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Culture and performance pay

To what extent does culture correlate with the prevalence of different forms of rewarding employees?

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Master thesis

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Summary:

In this study I examine whether culture correlates with the prevalence of different forms of rewarding employees. Culture is defined by the six cultural dimensions which were formed by Hofstede. These dimensions were first formed in 1974 and developed more later on.
In this paper I have found that there is almost no significant relation between the prevalence of performance pay and the cultural dimensions. In most cases, the coefficients do not follow theoretical predictions.

Introduction

In this paper I will gain more insight into the matter of culture and the way people get rewarded. There are a lot of differences in practices to motivate employees. Some companies choose to motivate employees through bonuses or other financial incentives. Others do it through appreciation and other non-financial incentives. The dimensions of national culture are formed by Hofstede which I use to differentiate between cultures show large variances across Europe. The usage of performance pay also show large differences across the sample used in this paper.

This piece of research is interesting because of the increasing rate of globalization. This leads to a more diverse workplace. As employees have more diverse cultural backgrounds, it can be better to approach the different type of employees differently. One of these approaches is the way employees are rewarded. In this paper, I will examine whether there is a correlation between different types of culture and forms of performance pay. If there is, this is an indication that employees with different cultural background are used to (and perhaps should be provided with) different compensation structures.

This research will give more insight in what way the different cultural dimensions correlate with the different forms of rewarding employees. This shows which dimensions are important for the presence of certain form of performance pay. Companies can use this research to review their payment structure and see if it matches the cultural characteristics of their employees.

As culture is one of the driving forces of someone's behavior, I expect that culture correlates with the presence of all kinds of performance pay. Culture is defined by Hofstede's dimensions of national culture and in chapter three I will explain these dimensions of national culture and explain why I expect a correlation between each of the dimensions of national culture and performance pay. Next, I have tested these predictions using data from the Eurofound foundation. This foundation undertook various questionnaires on the working and living conditions of countries on the European continent. The study I have used is the European company survey where companies are approached by the institute. One of the employees of the company is asked to complete the survey. The database gives insight into more than thirty thousand companies in Europe.

The question I try to answer with this analysis is:

> "*To what extent does culture correlate with the prevalence of different forms of rewarding employees?*"

I have found that there is (almost) no correlation between the different dimensions of culture and the different forms of performance pay. Moreover, results do not follow theoretical predictions.

The paper is organized as follows. First, the second chapter describes the related literature. Then the third chapter presents the theoretical framework where I will form my hypotheses. The fourth chapter is about the differences in usage of performance pay across Europe. In the fifth chapter I will discuss data and methodology, where the sample is described and the model is specified. Then in the sixth chapter the results are discussed and finally in the last chapter I base my conclusion on the theoretical insights and the empirical results and give some suggestions for further research.

Related literature

The dataset distinguishes between five forms of payment. These are: piece rate pay, subjective performance pay, team related performance pay, profit sharing and shared ownership. In this chapter I will explain what each form means in this context and describe some empirical findings on each of the forms of performance pay.

Piece rate pay

The first form of performance pay is piece rate pay. In the interview the question was asked that if there were extra payment options available to the employee. An employee of a company answered with each of the five forms if they were available to at least one of the employees. Full performance pay wages with no fixed wage part is also included.

This form of performance pay has some supportive evidence from over the world, supporting a positive relation between performance pay and performance. The most famous piece of research of this kind of performance pay is by Lazear (2000), who found that there was a large rise in productivity after changing the payment scheme from fixed to piece rate pay in a company that places windshields for cars (Lazear, 2000). Other studies found similar results in different sectors and countries across the world (Paarsch & Shearer, 1999) (Ichniowski, Shaw, & Prennushi, 1997) (Heywood, Siebert, & Wei, 2013; Pouliakas & Theodoropoulos, 2009; Woessman, 2010; Gielen, Kerkhofs, & van Ours, 2006; Guiteras & Jack, 2014; Freeman & Kleiner, 1998).

Subjective performance pay

The second form of performance pay is subjective performance pay. The question asked was if there was some kind of extra pay following management appraisal present in the company. An important issue with other forms of performance pay is that measurement costs are high. Subjective performance pay does not have this issue. There has been some supportive evidence in recent years on this subject. The interaction with the boss is very important in this case. With a survey, Berman et al., (2002) showed that a friendship between managers and their employees are very common (Berman, West, & Richter, 2002). Possibly this can make their judgement more biased, this may lead to a higher performance pay

than is justified by the employees true performance. However it has been extensively discussed in organizational literature there is a strong positive correlation between the performance of the employee and the relationship of the manager and employee (Rhoades & Eisenberger, 2002).

Team performance pay

Team performance pay is the third form of performance pay. For this question in the interview the interviewee had to answer the question if team related pay was present in the company. There has been some increasing interest in team related performance pay in recent years. Hamilton et al. (2003) showed in their paper that there was a positive productivity increase when introducing team related performance pay (Hamilton, Nickerson, & Owan, 2003). In a paper by Delfgaauw, Dur, Non & Verbeke (2015), a field experiment was executed in a retail setting. In this setting, the teams that competed with each other were the different stores in this retail chain. The authors found positive results for the treatment group (Delfgaauw, Dur, Non, & Verbeke, 2015).

Profit sharing

Fourth is profit sharing, which is a form of performance pay at the company level. This field is a less explored one as the ones discussed before, and next to that a less consistent one. Bryson & Freeman (2007) stated that it is best to use it in combination with other performance pay practices (Bryson & Freeman, 2007). A study by Black and Lynch (2001) found some positive effects for profit sharing but only in the case that employees were member of a union and affect the company's policy in that way (Black & Lynch, 2001).

Shared ownership

The final form of performance pay is shared ownership. As the same goes for profit sharing, the real effect of this measure is very hard to estimate as the perfect experiment is very hard to execute. There has not been a lot convincing evidence for this type of performance pay. But interesting to see is that in Japan it is much more accepted to use company stock as a motivational tool for employees than in America, which are two countries which starkly differ in culture (Hofstede, Hofstede, & Minkov, 2010).

Theoretical framework

In this chapter I will explain the theoretical background of this research. I will form hypotheses which will be tested in the subsequent empirical analysis.

Cultural Dimensions

1. Power distance index (PDI)

"The first is the power distance index, this dimension expresses the degree to which the less powerful members of a society accept and expect that power is distributed unequally. The fundamental issue here is how a society handles inequalities among people. People in societies exhibiting a large degree of Power Distance accept a hierarchical order in which everybody has a place and which needs no further justification. In societies with low Power Distance, people strive to equalize the distribution of power and demand justification for inequalities of power" (Hofstede, Hofstede, & Minkov, 2010, page 53-62).

If I compare this to the five forms of performance pay, I expect them to correlate with this cultural dimension.

A large degree of power distance means that the people in that country have fewer problems with a hierarchy in a company mindless about inequality. Performance pay can lead to more inequality, as pay is more dispersed than in a fixed wage setting. With a low degree of PDI, people have a strong feeling for equality, and should favor the team option more, because earnings are more equal in team related performance pay. This also means that there is a very even distribution of income in a culture with a low level this cultural dimension, for a high level of PDI this is the other way around. As piece rate pay is a pure performance based rewarding measure it can create some problems within this category. People with a low score on the PDI dislike inequality. When people get rewarded for the output they generate there can be a large pay dispersion between employees (Lemieux, MacLeod, & Parent, 2007) (Lazear, 1989). This can lead to a large difference in pay between employees, which mean inequality between workers.

Source: Data from the Hofstede index.
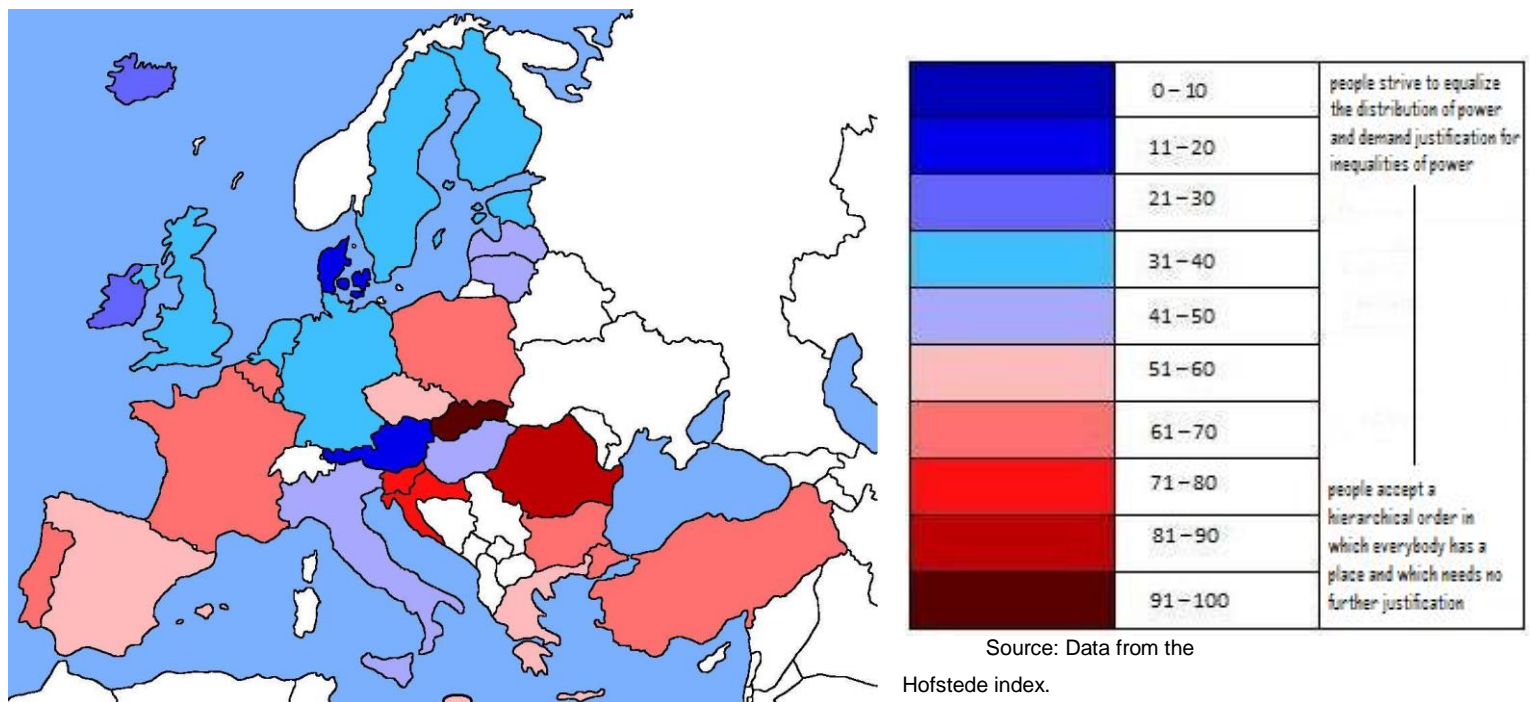
The scores for this particular dimension are shown in figure 1. There is a large difference visible between countries across Europe. With the east and south of Europe scoring high, while the more northern countries show a lower score on this scale. This means that the countries which are colored blue that the less powerful members of society do not accept unequal distribution of power. In the southern and eastern part of Europe, these members are much more willing to accept inequality. The data that Hofstede used is from two different studies. The first is a study conducted across fifty countries in 1974. This model was extended in the 1980s (Hofstede, Hofstede, & Minkov, 2010).

The hypothesis we will test regarding this dimension of national culture is:

H1: The power distance index does correlate positively with the presence of team related forms of performance pay, and negatively with individual forms of performance pay.

2. Individualism versus Collectivism (IDV)

> "The second dimension of national culture is individualism versus collectivism (IDV). It means that the high end of this dimension, called individualism, can be defined as people with a preference for a loosely-knit social framework in which individuals are expected to take care of only themselves and their immediate families. The opposing side, collectivism, represents a preference for a tightly-knit framework in society in which individuals expect their relatives or members of a particular in-group to look after them in exchange for unquestioning loyalty. A society's position within this dimension is reflected in whether people's self-image is defined in terms of "I" or "we"." (Hofstede, Hofstede, & Minkov, 2010, page 81-83).

Within the different forms of payment there are some which fit, and some which do not fit perfectly. For team based pay we can say, using the knowledge of the last dimension, that this is affected majorly by the society's score on IDV. When people value collectivism highly, they should be more likely to work in teams. For piece rate pay this is, again, the other way around. When you are valued by just your own production you are working very individualistic, which suits some cultures better than others. Management appraisal does not show any association with this measure, because it is a more subjective measure. Team or company related performance measures should show larger results. This can be explained by the fact that collectivism stresses belonging to a group and opinions are also formed in that group. For individualism this is the other way around, with more care for their privacy and a more "I" centered mindset.

Figure 2: the distribution of individualism versus collectivism across Europe
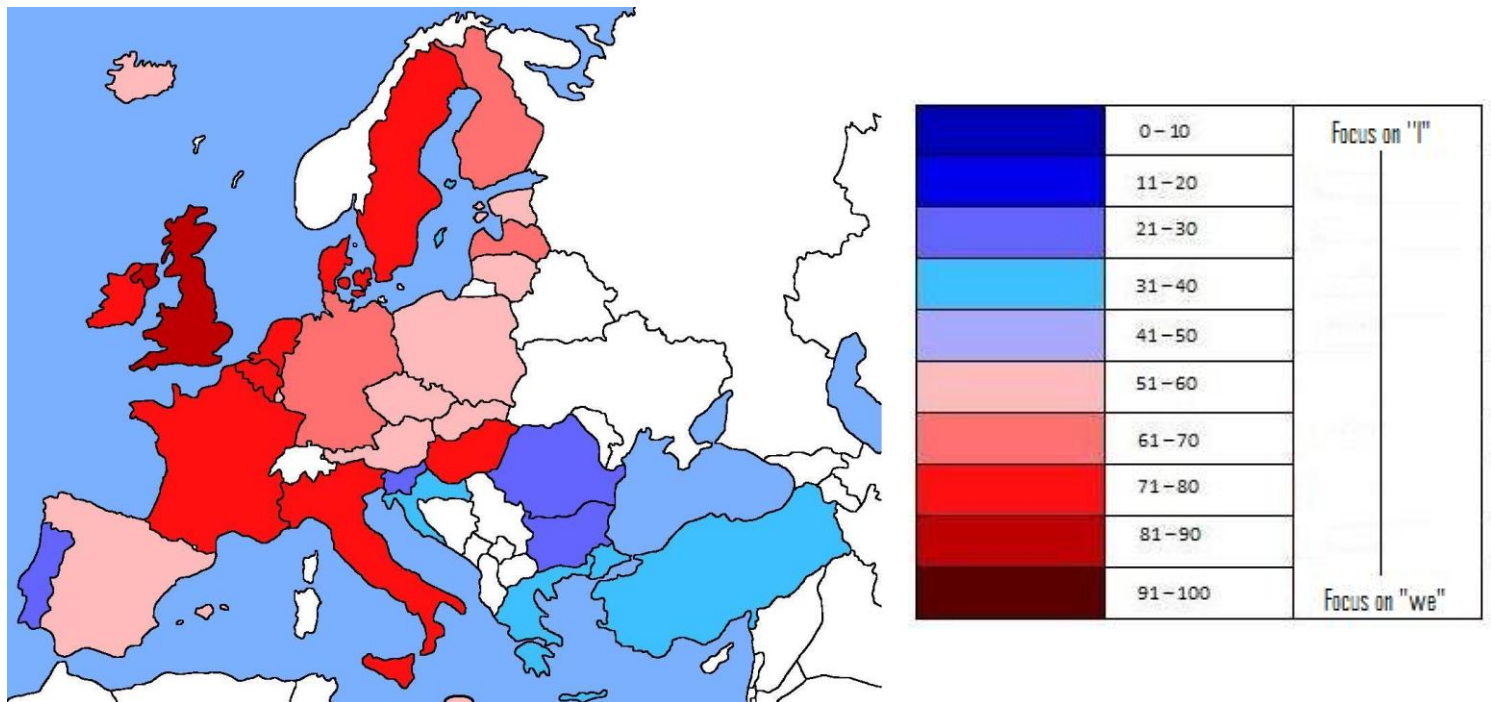
Source: Data from the Hofstede index.

Figure 2 shows the distribution of the second dimension of national culture. There is a more unionized pattern visible than with the PDI dimension.

The hypothesis we will test regarding this dimension of national culture is:

H2: The level of collectivism does positively correlate with the presence of team or company related performance pay and negatively with individual forms of performance pay.
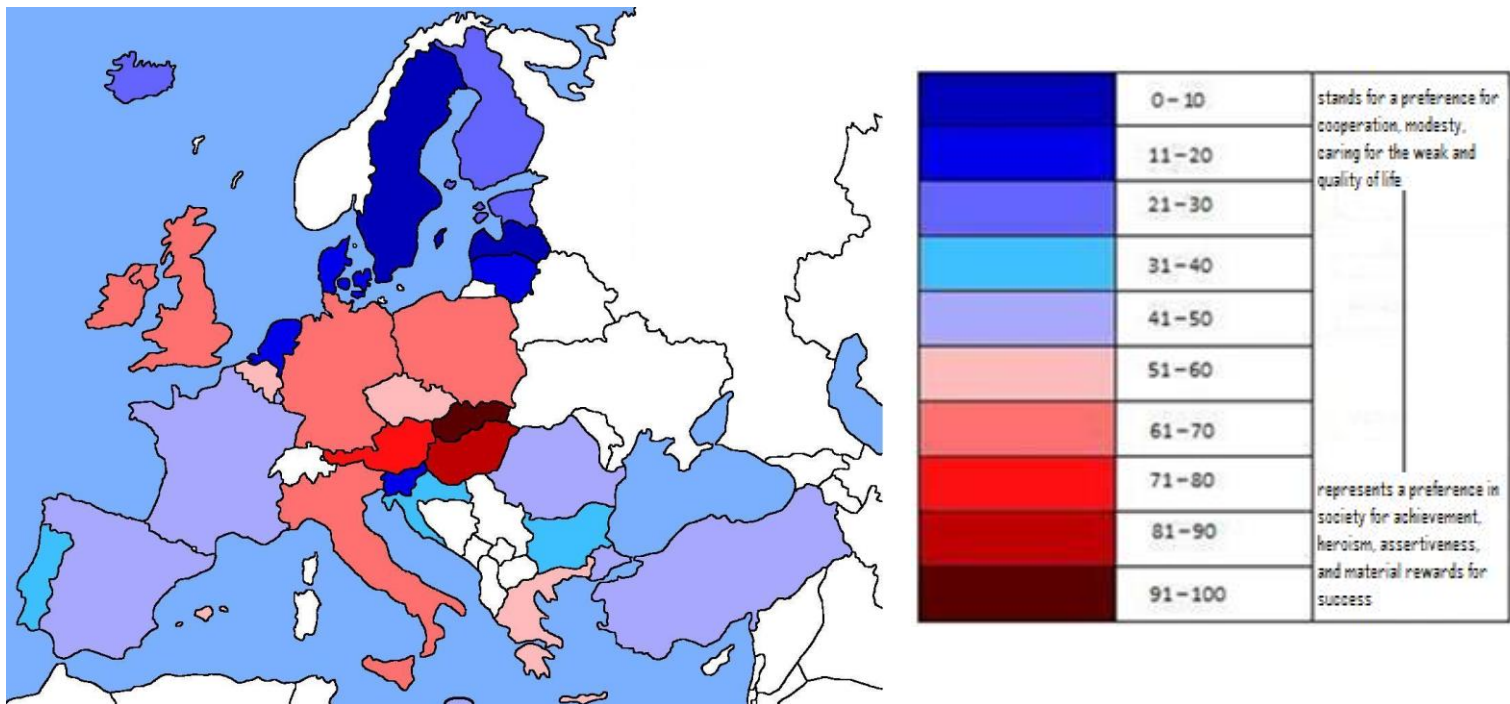
3. Masculinity versus femininity (MAS)

> "The third dimension is masculinity versus femininity (MAS). The masculinity side of this dimension represents a preference in society for achievement, heroism, assertiveness, and material rewards for success. Society at large is more competitive. Its opposite, femininity, stands for a preference for cooperation, modesty, caring for the weak and quality of life. Society at large is more consensus-oriented. In the business context Masculinity versus Femininity is sometimes also related to as "tough versus tender" cultures" (Hofstede, Hofstede, & Minkov, 2010, page 135-139).

Cultures which score low on these dimensions are called feminine. These cultures are characterized by a good balance between family and work, many women in elected positions, sympathy for the weak and minimum emotional and social role differentiation between the genders. Masculine cultures are characterized by an importance of work over family, ambitious and assertive men, an admiration for the strong and a maximum differentiation between the two genders. This also shows that people who are more masculine will be likely to choose for piece rate pay as the material reward is generally higher (Lazear, 2000). The difference should show in most of the forms of performance pay. A positive correlation for individual forms of performance pay, and a negative relation for team and company related forms of performance pay. I make this distinction because the feminine cultures have a more caring nature and should be more effective in a team related performance pay setting.

Masculinity versus femininity is not used to explain subjective performance pay because this dimension focuses around a balance between family and work. There is of course some link, as in increase in effort in either the job or pleasing the manager can increase the pay. For people who place work over family it is easier to invest more time in work. However, in my opinion this is such a small factor and this is better represented by other forms of performance pay; it is left out of the analysis. This dimension of national culture is next to subjective performance pay, also not used to explain profit sharing and shared ownership. Due to the predictions formed in the previous paragraph.

Figure 3: The distribution of masculinity versus femininity across Europe

Source: Data from the Hofstede index.

In figure 3, the distribution of masculinity versus femininity is shown. The Scandinavian countries are known for a low score on this scale. A few other countries in Western Europe score low on this subject as well. In Eastern Europe there is a more masculine society apparent. This means that values as achievement, heroism, assertiveness and material rewards are valued higher there.

The hypothesis we will test regarding this dimension of national culture is:

H3: The degree of Masculinity does positively correlate with the presence of piece rate pay and negatively with the presence of team performance pay.

The first three hypotheses all share a common ground. They are all centered on the theme of equality. However, they are specified in a different way. The first dimension is about the feeling people have regarding inequality, where a high score means that they do not dislike inequality. This means for instance that they do not mind a clear hierarchy in a company. The second dimension focuses on the difference between a collective or individualistic mindset. Individualistic people dislike working in teams, and vice versa with people with a collective mindset. The third dimension focuses on the difference between a good balance between work and family on one side and an importance of work over family on the other. All these dimensions cover a different part of equality, and therefore they can be used next to each other in this research.

4. Uncertainty avoidance index (UAI)

"The fourth dimension is the uncertainty avoidance index (UAI). The Uncertainty Avoidance dimension expresses the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity. The fundamental issue here is how a society deals with the fact that the future can never be known: should we try to control the future or just let it happen? Countries exhibiting strong UAI maintain rigid codes of belief and behavior and are intolerant of unorthodox behavior and ideas. Weak UAI societies maintain a more relaxed attitude in which practice counts more than principles" (Hofstede, Hofstede, & Minkov, 2010, page 187-190).

Cultures with a low score on the uncertainty avoidance index are more tolerant, have no problem with changing jobs and have a dislike of rules. A high score on this index is characterized by staying in a job, even when it is disliked, a need for rules and they fear different ideas and people. Agency theory's main prediction is that there is a risk-incentive tradeoff. People with low risk aversion, or low uncertainty avoidance, should be more likely to use performance pay contracts (Grund & Sliwka, 2006). This means that a difference between cultures should create differences in choosing between the forms of pay. And especially between fixed or performance pay. There are also differences visible in risk between the forms of performance pay. Piece rate bears the most risk, and this decreases with each form. Profit sharing and shared ownership bear the least risk of the different forms of performance pay. As the last two options share the risk with the entire company, the extra risk is not that large[1]. Cultures that show a low score on this dimension should accept the risk, as the opposing cultures should avoid it all cost as they see it as a risk. Therefore the hypothesis will include this difference between the forms of performance pay. Where the individual forms of performance pay must show a negative coefficient as a higher score on this dimension means that the culture sees uncertainty as a threat. Group related performance pay measures share risk, and should give no difference or a small negative coefficient. As there still is more risk, but smaller than in the case of individual forms of performance pay.

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[1] If individual performance is well defined by kind of tasks performed and organizational or team performance measures are more ambiguous, it is the other way around.

Figure 4: The distribution of the uncertainty avoidance index across Europe

Source: Data from the

Hofstede index.
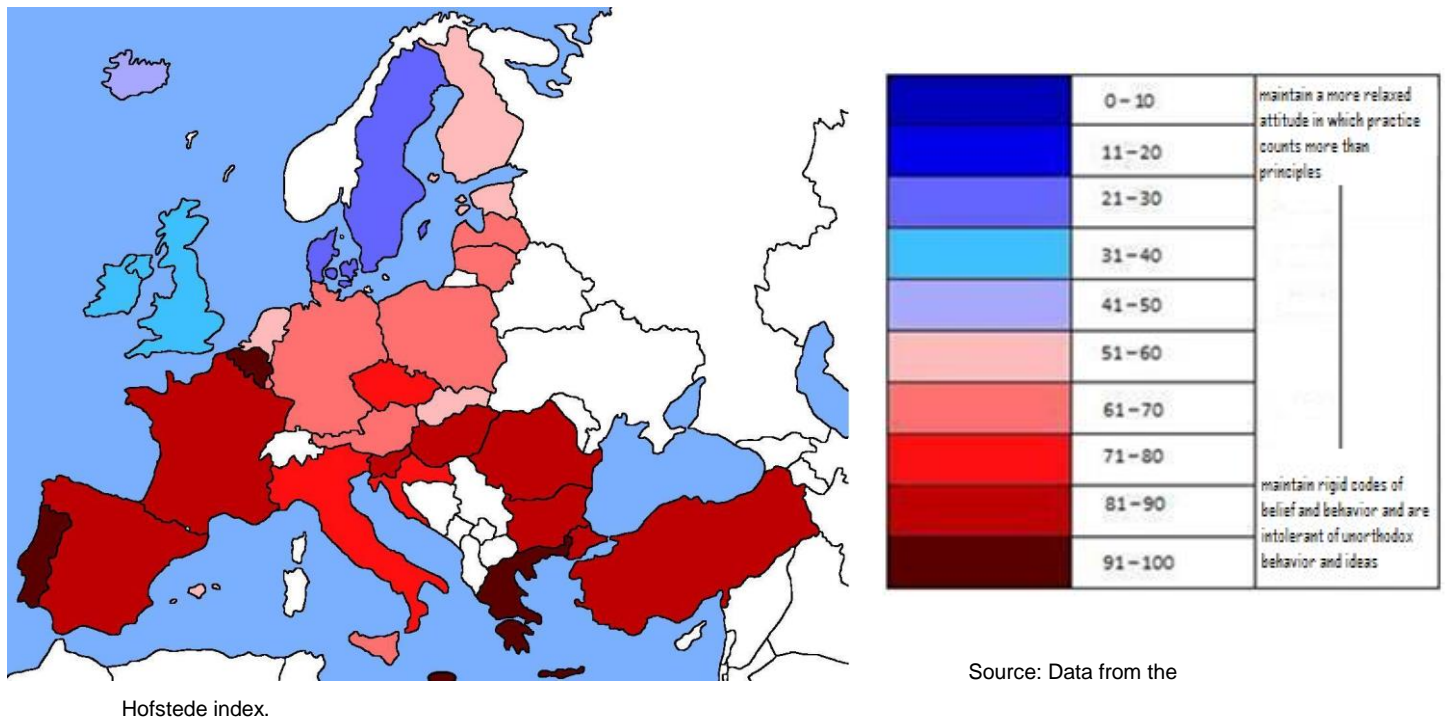
As seen with the second dimension, Europe seems very unionized in their way of thinking, with only a few countries deviating from the common thought. In figure 4 it is, again, shown that there seems to be a collective stance on a dimension, UAI this time, with only few countries that think otherwise. Those are now the countries in the northern zone of Europe. These countries have no problem with taking risk and are more comfortable taking them. The vast majority of Europe, however, is not comfortable taking risks. They have rigid beliefs and are not open to new ideas.

The hypothesis we will test regarding this dimension of national culture is:

H4: The uncertainty avoidance index does negatively correlate with presence of individual forms of performance pay, and there is no correlation with group related forms of performance pay.
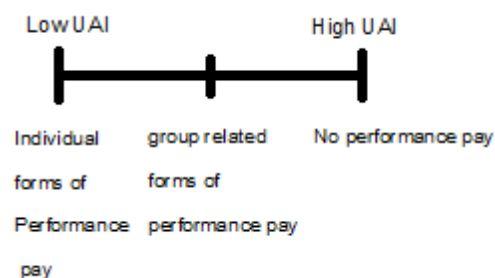
5. Indulgence versus restraint (IND)

"The last dimension is indulgence versus restraint (IND). Indulgence stands for a society that allows relatively free gratification of basic and natural human drives related to enjoying life and having fun. Restraint stands for a society that suppresses gratification of wants and needs and regulates it by strict social norms" (Hofstede, Hofstede, & Minkov, 2010, page 281).

When having fun and enjoying life becomes more valuable to people, the opportunity costs for working are higher. This dimension should correlate with the presence of performance pay in indulgent countries, as the employees there need more financial motivation to compensate for their higher opportunity cost. This means that restrained countries should correlate negatively with the different kinds of performance pay. Because a low score on this dimension should lead to a higher usage of performance pay.

With company performance related rewarding; there is no real advantage of giving up more free time to improve the company's result. Therefore the hypothesis will not include the company related forms of performance pay. The hypothesis predicts a negative coefficient, because a high score on these dimensions means that a culture is restraint.
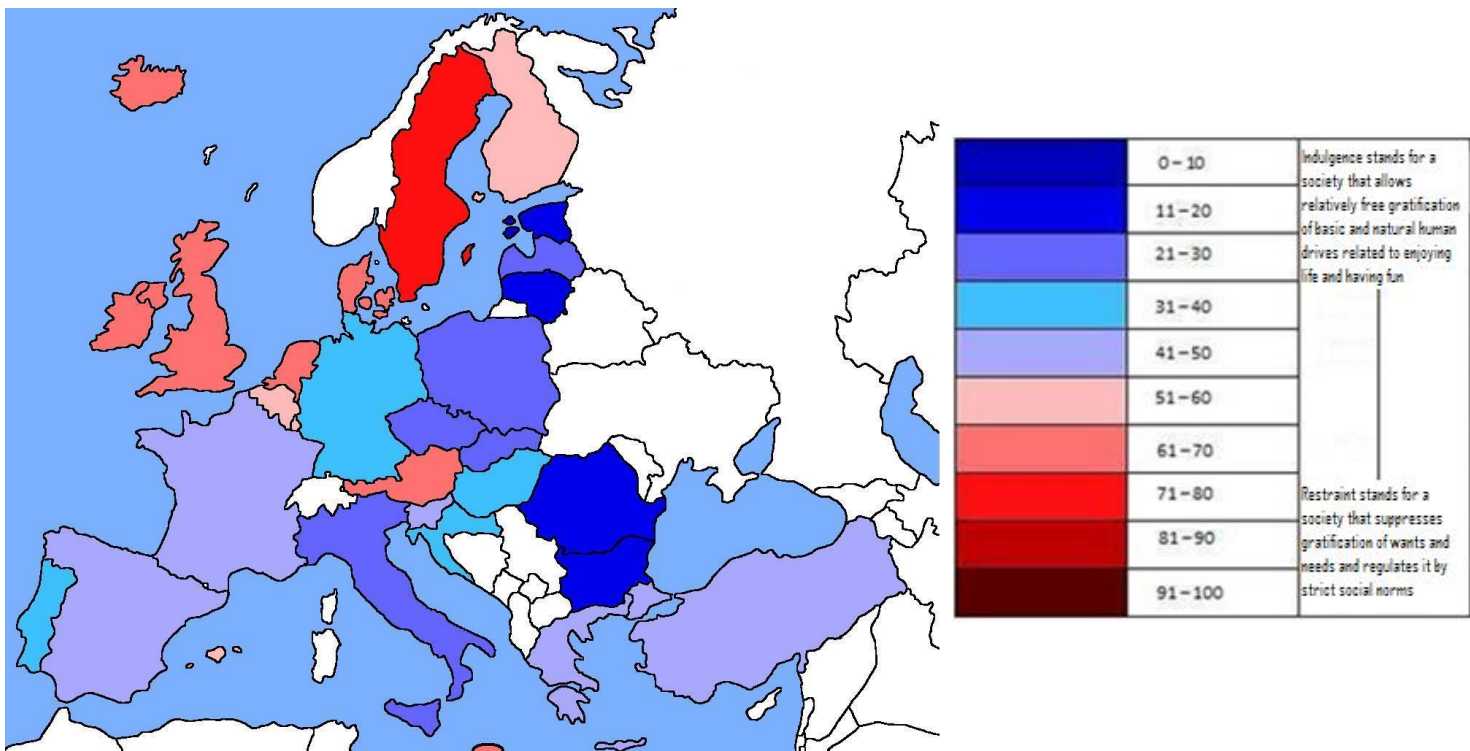
Source: Data from the Hofstede index.

In this dimension, the map in figure 5 shows mostly low values. With the exception for the northern part Europe, the Netherlands, Malta and Austria. The most countries in Europe are considered restrained, which means that they suppress gratification of needs and regulate it by means of strict social norms. For the exceptions, enjoying life and having fun plays an important role in life.

H5: The level of restraint correlates positively with the presence of piece rate pay, subjective performance pay and team related performance pay.

Performance pay across Europe

There are large differences visible between the countries regarding the usage of certain forms of rewarding employees. The usage of piece rate pay in companies across Europe varies a lot. It varies from 22,3% in Italy to 73,9% in Lithuania. The average across Europe is 40,9%. The question that is asked is if there is one or more of the five performance pay practices present in the company. The five forms of performance pay are piece rate pay, subjective performance pay, team related performance pay, profit sharing and shared ownership. This means that in 40,9 percent of the firms in Europe have piece rate pay available to at least one of their employees. In the first graph there is a large dispersion between all the countries. The data came from the European company survey. The question asked was if some sort of performance pay options were available to employees. The questions were asked to representatives of a variety of firms in Europe. The firms which are in the sample are representative for firms across Europe.

The presence of piece rate pay across Europe
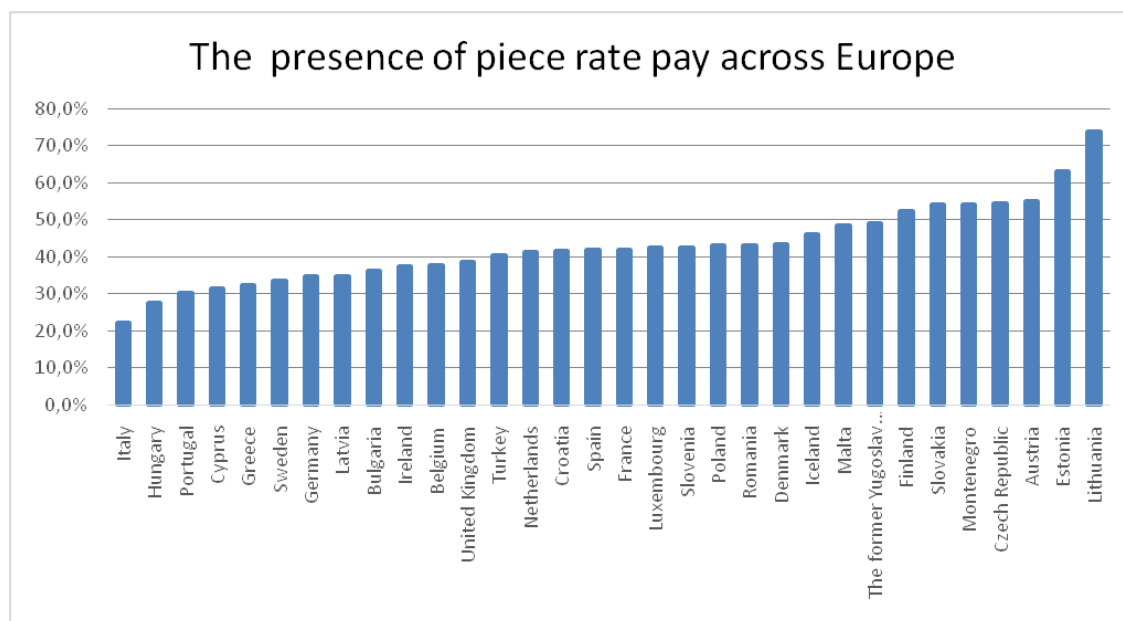
Source: Data from the European company survey.

For payment following management appraisal there is the highest participation rate visible across the firms in Europe. 52,3% of all firms in Europe use some kind of subjective performance pay. The smallest participation rate is now 39 % in Portugal, and the largest one is visible in Slovenia with 78,9%. The participation rates are much closer in this case as the participation rates are closer together.

The presence of extra pay following management appraisel across Europe

Source: Data from the European company survey.

Performance pay related to team performance is a less executed plan as the previous forms of performance pay. The average is in this case 34,4% and the participation rates are dispersed between 16,1% and 55,7% for Iceland and Estonia respectively. The question that was asked was if the firm had any of the performance pay options available to at least some employees.
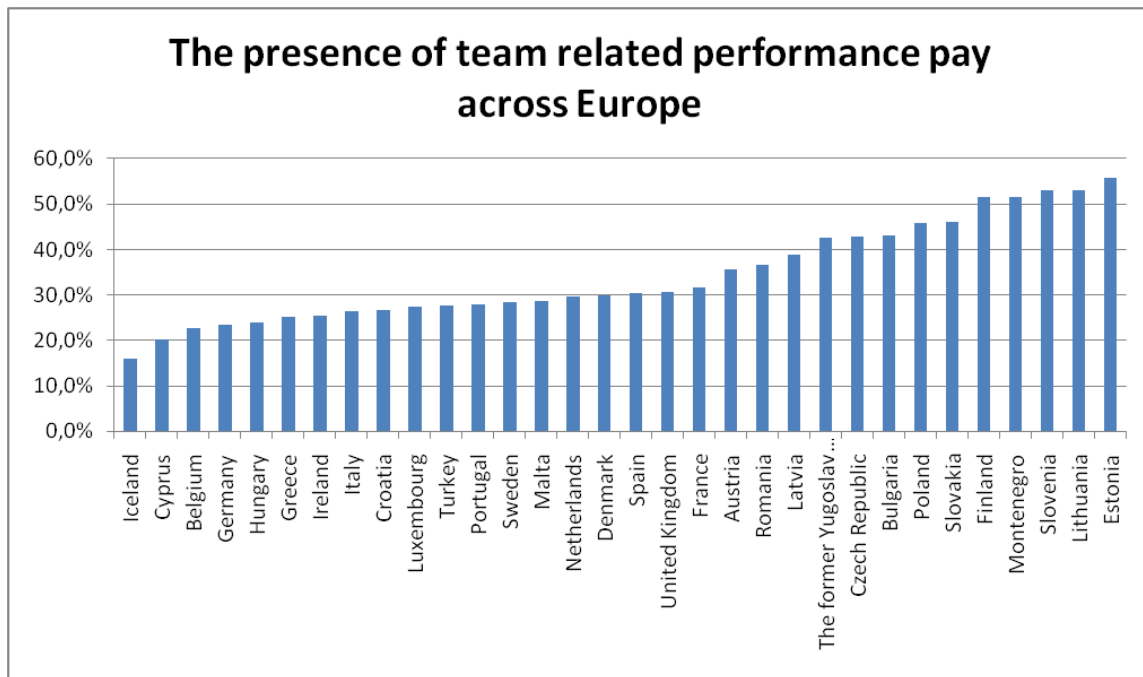
Source: Data from the European company survey.

There are two different types of rewarding schemes regarding the company result. With the first type wage is influenced in some way with the profit of the company. This scheme is used in 37,8% of the firms across Europe. Malta is not using it very frequently with only 14, 4% of firms in this country have profit sharing plans available to some of their employees. Finland is the leader in using profit sharing plan. Finnish firms have a profit sharing plan in 67,9% of the firms. Table 1 shows the regression results to see if the presence of a profit sharing plan depends on the country a firm is established in.
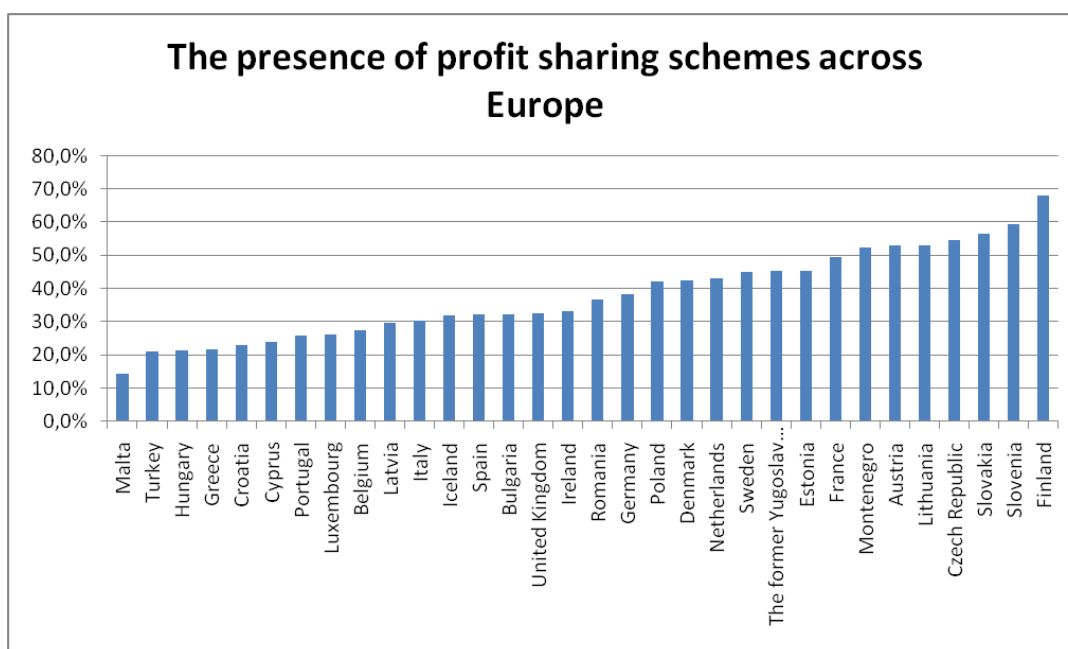
Source: Data from the European company survey.

Share options are the second way of relating pay to company performance. This is a very rare practice across Europe, with only 7,3% of the firms having some kind of share option plan for their employees. As with the other company performance measure, Malta and Finland have again the honor of being the least and most using country in Europe. The question that was asked was if the firm had any of the performance pay options available to at least some employees.
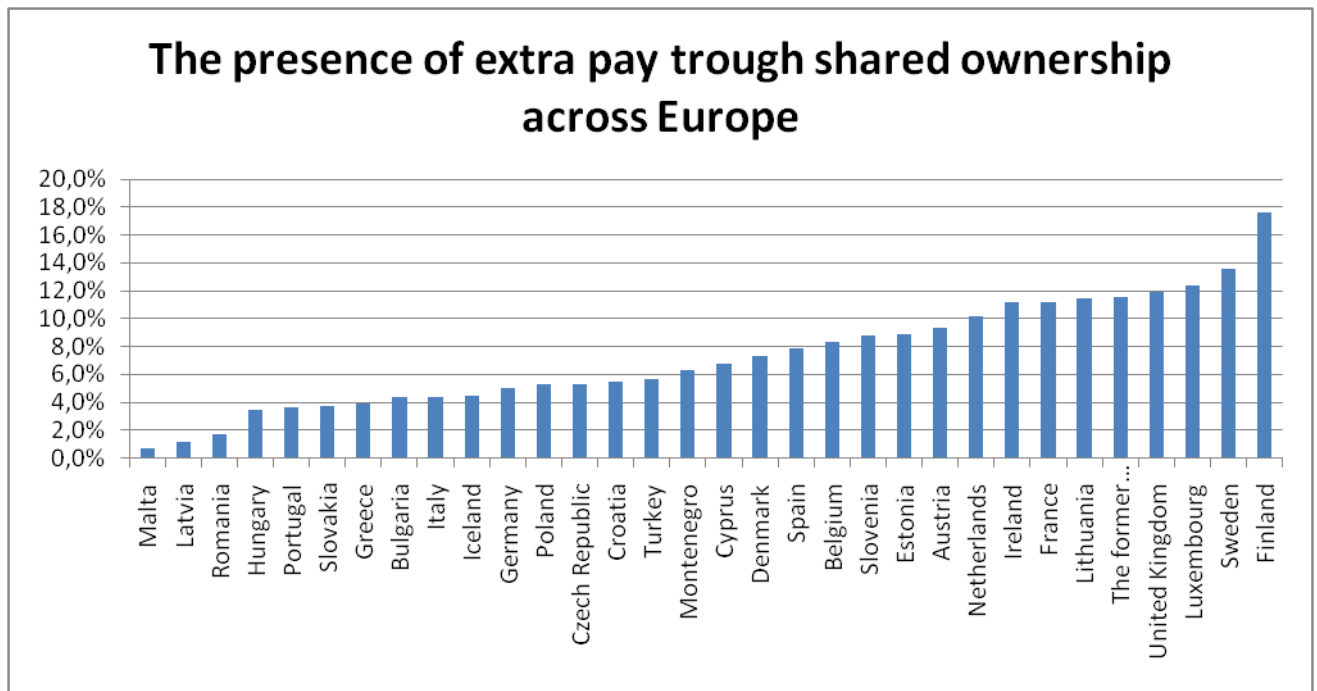
The presence of extra pay trough shared ownership across Europe

Source: Data from the European company survey.

Correlation between forms of payment

Table 1: Correlations between the different forms of performance pay

		Piece rate	Subjective pp	Team work	Profit sharing	Share plan
Piece rate	Pearson Correlation	1	,658**	,682**	,603**	0,287
	Sig. (2-tailed)		0,000	0,000	0,000	0,112
	N	32	32	32	32	32
Subjective pp	Pearson Correlation	,658**	1	,736**	,736**	0,152
	Sig. (2-tailed)	0,000		0,000	0,000	0,405
	N	32	32	32	32	32
Team work	Pearson Correlation	,682**	,736**	1	,733**	0,216
	Sig. (2-tailed)	0,000	0,000		0,000	0,235
	N	32	32	32	32	32
Profit sharing	Pearson Correlation	,603**	,736**	,733**	1	,511**
	Sig. (2-tailed)	0,000	0,000	0,000		0,003
	N	32	32	32	32	32
Share plan	Pearson Correlation	0,287	0,152	0,216	,511**	1
	Sig. (2-tailed)	0,112	0,405	0,235	0,003	
	N	32	32	32	32	32

**. Correlation is significant at the 0.01 level (2-tailed).

In this part I want to give more insight into the relations between the presence of the different forms performance pay. There are some weak and strong relations between the different forms. Piece rate pay has a strong correlation with subjective performance pay, team related performance pay and profit sharing. There is an insignificant and small correlation with extra payment in the form of shared ownership. This shows that it is common for a lot of companies to adopt more than one form of performance pay. Subjective performance shows even stronger correlational patterns with team related performance and profit sharing plans. Profit sharing also has a strong correlation with each of the forms of performance pay, even the form of shared ownership. This is interesting to see,

taking in mind the earlier note made about the paper of Bryson & Freeman (2007). In that paper it was shown that it is better to use profit sharing with other kinds of rewarding. Extra pay in the form of shared ownership weakly correlates with the other forms of payment. The most logical explanation is the fact that shared ownership is relatively unpopular in Europe.

Sector composition of the economy

A possible explanation for this difference in these forms of performance pay can be related to the sector of the companies which are present in the country. The three sectors I will discuss are the agricultural sector, industrial sector and the service sector. These three sectors have many different kinds of sub sectors included.

The agricultural sector is the least contributing to the GDP of the countries in this paper. It varies from 0,4% in Luxembourg to 9,3% in Turkey (Central Intelligence Agency, 2015). These differences could possibly explain some of the differences in the presence of different forms of performance pay. For instance, it is easier to measure someone picking tomatoes rather than giving a service.
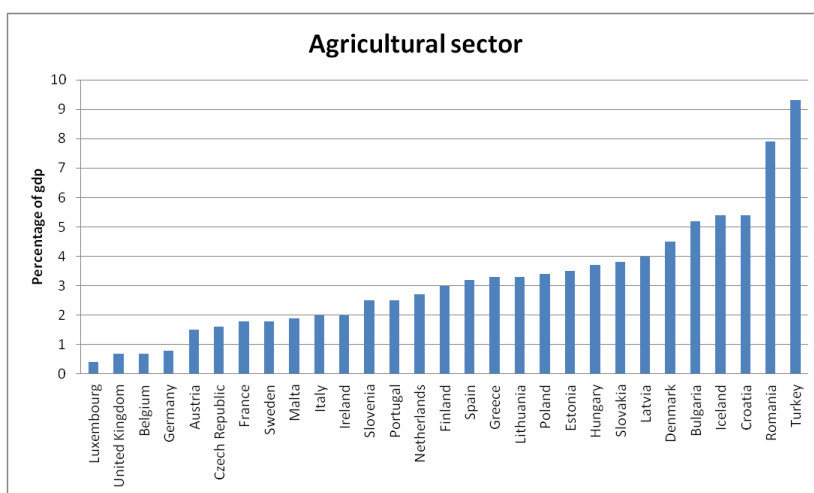
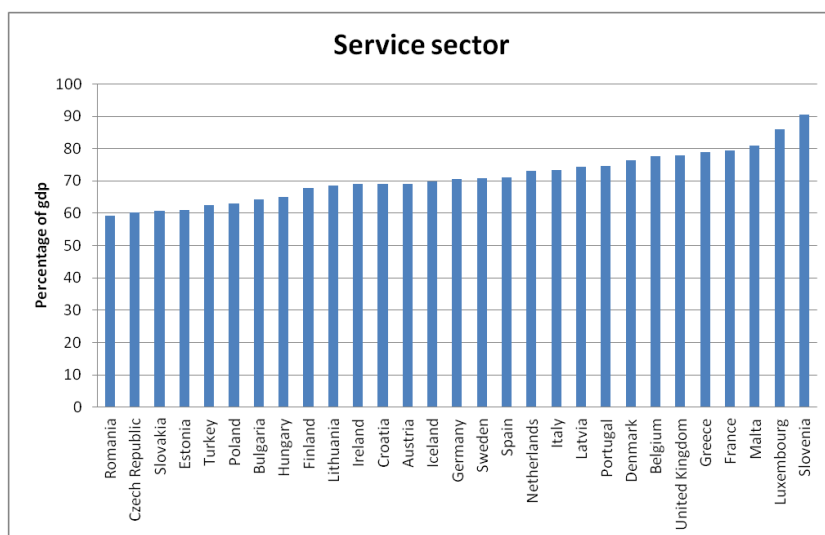*Source: Central Intelligence Agency*

The industrial sector is a larger sector across Europe. Slovenia only earns 6,9% of their GDP in the industrial sector. For the Czech Republic this is equal to 38,1%. The differences between the countries are much larger compared to the agricultural sector.
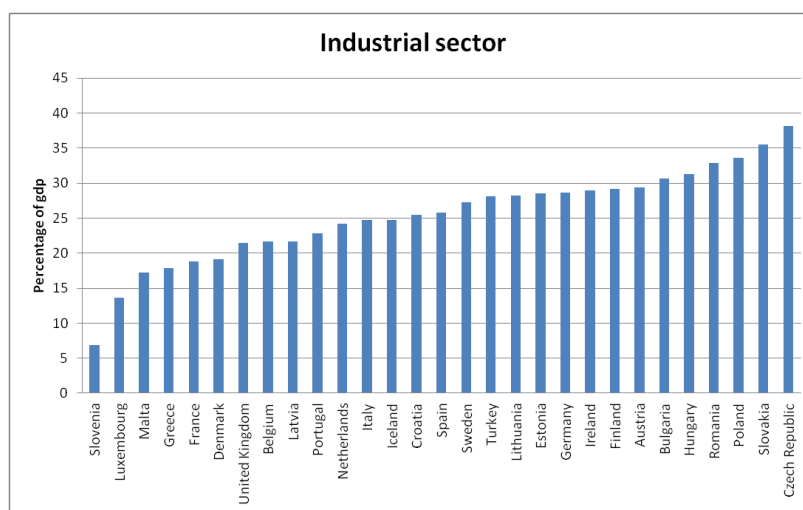
Source: Central Intelligence Agency

The service sector is the largest part of Europe's GDP. It varies from 59,1% in Romania to 90,5% in Slovenia. It is possible that service centered companies prefer some kinds of performance pay. For instance, it can be hard to measure performance and thus subjective performance pay might be better suitable. In table 2, the correlation coefficients between the three sectors and the five forms of performance pay are added. With the exception of shared ownership and the agricultural sector, there are no significant correlation coefficients regarding the different sectors. The correlational coefficient of shared ownership and the agricultural sector indicates a weak to moderate negative relationship. To check if these difference in sectors influence the correlational relationship between performance pay and culture I will include controls regarding these differences.

Service sector

Source: Central Intelligence Agency

Table 2: Correlation coefficients between the forms of performance pay and the different sectors

	Agricultural sector	Industry sector	Service sector
Piece rate pay	0,048	0,23	-0,273
Subjective performance pay	-0,143	0,056	-0,022
Team related performance pay	0,062	0,196	-0,252
Profit sharing	-0,181	0,222	-0,164
Shared ownership	-0,398*	-0,135	0,208

*= Significant at a 5% level

Data & Methodology

In this chapter I will describe the data which is used in this study and specify the models that are used in the analysis.

Data

I use data from the third wave of the European Company Survey. This survey is executed in command of the European foundation for the Improvement of Living and Working Conditions among residents of the EU and other European countries. The survey consists out of 32 countries which include the 27 EU member states and Croatia, Former Yugoslav Republic of Macedonia, Iceland, Montenegro and Turkey. The targeted sample size was almost 30,000 people. Per country this was varying from 300 to 1650 people, depending on the size of the country. The interviewees were representatives of a company, and the questions were generally aimed to discover the policy of the company. Out of the 32 countries in the sample, there are however three countries which are not eligible to use in this piece of research. For Cyprus, Montenegro and Macedonia there were missing values for four or more cultural dimensions of national culture.

The surveys were undertaken by telephone with managers and employee representatives. The surveys were conducted in the language of the respondent. The survey has several objectives. The first objective is to map, assess and quantify information on company policies and practices Europe on a harmonized basis. Secondly it is to analyze relationships between company practices and their impact as well as looking at practices from the point of view of structures at company level, focusing in particular on social dialogue. The third objective is to monitor trends and finally it is to contribute to the Europe 2020 strategy. They try to achieve this through mapping and understanding company policies and practices which can have an impact on smart, sustainable and inclusive growth, as well as the development of homogeneous indicators on these issues for a European audience (Eurofound, 2015).

The data for culture is coming from the Hofstede Centre (2015). This is based on the original research of Geert Hofstede. He based the original scores on a large dataset within the company IBM. Over the years, Hofstede has used his

techniques to extend his research to more countries. And here also been added some categories over the years (Hofstede, Hofstede, & Minkov, 2010).

There is a large difference between the countries within the sample. The countries in the European Union can differ like day and night. For instance, the economic performance of each country differs majorly. The GDP per capita, were the highest value is 90,298 for Luxemburg and the lowest GDP per capita is 4,690 for Moldavia (International Monetary Fund, 2015).

To analyze the matter, I have had to transform the data to a country level. To achieve this, the proportion of companies that use a particular form of performance pay was calculated. This led to a datasheet with the proportion of companies in a country that use a particular form of performance pay. The technique I use is the multiple regression option with blocks to allow controlling for the different sectors.

The data on sector composition of the economy is retrieved from the World fact book by the central intelligence office. This source contains data on a large variety of topics. In this paper the database was used that contained data on the GDP of a large number of countries in the world, including Europe. Next to data on the nominal level of GDP of the countries there was data on the sector composition. They used percentages to indicate which part of the economy was earned in a particular sector.

Methodology

The method I have been using to analyze this matter is linear regression. I will test the hypothesis by checking if they correlate with each of the forms of performance pay.

The data which I use is tested on a country level. This means that the analysis uses the data to compare between countries. All the individual cases were used to calculate the average of the different forms of performance. Then these were combined with the dimensions of national culture to see if culture correlates with the presence of performance pay.

The regression equations tested were equal to:

$$Piece\ Piece\ rate\ pay$$
$$= \beta_0 + \beta_1 * PDI + \beta_2 * IDV + \beta_3 * MAS + \beta_4 * UAI + \beta_5 * IND$$

The equation above does not always match the other equations tested in this paper. Team related performance pay uses the same equation with all the dimensions of natural culture in this piece of research. For subjective performance pay, masculinity versus femininity is not used for this form of performance pay because in the theoretical framework I explained that some of the forms of performance pay do not correlate with a particular dimension. In this case, masculinity versus femininity is not used to explain subjective performance pay because this dimension focuses around a balance between family and work. There is of course some link, as in increase in effort in either the job or pleasing the manager can increase the pay. And for people who place work over family it is easier to invest more time in work. However, in my opinion this is such a small factor and that it is better represented by other forms of performance pay; it is left out of the analysis. For profit sharing and shared ownership there are two dimensions of national culture that are not used in the regression analysis. This is because of the hypothesis which was formed in the third chapter. The dimensions that were left out have no influence in the previous discussed cases.

In addition to the previous discussed ways, I will add controls for sector composition of the economy. The sectors used are the agricultural sector, the industry sector and the service sector. The sectors are discussed in chapter two. The method I used to control for this is a hierarchal multiple regression method. In the first block is composed out of the three different sectors. The five different dimensions of national culture and the three sectors complete the second block. To see if the three sectors influence the correlational pattern the control variables have to be significant. To test this, the regression method shows two models as output, next to the basic regression results with the control variables.

Results

Table 3 shows the estimation results of the linear regression model using the full sample of countries. Each of the forms of performance pay has two columns with regression results. With the first column containing results without any control variables. The second column of each form of performance pay contains the results where there is a control for sector composition of the economy.

Table 3: Regression output

	Payment by results		Variable extra pay linked to management appraisal		Team performance pay		Profit sharing schemes		Shared ownership	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Power distance index	-0,061	0,013	-0,080	-0,058	0,025	0,105	0,076	0,099	-0,055	-0,034
	(0,144)	(0,149)	(0,134)	(0,140)	(0,124)	(0,126)	(0,152)	(0,155)	(0,043)	(0,045)
Individualism versus collectivism	-0,138	-0,176	-0,119	-0,240	-0,107	-0,200	-0,118	-0,313	0,006	-0,037
	(0,164)	(0,177)	(0,150)	(0,175)	(0,141)	(0,149)	(0,182)	(0,202)	(0,052)	(0,059)
Masculinity versus femininity	-0,018	-0,075			-0,051	-0,092				
	(0,090)	(0,106)			(0,078)	(0,089)				
Uncertainty avoidance index	-0,159	-0,109	-0,151	-0,221	-0,160	-0,175	-0,301**	-0,342**	-0,051	-0,075*
	(0,124)	(0,136)	(0.119)	(0,132)	(0,107)	(0,114)	(0,144)	(0,147)	(0,041)	(0,043)
Indulgence versus restraint	-0,146	-0,005	-0,154	-0,214	-0,304**	-0,246*				
	(0,127)	(0,154)	(0,124)	(0,152)	(0,109)	(0,130)				
R^2	0,338	0,225	0,119	0,209	0,341	0,465	0,156	0,305	0,272	0,194
Number of observations	29	29	29	29	29	29	29	29	29	29

a: ** = significant on 5% level * = significant on a 10% level

For payment by results, the first column shows a small negative but insignificant coefficient for all the five different dimensions of national culture. When controlling for sector composition of the economy these results remain almost the same. All the estimation results remain insignificant and small. Apart from the power distance index all the other dimensions of national culture show a negative sign. A unit increase in for instance the power distance index leads to a reduction of the correlation with piece rate pay of 6,1 percent. When controlling for sector composition the estimation results show a 1,3 percent increase in the correlational coefficient with piece rate pay for a unit increase in the power distance index.

The estimation results for subjective performance pay follow the same direction as with piece rate pay. With and without taking up controls for sector composition of the economy all the coefficients are insignificant. Next to this, taking up controls does not change the negative sign of the different dimensions of national culture. With exception of the power distance index, controlling for sector composition of the economy increases the estimation results.

Team related performance pay has, except for indulgence versus restraint, all insignificant estimation results. This increases when taking up the control variables. The negative sign however does not change.

The estimation results for profit sharing schemes show a negative, significant and reasonably high coefficient. This is equal to 30.1 percent in the general model and 34,2 percent when taking up controls for sector composition of the economy. This means that a unit increase in the uncertainty avoidance index leads to a less frequent use of profit sharing. The power distance index shows a small, insignificant and negative coefficient. This increases when taking up control variables. The last dimensions, individualism versus collectivism, shows insignificant and negative coefficient. When including controls, this coefficient decreases even further.

The last form of performance pay, shared ownership, shows for the power distance index and the uncertainty avoidance index negative coefficients. And the only coefficient which is significant (on a 10% level) is the uncertainty avoidance index, but only in the model that includes controls. Individualism versus collectivism shows a very small positive and insignificant coefficient in the regular model. When including controls, this changes to a small negative coefficient.

Now I will use the results and the reasoning above to accept the hypothesis that was formed in chapter three.

The first hypothesis is equal to:

H1: The power distance index does correlate positively with the presence of team related forms of performance pay, and negatively with individual forms of performance pay.

In no case there is a significant correlational pattern visible between the power distance index and any form of performance pay. This hypothesis cannot be accepted due to lacking evidence. Interesting to add is that the sign of this dimension follows the theoretical predictions in two out of five times. When taking up controls in the model, the sign of piece rate pay becomes positive. This does not fall in line with theoretical predictions, which decreases the support for this hypothesis.

The second hypothesis is:

H2: The level of collectivism does positively correlate with the presence of team or company related performance pay and negatively with individual forms of performance pay.

For the degree of collectivism, which is represented by the cultural dimension Individualism versus collectivism. This tradeoff is characterized by an 'I' versus 'We' mindset, people with a high score on this dimension should favor team related forms of performance pay more than other. The results show no significant coefficients for any of the forms of performance pay. The sign is, except for shared ownership, always negative. For the individual forms of performance pay this means that it follows theoretical predictions. Team related performance pay and profit sharing do not follow theoretical predictions as opposed to the last group related form of performance pay. Shared ownership does show a positive sign. When taking up controls, the sign of shared ownership changes. This means that in the model with controls there is even less support for this hypothesis. This makes it not possible to accept this hypothesis.

The third hypothesis is equal to*:*

H3: The degree of Masculinity does positively correlate with the presence of piece rate pay and negatively with the presence of team performance pay.

The dimension that underlies this hypothesis is the dimension masculinity versus femininity. This dimension is not used for all cases, it is used with piece rate pay and team related performance pay. And even for those two, it does not show a significant coefficient. Next to this, it does not show a positive coefficient for piece rate pay. Including controls for sector composition of the economy does not change this. Therefore, I do not accept this hypothesis as well.

Hypothesis four:
H4: The uncertainty avoidance index does negatively correlate with presence of individual forms of performance pay, and there is no correlation with group related forms of performance pay.

There is one significant correlational pattern for this dimension. The uncertainty avoidance index correlates significantly with profit sharing. The individual forms of performance pay show indeed a negative coefficient. Group related forms of performance pay rather large coefficients. With the hypothesis predicting that it should be equal to zero, as this is not the case. In combination with the lacking evidence, the hypothesis cannot be accepted.

The final hypothesis is equal to:

H5: The level of restraint correlates positively with the presence of piece rate pay, subjective performance pay and team related performance pay.

This hypothesis represents the dimension indulgence versus restraint. Out of the three forms of performance pay, team related performance pay has a significant correlational pattern with indulgence versus restraint. However, this form of performance pay and also the other that are not significant are showing a negative coefficient. This is the complete opposite as the hypothesis stated. The theoretical prediction is that more restrained cultures are more likely to have these forms of performance pay. Controlling for sector composition of the economy does not change the sign. The final hypothesis cannot be accepted.

Conclusion

There are six dimensions of national culture which are formed by Hofstede. In this paper five of these dimensions are used. These dimensions are used to see if these correlate with the presence of a certain form of performance pay. The five forms of performance pay that are used in this paper are piece rate pay, subjective performance pay, team related performance pay, profit sharing and shared ownership.

The question I tried to answer at the beginning was:

> *"To what extent does culture correlate with the prevalence of different forms of rewarding employees?''*

The results show that they do not significantly correlate with the prevalence of different forms of rewarding employees. None of the hypothesis can be accepted, and only two of the dimensions of national culture have a significant correlational relationship with one form of performance pay.

Future research

The most important extension of this paper is to extend it across continents. Even though cultures vary across Europe, cultures vary even more across the globe (Hofstede, Hofstede, & Minkov, 2010). A global study could show more distinctive results.

In this study there was no data regarding the effects of performance pay. It would be nice to include the effects of performance pay in a future study. So the same study as in this case in combination with an experiment. Then you can also see if the cultural dimensions affect the effect of performance pay.

Next to this it may be of good use to renew the research by Hofstede, there has been some replication studies but the most recent one was in 2001 (Hofstede, Hofstede, & Minkov, 2010). There could been some cultural changes that are not visible due to the older dataset.

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Appendix 1: Tables

Table 1: Correlations between the different forms of performance pay

		Piece rate	Subjective pp	Team work	Profit sharing	Share plan
Piece rate	Pearson Correlation	1	,658**	,682**	,603**	0,287
	Sig. (2-tailed)		0,000	0,000	0,000	0,112
	N	32	32	32	32	32
Subjective pp	Pearson Correlation	,658**	1	,736**	,736**	0,152
	Sig. (2-tailed)	0,000		0,000	0,000	0,405
	N	32	32	32	32	32
Team work	Pearson Correlation	,682**	,736**	1	,733**	0,216
	Sig. (2-tailed)	0,000	0,000		0,000	0,235
	N	32	32	32	32	32
Profit sharing	Pearson Correlation	,603**	,736**	,733**	1	,511**
	Sig. (2-tailed)	0,000	0,000	0,000		0,003
	N	32	32	32	32	32
Share plan	Pearson Correlation	0,287	0,152	0,216	,511**	1
	Sig. (2-tailed)	0,112	0,405	0,235	0,003	
	N	32	32	32	32	32

**. Correlation is significant at the 0.01 level (2-tailed).

Table 2: Correlation coefficients between the forms of performance pay and the different sectors

	Agricultural sector	Industry sector	Service sector
Piece rate pay	0,048	0,23	-0,273
Subjective performance pay	-0,143	0,056	-0,022
Team related performance pay	0,062	0,196	-0,252
Profit sharing	-0,181	0,222	-0,164
Shared ownership	-0,398*	-0,135	0,208

*= Significant at a 5% level

Table 3: Regression output

	Payment by results		Variable extra pay linked to management appraisal		Team performance pay		Profit sharing schemes		Shared ownership	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Power distance index	-0,061	0,013	-0,080	-0,058	0,025	0,105	0,076	0,099	-0,055	-0,034
	(0,144)	(0,149)	(0,134)	(0,140)	(0,124)	(0,126)	(0,152)	(0,155)	(0,043)	(0,045)
Individualism versus collectivism	-0,138	-0,176	-0,119	-0,240	-0,107	-0,200	-0,118	-0,313	0,006	-0,037
	(0,164)	(0,177)	(0,150)	(0,175)	(0,141)	(0,149)	(0,182)	(0,202)	(0,052)	(0,059)
Masculinity versus femininity	-0,018	-0,075			-0,051	-0,092				
	(0,090)	(0,106)			(0,078)	(0,089)				
Uncertainty avoidance index	-0,159	-0,109	-0,151	-0,221	-0,160	-0,175	-0,301	-0,342	-0,051	-0,075
	(0,124)	(0,136)	(0.119)	(0,132)	(0,107)	(0,114)	(0,144)	(0,147)	(0,041)	(0,043)
Indulgence versus restraint	-0,146	-0,005	-0,154	-0,214	-0,304**	-0,246				
	(0,127)	(0,154)	(0,124)	(0,152)	(0,109)	(0,130)				
R^2	0,338	0,225	0,119	0,209	0,341	0,465	0,156	0,305	0,272	0,194
Number of observations	29	29	29	29	29	29	29	29	29	29

a: ** = significant on 5% level * = significant on a 10% level

Table 4: Control for sector composition

	Significance	
Model	Model (1)	Model (2)
1: Dependant variable is Piece rate pay	0,178	0,568
2: Dependant variable is Subjective performance pay	0,827	0,603
3: Dependant variable is Team related performance pay	0,157	0,077
4: Dependant variable is Profit sharing	0,341	0,191
5: Dependant variable is Shared ownership	0,194	0,092

Model (1): Agricultural sector, Industry sector and Service sector

Model (2): Agricultural sector, Industry sector and Service sector, PDI, IDV, MAS, UAI and IVR.