National culture and economic performance: a cross-cultural study of culture's impact on economic performance across the 27 member countries of the European Union

Tor Grenness
BI Norwegian Business School

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NATIONAL CULTURE AND ECONOMIC PERFORMANCE: A CROSS-CULTURAL STUDY OF CULTURE'S IMPACT ON ECONOMIC PERFORMANCE ACROSS THE 27 MEMBER COUNTRIES OF THE EUROPEAN UNION

Tor Grenness

BI Norwegian Business School, Oslo, Norway

ABSTRACT

This paper examines the impact of national culture on variations in economic performance among the European Union countries. In order to explain differences in economic performance we have used two data sets: The scores of the EU countries on Hofstede's five cultural dimensions, and the scores on economic performance from The Global Competitiveness Report (GCR) presented by The World Economic Forum. What we found was that countries with high scores on Power Distance and Uncertainty Avoidance score low on economic performance, while high scores on Individualism have a positive effect on economic performance. Although a multiple regression analysis did not reveal valid results about which dimension that consistently explains variations in economic performance, the overall explained variation of the model is high enough to support the conclusion that national culture contributes to explain variations in economic performance across the European Union countries.

Key Words: National culture, economic performance, cross-country differences, Hofstede

1. Introduction

Discussions of culture in general, let alone discussions of a possible link between culture and aspects of economic development, have generally not been seen as important among the mainstream professionals within the parameter of economics. For them, the term culture represents some kind of unimportant, irrational, messy noise, which requires ceteris paribus clauses (Thompson, 2002). Nonetheless, during the recent years there seems to be a growing interest in the role culture plays in analyses of economic development. Examples such as Huntington (1998), and Harrison and Huntington (2000) with their common affirmation of the importance of culture for economic development, has set a new standard for explanations of variations of economic growth across countries.

In the present paper, we have chosen the 27 member countries of the European Union (EU) as our research objects. The reason for this is that the financial crisis, which began during the summer of 2007 and hit the global economy in September 2008, appears to have had a particular impact on the European Union where financial market turbulences led to credit shortage and resulted in investment reduction and dramatic repercussion on Gross Domestic Product (GDP). A rapid growth in unemployment started a vicious circle of decreased economy and increased challenges for many European Union members (Europa.eu,2009). Italy, Greece, Spain, and Portugal are examples of countries struggling with a heavy national debt, in addition to the consequences of the global financial crisis (Rooney, 2012).

In spite of the fact that economic instability has been a major problem among the EU countries during the recent years, there seems to be substantial variations across the member countries' level of economic performance. However, why do nations differ in this respect? Why do some countries advance and prosper while others lag behind? This is certainly no new issue, but the final answer to these questions is yet to come. Nevertheless, we do know that several factors play an important role in a country's economic performance. Porter (1990) listed a row of what he labeled "factor conditions", such as natural resources, climate, location, demographics, communications, infrastructure, sophisticated skills, and research facilities. Others (e.g. Legatum Prosperity Annual Report, 2011) mention such factors as macroeconomic policies, economic satisfaction and expectations, foundation for growth, and financial sector efficiency. National culture is not explicitly mentioned, but Porter (1990) at least has a brief discussion of the role that

culture plays in relation to a nation's competitive success. His view is that social norms and values obviously do have an impact, but he refrains from including culture in his analysis due to measurement problems.

Still, there are good indications that some societies are culturally more receptive to economic development than others (Inglehart, 1990), and the view that a nation's "societal profile" (Kogut, 1991) is one important "determinant" (Porter, 1990) of economic performance seems to gain growing support.

Obviously, cultural factors alone do not explain all of the cross-national variation in economic growth rates or economic performance, but there is no reason to doubt that cultural differences are an important part of the story (Granato et. al., 1996). An often mentioned example is the Confucian influenced economies of East Asia, which during the last decade has outperformed the rest of the world despite the fact that the South Asian countries are shaped by a wide variety of economic and political institutions. Consequently, there is good reason to believe that the economic growth of a particular country is not only determined by economic and political institutions; cultural factors are also important (Granato et. al., ibid).

According to Parsons (1964), a common set of norms mediate all interactions between individuals in a society. Acting in conformity with normative standards can be described as acting according to cultural attitudes (Shoham & Malul, 2012). Thus, cultural factors are also assumed to shape the economic environment (Freytag & Thurik, 2007).

2. Literature Review

2.1 The Concept of Culture

Culture is a vague concept. In the formal jargon of economists, culture can be translated as the social norms and the individual beliefs that sustain Nash equilibria as focal points in repeated social interactions (Greif, 1994; Myerson, 1991; Schotter, 1981; Tabellini, 2005). A more general definition is that culture refers to a system of basic common values that help shape the behavior of the people in a given society (Granato, et.al, 1996). Hofstede (1980, 2001) subsequently

moved the concept of culture to the cross-cultural arena by describing cultural (societal) values as "the collective programming of the mind that distinguishes the members of one group or category of people from another" (Hofstede, 2001:9). This programming typically happens early in life (Minkov & Hofstede, 2011), and leads to behavioral patterns that continue over time, shaping the institutional environment (Hofstede, 1980; Mueller & Thomas, 2001). Hofstede's primary achievement, however, was that he provided the social sciences with an empirical mapping of countries across four (later five) dimensions of culture, and thus met a growing academic hunger for structure concerning culture (Bond, 2002). There is little doubt that Hofstede's framework, where national culture is expressed in a number of cultural dimensions, has paved the way for researchers looking for ways to measure culture's impact. Impact on economic development may well be included here.

2.2 Culture and Economic Performance

In spite of the opening remarks of this paper, the view that culture is a fundamental determinant of economic development is not new (Tabellini, 2005).

The well-known Protestant Ethic thesis of Weber (1930), where he argues that the rise of Protestantism is a crucial event in modernizing Europe, is perhaps the most known example. Even though it is possible to argue that during the last fifty years of the twentieth century Catholic Europe showed higher rates of economic growth than the Protestant countries, Weber's more general concept, that certain cultural factors influence economic growth, represents an important and valid insight. Above, we have referred to Porter's (1990) remarks concerning culture's impact, and in a subsequent article he defined economic culture as "the beliefs, attitudes, and values that bear on economic activities of individuals, organizations and other institutions" (Porter, 2000:14). The assumption that such beliefs, attitudes and values are shared by people born and raised within a specific cultural context, leads us to look for ways to apply national culture as our independent variable.

2.3 Measuring National Culture

In order to measure national culture, this article will use the framework of Hofstede. The reason for choosing Hofstede over others, such as the measures used in the GLOBE study (House

et.al., 2004), is based on two main reasons. Firstly, the national cultures of all EU member countries have been measured by Hofstede, which is not the case with GLOBE. The second reason is that the number of cultural variables used by Hofstede are fewer which makes it easier to follow Shenkar's (2001) approach which claims that in using culture as an independent variable, each variable should be used separately, not as an aggregate. Consequently, in the present paper we have decided to use Hofstede's original five cultural dimensions in order to determine which particular dimensions have an effect on the economic performance, as well as on variations in economic performance across the 27 EU member countries. The decision to use Hofstede must also be viewed in light of the results of Kirkman et.al. (2006). They reviewed 180 studies from the last 20 years, using Hofstede's framework. They comment that his dimensions have successfully predicted variations between nation-states, and links between culture and organizational behavior. The five cultural dimensions by Hofstede (2001) can be described in this way:

1. *Power distance* – defines the extent to which a society accepts unequal distribution of power in institutions and organizations.

2. *Uncertainty avoidance* – defines the extent to which people in a culture feel threatened by uncertainty and ambiguous situations.

3. *Masculinity/femininity* – where masculinity indicates the extent to which the dominant values of a society are "masculine", e.g. assertive and aggressive, while feminine values typically will be modesty, solidarity and quality of life.

4. *Individualism/collectivism* – where individualism implies a loosely knit social framework, and collectivist cultures are characterized by in-groups.

5. *Long-Term Orientation* - emphasizes values associated with perseverance, persistence and they have a strong propensity to invest and save, while short-term orientated societies are directed towards the past and present, shows a low propensity to invest and save and focus on achieving fast results.

2.4 Measuring Economic Performance

As we have briefly discussed above, no single measure, or even a limited set of measures, can provide all the information needed in order to assess the economic performance of a firm or a country. In light of the failure to foresee the recent economic crisis, questions have been raised whether the measures used in order to assess not only the performance of firms, but of national economic performance as well are valid (Stiglitz et. al., 2009).

Consequently, in the present paper, we have sought to apply a measure of national economic performance which reflects the complexity of the task. The data presented by *The World Economic Forum (WEF)* in their *The Global Competitiveness Report (GCR)* contributes to the understanding of the key factors determining economic growth and helps to explain why some countries are more successful than others in raising income levels and opportunities for their respective populations. The GCR analyzes 142 major and emerging economies, including the 27 EU member countries. It contains a detailed profile for each of the economies featured in the study as well as an extensive section of data tables with global rankings covering over 100 indicators/variables (GCR 2011-2012). The variables are organized into *twelve pillars*, with each pillar representing an area considered as an important determinant of competitiveness (GCR 2011-2012, 45). Below, we provide a short description of the twelve pillars.

The twelve pillars of the GCR:

1. *Institutions*, i.e. the legal and administrative framework in a society
2. *Infrastructure*, i.e. the quality and extensiveness of roads, railroads, electricity supply etc
3. *Macroeconomic environment*, i.e. savings rate, inflation, government surplus/deficit
4. *Health and primary education*
5. *Higher education and training*
6. *Goods market efficiency,* i.e. ability to produce the right mix of products and services, as well as to ensure that these goods can be effectively traded in the economy

7. *Labor market efficiency,* i.e. high degree of flexibility and efficient use of talent
8. *Financial market development,* i.e. a sound banking sector, well-regulated securities exchanges, venture capital and other financial products
9. *Technological readiness,* i.e. level of technological adaption and ICT use
10. *Market size,* where the emphasize is on international markets
11. *Business sophistication,* i.e. quantity and quality of local suppliers, nature of competitive advantage and value chain breadth
12. *Innovation,* i.e. utility patents, scientific research institutions, government procurement of advanced technology products

(A more extensive description of the pillars is found in Appendix 3)

It is important to mention that even though the GCR measures each pillar separately, it is crucial to understand that these pillars are not independent. In fact, they tend to reinforce each other, both positively and negatively.

3. Research Purpose

As we have discussed above, our research purpose is to investigate to what extent national cultural differences and/or similarities among the European Union countries can contribute to explain variations in their economic performance.

In line with the recommendations of Shenkar (2001) we will be presenting consequences for each of the five dimensions with possible links to factors that are included in the measurement of economic performance. These will subsequently lead us to our hypotheses.

According to Hofstede (2001), in societies with a high level of Power Distance, people accept a hierarchical order in which everybody has a place and with no demand for further justification. People holding power are entitled to privileges that are often denied to the less

powerful. In these societies, there is a tendency for the administrative elites to be unrepresentative of the total population, leaving important decisions to be made by a select few. The unequal distribution of power also tends to pave the way for obedience as a central value (Tabellini, 2009), and according to Williamson and Mathers (2010), the existing literature suggests that high levels of obedience will negatively impact economic development.

Moreover, societies with high scores on Power Distance tend to be more corrupted (Husted, 1999), According to the WEF's twelve pillars, more specifically to the institutional pillar, corruption is viewed as a sub-variable that negatively affects administrative and political institutions of countries (GCR, 2011-2012).

Based on the consequences of the Power Distance dimension outlined above we propose the following hypothesis:

Hypothesis 1: Power Distance will be negatively correlated with economic performance measures

Hofstede (2001) further states that societies scoring high on Uncertainty Avoidance tend to be more resistant to change, people tend to be more stressed, anxious and neurotic in general. Studies prove that high levels of stress and anxiety result in several health problems (Stojanovicz & Marisavljevich, 2007). The fourth pillar in the GCR focuses on the health of the work force in a country, in which it states that unhealthy workers are less productive and cannot exploit their potential. This leads to increased costs to business, and consequently to costs to a country's economy.

In a high Uncertainty Avoidance society there is also a tendency for higher levels of conservatism and skepticism to what is different, and people tend to hold life long employments (Hofstede 2001). Hofstede also claims that innovators feel constrained by rules, and because of the conservatism, innovations are often resisted. This leads us to believe that countries with a high score on Uncertainty Avoidance tend to be less competitive than those with low Uncertainty Avoidance. For example Raluca (2011) emphasizes the degree of importance of innovation and knowledge as a boost for economy and competiveness. He claims that innovation is a growth driver for businesses, industries and countries as it reinforces their competitive position on the

markets, boosts their productivity and develops key competences. Raluca's suggestions also reflect the GCR's 12th pillar, which points out that innovation plays a crucial role in economic development. These views are consistent with Harper's (2003) who states that the general picture in high uncertainty avoidance societies is to be less likely to engage in the risk-taking essential for entrepreneurship. Thus, our next hypothesis:

Hypothesis 2: Uncertainty Avoidance will be negatively correlated with economic performance measures.

According to Hofstede (2001), masculine societies tend to focus on values associated with competitiveness, achievement and performance. People tend to have a "live to work" mentality and stress that money and things are more important than quality of life and relationships. Hofstede also states that gender roles are more defined and accepted by both women and men. There are fewer women holding management, political and government positions, and wage gaps are larger between the genders. The seventh GCR pillar states that the percentage of female participation in labor force influences labor market efficiency, which contributes to a higher score in the competitiveness Index. Moreover, in masculine societies, there is also a higher percentage of poor and illiterate. Also people in general hold a more negative attitude towards institutions and political establishments (Hofstede, 2001).

On the other hand, in feminine countries there is a higher percentage of educated people, more women hold higher job positions, and there is a stronger focus on equality in both gender roles and work positions (Hofstede 2001). Gylfason and Zoega (2003) analyzed possible correlations among education, equality and economic growth and they found that education seems to encourage economic growth by enhancing equality. The fourth and fifth pillars in the GCR also include quality of primary and secondary education, and enrollment rates as sub-variables in their measurement. The discussion above provides a basis for proposing the following hypothesis:

Hypothesis 3: Masculinity will be negatively correlated with economic performance measures.

In addition to the main characteristics of Individualism described previously, people in societies showing high levels of Individualism tend to make more independent decisions, which

help accelerating the process of decision-making (Hofstede, 2001). They are also more willing to take initiative and expect others to have personal opinions. In work situations, hiring and promotions are supposed to be based on skills and rules, and people tend to have longer working hours. Consumers read more books and are more interested and open to new technology, which indicates a direct link to the ninth pillar in the GCR - technological readiness. In politics, power is exercised by voters. Laws and rights are supposed to be the same for all. A larger share of national budget is spent on education and is consequently increasing the quality and the number of people pursuing higher education (Hofstede, 2001). In the GCR, the fifth pillar focuses specifically on higher education and training by including sub-variables, such as quantity and quality of both secondary and tertiary education. Based on these characteristics, the next hypothesis is:

Hypothesis 4: Individualism will be positively correlated with economic performance measures.

In societies scoring high in Long-Term Orientation, people tend to be more persistent and perseverant. In business, they tend to work towards building strong positions instead of expecting fast results; therefore they are having a stronger tendency for saving and investing (Hofstede, 2001). It is known that household savings are an important source of capital investment, and can be used as an indicator for long-term economic growth, (Aridas, 2011). The third pillar in the GCR looks at the countries' macroeconomic environment, where national savings rate is pointed out as an important sub-variable in the analyses of this pillar. Another factor in the GCR's measurements, which also can be influenced by the Long-Term Orientation's propensity for saving and investing, can be found under pillar number eight, which analyses the efficiency of financial market development.

Based on the above discussion, we ideally would have postulated the hypothesis that a Long-Term Orientation tends to positively influence a country's economic performance.

However, based on what we have discussed above, not least the fact that this dimension was developed in order to fit in with Asian cultures, we refrain from postulating either a positive or a negative relation between scores on this dimension and economic performance. Consequently, we change the hypothesis to:

H5: Long-Term Orientation will be neither positively nor negatively correlated with economic performance measures.

4. Method

The present study is based on a combination of two data sets. The first one is the results from Hofstede´s statistical studies. The results contain the countries he analyzed over the years and their respective scores on each of the five dimensions. The scores are ranged from 1 to 100, where 1 is the lowest and 100 is the highest.

The second data set is taken from The World Economic Forum Index 2012, where economic performance of countries has been measured by analyzing several factors, which we have presented above. The countries are ranged after their overall scores on competitiveness where 1 was the lowest and 7 was the highest. This data set represents the dependent variable, "economic performance" in our study.

Below we provide an overview of the EU-countries' scores on economic performance and on Hofstede's five cultural dimensions, i.e. our independent variables:

Table 1

EU countries' scores on economic performance and cultural dimensions in order of economic performance. (WEF Index, 2012; www.geert.hofstede.cultural/dimensions)

Countries	Economic performance	PDI	IDV	MAS	UAI	LTO
Sweden	5.61	31	71	5	29	20
Finland	5.47	33	63	26	59	41
Germany	5.41	35	67	66	65	31
Netherlands	5.41	38	80	14	53	44
Denmark	5.40	18	74	16	23	46
United Kingdom	5.39	35	89	66	35	25
Belgium	5.20	65	75	54	94	38
Austria	5.14	11	55	79	70	31
France	5.14	68	71	43	86	39
Luxembourg	5.03	40	60	50	70	64
Ireland	4.77	28	70	68	35	43
Estonia	4.62	40	60	30	60	82
Spain	4.54	57	51	42	86	19
Czech Republic	4.52	35	58	45	74	13
Poland	4.46	68	60	64	93	32
Italy	4.43	50	76	70	75	34
Lithuania	4.41	42	60	19	65	82
Portugal	4.40	63	27	31	104	30
Hungary	4.36	46	80	88	82	50
Malta	4.33	56	59	47	96	47
Slovenia	4.30	71	27	19	88	49
Latvia	4.24	44	70	9	63	69
Slovakia	4.19	104	52	110	51	38
Bulgaria	4.16	70	30	40	85	69
Romania	4.08	90	30	42	90	52
Greece	3.92	60	35	57	112	45

4.1 Validity and Reliability of the Data Sets

We are aware of the fact that Hofstede's work has been criticized for not having used representative country samples, for lack of face validity of his questionnaire, and complicated formulas for calculating the scores (i.e. Sweeney, 2002). However, his data has been used, and still are used in studies of cross-cultural issues published in leading journals. We posit that this supports our decision to use Hofstede's country scores as our independent variables in the current

study.

We also think that the validity and reliability of the Index developed and used by the Global Competitiveness Report are confirmed by the fact that the data stem from internationally recognized agencies, such as the United Nations Educational, Scientific and Cultural Organization (UNESCO), the International Monetary Fund (IMF), and the World Health Organizations (GCR, 2011-2012: 10). Furthermore, the World Economic Forum collects primary data through its own Executive Opinion Survey, which has been conducted annually during the past 30 years. The sample size is assumed to be quite representative, including over 15 000 surveys from 142 economies.

5. Analysis and Results

Before doing any formal statistical analyses, we created a scatter plot to explore the data visually and examine it for any distinct patterns and outliers (See Appendix 1).

We then proceeded by conducting a correlation analysis in order to measure the relationships between each of Hofstede's five dimensions and economic performance.

The results of the correlation analysis are listed and summarized in Table 2.

Table 2

Correlation Coefficients Matrix. Sample size: 26, Critical Value (1%): 2.79694

		PDI	IDV	MAS	UAI	LTO
IDV	Pearson Correlation Coefficient	-.5238	1.			
	R Standard Error	.0301				
	T	-3.0133				
	p-value	.0060				
MAS	Pearson Correlation Coefficient	.2455	.0961	1.		
	R Standard Error	.0392	.0413			
	T	1.2406	.4727			
	p-value	.2268	.6405			
UAI	Pearson Correlation Coefficient	.5424	-.5826	.1361	1.	
	R Standard Error	.0294	.0274	.0409		
	T	3.1640	-3.5126	.6730		
	p-value	.0042	.0018	.5074		
LTO	Pearson Correlation Coefficient	.0765	-.1478	-.2725	.0318	1.
	R Standard Error	.0413	.0408	.0386	.0415	
	T	.3759	-.7319	-1.3871	.1557	
	p-value	.7102	.4714	.1780	.8775	
EP	Pearson Correlation Coefficient	-.6161	.6240	-.2011	-.6033	-.3306
	R Standard Error	.0259	.0253	.0399	.0265	.0370
	T	-3.8317	3.9120	-1.0065	-3.7059	-1.7157
	p-value	.0007	.0007	.3241	.0011	.0991

5.1 Results

As can be seen from the table, the hypothesis that Power Distance is negatively correlated with economic performance measures was supported. The correlation coefficient $r=-0.616$ $(p<0.01)$ shows that there is a rather strong and significant negative correlation between Power Distance and economical performance.

We also found support for the hypothesis that Uncertainty Avoidance is negatively correlated with economic performance measures ; $r=-0.603$ $(p<0.01)$.

However, support was not found for the hypothesis stating that Masculinity correlates negatively with economic performance measures. Although the analysis shows a relatively week negative correlation, $r=-0.201$, the strength of this relation is not significant and consequently there is not sufficient evidence for supporting the hypothesis.

The hypothesis, which proposes a positive correlation between Individualism and economic performance measures was supported as can be seen from the coefficient *r=0.624 (p<0.01)* which shows a rather strong and significant positive correlation.

The hypothesis stating that there is no relation between Long-Term Orientation and economic performance measures has also been supported. Although the analysis shows a negative correlation between Long-Term Orientation and economic performance (*r=-0.331),* this result is not significant and consequently gives no reason to state such a relationship.

Even though we found support for four of our five hypotheses, in order to answer the question whether national culture as a whole explains variations in economic performance among the European Union countries, we also needed to examine the combined effect of all five dimensions. We therefore conducted a multiple linear regression analysis.

The results of the multiple regression analysis revealed that only Individualism and Long-Term Orientation have a significant impact on the dependent variable ($F=7.394$, d.f.5, $p<0.1$). However, the overall explained variance in the model is relatively high with an Adjusted $R^{2} =$ 0.561 (See Appendix 2) which nonetheless provides support for the assumed relationship between culture and economic performance.

6. Discussion

The results from the data analysis suggest that there is a relationship between national culture and economic performance.

At the same time, the result of the analysis where economic performance was regressed on the five cultural dimensions is less clear. Obviously, as can be seen from the correlation matrix (table 2), there is a substantial inter-correlation between the independent variables. Hofstede (2001) points out that inter-correlations between the dimensions do exist, and they should therefore always be taken into account when trying to find patterns between the dimensions and external data. Usually it is recommended that in order to minimize problems with multicollinearity, deviation scores (raw scores minus the mean) of independent variables should

be used (Aiken & West, 1991). This has not been possible in the present study due to the nature of the data used. However, the fact that the model explains a substantial part of the variance in economic performance (adjusted R_2=.56) gives us reason to believe that national culture contributes significantly to explain variations in economic performance.

6.1 Power Distance and Economic Performance

In our analysis we found a negative correlation between Power Distance and economic performance. Table 1 containing the two data sets, tells us that the countries scoring highest on economic performance also have a relatively low degree of Power Distance, while the countries scoring lowest on economic performance have a relatively high degree of Power Distance. This is in line with the results of a study by Papamarcos and Waston (2006), who found a significant negative correlation between Power Distance and economic growth as measured by GDP.

6.2 Uncertainty Avoidance and Economic Performance

As stated above, our hypothesis suggesting that Uncertainty Avoidance correlates negatively with economic performance was supported. Correspondingly, Papamarcos and Waston (2006) obtained similar results in their study. They too found a negative correlation between Uncertainty Avoidance and GDP growth.

In Table 1 we can see that the three countries scoring lowest on economic performance; Bulgaria, Romania and Greece all score above 80 on Uncertainty Avoidance. In fact, Greece, which is scoring the lowest on economic performance, is also scoring the highest on Uncertainty Avoidance.

One way to explain this is that there seems to be an association between levels of uncertainty avoidance and innovation. The measurements of innovation and knowledge in the Global Competitiveness Report seem to emphasize this notion. Here Greece and Romania score low on the innovation variable, while, Sweden and Denmark, which have the lowest scores on Uncertainty Avoidance, seem to have a strong focus on innovation according to the GCR. These results fit in with the results of a study carried out by Mazurkiewicz (2010), where he analyzed the impact of innovation on competitiveness and found that the more innovative, the more competitive.

6.3 Masculinity and Economic Performance

The hypothesis suggesting that Masculinity correlates negatively with economic performance was not supported. Although the result of the correlation analysis was negative (r= -.201), it was not strong enough to be significant.

The fact that our sample is small compared to what is normally recommended for quantitative research, makes it difficult to achieve significant results (Salkind, 2006). Moreover, the majority of the European Union countries have relatively low scores on Masculinity, meaning that the distribution of the sample mean is skewed, which can and probably has compromised the outcome in this case (Triola, 2011: 92).

Hofstede's description of masculine societies tend to focus on competitiveness, achievement and performance and a live-to-work mentality. These values suggest that people in these societies are more committed to their work and careers than people living in feminine societies. Consequently, these characteristics could as well have been indicated as drivers of a good economic performance. We therefore suggest that the operationalization of this dimension should be carefully studied in future researches.

6.4 Individualism and Economic Performance

We found support for our hypothesis proposing that Individualism correlates positively with economic performance. In fact, this dimension seems to have the strongest impact on economic performance (*r=0.624).* According to Hofstede (2001), individualism is positively related to economic development. As can be seen from table 1, there is substantial difference in the scores on Individualism among high and low performance countries. Sweden, Finland and Germany are the countries scoring highest on economic performance, while Bulgaria, Romania and Greece are scoring lowest. The two groups also have the highest and lowest scores on Individualism.

6.5 Long-Term Orientation and Economic Performance

The analysis for this dimension showed that there is a weak, but not significant negative correlation with economic performance. That the tendency goes in the direction of a negative

rather than a positive relationship between long-term orientation and economic performance may be understood in light of the role savings rates play in a county's economy. For example, according to Shoham (2009), and Shoham et.al., (2010) a major reason for the current global crisis is the change in savings rates, primarily in the USA. The tendency for people or businesses to save rather than to consume is, however, not only a consequence of whether or not times are perceived to be good or bad. The cultural value of future-orientation has been shown to affect saving rates regardless of economic times (Shoham & Malul, 2012). Consequently the more general norms of thrift and perseverance in long-term oriented countries lead people to save their money rather than to spend them, and saving, rather than spending will, according to Adam Smith (1776), not stimulate economic growth.

However, the majority of the European Union countries have relatively low scores on Long-Term Orientation (See Table 1). This is explained by the fact that this dimension was developed from Chinese values, and its conceptualization may not be well understood by western societies (Fang, 2003). Hofstede himself notes that the elements composing this dimension are not naturally registered in a Western mind (Hofstede, 2001). Additionally, Fang (2003) claims that this dimension is confusing by the fact that being long-term oriented, is not necessarily the opposite of being short-term oriented. While the other dimensions offer two contrasting alternatives, the two ends of Long-Term Orientation are interrelated with one another. This may also explain why we assumed that long-term oriented societies tend to perform well economically. We therefore suggest that the operationalization and validity of this dimension, especially as seen from a western perspective, should be treated with care in future studies.

6.6 Culture and Economic Performance

As we have already commented on, the multiple regression analysis revealed that only the variables Individualism and Long-Term Orientation are significant in the model. Several studies have shown that the application of regression analysis may produce misleading or problematic coefficient estimates. One of the reasons why, is that two or more independent variables may be highly correlated. The resulting multicollinearity can cause the regression model to assign a statistically insignificant parameter estimate to an important independent variable (Berry & Feldman 1985).

With reference to Table 2, which shows a correlation matrix for all the variables, we find a rather high level of collinearity among the measurements of Power Distance, Uncertainty Avoidance and Individualism (all slightly above 0.5). High correlations between the independent variables can lead to unstable coefficients, corresponding high P-values and wide confidence intervals in a multiple regression analysis, as it is difficult to identify which variables explain what (Wenstøp, 2006). This seems to confirm our concerns that there might be a presence of multicollinearity, which might falsely give us a reason to conclude that there is no linear relationship between Power Distance, Uncertainty Avoidance, Masculinity and Economic performance (Berry & Feldman, 1985). Effects of multicollinearity lead to that coefficient estimates may change erratically in response to small changes in the model or the data. Although multicollinearity does not reduce the predictive power or reliability of the model as a whole, at least within the sample data themselves, it still might affect calculations regarding individual variables. That is, a multiple regression model with collinearity between the independent variables can still indicate how well the entire bundle of independent variables affects the dependent variable. However, it may not give valid results about any individual independent variable, or about which variables are redundant with respect to others (Wenstøp, 2006). In such cases, it is commonly suggested that the variables causing the problem should be deleted from the equation. However, in this case each variable in the original equation is an indicator of a distinct theoretical concept and therefore we decided not to delete any of the variables.

Furthermore, consequences of miss-specified models are more serious than those of multicollinearity (Berry & Feldman, 1985). According to Berry and Feldman (ibid), the most reasonable thing to do here is to recognize a possible presence of multicollinearity and simply accept that the data available do not contain sufficient information to obtain estimates for individual regression coefficients.

We none the less think that the discussion above gives us basis to suggest that since the overall explained variance in the model is relatively high (Adjusted R^2= 56,1%), we have reasons to assume that national culture, as defined by Hofstede, may help to explain variations in economic performance.

7. Conclusion

The purpose of this study has been to test whether national culture could explain variations in economic performance among the European Union countries.

By conducting a correlation analysis, we found that three national cultural dimensions; Power Distance, Uncertainty Avoidance and Individualism have a significant effect on economic performance. As for Masculinity and Long Term Orientation no significant effects were found.

We recommend, however, that the suggestions and linkages found in this study must be carefully interpreted. Obviously culture alone cannot explain economic performance. Nevertheless, this study proposes that national culture should definitely be considered when trying to explain which factors influence economic performance. We are aware of the fact the use of EU countries, although both practical and appropriate for our research question, may limit the generalizability of our findings. Future studies that use samples from other regions may yield additional insights beyond ours here. It is reason to believe that continued and more detailed research into the largely neglected area of culture and economics, may lead to more revealing results in the attempt to explain economic performance of countries

Finally, we suggest that companies aiming to establish themselves in foreign countries, or governments considering any kind of international partnerships, should be aware of the fact that the cultural characteristics of a country might, to some degree, indicate possible challenges to achieve their economic goals. The results of this study should therefore help international business practitioners to better understand and take into account how cultural values are related to economic performance. This may prove to be a valuable insight for multi national companies when relevant location-specific advantages are evaluated.

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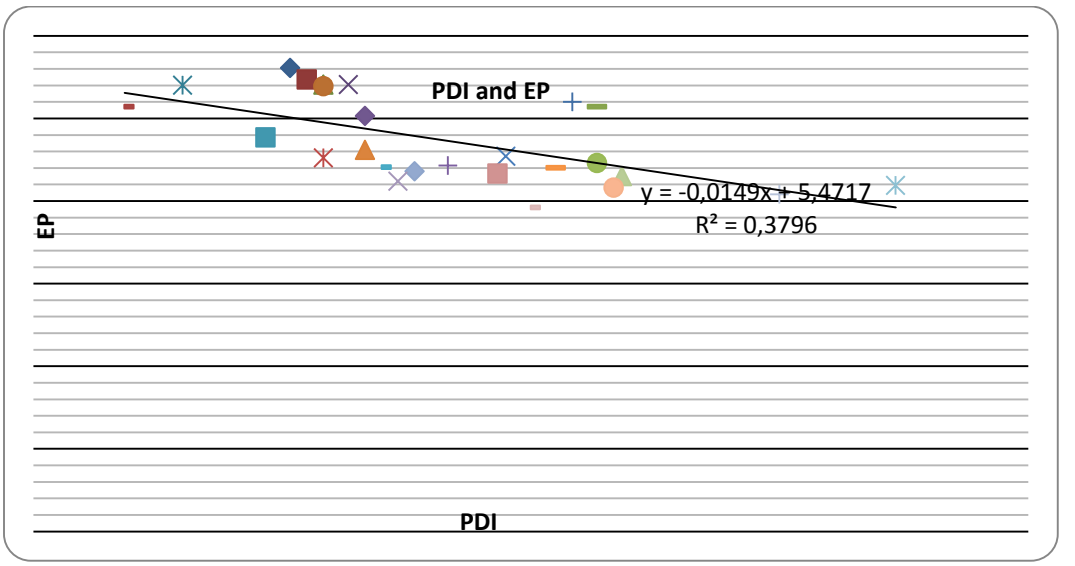
Appendix 1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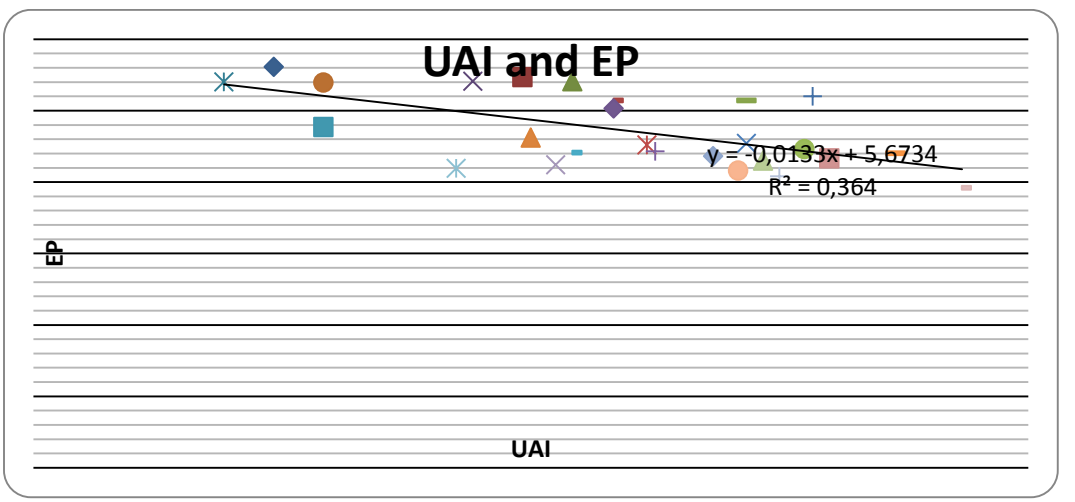
R² = 0,3796
EP
PDI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R² = 0,364
EP
UAI

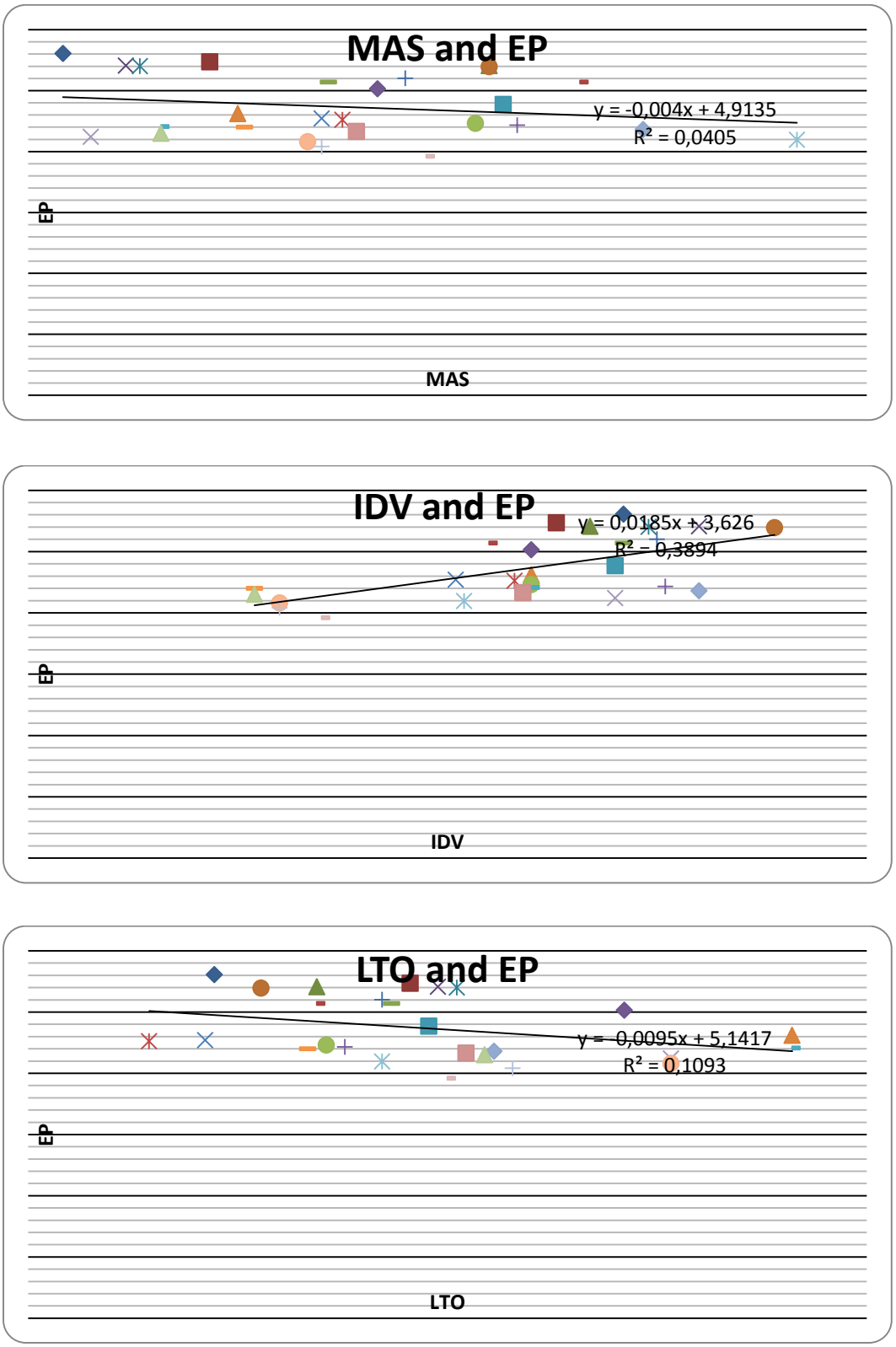

Figure 1-5. Scatterplots.

Appendix 2

Table 2

Linear Regression Analysis

*EP = 5.3878 - 0.0055 * PDI + 0.0101 * IDV - 0.0046 * MAS - 0.0053 * UAI - 0.0092 * LTO*

Regression Statistics	
R	.8056
R Square	.6488
Adjusted R Square	.5612
Standard Error	.3420
Total Number Of Cases	26

ANOVA

	d.f.	SS	MS	F	p-level
Regression	5.	4.3247	.8647	7.3940	0.0004
Residual	20.	2.3393	.1170		
Total	25.	6.6634			

	Coefficients	Standard Error	LCL	UCL	t Stat	p-level	H0 (10%) rejected?
Intercept	5.3878	.5740	4.3979	6.3777	9.3873	.0000	*Yes*
PDI	-.0055	.0041	-.0126	.0017	-1.2942	.2103	*No*
IDV	.0101	.0052	.0008	.0193	1.8970	.0724	*Yes*
MAS	-.0047	.0029	-.0098	.0005	-1.5623	.1339	*No*
UAI	-.0052	.0039	-.0120	.0014	-1.3720	.1851	*No*
LTO	-.0092	.0040	-.0161	-.0021	-2.2826	.0334	*Yes*
T (10%)	1.72472						

LCL - Lower value of a reliable interval (LCL)
UCL - Upper value of a reliable interval (UCL)

Appendix 3

The GCR Indexes

1. ***Institutions.*** The WEF states that the legal and administrative framework within which individuals, firms, and governments interact to generate wealth, determine the institutional environment. This variable includes several sub-variables, such as property rights, ethics and corruption, and undue influence. All of them seem to have an influence on economic performance. The WEF claims that the quality of the institutions influences investment decisions and the organization of production. Moreover, it plays a key role in the ways in which societies distribute benefits and bear the costs of development strategies and policies (GCR 2011-2012, 4).

2. Infrastructure. In th GCR, the WEF states that extensive and efficient infrastructure is critical for ensuring an effective functioning of the economy. Consequently, it is an important factor determining the location of activities and sectors that can be developed in a particular instance. Further, the quality and extensiveness of infrastructure networks significantly has impact on economic growth and reduce income inequalities and poverty in a variety of ways (GCR 2011-2012, 5). Under this pillar, there are sub-variables such as overall infrastructure quality, quality of port, air transport and railroad infrastructure, and quality of electricity supply and telephone lines (GCR 2011-2012, 5).

3. Macroeconomic environment. This pillar evaluates the stability of the macroeconomic environment, which includes sub-variables such as national savings rate, inflation, government debt, interest rate spread, real effective exchange rate and government surplus/deficit. In the GCR, WEF points out that although it is certainly true that macroeconomic stability alone cannot increase the productivity of a nation, it is also recognized that macroeconomic disarray harms the economy (GCR 2011-2012, 5).

4. Health and primary education. A healthy workforce is vital to a country's competitiveness and productivity. WEF explains that workers who are ill tend to be less productive and can't exploit their potential, which leads to business expenses. Further, the quality and quantity of basic education increase the efficiency of each individual worker. Lack of basic education can therefore become a constraint on business development, with firms finding it difficult to move up the value chain by producing more sophisticated or value-intensive products

(GCR 2011-2012, 5).

5. Higher education and training. This pillar measures secondary and tertiary enrollment rates as well as the quality of education as evaluated by the business community. Requirements for well educated workers, who are able to adapt rapidly to their changing environment is crucial for globalizing economies (GCR 2011-2012, 5). The quality of higher education and training is crucial for economies that want to move up the value chain beyond simple production processes and products (Schultz 1961).

6. Goods market efficiency. According to the description provided by the World Economic Forum, countries with efficient goods markets are well positioned to produce the right mix of products and services given their particular supply-and-demand conditions, as well as to ensure that these goods can be most effectively traded in the economy. This pillar includes sub-variables such as measurements of competition on both domestic and foreign levels, and quality of demand conditions (GCR 2011-2012, 7).

7. Labor market efficiency. The efficiency and flexibility of the labor market are critical for ensuring that workers are allocated to their most efficient use in the economy and provided with incentives to give their best effort in their jobs (GCR 2011-2012, 7). Labor markets must therefore have the flexibility to shift workers from one economic activity to another rapidly and at low cost, and to allow wage fluctuations without much social disruption (Almeida and Carneiro 2009). Here WEF presents two aspects: the first one is "flexibility", which includes sub-variables such as cooperation in labor-employer relations and flexibility of wage determination. The second one is "efficient use of talent", where WEF looks closer at pay and productivity, female participation in labor force and reliance of professional management.

8. Financial market development. Economies require sophisticated financial markets that can make capital available for private-sector investment from sources as loans from a sound banking sector, well-regulated securities exchanges, venture capital, and other financial products. In order to fulfill all these functions, the banking sector needs to be trustworthy and transparent, and financial markets need appropriate regulation to protect investors and other actors in the economy (GCR 2011-2012, 7). The Report analyses the efficiency of financial market and takes a closer look at the trustworthy and transparency in the banking sector of each country.

9. Technological readiness. The technological readiness pillar measures the flexibility, which an economy adopts on existing technologies to enhance the productivity of its industries. It puts emphasis on its capacity to fully leverage information and communication technologies (ICT) in daily activities and production processes for increased efficiency and competitiveness (Aghion and Howitt 1992). The Report focuses on the level of technological adaption in a country and ICT use.

10. Market size. The size of the market affects productivity since large markets allow firms to exploit economies of scale (GCR 2011-2012, 7). Here the WEF emphasizes international markets, which has become more and more important and common because of the globalization phenomenon. There is vast empirical evidence showing that trade openness is positively associated with growth. Additionally, trading within nation's borders also needs to be taken into account. This pillar measures both domestic and foreign markets.

11. Business sophistication. Sophisticated business practices are conducive to higher efficiency in the production of goods and services (GCR 2011-2012, 7). The WEF states that advanced operations and strategies of individual firms affect economy and lead to sophisticated and modern business processes across the country's business sectors. This pillar includes several sub-variables and focuses on the quantity and quality of local suppliers, nature of competitive advantage and value chain breadth. It also measures production process sophistication, extent of marketing, willingness to delegate authority and reliance on professional management.

12. Innovation. In the GCR, the WEF claims that in the long run, standards of living can be enhanced only by technological innovation. Innovation is particularly important for economies as they approach the frontiers of knowledge, and the possibility of integrating and adapting exogenous technologies (Aghion and Howitt 1992). Under this pillar the WEF measures capacity of innovation and looks at sub-variables such as quality of scientific research institutions and government procurement of advanced technology products. Furthermore, it measures how much companies are spending on research and development (R&D) and on which level universities and industries are collaborating on R&D. Additionally, it includes sub-variables such as utility patents and intellectual property protection.