top executives out pre-tax income, or if they enhance executive efficiency. For instance, a corporate plane can provide the executive arrives at the meeting rested and therefore can negotiate successfully. Researchers present evidence that perks are used compatible with the productivity improvement hypothesis, for instance, to help the most valuable worker save time. How much perks are justified by the efficient tools suggested by Fama (1980) or tax savings stays an open issue.

2.1.4.2. Pensions

Defined benefit pensions are a great component of the compensation for many CEOs. Since defined benefit pensions are usually unsecured and unfunded claims against the company, they might be justified as a form of "inside debt" that decreases risk-shifting by aligning CEOs with other unsecured creditors. On the other hand, in part due to SEC release regulations that did not force companies to publish the actuarial values of CEOs' pensions, Bebchuk and Fried (2004) claimed that executive pensions are a form of stealth remuneration.

Using existing data on pension, researcher present evidence that CEOs assessed benefit plans to generate more value. CEOs with pension plans get an exceptional one-time raise in pensionable bonuses the year before a pension plan suspend and the year prior to retirement. When CEOs reach the age of retirement, the discount rates used to compute the one-time benefit distribution are decreased. These changes are more probably in companies with poor governance, implying that they are not in the best interests of shareholders.

CHAPTER 3

3. Factors affecting CEO compensation

3.1. CEO compensation by countries

Academic studies on CEO compensation have concentrated on the United States due to information availability. While the United States has required disclosure of cash compensation from the '90s, different countries have just required the disclosure of total cash pay for all CEOs without disclosing individual information and only limited data on other forms of compensation (Murphy, 2003). For many nations, this obliged the academics rely on sector analysis (Abowd and Boggano, 1995) by concentrating just on the cash component of compensation (Kato and Rockel, 1992), or assess the total remuneration of the total management group (Bryan et al., 2006; Muslu, 2010). According to the figure below, Canada and the United Kingdom are prominent exclusions with more substantial transparency. According to practically all comparative compensation comparisons, CEOs in the United States are rewarded more and get a bigger proportion of their income in equity than CEOs in other listed companies**.** Several studies depend on remuneration consultant investigations (Abowd and Boggano, 1995). As Zhou (2000) stated, it verifies that top executives in Canada got less than half the compensation of CEOs in the United States, got a small percentage of salary in equity, and had smaller wealth performance sensitivity. Taking tax information from Japan, Nakazato et al. (2011) discovered that, regulating for company size, CEOs in Japan received barely 20 % of the compensation of their American CEOs.

Conyon and Murphy (2000) found that when comparing top executive compensation in the United States and the United Kingdom in the past and adjusting for company, sector, size, and other CEO characteristics, we can see that in the U.S., top executives paid nearly two times more and had six times greater wealth performance sensitivity. According to Conyon et al. (2011), the United States compensation premium dropped from a median of around 199 % to 80.9 % for years 1997 and 2003. They claim that the compensation premium entirely disappears by 2003 if top executive compensation is regulated for the risk resulting with greater equity-based compensation.

Last year, there has been significant improvement in disclosing (Murphy, 2013). Ireland and South Africa have required disclosure of top executive compensation starting from 2000 and Australia since 2004. According to an earlier request by the European Committee, countries such as Belgium, France, Italy, Netherlands required comprehensive disclosure by 2006, as did non-E.U. Countries such as Norway and Switzerland.

Taking recent available data from listed 14 countries that enforced individual compensation disclosure, Fernandes et al. (2013) claim that the United States compensation premium has become relatively lesser, controlling for standard company features (for example, sector, size, and performance) as well as ownership and board size, top American executives rewarded only 26 % more than other listed countries in the 2006 year. In the United States, companies tend to have more ownership and autonomous board of directors related to higher remuneration and more equity-based compensation. They have fewer major internal shareholders, such as families, linked with lower remuneration and equity-based compensation, possibly because direct supervision minimizes agency conflicts. As stated by Fernandes et al., he tried to

distinguish compensation levels for the risk of equity-based compensation. In fact, in the United States, companies still give more stocks, the compensation premium drops, even more, becoming statically negligible by 2006.

	Compensation (M$)			Pay Structure (%)			
Country	Number of Observations	Mean Value	Median Value	Salary	Bonus	Stock Options	Other Forms of Pay
Switzerland	210	4.86	2.37	51	14	24	11
Belgium	218	1.72	0.87	60	20	10	10
Norway	227	1.38	0.39	77	10	7	7
Ireland	406	2.73	1.15	47	15	27	11
Italy	488	3.37	1.94	57	14	9	20
Germany	582	3.11	1.93	42	40	10	8
Netherlands	583	1.89	1.17	49	19	19	13
Sweden	659	1.72	0.67	65	13	2	20
France	1455	2.52	0.88	63	18	16	3
U.K.	3957	2.29	1.28	48	17	26	9
Outside the U.S.	8785	2.42	1.23	53	18	19	10
US	13361	4.90	2.80	30	22	42	6

Table 1 **CEO Compensation across 11 countries.** The table displays the level and composition of top executive compensation across 11 countries from 2002 to 2009. The data for the United States are taken from ExecuComp, while non-U.S. information is from BoardEX. All non-U.S. pay numbers are transferred to U.S. dollars using annual medium exchange rates. Bonus involves all non-equity incentive pay, Stock and Options involves the date of award values of stock options and restricted stock (consisting of performance shares) and other forms of benefits.

It is shown in Table 1 that some of the info used by the Fernandes et al. analysis. The example taken from ExecuComp and BoardEx involves top executives of the top listed companies with available records from ten E.U. countries (such as Italy, France, Germany, United Kingdom, United States, and so on). Executive compensation keeps the highest in the United States and surpasses that by 102 % on a median in other nations. Variations in taxation increase rather than reducing disparities in gross compensation,

according to Pikettyet al. (2014), discovered that top executives are compensated higher in countries with low marginal tax rates.

Table 1 and Figure 6 also demonstrate significant variations in the composition of compensation among nations. Stock and options pay is a great proportion of CEO compensation in the United States than in other countries, partially explaining why top American executives are awarded more. American top executives get around 42 % of their salary in terms of stock and options, whereas other nations just 19 %. However, salary is about 53% of top executive compensation out of the United States and just 30 % in the U.S.

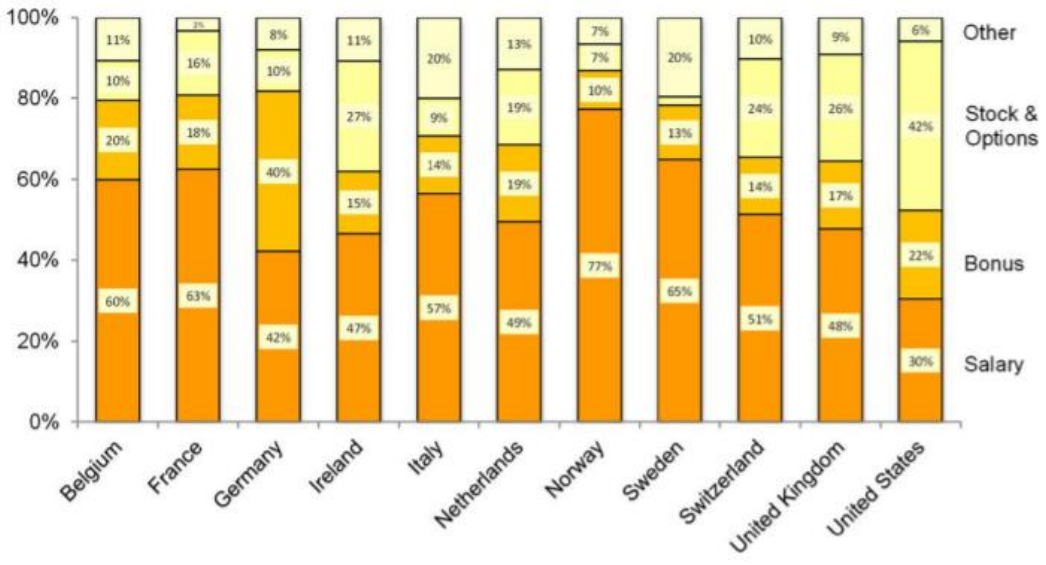

Figure 6 **The structure CEO pay by country.** The graph depicts the medium composition of executive compensation in 11 countries from 2002 to 2009 years. The data for the United States is taken from ExecuComp, and for other countries, information is from BoardEx. Bonus involves all non-equity incentive pay, stock, and Options consisting of the date of award values of stock options and restricted stock (consisting of performance shares) and other forms of benefits.

Overall, wage levels in the United States are much higher by comparing with other nations. Consequently, the compensation difference has reduced in the last few years, and management for the company and compensation characteristics decreased. American companies become larger and compensate their top executives more with equity; this clarifies large of the United States compensate premium.

3.2. CEO compensation during the pandemic

Despite a rough year, total pay continued to increase for S&P 500 top executives. The average total remuneration for CEOs for the 2020 year raised around 5%, reaching $ 12.7 million. The increase was slightly greater than the 4.1 % growth, which was stated in the 2019 investigation. According to the annual Equilar | A.P., research has discovered executive compensation has risen persistently over the last five years. Since equity-based compensation drives CEO compensation values, a hot market affects greater rewards. Long-term incentive packages include stock and options awards that are the main form of remuneration for the top executives, and the figures stated to the SEC (Securities and Exchanged Commissions) are valued entirely on the day they are awarded, even though the grant is not available to the Chief Executive Office for several years, or vice versa.

In this investigation, average compensation for S&P 500 Chief Executive Officers fell by 2.5% in 2020, while yearly cash bonuses dropped by 9.1% (see Figure 7). This impact amounts of earnings obtained last year, demonstrating that the Covid-19 pandemic had a significant impact on pay values, even though the total figures show higher earnings due to the Securities and Exchanged Commissions are reporting directive principles and prospective character of top executive equity-based awards.

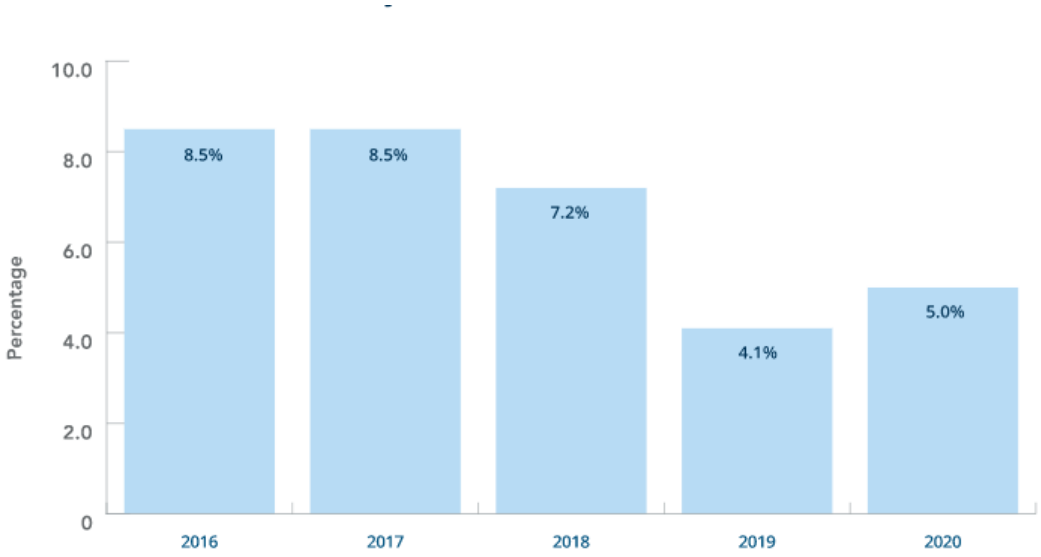

Figure 7 Median change in compensation for CEOs (2016 – 2020)

3.2.1. The impact of Covid-19 on sectors

Scrutiny is increased throughout times of economic downturn resulting from unforeseen events. It is unclear how much compensation top executives have to get when company profitability suffers or how incentives must alter to reflect an unexpected fall in the operating circumstances. The problem of appropriate compensation can raise unexpected public attention when firms engage in cost-cutting actions or lead to decreasing salaries for typical workers who as their managers did not cause the crisis.

During these periods, the board have to take the right actions from an economic and societal perspective. The board wants to maintain the incentives offered to the top executives, acknowledging that a reduction in compensation punishes talented CEOs through no fault of their own and who have additional career choices with competitive companies.

The Covid-19 pandemic huge impact on companies' financial forecasts and economies all over the world. As the virus is still spreading, the lasting effect is unpredictable by tracking how this virus impacts business decisions and pay systems.

As a result of the pandemic, corporations had to change the base salaries of their executives to cope with the crisis. As companies continue to adjust to a Covid environment, there has never been a more difficult time ensuring that they provide fair compensation packages to attract, retain, and match the best talent to ensure their companies' success. Companies need to be productive about their pay strategy in a post-Covid world, rather than reacting too late after top executives leave a company.

According to the given Table 2 below, we can see that the communications services sector had the highest average executive compensation, totaling around $19 million, around the 13 different firms in that industry. Temporarily, the user defensive industry had the greatest increase, with average executive compensation rising around 20.3% from $14.1 million in 2019 to almost $17 million in 2020. During the Covid-10 period, requests for nourishments, drinks, personal stuff, products, services, and education compared with others have significantly raised demand throughout the epidemic; this boosted the fortunes of the company's Chief Executive Officer (CEO). An average cash incentive of $2.2 million was seen in no other sector.

The average financial incentive in each of these industries was considerably over $3 million (approximately $3.6 million for telecommunication services and around $3.4 for user defensive)

Top executive compensation in the energy and healthcare industries fell significantly, with energy down just 10.2% and healthcare down 8%, reflecting the difficult year these companies had during the Covid-19 epidemic. However, the healthcare industry had

reported the highest CEO compensation packages in Equilar | A.P.'s past research in 2019; when it slid to second, it will drop one spot more in 2020.

INDUSTRY NAME	NUMBER OF COMPANIES	2020 MEDIAN CEO PAY	CHANGE
Communication Services	13	$19,097,582	5.5%
Consumer Defensive	14	$16,961,205	20.3%
Healthcare	43	$14,125,674	-8.0%
Financial Services	62	$13,178,626	8.8%
Basic Materials	13	$12,788,259	2.5%
Energy	19	$12,390,379	-10.2%
Technology	45	$12,319,624	12.6%
Industrials	50	$12,257,550	4.2%
Utilities	16	$12,108,926	10.5%
Consumer Cyclical	40	$11,714,109	4.1%
Real Estate	27	$10,094,761	5.0%

Table 2 Sector gains (and losses) show Covid's impact

3.3. Compensation for non-performance

According to shareholder value theories, high compensation may be justified both by attracting productivity and management talent or an ex-post incentive for outstanding performance. On the other hand, researchers of the rent extraction theory claimed that high compensation and substantial rise in salary are frequently irrelevant to performance.

3.3.1. Pay for Luck

By considering a typical agency situation in which risk-neutral shareholders attempt to persuade risk-averse top managers to maximize the firm performance. Due to the difficulty of observing the CEO's acts, shareholders will be unable to sign a contract that defines specific actions. In this case, shareholders will provide the CEO a contract in which her/his remuneration is tied to the company's success. Let consider p as firm performance and a as CEO's actions, which is assumed unobservable by shareholders. The CEO's actions and random factors may influence firm performance. The random factors are divided into different categories: what shareholders can see and what cannot.

Supposing that performance may be expressed as $p = a + \delta o + u$, where o is a visible component, and u is an unobservable noise element. The best incentive system for this model is calculated by Holmstrom and Milgrom (1987).

Let's indicate this incentive scheme as shareholders can see only two variables, p, and o, which incentive system may be based on these two variables exclusively. Shareholders will only reward CEOs for results that are not observable:

$$\boldsymbol{s = \alpha + \beta(p - \delta o) = \alpha + \beta(\alpha + u)}$$

To put it another way, the best incentive structure separates visible luck from performance. Leaving o in the incentive scheme gives no further benefit to the principal by meaning the agent does not influence o. There is no incentive effect for motivation their on o. In addition, aside from providing no benefit, linking pay for luck quite costs principal, since variation for incentive schemes is larger, in this case, the principal must raise mean pay to remunerate for risk-averse CEOs.

Explicit incentive contracts, such as options, seldom filter. For instance, options are almost rarely, if ever, linked to market performance. But it does not have to be incomparable with a lack of filtering. It is possible that discretionary components of compensation, for example, bonuses and wages, are used to filter. Theoretically, these components might alter sufficiently to negate the impact of the option's value variating with luck. If the board of directors monitors the luck of the CEO's salary, bonus, and the number of new options given each year, the overall compensation package of the CEO will stay free of luck.

Empirical Methodology.

The majority of the empirical literature on executive compensation assesses an equation in this form.

$$\boldsymbol{y_{it} = \beta * perf_{it} + \gamma_i + x_t + a_x * X_{it} + \in_{it}}$$

In what respect $\boldsymbol{y_{it}}$ is a total executive compensation in the company $\boldsymbol{i}$ at the time $\boldsymbol{t}$, $\boldsymbol{perf_{it}}$ is performance measurement, $\boldsymbol{\gamma_i}$ if the fixed effect of company and $\boldsymbol{x_t}$ is fixed effect of time, $\boldsymbol{X_{it}}$ is firm and top executive specific variables, such as company size and tenure. The coefficient $\boldsymbol{\beta}$ shows the strength of compensation for performance relationships.

Usually, performance is assessed both as changes in accounts returns and stock market returns. In the measurement of compensation $\boldsymbol{y_{it}}$ Most of the works of the literature concentrated on the flow of new pay. Perfectly, remuneration in a particular year would also involve changes in the value of unexercised options awarded in prior years (Hall and Liebman 1998). This computation requires data on the cumulative stock of options provided by the CEO annually, data that involves only information on new options granted annually.

By following the literature and estimate equation using the Ordinary Least Squares (OLS) model to assess the general sensitivity of compensation to performance. To evaluate the sensitivity of pay to luck, it is necessary to apply the two-step approach. So, for the first step, by estimating performance using luck with the purpose to distinguish differences in performance resulting from luck. In the second step, we can see how sensitive compensation is to these expected changes in performance. This two-stage approach is an instrumental variables prediction in which the luck variable serves as the performance instrument.

Allowing *o* to be the luck, the first equation we impress is:

$$\boldsymbol{perf_{it} = b * o_{it} + g_i + c + \alpha_x * X_{it} + e_{it}}$$

From this formula, estimating a company's performance using only data about luck. This estimated value is referred as $\boldsymbol{perf_{it}}$. Then considering how remuneration replies to anticipatable changes in performance because of luck:

$$\boldsymbol{y = \beta_{luck} * perf_{\iota t} + \gamma_\iota + \widehat{x_t} + \alpha_x * X_{\iota t} + \in_{\iota t}}$$

This calculated coefficient $\boldsymbol{\beta_{luck}}$ shows how sensitive compensation is to changes in performance caused by luck.

3.3.2. Gratuitous payments

Another thing that is unknown mainly among non-executive employees is giving payments or benefits to CEOs more than their contractual obligations when they get fired or resign. These are called "gratuitous" payments.

They might involve forgiveness of a loan, expedited vesting of options and restricted stock, increased pension benefits (for instance, by crediting top executives with extra years of service), and promises.

3.3.3. Severance pay

Severance payments, also commonly known as golden shakes, are routinely given to leaving the top executives. Rusticus (2006) stated that ex-ante separation contracts, signed when top executives are recruited, usually equal two years of cash compensation. The ex-post pay for leaving top executives is usually greater than indicated in the ex-ante agreement (Yermack, 2006b; Goldman and Huang, 2015). Their use is common among fired rather than retiring top executives and seems to pay top executives for failure. According to Bebchuk and Fried (2003), the need to bribe an ineffective top executive weakens the preliminary incentives and assumes that top executives have authority over their board of directors.

Severance payments are not reliable with shareholder value models in which the risk of dismissal reduces the threat of moral damage. To maximize the use of early incentives, top executives should receive the lowest salary upon termination. Despite that, other shareholder values rationalize severance compensation, such as encouraging CEOs to disclose negative data or investigate new hazardous techs. It is debatable whether these pressures can be justified.

CHAPTER 4

4. CEO and firm characteristics

4.1. CEO Importance

It is considered that the executive of a company has power over the board of directors, even if the executives are appointed by the board (Allen, 1974). Leonard (1969) approves that the executive is a leader and has the authority to nominate indirectly. For instance, the top executive may be a member of the board of directors and organization meanwhile. Hence, they have the option to choose themselves. Additionally, Vancil (1987) is doubtful about the competence of outside directors to make independent decisions about the company and the top executives. Mace claimed the importance of the top executive: "the authority of control usually belongs to the chief, not the board. It is the chief who, like the family owner-managers in a small company, defines much of what the board does or not. The board of directors is the creation of a top executive. The board should agree with the top executive's decisions. According to the agency theory of Jensen and Meckling (1976), top executives act in their own interests, avoid the risk, and pursue objectives that are not consistent with those of shareholders. Thus, the top executive will participate in projects and activities that are advantageous to themself without considering the outcomes for shareholders. The board of directors was created to avoid this occurrence. It is their responsibility to supervise the top executive to take action on behalf of the firm. This implies that companies with better control by independent directors should have greater company performance**.** Combs, Ketchen, Perriman, and Donahue (2007) did not discover the important link between control of

directors and company performance. It confirms the fact that the top executives have a significant influence on the company. In addition, Adams et al. (2005) examined how the power of the top executives has on the difference of company performance. The findings demonstrated that the difference in company performance is higher when the top executive has more power. Therefore, the top executive who has greater power does influence the decision-making procedures and strategic decisions. Though, top executives face regulations set by authorities that diminish their power (Finkelstein & Boyd, 1998).

Further study has been done on whether a distinction between top executives matters. Norboom (1989), for instance, stated some differences between top executives. There are three different areas. First, corporate factors such as tenure and operational background distinguish top executives and other differences depending on the country. Characteristics are like education and family status. Finally, the style of management is various. Based on this latest data, the following hypotheses are put forward:

Hypothesis:

Top executive characteristics have a crucial influence on company value.

4.2. Board of director

It began throughout the industrial revolution: the commencing of official companies. During that time, the firms belonged to their founders. They had either ownership or control over the firm. Though, the firm's size was growing to such an extent that the owner could no longer run the company independently. This is the beginning of the division between ownership and control. New CEOs were assigned to head the firm.

Previously, these CEOs did not have a private equity investment in the firm. They were paid by their remuneration (Baysinger & Butler, 1985). The firm allowed outsiders to invest in a small portion of the firm in order to raise the firm's growth. The investors became shareholders of the company and made a profit when the company raised in value. First, shareholders were able to control the day-to-day duties of the firm. But this was reduced after the company's size achieved such a large size that it was longer impossible. In addition, the number of shareholders raised, which made it difficult for each person to impact the firm**.** There were a lot of shareholders to give every shareholder control over the company. Thus, a board of directors was formed. Every shareholder can impact the firm through a shareholders' conference. The board of directors attended these conferences and had to listen to the opinions of the shareholders. The board of directors was a significant part of the organization since it selected new CEO for the company. Consequently, CEOs must listen to the board of directors. The issue that occurred from CEOs was that they did not usually have the same incentives as shareholders. The CEOs' focus was to receive their remuneration. Thus, objectives were set, and once the CEO attained those objectives, they would receive their salary. Though, the objectives did not necessarily mean higher company value.

CEOs acted risk-averse and in self-interests in order to achieve the objects imposed by the board of directors (Jensen and Meckling, 1976). Moreover, some top executives began to commit fraud in order to raise their values via accountants. For instance, the 2001 Enron controversy of how great an influence this has around the world. Enron could conceal billions of dollars in debt from failed transactions and projects by exploiting accounting flaws and bad financial reporting. Ultimately, this resulted in Enron's insolvency, occasioning the shareholders to lose all the capital they invested in

the company's shares. It raised the interests for corporate governance from authorities, shareholders, and bankers. It began with a better oversight over the top executives (Nelson, Price & Rountree, 2008).

4.3. Overall CEO characteristics

4.3.1. CEO Tenure

A few studies have analyzed the impact of top executive tenure on executive behavior and company outcomes Ouyang and Chen, (2018). Based on relevant research, Miller and Hambrick (2006) claimed that top executives do not think, act, and even behave the same during their tenure.

Consistent with this statement, Miller (1991) claimed that during the first ten years of top executive's tenure, there was a leveling out of the operating environment for companies resulting in better performance. Consequently, after ten years in the company, various patterns became evident when the leveling of the company's working conditions became less noticeable**,** resulting in lower company performance**.** The same results observed by Miller and Shamsie (2001), that top executive tenure had an inverse U-formed the link with company performance. The findings imply that CEOs with various tenures usually behave in different ways.

In compliance with Simsek (2007 theoretically proved and empirically tested the link between top executive tenure, risk-taking tendency, and company performance. His finding shows that the extension in top executive tenure introduces more risk tendencies that enhance the company's performance. In the opinion of Simsek (2007), changes in

risk-taking and readiness to accept strategic risk are probably to appear during the CEO's tenure.

In other words, the more the top executive has experience in risk management in the past, the less uncertainty he or she may perceive as to the extent or possibility of losses related to strategic risk-taking. However, this decrease in the level of uncertainty is due to 3 considerations. First and foremost, as the top executive's previous experience grows, it enhances the selection procedure by allowing them to recognize those risky actions with a higher chance of success. Secondly, the extension in employment and work experience permits the CEO to evaluate and justify actions that could be considered to extremely risky in lack of such experience more thoroughly. Lastly, more experience of the top executive can increase the effectiveness of these risk-taking activities. In line with the above arguments and evidence, short-tenured Chief Executive Officers (CEOs) are less likely to take risks until they develop a deeper knowledge of the company and the environment, adequate experience, and the required leverage through a strong link with key stakeholders. In this case, long-tenured top executives will take more strategic risk than short-tenured top executives. So, assuming that,

Hypothesis:

The tenure of the Chief Executive Officer will mitigate the link between the CEO's long-term incentive pay and risk-taking actions. This link will be strengthened as the top executive tenure grows.

4.3.2. CEO age

Following (Nemec and Worrell, 2006,), as with tenure, the age of CEO has been the subject of research in the field of organizational demographics. It is claimed that CEO age contains a set of personal values, work experience, and thinking that shape his or her relations and behaviors, which are ultimately reflected in company actions and results (Davidson, Nemec & Worrell, 2006). For instance, Rhodes (1983) stated that some mental changes are concerned with aging. It involves changes in values, desires, beliefs, and attitudes. In compliance with Rhodes, these variations may ultimately impact the attitudes and choices of the person concerning various strategic decisions and alternatives facing the company. Therefore, strategic options and decisions may reflect the intentions and interests of the top executive rather than the holders, creating organizational problems.

Differences in risk approaches and preferences between CEOs and shareholders are an important area in which the age of the CEO becomes a necessary factor in mitigating or reducing the extent of such differences. For instance, the investment horizon of a shareholder in the company is endless. Nevertheless, CEOs confront with a limited time horizon in their tenure. It becomes more visible, mainly when the top executives are older and close to resigning (Harvey and Shrieves, 2001). According to this view, Lodger, and Martin (1987) claim that younger top executives tend to have longer, promising jobs at the company; hence, they are less prone to short-sightedness in making strategic investment decisions behalf of the company. In addition, Gibbons and Murphy, 1992) argue that young top executives tend to be more worried about being punished by the managerial external labor market if they cannot meet shareholders' goals. So top executives are not prone to opportunistic behavior.

Instead, since the aging of top executive is usually linked with mental consequences, like changes in values, demands, and experiences (Davidson, Rhodes, 1983), it can be anticipated that the top executive's attitude and preferences towards risk to change as he or she becomes older. For instance, as CEOs age and get older, they tend to attach greater significance to financial and job stability and security requirements (Rhodes, 1983**).** Moreover, as older top executives have a limited perspective for investment as they approach resigning (Harvey & Shrieves, 2001), they are less prone to engage in risky and long-term investment plans. In this way, top-aged executives can avoid personally undue exposure to hazardous and risky ventures with the company's investment opportunities. The age of top executives to have a deterrent influence on the link between long-term incentive pay and strategic risk-taking behavior, lessening the positive link forecasted by agency theory. Consequently,

Hypothesis:

The top executive's age will influence the link between long-term incentive pay and risky behavior. This link will lessen as the top executives become older.

4.3.3. CEO Gender

The absence of female CEOs is a problem that comes up frequently in studies on this subject. Nevertheless, studies have shown that women CEOs appear to be more risk-averse than male CEOs. Conforming to Sunden and Surette (1998) explain why women have a lower percentage of board members. Female CEOs are reluctant to take risks, which was also confirmed by Huang and Kisgen's (2013) research, which indicated that female CEOs are less likely to make acquisitions and long-term liabilities. In addition, there are also discoveries that female CEOs are less likely to exercise stock options

much earlier than male CEOs. (Faccio, Machica, et al. 2011) confirmed that companies headed by female CEOs who are risk-averse had lower leverage, less variable profitability, and have a stronger probability of survival than male CEOs.

According to Adams and Dunk (2012), CEOs that are women take on greater risks than female CEOs, as a result, they suggest having females on the board does not imply that the board is more reluctant to take risks. From this point of view**,** the presence of female CEOs and corporate risk-taking is a negative connection.

4.3.4. CEO's educational background

The last characteristic, I will look into is the CEO's level of education. Different results have occurred in the literature; one researcher, Davdov (2014), discovered that CEOs with a legal degree have fewer operational risk incidents. Additionally, CEOs with MBA degrees are good at managing credit risk. Contrary, Beber, and Fabbri (2012) discovered that CEOs with degrees with an MBA are probably more self-confident and risk-takers. Davydov (2012) found that quality of education is essential.

Furthermore, in various cases, it is correlated with decreasing firm risk and increasing company value. But there is another study that Daelleback did, McCarthy et al. (1996) there is no link between CEO education and Research and Development spending. Most publications agree that CEOs with higher educational backgrounds have stronger risk-taking skills and are self-assured about taking risks. As a result, hypothesize that CEO education level and company risk-taking have a positive correlation.

4.4. Firm characteristics

Several firm characteristics may impact the CEO compensation levels, including company size, financial performance, organizational structure measurements, and firm-specific impacts. The most consistent findings of CEO compensation are that there is a positive relationship between CEO pay and firm size Rosen (1992). Company size is generally assessed by revenue; however, other indicators such as assets and workers may reflect the firm scale, structure, and management needs variations. (Rose, and Shepard, 1993).

4.4.1. Firm size

Many additional significant arguments have been raised to comprehend the factors that influence incentive decisions. However, arguably the most substantial conclusion concerning remuneration and incentives, CEOs at larger companies are usually given more incentives; they receive more dollar value and hold less of their companies. As stated by Schaefer (1998) and Hubbard (2000), they also verified this discovery. According to Himmelberg and Hubbard, one needs more ability to run a large company than running a small one; as a result, large company executives are better rewarded. CEO marginal goods rise substantially as the company's scale grows Baker and Hall (2004). That explains both the growth in CEO compensation and the decline in incentives as the size of the company increases. Gabaix and Landier (2008) have demonstrated that even little changes in CEO productivity or skill can result in significant disparities in CEO remuneration by company size.

By analyzing S&P 500 CEO Compensation data, we can observe the clear relationship between firm size and the total pay (refer to Figure 8). Companies, such as Apple, Amazon, Microsoft, Tesla, and Alphabet are excluded from this model as they pay low amounts to their CEOs, even though they have the highest market capitalizations. Market capitalizations are considered as firm sizes and their scale is displayed by the size of the bubble. The color of the plot corresponds to the total pay received by the CEOs. As the radial distance from 0-point increases, bubble sizes increase and the colors change from purple to yellow; therefore, we can conclude that as the size of the company increases, their CEO compensation increases as well.

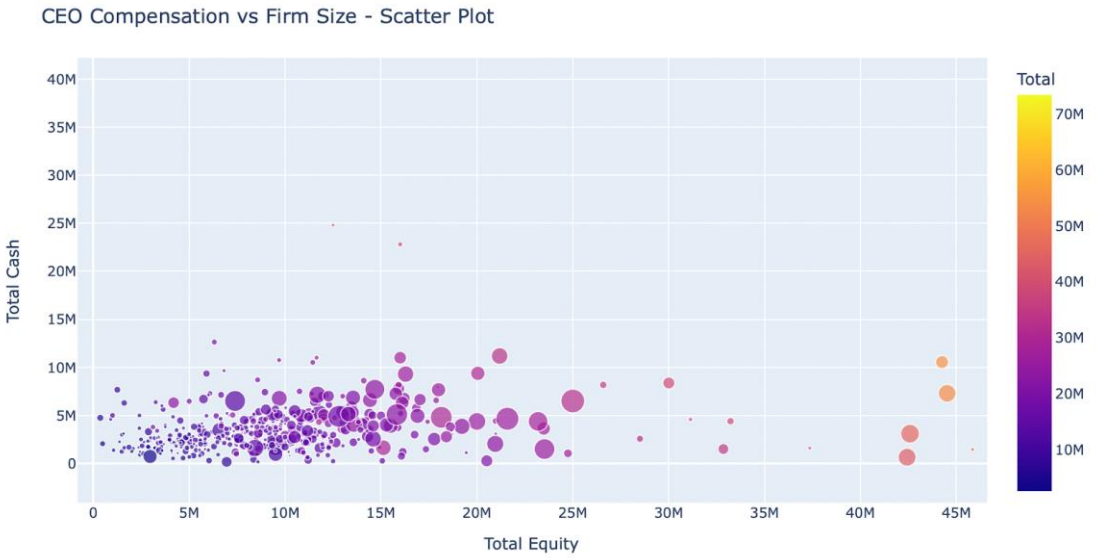

Figure 8 Executive compensation vs firm size (total equity, total cash)

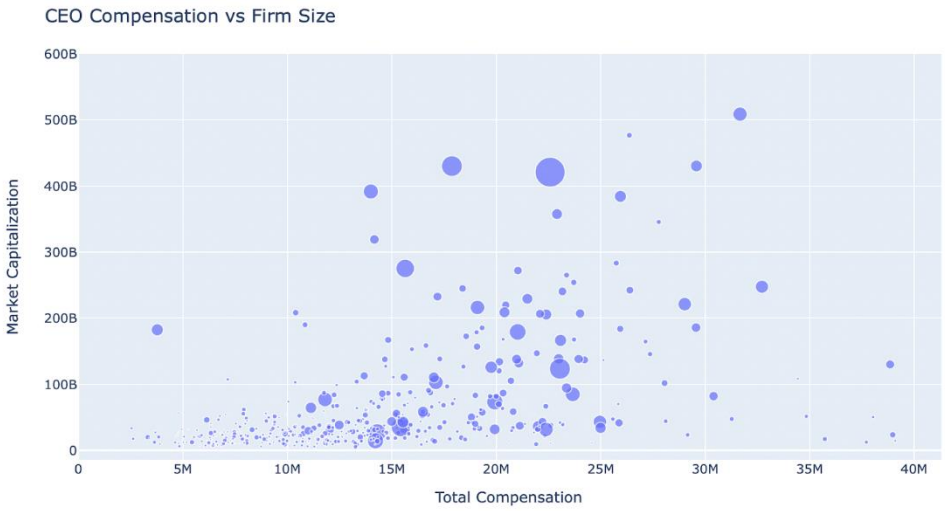

Figure 9 Executive compensation vs firm size (total pay, market capitalization)

The above-mentioned conclusion can be obtained again by analyzing the Total Compensation, Market Capitalization, and Total Revenue data of the firms (refer to Figure 9). In this chart, the size of the bubbles corresponds to the total revenue of the firms. It is obvious from the plot that the companies with higher market capitalizations have relatively higher total revenue and pay more to their CEOs**.**

4.5. The Moderating Role of Top Executive Characteristics

4.5.1. Theory and Hypothesis

In compliance with the agency theory, one crucial area in which principals' and agents' interests differ is their behavior and preferences towards risk. According to (Amihud and Lev, 1981) claimed that shareholders respect their investments in the companies as a separate investment in a well-differentiated portfolio, thus varying their risk quite easily and cheaply, CEOs are generally less able to differentiate their employment risks,

human assets (Wang and Barney, 2006) and ownership stakes in the company. A consequently, the interests of the CEO and stakeholders are inclined to vary on this problem. As shareholders that are well-varied and favor risk-taking strategies, top executives that are limited to their investments in a particular company tend to accept strategies that mitigate risk.

The various mechanism was proposed to reconcile the interests of CEOs and shareholders and help to ensure that CEOs act on behalf of shareholders, thus reducing possible agency problems and costs. These involve incentives alignment, bonding, and supervision (Jensen and Meckling, 1976). One essential incentives mechanism is CEO pay, which has attracted researchers' attention since the last century (Taussig and Barker, 1925). In the following decades, a great amount of research has collected those studies, both the background and the results of CEO pay (Barkema and Gomez-Mejia, 1998). In agency theory, the remuneration structure of top executives provides a powerful mechanism for reconciling traditionally divergent interests of CEOs and shareholders, especially given that companies outcomes such as productivity tend to interact unevenly with various elements of CEO remuneration (Loderer and Martin, 1987;). For instance, Lewellen (1987) claimed that components structured to regulate fore one issue (i.e., time) could tend to exacerbate another problem (i.e., exposure to risk**).**

Researchers claim that a well-designed CEO pay system must decrease managerial opportunism, strengthen positive risk-taking behaviors on the part of CEOs, and encourage wealth-maximizing investment policies, decisions, and attitudes that are expected to increase company performance. CEOs who are compensated huge amounts of long-term incentives e.g., stock options in their remuneration, have to take part in

investments that do not raise shareholder wealth. (Amihud and Lev). In compliance with Hambrick (1996), only little efforts have been taken so far to study the impact of executive remuneration structure on CEO attitudes, particularly in terms of strategic actions and risk-taking behaviors (Milkovich, 1998). Consequently, as Bloom stated, undervaluing the significant role of risk attitudes and actions in this area of study can say when incentive payment causes positive organizational results.

To what degree can the remuneration structure of CEO create alignment between agents and principals, as a result, encourage CEOs to take more risks. Even though the theory of agency assumption that presenting long-term incentives, for example, stock options, in executive pay can assist decrease managerial opportunism and prompt shareholders wealth maximization company investment decisions and actions (Jensen and Meckling, 1976), the empirical results appear to be slightly mixed and more subtle. For instance, DeFusco, Johnson and Zorn (1990) stated a positive connection between the adoption of stock option plans and executive risk-taking actions, assessed as the difference in stock prices and stock earnings. Later findings have given less compelling evidence. As Markman, and Gomez-Mejia (2000) discovered no important connection between long-term incentives for CEOs and executive risk-taking, with a negative link claimed by Gray and Cannella (1997).

According to Sanders (2001), managerial incentives investigated the effect on company decisions and strategies that involve risk-taking by testing the impact of paying the CEO's stock options compensation on the company's strategy of acquisition and sale. But these findings encourage the incentive alignment argument may be difficult considering the previous study on variation. The agreement arising from the divergence literature is that agents have a reason to seek extreme variation that fell outside the scope

of the optimal level for shareholders. Diversification is one of the ways by which they can decrease tenure risk (Amihud and Lev, 1981). In compliance with previous research. Moreover, Wright et al. (2007) tried to study the impact of different components of TMT pay (e.g., wages and bonuses, stock options) on the companies risk-taking. Their research showed that long-term TMT incentives, such as stock options, are consistently and positively associated with a companies' risk-taking.

One of the methods to solve the discrepancies findings on the link between the two variables is to present additional variables to determine the specificity of that link with the third set of related factors. In this regard, Hambrick's (2007) assumption that the characteristics of a top executive can impact how certain top executives may react to a given remuneration agreement is particularly useful. Over the past 20 years, a substantial body of study has been collected analyzing the extent and ways of the impact of CEOs on strategic choices and company results. (Westphal and Zajac, 1995). According to the theory of (Hambrick and Mason, 1984), the line of study has concentrated on the CEO demography such as age, experience, and background have all been identified as determinants of organizational decisions and behaviors. With compliance with Davidson, demographic characteristics such as age, religion, gender, and socioeconomic background affect personal behavior and the behaviors of an organization.

In this research, focusing on top executive tenure and age, Hambrick's (2007) consider the combined impact of pay mechanisms and top executive characteristics.

4.5.2. Methods

Sample and data

This study examined data from S&P 500 firms in the United States. The ExecuteComp source was used to obtain information on executive compensation. The proxy findings included information on the CEO's age, experience' ownership, and board size. Additionally, the Compustat source was used to obtain information on performance, sales, research and development investment, and debt. In line with a prior study, a one-year interval between top executive incentive pay and consequent risk is presented to allow top executives to make investment decisions that can arise from pay schemes and impact the company's risk.

4.5.3. Variables and Measures

Independent Variable

Top executive long-term incentive pay was calculated using the weight of stock options in the top executive's compensation structure. Early study (Gomez-Mejia, 2006) top executive incentive pay was received by calculating the amount of top executive's remuneration that was included of stock options. Stock options were assessed using the Black-Scholes options pricing model, which has been widely used.

Dependent Variable

The understanding of risk and its assessment in the area of strategic management were expressed as "ambiguous" (Sanders and Hambrick, 2007) and "underdeveloped" (Wiseman and Gomez-Mejia, 1998). According to Ruefli, Collins, and Lacunyi, much of the uncertainty in specifying and operationalizing risk stems from strategic study and greatly relies on disciplines' risk measures. Unexpectedly, strategic management academics have not paid much attention to improving more relevant measures to strategy study. Risk is a multidimensional concept, and there are many measures of risk, it is uncertain which of these measures is applicable for strategy examination, particularly for a study like this. For instance, Jamison claimed that "risk is an indescribable concept," which has various explanations and concerns depending on the viewpoint from which it is considered. Furthermore, the distinction between these two types of risk may lead to contradictory findings and erroneous assumptions in strategic studies. For instance, since it is not possible to use the change in profits ex-post as an indicator of risk that it is ex-ante, it is not appropriate to use ex-post measures of risk to describe present or future activities and results of companies involving present or future risks.

According to Ruefli asked for further development of risk and its measurement in strategic study. Sanders and Hambrick (2007), lately suggested a more comprehensive examination of risk in the context of strategic research. Larker claimed that the main risk was the size of the Research and Development investment cost. The higher the investment cost of R&D, the more the firm is at risk. On the contrary, lower R&D expenditures will lead to less impact and produce less risk. According to Sanders and Hambrick (2007), this research uses Research and Development investment expenditure

to evaluate the risk-taking behavior of top executives. This measure was also used and confirmed in the previous study (Hoskisson, Heath, and Hill, 1993). Moreover, the use of this measure as an ex-ante measure is concerted with the purpose of research. There is Involved Research and Development investment expenditure as an indicator of R&D concentration, which is the proportion of R&D outlay to sales.

Moderator Variables

The age of top executive was defined as the age of top executive in years. The tenure of a Chief Executive Officer was determined by the number of years the executive was in the company.

Control Variables

According to previous research on CEO pay and demography, six control variables were included in this research. First and foremost, as Tosi (2000) stated, the company's size is seen to be the essential element determining the top executive pay. Consequently, it was considered for firm size, which was calculated as a log of reports of the company's sales. Following earlier studies showed that past performance is a significant prior of strategic change in corporations, involving remediation and diversification position that has consequential implications for firm risk (Hambrick and Schecter, 1983). Thus, this research based on the influence of this variable by averaging ROE for the 3 years. Next, Sanders (2001) stated that CEO ownership plays a major role in CEO risk taking appetite. Based on these data, the research identified the impact of this important variable. CEO ownership was estimated as a proportion of shares outstanding undertaken by top executives. According to researcher, the debt-to-equity ratio was involved as a control variable. As stated by Pearce and Zahra (1992), includes the board size as a control variable corresponding with other academics. Ultimately, according to

Gilley (2004), it was adjusted for the prior state of the dependent variable by averaging the Research and Development spending over three years.

4.5.4. Analysis and Results

It is seen that Table 3 illustrates standard deviations, means and zero-order correlations between all research variables. The correlation matrix was applied to study two-dimensional correlations between independent, control, and moderator variables. The greatest correlation between these variables was around 0.44. Hence, multicollinearity is barely to be a significant threat to the study (Tsui et al., 1995). Nevertheless, when assessing for moderate impacts, the multicollinearity concerns occurring from the fact that interaction terms are closely linked with their principal variables require corrective action. According to some researchers proposed processes, where the direct terms applied to create the interaction terms were addressed by deducting the mean of each variable from observed values. Information centering these direct terms also makes it simpler to understand the outcomes (Chin, 2003). Moreover, the variance inflation rates were calculated to evaluate the multicollinearity was yet an issue. Not of the variance inflation rates are close to the thresholds value of ten defined by Nette.

The Past Performance variable was measured by the operating performance (return on sales) parameter. Strategic Risk includes the risks relating to the long-term performance of the organization, thus for the Past Strategic Risk variable, the systematic risk (beta) parameter was considered (see Table 3). The influence of executive incentives on company decisions and strategies that entail risk-taking by assessing the impact of

executive's stock option pay on company's acquisition and strategy. So, long-term incentives such as stock options are directly linked to company risk-taking.

No.	Variables	Mean Value	Standard Deviation	1	2	3	4	5	6	7	8	9	10
Control Vairables													
1	Company Size	8853.12	19918.9	1									
2	Past Performance	14.8	80.64	-0.012	1								
3	Past Strategic Risk	0.066	0.1	-0.066	-0.090	1							
4	CEO Ownership	0.015	0.03	-0.096	0.001	-0.076	1						
5	Size of the Board	10.25	2.28	0.294	0.077	-0.211	-0.096	1					
6	Leverage of the Firm	0.236	0.14	0.255	0.129	-0.264	-0.103	0.205	1				
Independent Variables													
7	CEO Option Pay	0.47	0.22	0.047	-0.033	0.438	0.086	-0.053	-0.247	1			
Moderator Variables													
8	CEO Age	55.1	7.1	0.131	0.061	0.057	-0.134	0.071	0.033	-0.043	1		
9	CEO Tenure	6.53	5.5	-0.075	0.047	0.017	0.288	-0.158	-0.174	0.123	0.307	1	
Dependent Variables													
10	Strategic Risk (R&D)	0.063	0.07	-0.053	-0.032	0.848	-0.092	-0.156	-0.275	0.550	0.037	0.086	1

p < 0.10 p < 0.05 p < 0.01

Table 3 Regression evaluation among all variables

The outcomes of the regression analysis are shown in Table 4. In Model 1, which involved the control variables, described around 73.9% of the difference in company's strategic risk. In Model 2, it is presented the top executive long-term incentive measure. The outcomes showed a significant positive link between top executive incentive remuneration, and top executive risk-taking actions /company strategic risk (β=0.074, $p<0.01$; $R2=0.78$, $p<0.01$). The introduction of the top executive option pay variable clarified an extra four percent of the difference in company strategic risk ($p<0.01$). Categorized OLS regression analyses were applied to examine the hypotheses. Control variables, executive option pay and moderator variables were initially entered as main effect estimators of top executive risk-taking behavior or company's strategic risk. (Model 3 of Table 4). After that, it was produced moderator terms by multiplying every moderator variable by the top executive long-term incentive rate. After the terms of the

interaction were in the regression equation (Model 4, Table 4), there was a substantial growth in model suitable for the regression equations what forecast the top executive risk- taking behavior/strategic risk of the company ($\Delta R2=0.01$; $p<0.05$). According to

Variables		Model 1	Model 2	Model 3	Model 4
Control Variables	Company Size	-0.005	-0.008	-0.010	-0.011
		-0.008	-0.007	-0.007	-0.007
	Past Performance	0	0	0	0
		0	0	0	0
	Past Strategic Risk	0.620	0.554	0.555	0.560
		-0.032	-0.033	-0.033	-0.033
	CEO Ownership	-0.003	-0.003	-0.009	-0.010
		-0.005	-0.004	-0.005	-0.005
	Size of the Board	-0.001	-0.001	-0.001	-0.001
		-0.001	-0.001	-0.001	-0.001
	Leverage of the Firm	-0.019	0.001	0.008	0.009
		-0.008	-0.021	-0.022	-0.021
Independent Variables	CEO Option Pay		0.074	0.070	0.067
			-0.014	-0.014	-0.014
Moderator Variables	CEO Age			-0.0001	0.0001
				-0.0004	-0.0004
	CEO Tenure			0.001	0.0008
				-0.001	-0.0006
Interaction	CEO Age*CEO Option Pay				-0.003
					(0.001
	CEO Tenure*CEO Option Pay				0.004
					-0.002
Intercept		0.043	0.053	0.045	0.044
		-0.024	-0.014	-0.023	-0.023
R2		0.74	0.78	0.79	0.8
F		76	80.07	63.97	54.3
ΔR2			0.04	0.01	0.01
F for ΔR^2			27	2.41	3.02
		p < 0.10		p < 0.05	p < 0.01

Table 4 Moderating effects on firm strategic risk.

hypothesis, the tenure of top executive will mitigate the link between top executive long-term incentives and top executive risk-taking /company strategic risk, with the link being stronger in company where the top executive has long-term tenures. As shown in Model 4 of Table 4, the interaction term included of top executive long-term incentives and top executive tenure was important, recommending that top executive tenure mitigates the link between top executive incentive compensation and company's strategic risk (β=0.004; $p<0.05$). The beneficial effect of top executive long-term incentive compensation on the company strategic risk strengthened as the top executive tenure raises. Figure 10 graphically represent this connection.

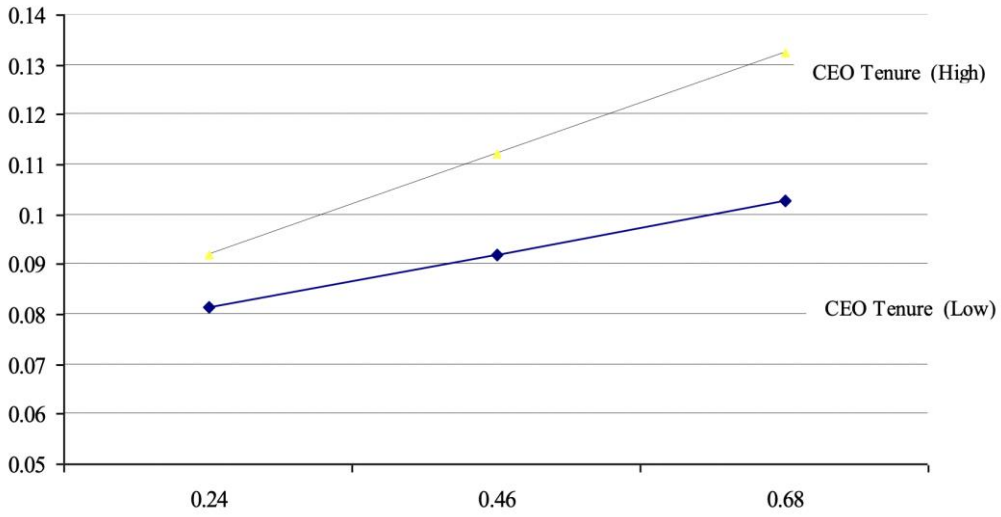

Figure 10 Interactions between CEO option pay and CEO tenure (company strategic risk)

Hypothesis 2 estimates that top executive age will mitigate the link between executive long-term incentives and executive risk-taking/company strategic risk, with the link weakening as executive age grows. As shown in Model 4 of Table 4, the interaction term of top executive long-term incentives and the age of executive had a negative and important coefficient in the regression equation forecasting executive risk-taking /company strategic risk (β=-0.003, $p<0.05$). This indicates that top executive age

moderates the link. The positive impact of top executive long-term incentives on executive risk-taking/ company strategic risks diminishes with executive age becoming older. It is graphically shown in Figure 11.

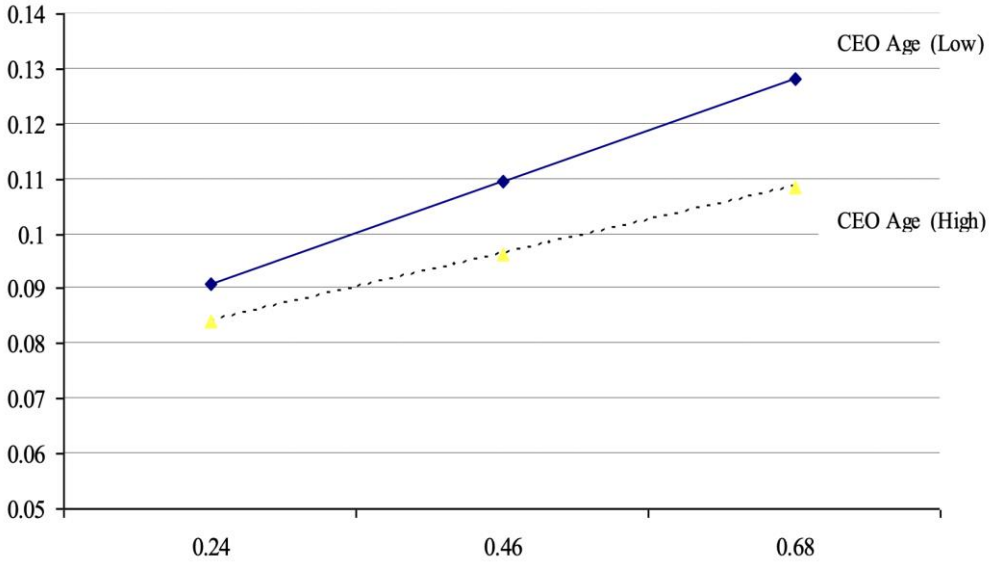

Figure 11 Interactions between CEO option pay and CEO age (company strategic risk)

4.5.5. Limitations and Discussions

CEO pay is one of the most broadly examined topics in the strategic literature, it has generated mixed data on its personal impact on organizational results. According to Hambrick (2007) suggested that there are a lot to learn about the impacts either positive or negative of CEO on corporations with respect to improve and comprehend of the theory of upper echelons. While significant improvement has been made in every of this area, applying Hambrick's (2007) request for a common understanding of CEO mechanisms and executive characteristics may lead to more profound conclusions.

The goals of this examination were to underline the relationship between top executives' long-term incentive pay and executive demographic indicators and the implications of

such linkages for executive risk-taking actions. The results show that executive long-term incentive compensation impact on executive risk-taking behavior, confirming previous studies outcomes in this area of investigation (Sanders, 2001). Moreover, this outcome expands on prior studies, particularly concerning implementing the CEO's risky behavior. For instance, Johnson, and Zorn (1990) used the risk of stock returns to determine the risk behavior of the CEO. Wright et al. (2007) used income stream risk measures to assess company risk-taking actions. In this research, it was relied on Research and Development spending to determine the top executive strategic risk-taking action. Thus, giving empirical evidence that the impacts of CEO pay on risk-taking action persists for the 3 types of risk used in the strategic literature mentioned in Miller & Bromiley (1990).

While the top executive's long-term incentive compensation showed a positive link with top executive risk-taking behavior, consequent hierarchical regression analysis demonstrated that the top executive's characteristics conduct this link. As seen in Figures 3.3 and 3.4, the primarily positive and significant link between top executive long-term incentive compensation and consequent risk-taking is consolidated as the top executive tenure raises and lessened as the top executive gets older. These results are remarkable for some reasons. This research supports Hambrick's (2007) insight that the effect of top executive pay mechanisms on corporate decisions and behaviors can be better understood by studying its mixed effects with top executive characteristics. Next, these findings support the concept that top executive characteristics for example tenure and age impact both personal behavior and company actions (Davidson). Understanding the results of this examination, it is crucial to consider some of its limitations. This research is based on big companies in the United States. Thus, developing this model to other sectors, small and medium-sized enterprises is a field in which future study may

increase the generalizability of these results. Second, its historical data was used to capture the top executive strategic risk behavior. Although this is the point in most of the previous studies in strategy literature, there are doubts about whether these measures can sufficiently reflect top executives' main attitudes and preferences. Likewise, our dependence on top executive evident demographics such as age and tenure to foresee top executive's moves and main attitudes and beliefs also have its own limitations (Simsek, 2007). However, this limitation does not contradict to these conclusions. For instance, Barker and Mueller (2002) claimed that the "obvious demographic of the top executive can be more rational value than psychological measurements" to forecast top executives' actions**.** To solve this problem by: (1) presenting a one-year interval among the independent and moderating variables on one part of the eq and the dependent variable to another and (2) introduction of control variables involving the previous state of the dependent variable. Most of the empirical CEO pay and upper echelons, involving this examination are based on American companies' examples. Hambrick (2007) claims that national systems in which top executives implement a variety of contingencies that may also implicitly or explicitly limit top executives' moves and the strategic options available to them. Crossland and Hambrick (2007) empirically discovered top executives tend to mean more in the United States than in other countries when it comes to their influence on company performance**.** The upper echelon theory shows that previous work has applied 2 levels of analysis: split top executives and top management team (TMT). This research depends on individual top executives as a unit of evaluation, both in terms of pay and demographics. Upper echelon scholars have long claimed that the top management team composition, size, and characteristics provide reliable forecasts of strategic behavior (Hambrick, 2007). However, the power of top executives and they have crucial concerns when it comes to firm decision-making (Finkelstein,

1992). Hambrick (1994) commented that top management teams had constrained group properties. It has been discovered that top management team members tend to have a two-way relationship with the top executive and have little in common with each other, forming a tendency not to work as a team. Based on this, Top Management Team "integration" as opposed to "fragmentation" is an essential factor in evaluating the feasibility of Top Management Team as a significant level of analysis. However, in compliance with Hambrick (2007), this shows a future study limit for upper echelons academics.

With the noted above limitations, this study has provided to a clearer understanding of the need to consider top executive pay and upper echelons concept together rather than separately. Moreover, confirming the results of earlier studies on the agency's theory of incentive alignment argument, these findings also contain evidence on the mixed impacts of top executives' mechanisms and demographic data on executive strategic risk-taking behavior. These discoveries show that multi-theoretical perceptions to the research of organizational phenomena may give a better insight than findings limited by the narrow confines of one theory.

CHAPTER 5

5. Conclusion

In conclusion, this thesis represents an important step toward a better understanding of the determinants of executive compensation. The study first looked at the various impacts on CEO compensation in the United States by focusing attention on the relevant data since they are publicly available for doing the hypothesis tests. It was possible to extract some interesting evidence that the CEO's pay is a growing function of the company's size for instance the bigger the company, the larger would be the remuneration. The firm's growth is positively associated to the compensation received by the CEO, but this relation also stayed statistically not significant.

Chapter 2 analyzed pay components, such as basic cash salary, bonuses, pensions, and other forms of compensation. The results represent that the companies prefer to pay their CEOs more in equity rather than cash and their amounts are not uniform.

Chapter 3 discussed international compensation differences and revealed that American CEOs are compensated more and receive a higher proportion of remuneration in equity than in other nations. Comparing executive compensation in the United States and United Kingdom and controlling for firm size, sector, and other company and CEO characteristics, the academics discovered that American CEOs earned almost twice as much and had six times higher wealth performance sensitivities. Since U.S. companies tend to have higher institutional ownership and more independent boards of directors, their CEOs have higher cash-based and equity-based payments. Additionally, it was found that many companies changed executive salaries during the pandemic. For

instance, CEO pay in the energy and healthcare industries fell significantly, reflecting the difficult year these companies had during the Covid-19 pandemic.

In Chapter 4, one of the main purposes is to answer whether executive characteristics impact firm value. A set of hypotheses followed this to test if there are correlations between CEO characteristics and firm value. Four characteristics were tested: age, tenure, educational background, and gender. The analysis revealed that, the higher amount of remuneration raises company value, and the executive is more likely to have the incentive to improve firm performance if their compensation is equity-based. Age, on the other hand, was negatively related to firm value, as suggested by prior literature. Older executives are less probably to bring up new ideas as they are more conservative. Even though tenure is highly correlated with age, its correlation with firm value is the other way around. In addition, longer-tenured executives have more decision-making power in the firm, therefore it was not a surprise that the results confirmed the positive relationship. Finally, the results showed a negative relationship between gender and firm value; however, this relationship was insignificant.

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