The effect of a CEO's cultural background on compensation contract composition

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Abstract

This paper tries to answer the following research question: Does the cultural background of a CEO have an effect on the composition of their compensation package? I investigate the research question by setting up the following hypothesis: *CEOs cultural background has an effect on their compensation package*. To test this hypothesis I create two additional hypotheses to assist in testing the main hypothesis. The first of these additional hypotheses focuses on if the long term thinking score of the CEO according to Hofstede's dimensions influences the ratio of stock options compared to the CEO's total pay in their compensation contract, while the second additional hypothesis focusses on if the individualism score of the CEO according to Hofstede's dimensions influences the ratio of bonusses awarded. While for both of these tests, the main independent variables provided very little to no significant results. Other cultural variables showed more significant results. Especially the variable *uncertainty avoidance.* I reject both additional hypotheses, but find enough cultural effects to not reject the main hypothesis is v. I motivate other researchers to further research the effect of cultural variables in relation to a CEO's compensation contract with a more robust design.

Key words: CEO cultural background, CEO compensation, CEO contract, Hofstede Dimensions

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1. Introduction

The CEO plays a crucial role in the daily operation of a business, and their compensation package is something that has led to plenty of discussion and extensive research (Frydman & Jenter, 2010 ; Wang et al., 2022). But something that is often overlooked is the influence of culture. Studies show culture plays a role in multiple aspects of business (Guiso et al., 2006 ; Brochet et al., 2019). This study examines if there is a significant link between these two topics, and investigates if the CEO's cultural background plays a role in in the structuring of a CEO's compensation contract. This will be done with the help of the Hofstede (1983) cultural dimensions framework. This framework will give the variables needed to measure cultural background in this research and help answer the research question posed in this paper.

1.1 Formulation of research question

Previous literature has studied how a CEO's cultural background has an effect on multiple business aspects such as public opinion (Guiso et al., 2006) and financial performance (Yu et al., 2024 ; Loi et al., 2022). Literature also shows that contrary to what is commonly assumed, CEOs can affect their own pay (Graham et al.,2012 ; Graffin et al. 2022). However literature directly linking a CEO's cultural background to their compensation contract is limited. Tosi & Greckhammer (2004) and Haynes (2014) are papers that most closely relate a CEO's cultural background to their compensation contract. However these papers do not fully agree on conclusions, while they use the same research methods and similar databases. This paper aims add to the ongoing discussion in literature by providing evidence that a CEO's cultural background influences the structure of their compensation contract.

This leads to the following research question:

Does the cultural background of CEOs have an effect on the composition of their compensation package?

This research question opens up the potential to look not only if there is an effect but also allows the options to look at specifically how the compensation package is affected. To answer this research question I set up three hypotheses. One main hypothesis that states a CEO's cultural background does have an effect on their compensation contract. To test this hypothesis I use two additional hypotheses. One hypothesis focuses on long term orientation score from Hofstede's dimensions and its effect on the ratio of stock options in a CEO's compensation contract. The other hypothesis focuses on if the CEO's individuality rating has an influence on and bonus ratio of the CEO.

1.2 Academic relevance

This research contributes to the existing body of literature by adding to existing literature on the effects of a CEO's cultural background on their compensation contract composition. Previous literature shows that a CEO's cultural background can have an effect on multiple aspect of business. Literature also shows that CEOs themselves can influence their compensation package while it widely believed that with perfect board supervision this is not possible. Literature directly linking a CEO's cultural background exists but shows differing results, this paper hopes to remove these differences and give a definitive answer to the on the

matter (Tosi & Greckhammer (2004) and Haynes (2014). This research is relevant for multiple stakeholders within a company. It provides CEOs with information about biases they might have towards certain ways of compensation that they are unaware of. CEOs might think certain preferences are human nature while they are caused by their cultural background. Directors and board members also benefit from the results of this paper, they learn that a CEO's cultural background could have an effect on the way they prefer their compensation contract to be designed. They might also learn of their own biases from their cultural background. Both of these findings should decrease information asymmetry between the board and the CEO regarding a CEO's preference in contract and thus should improve the boards efficiency in designing a CEO's compensation contract. Investors also benefit from this paper. This paper helps investors realise which preferences a CEO might have just by looking at their compensation package. If this paper finds that a CEO's cultural background changes the composition of their compensation contract, investors can look at the compensation data of a CEO and research the CEO's cultural background to see if these biases are present. If these biases are present they can alter their investment strategy. An example of this is when an investor looks up a CEO's compensation contract and finds that their ratio of bonuses compared to total pay is very high and their cultural background is from a country with high individualism. The investor can realise that these bonuses might not be due to exceptional performance of the company but rather because of the CEO's bias towards higher bonuses due to a high individualistic background. This could help the investor invest in companies that have financial results that are not biased by the CEO manipulating them for their own compensation contract benefit (Tahir et al., 2019). This paper can also potentially help investors look if a new CEO for their company is a good fit. The investor can find the cultural background of a manager and see if the values from their cultural background and their preferences in compensation contract align with the vision of the investor regarding the CEO's compensation contract. With this information the investor can make a more informed decision on their vote for the new CEO.

1.3 Resources and design

The two additional hypotheses are tested using an OLS regression with control variables from different aspects that could influence CEO compensation. These fall into four categories. CEO variables such as age and gender. Board variables such as board size and board diversity. Financial variables such as ROA and net sales and lastly all the remaining dimensions of Hofstede that are not the main variable of interest. All of this data was gathered either from the Compustat or the BoardEx databases and manipulated into one test database. The only exemption is the Hofstede dimension data which was taken from Hofstede's (2022) personal website. A robustness test will be conducted to eliminate the potential threat of multicollinearity. And an additional test will be performed with the beta regression method.

1.4 Findings

The results I find for both main independent variables show little to no significant results in both the models with and without year-fixed effects. However other cultural variables do carry significance in both models, especially the variable *uncertainty avoidance*. Other control variables also show varying degrees of significance. So although both sub hypotheses are rejected the main hypothesis is rejected due to the presence of at least some cultural significant variables. I also explain some of the potential weaknesses such as the small and unbalanced

sample size, and the potential dangers of using ratios as the main variable. I conduct an additional test using beta regression to test both hypotheses, however the results show even less significance of cultural variables. Finally it asks other researchers to learn from the paper and try to find a way to use a more balanced sample size and a more robust research method and a different way of defining a CEO's compensation contract to explore the effects of culture on a CEO's compensation contract composition to inform CEOs, boards, and investors on the effects a CEO's cultural background can have on biases.

2. Literature review

2.1 Cultural background of CEOs in research

The cultural background of a manager has shown to have a significant influence on multiple aspects of a business. From financial performance to public opinion, a CEO's cultural background can affect so many aspects of a business. In this part I will show the importance of a CEO's cultural background in research. Guiso et al. (2006) broadly shows how culture effects the perceptions of a manager in the eyes of the public. For example the religion a CEO follows has an effect on the trust a CEO has from the public. This paper also shows how nationality affects the amount of trust people have in the CEO. Brochet et al. (2019) is another paper that shows how a CEO's cultural background can affect the public opinion of the CEO. This paper shows results that suggest a CEO's cultural background influences the way the disclose financial statements. More specifically it shows that more individualistic managers tend to be more optimistic in disclosures. Both papers show that certain CEO specific cultural variables (religion ethnicity and individualism) affect the perception that others have of the CEO. This personal perception is very important because this is not only how the co-workers or investors perceive the CEO, but also how for example the board of directors perceive the CEO. This is important to realise when talking about effects on CEO compensation, since determining the CEO's compensation package is a job for the board of directors. And if the CEO's cultural background changes the perception of some of the board members, this might lead to changes in the compensation plan.

Apart from public opinion, a CEO's cultural background is also an important variable in multiple financial aspects. A CEO's cultural background can be a factor in a lot of financial decisions a CEO makes. There has been prior research showing how a CEO's cultural background can affect financial decisions like the degree of internationalisation (Liu et al., 2023), innovation (Murswieck et al.,2020), R&D expenses (Yu et al., 2024), corporate acquisitions (Pan et al., 2019) and cooperate cash holdings (Loi et al., 2022). All of these papers use a CEO's cultural background as an independent variable, however all measure this variable differently. Liu et al. (2023) uses the clan background of CEOs in Asian countries. The others all use different dimensions of the Hofstede's dimensions. Pan et al. (2019) uses uncertainty avoidance to test if culture has an effect on corporate acquisitions. Loi et al. (2023) uses a few of the dimensions such as masculinity, individuality and power distance to see their effects on cooperate cash holdings. Murswieck et al. (2020) and Yu et al. (2024) both use all of Hofstede's dimensions in their research. All of these papers use different independent cultural variables to test different financial dependent variables, yet all find results that are significant confirming

their hypotheses. This shows that a CEO's cultural background could play an important role in varying business aspects.

All of these papers also share another common link, they all use Hofstede's dimensions to test their hypotheses. The exception is the paper by Liu et al. (2023). However this paper contributes the findings to the fact that CEOs in clan cultures tend to be more long term thinking than other CEOs, which is also a dimension in Hofstede's framework. These papers do not only prove that a CEO's cultural background has an effect on different facets of business, but also shows that using the framework by Hofstede (1983) is a simple and effective way to proxy culture since culture is a difficult concept to precisely measure.

2.2 CEOs influence on CEO compensation

In a company with a well-functioning board the CEO themselves have no influence over the way their compensation contract is made (Assenso-Okofo et al., 2021). Literature shows that in a well-functioning board CEOs have no influence and the board members responsible for the compensation contract are the only ones that can change the structure of the compensation contract. However this does not mean that the CEO's innate traits do not play a role in their pay. Graham et al. (2012) find significant results that suggest that manager fixed effects are a big factor in the variation of executive pay. These manager fixed effects contain variables like a CEO's innate ability and their risk aversion. All these variables are difficult to measure by themselves, so the authors group this together as manager fixed effects because they believe that these traits will remain consistent. In the conclusion Graham et al. (2012) states that future research should focus on if certain factors not included in this paper could explain manager fixed effects. Two of the factors they name are talent and risk preferences. Li & Perez (2021) follow up on this recommendation and find that there is a change in CEO pay caused by these traits. The paper found that there is a premium pay for CEOs with higher talent. This premium fluctuates with the stock market. Managerial conservatism is the other variable which shows to have a significant on CEO pay. The height of this premium also fluctuates over the years with the premium being higher in times where equity market risk was also high (for example the 2008 financial crisis). This paper concludes that traits such as talent and risk cause a premium pay, however the research question of this paper more specifically focusses on the composition of the compensation contract and not on the total compensation. Graffin et al. (2022) helps link innate manager traits like talent and risk aversion to changes in the CEO contract composition. This paper shows that CEOs with high risk avoidance are more likely to end up with a compensation contract that includes less variable pay, while CEOs with low risk avoidance end up with a higher share of variable pay compared to total compensation. This goes against common advice which suggests it is best to give high risk avoiding CEOs more variable pay to motivate them to take more risks and vice versa. The potential reason the writers point out for the results they find is the matching phenomenon. The writers explain that CEOs will try to find positions where they feel the compensation given best reflects their preferences, while companies will often not change their contract composition from their last CEO. They do this to find a similar and suitable replacement. These two factors cause CEOs to more often find the specific contract composition they are searching for. These three showcased papers together provide to necessary reasoning to assume that against what literature more commonly tells us (Assenso-Okofo et al., 2021), managers can in fact influence their own pay. First Graham et al.

(2012) showed that manager fixed effects are part of the difference in CEO pay. Li & Perez (2021) showed that manager traits such like innate talent and risk avoidance are traits that companies actively pay premiums for. Finally Graffin et al. (2022) showed that these inherit traits a CEO can have potentially influence the company the CEO works for and thus alter the compensation contract the CEO receives. These pieces of literature provide reasoning that managers will actively look for companies that offer compensation contract that they feel fits them best.

2.3 Cultural background and CEO compensation

Research that directly links CEO compensation and cultural background is a little less common than research of these two topics by themselves. However a few papers do try to establish a link between the two topics. Research from Adithipyangkul & Leung (2019) has shown that in certain contexts the ideology of China (Confucianism/ Socialism) can have a negative impact on a CEO's pay, since the culture there learns them that everything should be more equally divided. This paper looks at how a specific culture effects the CEO's compensation contract, this different from the objective of this paper which is investigating if different cultures affect a CEO's compensation contract. A paper that looks closer at how differences in culture affect a CEO's compensation contract is Alan et al. (2020). This paper investigates how being a CEO from a minority effects the CEO-to-employee pay ratio. For the male subsample no significant results were found, but for the female subsample it is found that females of a minority have a lower CEO-to-employee pay ratio then white female CEOs. Although this paper does not directly look at how a CEO's compensation contact changes with different cultural variables, it shows that CEO compensation can be influenced by background. Another study that looks at the CEO pay compared to other employees at the company is Grenness (2011). This research used the cultural dimensions framework made by Hofstede (1983) to see if these dimensions that were measured per country had any influence on CEO pay and the salary gap between the CEO and the other employees at the company. All results found around the links with CEO pay however were found to be insignificant. The author contributed this to a small sample size, and gives other researchers the recommendation to reinvestigate the effects of a CEO's cultural background on their pay with a more representative data sample. Both the papers of Grenness (2011) and Alan et al. (2020) investigate how a CEO's cultural background effects on CEO to employee pay gap. Although this is not a primary interest in this paper it is important to realise that for the CEO to employee gap to change between culture either the employee pay, the CEO pay or both need to change. So although these papers might not directly link a CEO's cultural background to changes in a CEO's compensation contract, both papers still measure a potential effect.

Jalbert et al. (2007) does measure the direct influence of a CEO's cultural background on their compensation contract. This paper however uses the CEO's birthplace as a proxy for their culture instead of the Hofstede's cultural dimension based on nationality that is used in this paper. The Jalbert et al. (2007) paper investigates if a CEO's birthplace had an effect on the pay they received. They found certain significant results, for example they found that CEOs from certain regions like Central- and South America, Asia and Oceania earned a significantly higher

salary than CEOs born in North America. For Central- and South American CEOs this difference was the largest with Central- and South American CEOs earing on average up to 5 million USD more than their North American CEOs. Although this research gives us a positive affirmation that a CEO's birthplace, which is closely related to a CEO's cultural background, has an influence on the pay of a CEO, it has to be noted that the sample this research used is from 1991-1997 which means the start of the sample is from over 30 years ago. This bring up the question if the results in this research are still relevant or is there a possibility these results are outdated and not representative in the current market. Another potential threat to relevance of this paper to this paper is that this research uses the Forbes 800 list to get information on CEO nationalities, this causes CEOs from all over the world to be introduced into the sample. Although this it is positive to this many nationalities in the sample, it also introduces a problem where the companies the CEOs work for are in different countries or even different continents. This introduces the potential threat of geographical location effecting results found in this paper. Similar to Jalbert et al. (2007), Ellahie et al. (2017) also uses a proxy for culture to look at how a CEO cultural background influences their contract composition. Instead of country of origin Ellahie et al. (2017) links ethnicity to CEO pay. More similar to the research done by Graham et al. (2012), this paper studies of ethnicity fixed effects can explain differences in variable pay (in this paper: total pay- salary / total pay) among CEOs from around the world. Also similar to Graham et al. (2012) the Ellahie et al. (2017) paper finds that ethnicity fixed effects significantly influence the variable pay of CEOs. The difference between the two papers is the difference between manager and ethnicity fixed effects. Manager fixed effects focus more on manager specific variables like age, talent and risk aversion, while ethnicity fixed effects control more for underlying cultural values and beliefs. These ethnicity fixed effects lay closer to the culture this paper is looking for, and variable pay is a dependent variable that this paper will also use, however in this paper the variable pay will be manipulated differently in the Ellahie et al. (2017) paper.

Two papers that lay closest to this paper are Tosi & Greckhammer (2004) and Haynes (2014). Tosi & Greckhammer (2004) uses four of the six dimension of Hofstede (1983), uncertainty avoidance, power distance, individualism, and masculinity-femininity to see what effect they have on a CEO's total compensation package and on the ratio of variable to total compensation. Strong significant results were found for total and variable to total pay with the individuality dimension, while the other three dimensions showed mixed results. The Haynes (2014) paper revisits the paper by Tosi & Greckhammer (2004) ten years later and retests these findings with an updated database and similar but more robust techniques. Most results remained similar, however some results were different. For example the significance of Individuality had faded for the variable to total compensation variable. Although most results are similar, the fact that some differ over time is important to notice. These two papers confirm the foundation of this paper that a CEO's cultural background influences the CEO's compensation contract. However it also shows that over time these relations might differ, and that depending on the research method, different results can be found.

3 Hypothesis Building

3.1 Base hypothesis

To answer the research question posed earlier there needs to be careful thought on how to state the hypotheses for this research. In the literature review we see plenty of evidence that a CEO's cultural background could have an effect on their compensation package, this is why I make the following hypothesis:

H1: A CEO's cultural background has an effect on their compensation package.

This hypothesis is open and not directly measurable. To answer this hypothesis, I create two additional hypotheses which are measurable and help in answering this main hypothesis and thus help in answering the research question.

3.2 Long term orientation and stock options

Stock options have become a critical part in a CEO's compensation package (Paz, 2014 ; Gilley et al., 1970). Stock options are used in a CEO's compensation package to align the interest of the CEO with the interest of the stockholders (Tzioumis, 2008). This way CEOs have to think more carefully about the long term consequences of their decisions. This is because their pay is now partly determined by the stock price and thus the manager will do more to keep this stock price high in the long term instead of only making short-term decisions. Research earlier mentioned also showed that certain cultures have an increased amount of long term vision compared to other cultures (Liu et al., 2023). These long-term thinking cultures should hereby in theory also care more about long term contract incentives such as stock options. Cultures that score higher on the long term vs. short term index of the Hofstede dimensions should have a higher percentage of stock options included in their total contract amount compared to the countries that score lower on this index.

This leads to our first alternate hypothesis:

H2: CEOs that score higher in the long term thinking measure of Hofstede's dimensions will have an increased ratio of stock options in the CEO's compensation package.

3.3 Individuality and bonusses

Bonusses often rely on meeting certain targets. These targets can be both financial and non-financial (Jackson et al., 2008). The purpose of this hypothesis is to see if a managers cultural background has any effect on the ratio of the CEO's bonus when compared to their complete compensation contract. Individualistic managers according to Hofstede's (1983) dimensions should have more bonusses in their contract for two reasons. The first reason is more self-belief in their abilities. This makes individualistic managers more likely to demand performance bonuses. It is also more likely that these managers try to use earnings management to just meet or beat expectations. (Tahir et al., 2019). Previous research has also shown that Individuality as a dimension has an influence on CEO compensation. Tosi & Greckhamer (2004) show that individuality has an influence not only on the total compensation of the CEO but also on the

ratio of variable pay to total pay, which supports the previous statement about how CEO individuality could have a relation with bonusses. This gives a great foundation of research that confirms that a CEO's individuality plays a factor in the way their pay a structured especially when it comes to the variable pay part of their compensation contract. And with the earlier foundation linking individualism to the awarding of bonusses it leads to the second additional hypothesis:

H3: CEOs that score higher in the Individualism measure of Hofstede's dimensions will have an increased ratio of bonusses in the CEO's compensation package.

To test both sub hypotheses we need monetary values from bonusses and stock options. But because these values are very dependent on the size of the company, we will use both these values as ratios of total compensation to combat the potential effect of company size. Another reason to use ratios in this paper is that most of the variables used have a small scale. The use of a ratio instead of the flat value of stock options and bonuses would makes the scales very unbalanced, while using the ratio of both compared to the total pay gives a scale close to the other variables used in this paper.

4. Research Design

For the experiment I need a vast amount of different data sets from different databases but to better understand which datapoints I need and what purpose they serve it is important to look at the Libby boxes for the two written hypotheses to see the main variables needed for this research. These Libby boxes can be found in appendix A.

4.1 Data

The Libby boxes (found in appendix A) show that there are four main variables needed for the two tested hypotheses. For the first hypothesis we need the long term orientation score from the Hofstede dimensions as well as the stock options awarded as a ratio of the total compensation given to the CEO. For the second hypothesis we need the individuality score from Hofstede dimensions, as well as the total amount of bonusses awarded as a ratio of the total compensation. For this research I use data from the years 2018-2022. This makes this research recent. Papers in the literature review show that it is important for the variables in this field to be recent, because results vary with time (Tosi & Greckhammer, 2004 ; Haynes, 2014 ; Hendriks et al., 2022). I use only financial data from the North American databases this is to eliminate the potential threat of location being a variable that influences results. By only using the North American databases I eliminate this potential danger while making sure that the results I find are still reliable, this is because prior research has shown that even within a specific nation significant cultural differences can affect CEOs (Joel et al., 2023; Adithipyangkul & Leung, 2019). This research needs control variables to ensure the validity of the research. these control variables include the age of the CEOs, gender of the CEOs, a score off all other dimensions from the Hofstede dimensions (masculinity, power distance, indulgence vs restraint, uncertainty avoidance and individualism/short term focus depending on the cultural dimension that is being used as the main variable) for each nationality of the CEOs in the database. I also need net sales of the companies the CEOs work for each specific year the CEO's compensation was measured

from 2018 to 2022, the net income and the total assets (to measure the ROA) for the company the CEO works at. I also need board variables such as board size and board diversity. In the research design I explain why all these control variables are relevant.

Data on CEO nationality is obtained from the BoardEx database The initially downloaded database had 1,023,243 director-firm-year observations. I removed every observation where the CEO's nationality was missing. This dropped the total amount of observations to 121,874. I collect all other necessary CEO details from the Execucomp database, and all other necessary board data from the BoardEx database. After merging these datasets, checking if the merge was successful[1] and removing any observations with missing values, the observations are down to 2,765 unique CEO-year observations. The last step is to include the Hofstede's dimensions variables. All six of these variables will be necessary in this research design. I obtain these dimensions from Hofstede's own website (Hofstede, 2022). This dataset contained 111 nationalities, however some nationalities were incomplete and some nationalities are not present in the CEO information dataset. After slightly manipulating this database[2] I merge this dataset into the main dataset. After checking for missing values, the total amount of CEO-Year observations is 2,667. Appendix B presents an overview of the variable definitions. For the validity of this paper it is important that a wide spread of nationalities are included in the sample. In table 1 you find the spread of nationalities included in the sample, I also include how many observations are in the sample per nationality and the percentage compared to the total observations. The table shows that a large proportion of the observations in the sample are American (89,7%), this is because I use the north American databases for all financial and CEO information. The rest of the observations come from a variety of nations from different continents. This variety is important to ensure the validity of the paper.

[1] I do this by checking if the 'EXEC_FULLNAME' variable from the Execucomp database contains the 'Sur_Name' value from the BoardEx database. This way I can see if the data from the databases matches and only keep the observations where this is the case.

[2] I changed the country line (e.g. France or Germany) to a nationality line (e.g. French or German)

Table 1: List of Nationalities

Nationality	Observations	%
American	2389	89.57
Argentine	5	0.19
Australian	12	0.45
Austrian	5	0.19
Belgian	4	0.15
Brazilian	4	0.15
British	39	1.46
Canadian	18	0.67
Chinese (Taiwan)	5	0.19
Colombian	5	0.19
Dutch	5	0.19
French	21	0.79
German	36	1.35
Greek	4	0.15
Indian	31	1.17
Iranian	5	0.19
Irish	14	0.52
Israeli	10	0.37
Italian	15	0.56
Japanese	4	0.15
Mexican	9	0.34
Polish	2	0.07
South African	11	0.41
Spanish	4	0.15
Swedish	5	0.19
Venezuelan	5	0.19
Total	2667	100

Note: this table shows the spread of nationalities in the dataset, including the number of observations for each nationality and the total percentage this nationality has in the sample.

4.2 Methodology

In this section, I explain why the control variables that I use in this paper are needed to ensure validity in research.

I use age and gender because in Graham et al. (2012) it has already been shown these factors could affect CEO pay. The older a CEO gets the more the CEO prefers a short term compensation over long term. And female CEOs in general get paid less purely based on gender. This makes these variables important to control for.

If I am looking at the potential influence of culture on CEO pay and I measure culture in a certain dimension of a framework it is logical to assume that the other dimensions of this framework might also have an effect on CEO pay, it might be a weaker or insignificant effect but it is still important to control for these other dimensions of Hofstede (1983).

The natural logarithm of net sales and ROA are both financial control variables that researchers commonly use, to control for financial performance of the company. (Grenness et al., 2011). It is important to control for financial performance since a performance can influence bonusses and or stock awards (Jeppson et al. 2009).

Board size and board diversity are factors that influence CEO pay. Research shows that bigger boards tend to be less effective at designing a good CEO compensation contract. (Gilley et al. 1970 ; Rahman & Mustafa 2018). A more diverse board also has a potential effect on the CEO's compensation contract. Research shows that a board with more female members tends to be less influenced by the CEO, diverse boards are also better at constructing a compensation package that accurately represents the accomplishments of the CEO on a financial and a social level (Gilley et al. 1970 ; Benkraiem et al. 2017). In this paper I define the variable board diversity as the ratio of male members on the board.

To accurately test the two additional hypotheses, two separate models will be tested which are similar in nature but differ in dependent and independent variable. To test the first hypothesis I construct an OLS regression model. The OLS regression has the following model:

$$Y_{stock} = \beta 0 + \beta 1*LTO + \beta 2*PDI + \beta 3*IDV + \beta 4*MAS + \beta 5*UCA + \beta 6*IVR + \beta 7*AGE + \beta 8*GEN + \beta 9*SALES + \beta 10*ROA + \beta 11*DIR + \beta 12*COMP + \varepsilon$$

In this model *Ystock* is the main dependent variable measured by stock options divided by total compensation and β1 is the observed effect of long term orientation on the dependent variable. The rest are all control variables of which you can find their exact description in Appendix B. The hypothesis states that Long term thinking CEOs will have an increased ratio of stock options in the CEO's compensation. Following this hypothesis I expect the coefficient of β1 to be positive.

The second hypothesis also follows a OLS regression model:

$$Y_{Bonus} = \beta 0 + \beta 1*IDV + \beta 2*PDI + \beta 3*LTO + \beta 4*MAS + \beta 5*UCA + \beta 6*IVR + \beta 7*AGE + \beta 8*GEN + \beta 9*SALES + \beta 10*ROA + \beta 11*DIR + \beta 12* COMP + \varepsilon$$

In this model *Ybonus* is the main dependent variable measured by bonusses awarded divided by total compensation and β1 is the observed effect of individuality on the dependent variable. The hypothesis states that a CEO's individualism has positive an influence on the ratio of bonus awarded compared to total compensation. This means I expect the coefficient of individuality to be positive to reflect the expected positive influence of the bonus ratio to the total compensation. For both models I run regressions without and with year fixed effects. I include year fixed effects to make sure the time trend does not influence the results, this is especially important since part of the database involved financial variables in the COVID-19 period, a period where financial factors were massively different from previous years. It has also previously been shown that time is a variable that affects results in this setting (Tosi & Greckhammer, 2004 ; Haynes 2014).

5. Results

Table 2 presents the descriptive statistics of the dataset. Some variables need explaining in more detail. All of the dimensions from Hofstede's dimensions have the same 1st and 3rd quartile and a mean that is very close to the 1st and 3rd quartiles. The reason is that of the 2,667 observations 2389 observations are American (89,7%). The bonus ratio is also a very unbalanced variable. With over 75% of the observations having no bonus. In table 3 you can find the correlation table for the variables. Most financial and CEO specific variables have little to no actual correlation. Except for *SALES* and *DIR*, which shows moderate positive correlation. Between the Hofstede dimensions there are a few correlation which are moderate, these are emboldened in in the table. There is a correlation between *LTO* and *IVR* of -0.71 that could be considered as strong. Although these correlations are not close to perfect correlation some multicollinearity concern should be asked. An additional test is conducted in section 5.3 to test if there are multicollinearity issues in the main regression.

Table 2: Descriptive Statistics

Variable	N	Mean	St. Dev.	Min	Pctl(25)	Median	Pctl(75)	Max
AGE	2,667	58.801	7.261	34	54	58	63	92
COMP	2,667	0.733	0.105	0.143	0.667	0.733	0.800	1.000
DIR	2,667	10.042	2.330	3	8	10	12	23
PDI	2,667	40.901	6.678	11	40	40	40	81
IDV	2,667	88.144	10.627	12	91	91	91	91
MAS	2,667	61.630	4.575	5	62	62	62	95
UCA	2,667	47.427	7.813	29	46	46	46	112
LTO	2,667	28.538	10.086	13	26	26	26	93
IVR	2,667	66.574	7.461	26	68	68	68	100
BONUS	2,667	0.026	0.095	0.000	0.000	0.000	0.000	0.999
STOCK	2,667	0.499	0.239	0.000	0.361	0.527	0.667	1.000
SALES	2,667	8.321	1.654	1.260	7.151	8.393	9.417	13.319
ROA	2,667	0.056	0.095	−1.572	0.015	0.047	0.091	1.159
GENDER	2,667	0.073	0.260	0	0	0	0	1

Note: this table includes amount of observations mean, standard deviation, the smallest observation, the 25th percentile observation, the median, the 70th percentile observation and the maximum

Table 3: Correlation table

	AGE	COMP	DIR	PDI	IDV	MAS	UCA	LTO	IVR	BONUS	STOCK	SALES	ROA	GENDER
AGE	1.00													
COMP	0.08	1.00												
DIR	-0.06	-0.13	1.00											
PDI	-0.08	0.02	0.03	1.00										
IDV	0.11	0.03	-0.04	**-0.63**	1.00									
MAS	0.05	-0.02	0.02	-0.17	0.18	1.00								
UCA	-0.06	-0.03	0.11	**0.41**	**-0.65**	-0.12	1.00							
LTO	-0.11	-0.07	0.07	0.23	**-0.52**	-0.17	**0.50**	1.00						
IVR	0.07	0.02	-0.05	**-0.33**	**0.47**	0.16	-0.38	**-0.71**	1.00					
BONUS	0.11	0.03	0.01	-0.00	0.03	0.01	-0.05	-0.04	0.01	1.00				
STOCK	-0.09	-0.09	0.11	0.06	-0.04	-0.04	0.03	0.05	-0.04	-0.13	1.00			
SALES	-0.11	-0.23	**0.54**	0.10	-0.09	-0.05	0.10	0.09	-0.06	-0.07	0.16	1.00		
ROA	0.01	-0.01	-0.05	0.06	-0.02	-0.01	-0.01	0.03	-0.06	-0.05	-0.07	0.14	1.00	
GENDER	-0.03	-0.28	0.02	-0.02	0.02	-0.02	-0.03	-0.02	0.04	-0.03	0.02	0.04	0.01	1.00

Note: Emboldened coefficients are considered moderately correlated. Emboldened and underlined coefficients are considered majorly correlated.

5.1 H2

Table 4 shows the results of the regression without and with year fixed effects that I use to test H2. The main independent variable, *LTO,* in the regression without year fixed effects has a coefficient of 0.001 ($p < 0.1$) in the regression without year fixed effects. In the model with year fixed effects the coefficient and the p-value do not change. The positive coefficient is what the hypothesis predicted, however this coefficient is very marginally significant. Most of the dimension control variables show non-significant coefficients, except for the *Uncertainty avoidance* dimension which in the standard regression has a coefficient -0.002 ($p < 0.05$). Similar results are found for the regression with year fixed effects. It is important to note that uncertainty avoidance has nothing to do with risk management, but more with the establishment of habits and rituals (Hofstede, 2022). If you take this into account it is logical that the coefficient is negative, CEOs with a higher score in uncertainty avoidance are less likely to want stock option because even though you can either give a set amount of stock or the same value in stocks every year you can never truly be consistent when giving stock options. Both financial variables are significant for both the regression with and without year fixed effects ($p < 0.01$). *ROA* has a negative coefficient of -0.425 for the regression without year fixed effects and a negative coefficient of -0.442 for the regression with year fixed effects. A potential reason for this is that an increase in *ROA* would increase other parts of the compensation contract relatively more than the stock options, this would cause a decrease in the ratio and vice versa. The *SALES* variable has a positive coefficient of 0.016 and 0.015 for both the regression without and with year fixed effects respectively ($p < 0.01$). This is in line with most literature (Grenness et al., 2011). *AGE* is also significant in both regression with coefficients of -0.003 for both regressions ($p < 0.01$). This negative coefficient is also expected since it is less attractive to keep the CEO in the company long term the older the CEO gets, and thus the ratio of stock options decrease. The last significant coefficient that is significant is the *COMP* variable with coefficients of -0.242 and -0.171 for the regression with and without year fixed effects respectively ($p<0.01$). this is in line with the research from Gilley et al. (1970) which stated that female presence on a board increases the amount of stock options awarded. The negative coefficient of this variable means that as the ratio of stocks awarded increases the ratio of male board members decreases. These results do not confirm the hypothesis. Although the results on

long term orientation has a significant effect on a 10% confidence interval this significance is not enough to accept the hypothesis. However the variable *Uncertainty Avoidance* did show significant results which shows that culture could be a potential factor in CEO compensation.

5.2 H3

Table 5 presents the regressions performed to test the third hypothesis. The main independent variable *individualism* has a negative coefficient. The negative coefficient contradicts what the hypothesis stated. This also goes against prior literature from Tosi & Greckhammer (2004) and Haynes(2014) who both found a positive and significant relationship between *Individuality* and variable pay as a ratio of total pay. The coefficient is very small (-0.0001 for the regression without year fixed effects and -0.0002 for the regression with year fixed effects) and not significant. There are a few variables that do have significant coefficients. *AGE* is significant in this regression in both the models without and with year fixed effects. The positive coefficient of 0.001 ($p<0.01$) indicates that as the age of the CEO increases its bonus ratio also increases, this makes sense since senior managers are more likely to want short term compensation. Most of the dimensions are either not significant or only significant in the model without year fixed effects. *Uncertainty avoidance* is again the only dimension that is significant in both models. The negative coefficient of -0.001 and -0.004 for both models respectively tells us that if the bonus ratio of a CEO increases, their uncertainty avoidance is lower. This is in line with expectations because most bonuses depend on performance and thus are not consistent, which is something uncertainty avoiding CEOs prefer. The *SALES* variable is significant with a negative coefficient of -0.005 and -0.002 ($p<0.01$) respectively. The explanation for this is that in the sample a lot of bonusses were 0 and because of this if sales decrease only total compensation decreases, increasing the ratio. This causes the sales to have a negative slope. The *ROA* variable switches slope with year fixed effect from 0.032 to -0.037 ($p <0.1$ an $p <0.05$). This change in slope is most likely due to the COVID pandemic having an effect on the regression without year fixed effects. And the regression with year fixed effects correctly states the slope. The negative slope is once again explained by the total contract relatively increasing more than the bonus alone causing the ratio to decrease. The *DIR* variable has a positive slope in both regressions, but is more significant in the regression with year fixed effects. A potential reason why this slope is positive is because a board with more directors is more likely to efficiently compensate the CEO, and this efficiency has relatively more effect on the total package than on the bonus component which increases the ratio. The results do not confirm the hypothesis since there are no significant relations shown between a CEO's bonus and individuality. However just like with the results of H2 there are cultural variables that do show some significance. *Uncertainty avoidance* is again the most significant cultural variable in the regression models, while some other cultural variables also show significance. H3 is rejected based on the results but the main hypothesis is not rejected since some influence of cultural variables is found in all four regression models.

Table 4: Regression results for H2

	Dependent variable:	
	STOCK	
	OLS	***OLS with YFE***
	(1)	**(2)**
LTO	0.001*	0.001*
	(0.001)	(0.001)
AGE	−0.003***	−0.003***
	(0.001)	(0.001)
GENDER	−0.027	−0.020
	(0.018)	(0.018)
PDI	0.001	0.001
	(0.001)	(0.001)
IDV	−0.001	−0.001
	(0.001)	(0.001)
MAS	−0.001	−0.001
	(0.001)	(0.001)
UCA	−0.002**	−0.002**
	(0.001)	(0.001)
IVR	0.0002	0.0002
	(0.001)	(0.001)
SALES	0.016***	0.015***
	(0.003)	(0.003)
ROA	−0.425***	−0.442***
	(0.074)	(0.074)
DIR	0.002	0.002
	(0.002)	(0.002)
COMP	−0.242***	−0.171***
	(0.046)	(0.048)
Constant	0.786***	
	(0.155)	
Observations	2,667	2,667
R^2	0.058	0.053
Adjusted R^2	0.053	0.048
Residual Std. Error	0.232 (df = 2654)	
F Statistic	13.544*** (df = 12; 2654)	12.425*** (df = 12; 2650)
Note:		*p<0.1; **p<0.05; ***p<0.01

Table 5: Regression results for H3

	Dependent variable:	
	BONUS	
	OLS	***OLS with YFE***
	(1)	**(2)**
IDV	−0.0001	−0.00002
	(0.0003)	(0.0002)
AGE	0.001***	0.001***
	(0.0002)	(0.0001)
GENDER	−0.003	−0.005
	(0.007)	(0.004)
PDI	0.001**	0.0003
	(0.0004)	(0.0002)
LTO	−0.0004	−0.0002
	(0.0003)	(0.0002)
MAS	−0.0001	−0.0001
	(0.0004)	(0.0002)
UCA	−0.001***	−0.0004**
	(0.0003)	(0.0002)
IVR	−0.001**	−0.0002
	(0.0003)	(0.0002)
SALES	−0.005***	−0.002***
	(0.001)	(0.001)
ROA	0.032*	−0.037**
	(0.018)	(0.016)
DIR	0.002*	0.001***
	(0.001)	(0.001)
COMP	0.012	−0.006
	(0.018)	(0.011)
Constant	0.052	
	(0.061)	
Observations	2,667	2,667
R^2	0.024	0.025
Adjusted R^2	0.019	0.019
Residual Std. Error	0.090 (df = 2654)	
F Statistic	5.372*** (df = 12; 2654)	5.736*** (df = 12; 2650)
Note:		*p<0.1; **p<0.05; ***p<0.01

5.3 Additional analyses

In this section I will perform two additional tests. The first test is to investigate if there are multicollinearity issues in the four regressions done in the main analysis of this research. After this I motivate and conduct research with a different and more fitting regression model and discuss and compare these results.

The first additional test that I conduct looks if there are any multicollinearity issues present in the main part of this research. Table 3 previously showed a correlation table with all variables that are part of the regression models. Some variables showed moderate correlation (correlation between 0.3 and 0.7 or -0.3 and -0.7). And one correlation between *long term orientation* and *indulgence vs restraint* is considered as major correlation (greater than 0.7). This brings up some multicollinearity concerns and thus calls for an additional test to ensure there is no multicollinearity present, and if present to eliminate it from the results. A method to check for multicollinearity is the variance inflation factor (VIF) method. This method controls if the variance of a regression coefficient is affected by multicollinearity. The VIF method gives a score to each variable to show how much they are under the influence of multicollinearity. The lowest score that is obtainable is 1. Under normal circumstances, any score higher than 5 shows that your regression is under the influence of multicollinearity. Table 6 shows the VIF score for the variables used in both regressions.

Table 6: VIF values

LTO	AGE	GEN	PDI	IDV	MAS	UCA	IVR	SALES	ROA	DIR	COMP
2.440	1.033	1.091	1.773	2.674	1.061	1.880	2.125	1.536	1.030	1.452	1.162

Note: this tables shows the VIF values of the variables used in the regressions

The table shows that there are no direct concerns of multicollinearity in the regression models. The highest scores in the table are 3 of the Hostede dimensions: *LTO, IDV* and *IVR*. *Individuality* (*IDV*) has the highest VIF value of 2.674, this is not considered as a variable that could cause multicollinearity (VIF > 5). These results show that the high correlations found in the correlation table do not cause multicollinearity and thus are not a threat to the validity of the results found in the regressions.

The second additional analysis that I do will alter the regression method I use for the two hypotheses. In the main body of this paper I use the OLS regression method to test the hypotheses. For the dependent variable I use the ratio of stock awards and bouses compared to the total composition. I use ratios to eliminate the potential effects of firm size and to align scales of all variables. However using a ratio as a dependent variable is a risk. Prior literature argues that the use of ratios as the dependent variable can give problems and make your regression lose validity (Certo et al., 2020 ; Kronmal, 1993). There is a regression model that does fit the use of a ratio variable as the dependent variable, this regression is called beta regression. Beta regression is commonly used when the dependent variable is a ratio, proportion or percentage (Maluf et al. 2024). This regression fits the data for this paper. However there is one issue with the dataset, there are observations of 0 in the dependent variable. For a beta

regression to work all observations of the dependent variable need to be between the interval (0,1), the sample used in this paper has dependent variables that fall in an interval of [0,1). If I were to drop all 0 for either stock or bonus ratios, the observation would drop to 325. This makes the sample size too small and not valid. To still use beta regression I manipulate the dependent variable with a technique from Smithson & Verkuilen (2006) where they use to following formula to give very small values to zero observations:

$$x' = \frac{\mathrm{x(N-1)+0.5}}{\mathrm{N}}$$

In this formula N is the number of observations. This gives zero observation in the dataset a value that is smaller than 0.00018748. This value is so small that is should not significantly affect the results of the regression (Smithson & Verkuilen, 2006). With no zero observations in the dependent variable the beta regression model is operational.

Table 7 shows the regression results to test H2 and table 8 shows the regression results for H3. The main independent variables keep their sign from the original regression. For H2 *LTO* still has a positive sign, however it has lost the small significance it had in the initial regression. For H3 the variable *IDV* still has a negative coefficient and is still not significant. The slope of the coefficient has decreased from -0.0001 to -0.001. The significance for all cultural variables is lost in both regressions and for the both the model without and with year fixed effects. The year fixed effects in general seem to have very little on the variables effect in the beta regressions. Except for the *SALES* variable for H3. This variable again switches signs with the introduction of year fixed effects. This is likely to be caused by effects from the COVID-19 pandemic. The *AGE* variable in the regression to test H3 is the only variable that has an increase in significance when year fixed effects are used. *AGE* and *SALES* are the only variables that have significance in both models. For the model testing H2 the variable *DIR* has gained significance in both the model without and with year fixed effects. The positive sign shows that as the number of directors increases the ratio of stock options compared to total compensation also increases. The R squared value for the regressions testing H2 have decreased while the R squared for the regressions testing H3 have increased. The log likelihood score also shows us that the model testing H3 is a better fit than the regression testing H2 because the log likelihood score is higher. Both models show increased R squared in the regression with year fixed effects when compared to the regression without year fixed effects, this shows that the year fixed effects have a positive influence on the validity of the regression. The results in table 7 and 8 show no significant results concerning the cultural variables, other control variables do show varying degrees significance. Based on these test both H2 and H3 would be rejected and the main hypothesis would also be rejected. One of the potential reasons for these results is the unbalanced sample size. Another potential reason for the lack of significant cultural results is the amount of zero observations for either the *STOCK* or *BONUS* variable. If all zero observations from these two variables are dropped, the sample would reduce to 325. This shows that there are a lot of observations in this sample where either variable is zero. Most of the zero observations concentrate themselves in the *BONUS* variable. The 0 observations out scale the observation with bonuses which could be a potential cause as to why no significant cultural effects are found.

Table 7: Regression results for alternative test H2

	Dependent variable:	
	STOCK	
	Beta Re-gression	***Beta regression with YFE***
	(1)	**(2)**
LTO	0.003	0.003
	(0.004)	(0.004)
AGE	−0.013***	−0.011***
	(0.003)	(0.003)
GENDER	0.002	0.014
	(0.093)	(0.094)
PDI	−0.001	−0.002
	(0.005)	(0.005)
IDV	0.002	0.002
	(0.004)	(0.004)
MAS	−0.004	−0.004
	(0.005)	(0.005)
UCA	0.001	0.001
	(0.004)	(0.004)
IVR	−0.0003	−0.0004
	(0.005)	(0.005)
SALES	0.109***	0.110***
	(0.017)	(0.017)
ROA	−0.469*	−0.461*
	(0.246)	(0.247)
DIR	0.041***	0.040***
	(0.012)	(0.012)
COMP	−0.272	−0.189
	(0.046)	(0.048)
Constant	−0.897	-0.964
	(0.835)	(0.835)
Observations	2,667	2,667
R^2	0.045	0.047
Log Likelihood	700.226	704.078
Note:		*p<0.1; **p<0.05; ***p<0.01

Table 8: Regression results for alternative test H3

	Dependent variable:	
	BONUS	
	Beta Re-gression	***Beta regression with YFE***
	(1)	**(2)**
IDV	−0.001	−0.001
	(0.003)	(0.003)
AGE	0.005*	0.006**
	(0.003)	(0.003)
GENDER	−0.032	−0.037
	(0.078)	(0.079)
PDI	0.003	0.003
	(0.004)	(0.004)
LTO	−0.002	−0.002
	(0.003)	(0.003)
MAS	−0.004	−0.004
	(0.005)	(0.005)
UCA	−0.005	−0.005
	(0.003)	(0.003)
IVR	−0.004	−0.004
	(0.004)	(0.004)
SALES	−0.030**	0.029 **
	(0.015)	(0.015)
ROA	−0.090	−0.085
	(0.208)	(0.209)
DIR	0.007	0.007
	(0.010)	(0.010)
COMP	−0.009	−0.066
	(0.200)	(0.211)
Constant	−2.840***	−2.840***
	(0.705)	(0.706)
Observations	2,667	2,667
R^2	0.029	0.031
Log Likelihood	12,694.690	12,695.150
Note:		*p<0.1; **p<0.05; ***p<0.01

6. Conclusion

The research question I formulate at the beginning of this research is:

Does the cultural background of CEOs have an effect on the composition of their compensation package?

I hypothesize my answer to this research question in a positive manner:

H1: A CEO's cultural background has an effect on their compensation package

I try to test this hypothesis and thus answer the research question with the help of two additional hypotheses where I look at the ratio of stocks and bonuses compared to the total compensation of a CEO, and the effect certain dimensions of Hofstede (1983) have on these ratios. Most of the results regarding dimensions gave insignificant results. However the dimension *uncertainty avoidance* did show significant results in all regressions, this shows that although the main independent cultural variable did not show the desired effects the influence of culture on a CEO's compensation contract composition is present. This causes both additional hypotheses to be rejected. But the main hypothesis cannot be rejected since the influence of cultural variables is present, however not as stated in the additional hypothesis. The answer to the research question is maybe. A CEO's cultural background potentially has an effect on their compensation package, just not the effect this paper hypothesized for. Additional test ruled out the potential for multicollinearity and provided an alternative measurement of the dependent variables. The results of the alternative method provided no significant results.

The lack of significant effects of cultural background on the CEO's compensation contract is not novel. In literature we have seen conflicting evidence on the effects of a CEO's cultural background on their compensation package. (Tosi & Greckhammer, 2004 ; Haynes, 2014). This literutre adds to these discussions. There are a few explanations as to why no significant results are found. The first reason is that the sample used for this paper is small and not diverse enough. As stated in the paper the sample had a huge amount of American observations (89,7%). The reason for this is because I only use the north American database from Execucomp to eliminate the potential effects of geographical location. But this causes the sample to be extremely populated by American observations and, as seen in the descriptive statistics, the Hofstede's dimensions do not have a lot of variation. Another potential reason could be the fact that the dependent variable in this paper is a ratio. Literature has previously warned against using ratios as the dependent variable because results are often not representative (Certo et al.,2020 ; Kronmal, 1993). This shows in this research by the low r-squared statistic in all four regressions. The additional test with beta regressions which are made to use ratios as the dependent variable showed no significant results for the cultural variables. The mix in results combined with prior literature showing mixed results shows there is a reason to conduct follow up research. Potential follow up researches include a research with a method that is better fitted to measure the cultural background of a CEO on their compensation. Hofstede's dimension (1983) are currently the best way to proxy for cultural background in research. plenty of papers use these dimensions as a direct proxy for culture. This does not mean that a potential better proxy cannot be found. And if in the future a better proxy for culture exits, it is important to use this proxy to look at the potential effects of a CEO's cultural background on their compensation package. Another

recommendation for follow up research is a research with a more diverse data sample, and a way to account for the potential issues of geographical location. The last recommendation is for follow up research that uses a different variable for CEO pay. A lot of papers in this field of literature use ratios as the dependent variable (Tosi & Greckhammer, 2004 ; Haynes, 2014; Ellahie et al., 2017). Potential follow up research can include a better option than a ratio to research the potential effects on the CEO's compensation contract. Ideally a follow up research combines a better proxy for culture, a broader sample without bias and a better way to include changes in a CEO's compensation contract than ratios to accurately measure the effect of a CEO's cultural background on their compensation contract composition.

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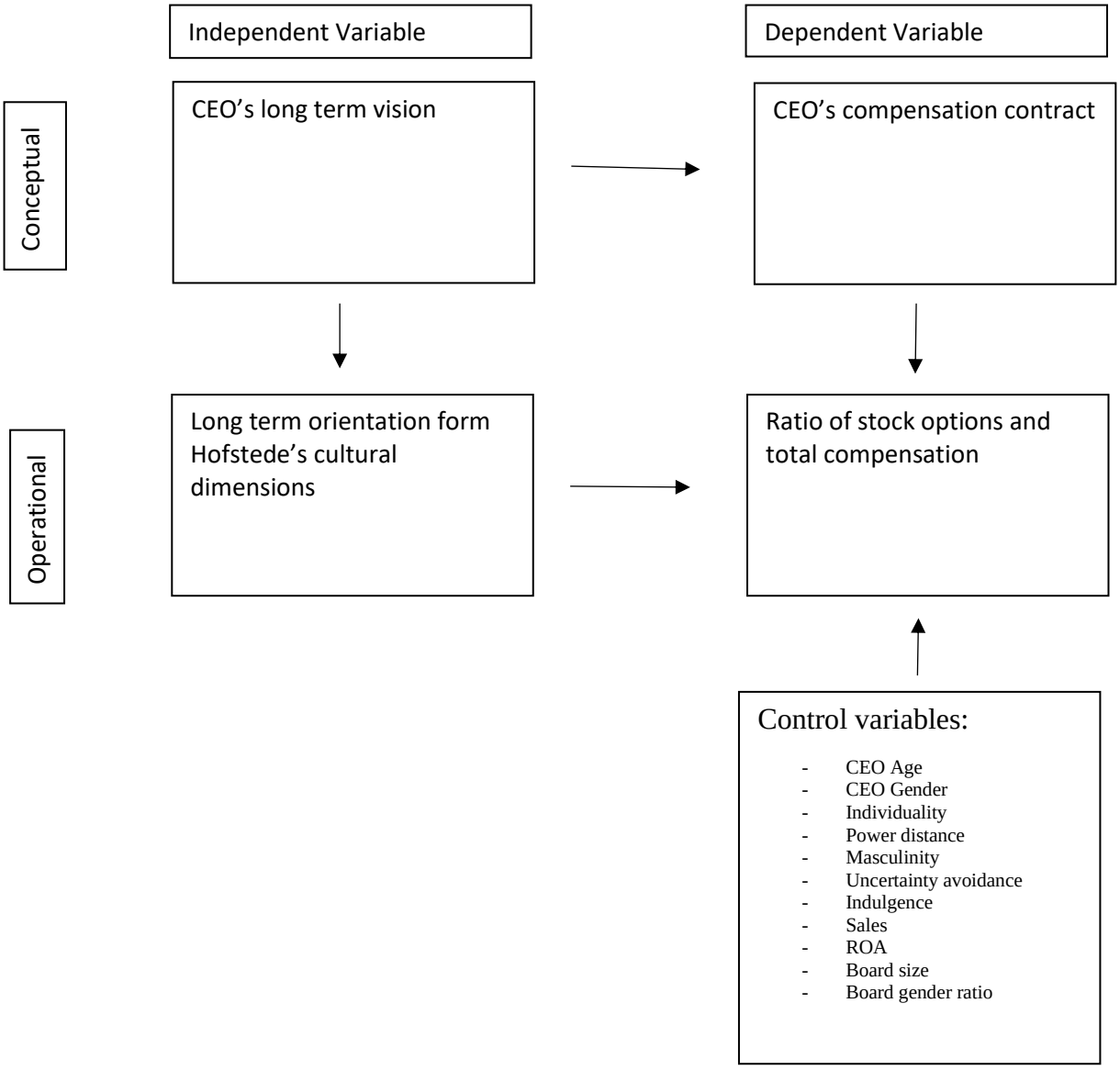
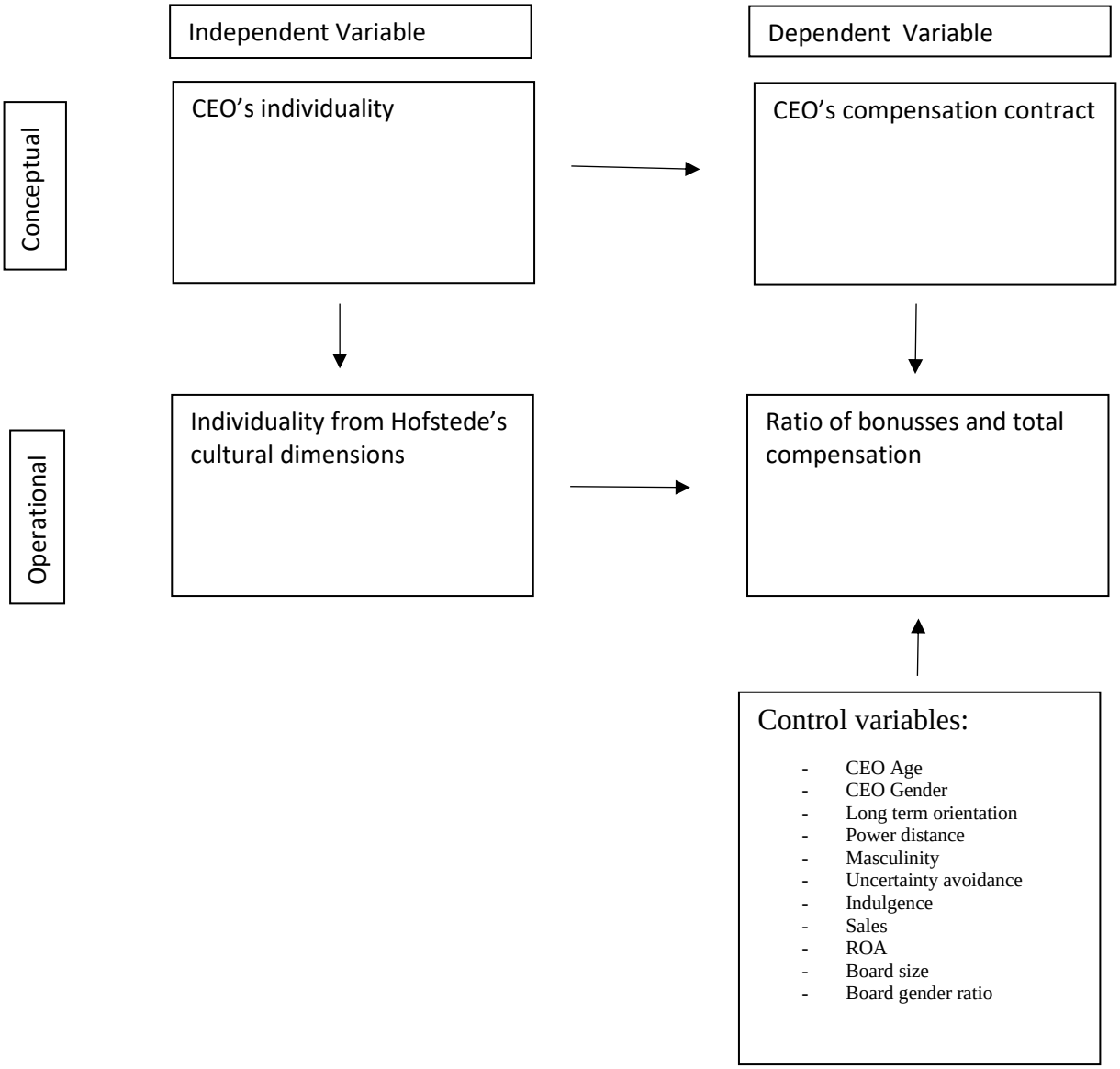
Appendix A: Libby boxes

A1. Libby box for H2



A2. Libby box for H3



Appendix B: Variable descriptions

Variable type	Variable Name	Variable Symbol	Measurement
Dependent variable	Stock to compensation ratio	STOCK	Stock options/ total compensation
	Bonus to compensation ratio	BONUS	Bonus awarded/ total compensation
Independent variable	CEO long termism	LTO	Long term orientation value from Hofstede dimension
	CEO individuality	IDV	Individuality value from Hofstede dimension
Control variable	CEO Masculinity	MAS	Masculinity value from Hofstede dimension
	CEO power distance	PDI	Power distance value from Hofstede dimension
	Uncertainty avoidance	UCA	Uncertainty avoidance value from Hofstede dimension
	indulgence	IVR	Indulgence vs restraint value from Hofstede dimension
	CEO age	AGE	CEO's age (from Execucomp)
	CEO gender	GEN	CEO's gender (from Execucomp

Variable type	Variable Name	Variable Symbol	Measurement
Control variable	Sales of the company	SALES	Log(Sales) (from Compustat
	Return on assets	ROA	Net income/ total assets (from Compustat)
	Year	YEAR	Year of observation
	Number of directors on board	DIR	Number of directors on board (from BoardEx)
	Gender ratio of board	COMP	Ratio of male directors on board