

# Analyzing the Relationship between National Cultural Dimensions and Tax Morale

## *Vergi Ahlâkı ile Kültür Arasındaki İlişkinin Analizi*

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### ABSTRACT

**Key words:** Tax Morale,  
Hofstede, National  
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*Tax morale, which can be defined as an intrinsic motivation, is affected by many factors. One of these factors is culture, which plays an important part. This study analyzes the relationship between tax morale and culture. In this study, the relationship between tax morale and Hofstede's cultural dimensions are analyzed by using the model in the study of Tsakumis (2007) titled 'The relationship between national culture dimensions and tax evasion' and Tobit regression analysis. Unlike other studies, this study uses tax morale as dependent variable instead of tax evasion. The study which is comprised of an analysis of 42 countries arrives at similar conclusions as the other studies. The study concludes that Hofstede's cultural dimensions affect tax morale.*

### ÖZ

**Anahtar Kelimeler:**  
Vergi Ahlâkı, Hofstede,  
Kültür

*İçsel bir motivasyon olarak tanımlanan vergi ahlâkını etkileyen birçok faktör bulunmaktadır. Kültür de bu faktörler arasında önemli bir yer tutmaktadır. Bu çalışmada da vergi ahlâkı ile kültür arasındaki ilişki incelenmiştir. Bu çalışmada, Tsakumis (2007) yılında yaptıkları "The relation between national culture dimensions and tax evasion" adlı çalışmalarındaki model kullanılarak vergi ahlâkı ile Hofstede'in kültürel boyutları arasındaki ilişki Tobit regresyon analizi kullanılarak incelenmiştir. Bu çalışmada diğer çalışmalardan farklı olarak, vergi kaçakçılığı yerine vergi ahlâkı bağımlı değişken olarak kullanılmıştır. 42 ülkeyi kapsayan çalışmanın sonucunda diğer çalışmalar ile uyumlu sonuçlar elde edilmiştir. Çalışma sonucunda, Hofstede'in kültürel boyutlarının vergi ahlâkını etkilediği görülmektedir.*

## 1. INTRODUCTION

Culture is the factor that realizes the financial socialization process. Individuals fulfil their socialization process thanks to culture. It can be clearly seen that many researches about financial sociology that have been carried out are on the issue of tax. Taxation is the most important issue in the field of financial sociology which examines the effects of financial events on the society (Backhaus, 2002). Kurtkan analyzed the issue of using income tax as a medium of social justice in his study conducted in 1968 (Kurtkan, 1968, 9).

Quoted by Nerré (2004), "Schumpeter states that each and every tax consideration has historical, economical and sociological boundaries" (Nerré, 2004, 4). In addition, quoted by Campbell (1993), "Schumpeter observed that levying a tax on the country has a great deal of influence on the economic organisations, social structure, human spirit, culture and destiny of the country. As a consequence of this, the most important starting point of analyzing the political life and making inferences about the society is to examine the social events behind tax and public finance" (Campbell, 1993, 163).

In this respect, it is impossible to comprehend taxes in the same way in all societies. Since every country has different cultural motives, their tax cultures also differ from one another. Depending upon different tax cultures, tax morale levels of individuals that make up the whole society will also be distinctive (Muter & Özcan, 2012, 21).

Questions about tax compliance are as old as taxes, and will continue to be a field of study as long as taxes exist (Torgler, 2006, 82). Tax evasion is a problem that is getting bigger and bigger for nearly all countries. Unfortunately, very little is known about tax morale. Tax morale, which is seen as an intrinsic motivation to pay taxes by many researchers, may assist in explaining the high level of tax compliance (Torgler, 2007). According to Torgler, if an explanation is expected about the reason for the higher rate of tax compliance compared with tax morale, an analysis of the factors that form tax morale may be significant (Torgler,

2004, 239). Therefore, it is essential to analyze the factors that affect tax morale included in the factors affecting tax payers' compliance.

This study aims at analyzing the relationship between tax morale and culture which is one of the factors that affect tax morale (Torgler & Schneider, 2007,450) by using Tobit regression analysis. The first part of the study will focus on the concept of culture. After giving the definitions of culture in the literature, Hofstede's cultural dimensions will be examined. The second part of the study will be about the concept of tax morale and studies related to this area are going to be examined. The third part will deal with the methods, data and hypotheses of the empirical study and the results of the analysis will be reviewed in the final part.

## 2. CONCEPT OF CULTURE: SHORT BRIEF

The conceptualization of culture differs from one discipline, author and school to another. Kroeber and Kluckhohn (1963) found more than 170 different definitions of culture in literature (Beugelsdijk & Maseland, 2011). Although there are many definitions of culture, only some of them are accepted and used in literature. These definitions are summarized briefly below.

In 1750s culture first gained the meaning of "a person's life style" and Tylor's definition of culture became the most referred one in that period (Nişancı, 2012, 1281). Dönmezler (1990) summarizes the Tylor's and Gitter's culture definition in literature as follow;

Tylor defined culture as "a complex whole which includes knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man as a member of society". Gitter defined culture as "life style, format created by man". Every person develops his own unique thought and action samples in time and these abstract examples form culture (Dönmezler, 1990).

There are differences not only between cultures but also within them and these cultural diversities play an important role in life. Cultural diversities can be observed especially in modern societies, where individuals have different professions and people live in large groups (Özkalp, 1998). Aktan and Çoban (2012) included the concepts of "value" and "artifact" in their definition of culture and defined culture as "a whole of values and artifacts made by man".

Cultures of societies are composed of two components that can be stated as material and spiritual ones. Material components include technological developments, production, technical skills and abilities necessary for the process of a society's development, while spiritual components are composed of the values, beliefs, laws, customs, traditions and ethics that regulate social life. These two components are in complete harmony with each other (Özkalp, 1998, 97). In this respect, culture is a dynamic concept and it is a complex whole of beliefs and values consisting of everything about life (Nişancı, 2012, 1281).

Hofstede (1984) defines culture as a collectively programmed mind that distinguishes the members of a society from another (Hofstede, 1984, 82). Hofstede analyzes the concept of culture in four dimensions (Hofstede, 1984). He determines these cultural dimensions by applying attitude surveys to IBM employees in 66 countries and he called them Power Distance, Uncertainty Avoidance, Individualism versus Collectivism and Masculinity versus Femininity. His study focusing on the cultural diversities has been known as the most comprehensive empirical study so far (Eğinli & Çakır, 2011, 39). This study uses Hofstede's cultural dimensions as the explanatory variable of tax morale.

## 3. CONCEPT OF TAX MORALE: LITERATURE REVIEW

Studies on tax morale that was launched by School of Tax Psychology in Cologne established by German scientists became more common in the following years and tax morale became one of the most important factors that affect tax payers' attitudes toward tax (İzgi & Saruç, 2011, 134).

In tax morale definitions, an emphasis is made on the state of "no pressure from outside" (Feld & Frey, 2007; Cankatan, 2012; Torgler, 2007). In spite of no pressure from outside, there are factors that affect tax compliance, tax perception and morale. These factors are categorized differently in literature (Sağbaşı & Bağoğlu, 2005; Aktan & Çoban, 2012; Dell'Anno; 2009, Torgler, 2007).

They can be summarized as follows (Sağbaşı & Bağoğlu, 2005);

1. Personal factors: age, gender, level of education, level of income and marital status are among these factors.
2. Social and cultural factors: some examples of social and cultural factors are the cultural values, beliefs, living standards, family structure, social groups and professional environment of a society. Another point to consider is that social and cultural factors have a great influence on the tax morale levels of individuals (İzgi & Saruç, 2011, 135).

3. Economical factors: national income, per capita income, distribution of income, level of savings, inflation, public expenditures, public debts are some of these factors.

4. Political and legal factors: decisions made by the government, view of tax administration and system can be given as examples of political and legal factors.

Social norms, which constitutes a social culture, are accepted as one of the most influential factors affecting the preferences of individuals as to paying and/or not paying taxes (Aktan & Çoban; 2012, 212). Despite the fact that there are many factors affecting tax morale, legal factors and sanction power of government may increase the level of tax morale and tax compliance to a certain extent. Increasing the level of tax morale to a higher scale is dependent on social and psychological factors (Bilgin, 2011, 169).

Tax morale has become a significant issue during the last empirical studies on tax compliance (Peñas & Peñas; 2010, 442). Cummings et al. (2004) conducted a study on the tax morale and compliance in the USA, Botsvana and South Africa using experimental economy and survey method. They concluded that tax morale and tax compliance is dependent upon the accuracy of tax administration, impartialness of financial exchange, and the attitudes and behaviours of each and every government in those countries (Cummings et al. ,2004).

Tabellini (2005) analyzed the economic development of cultural institutions in EU countries and different cultures. They gathered the data about culture using world values survey. Having arrived at different conclusions, the study concluded that there is a strong relationship between economic development and culture in EU (Tabellini, 2005, 31).

In his study including 30 countries, Riahi-Belkaoui (2004) explained the voluntary compliance of tax payers with economic freedom, importance of capital market, number of felonies per 100.000 people and efficiency of competition law. According to the results of the analysis, there is a positive and statistically significant relationship between economic freedom, importance of capital market, efficiency of competition law and the voluntary compliance of tax payers. Parallely, a negative and statistically significant relationship has been observed between the number of felonies per 100.000 people and the voluntary compliance of tax payers (Riahi-Belkaoui, 2004).

In his study including 45 countries, Richardson (2006) used OLS regression analysis and found that tax evasion is mostly affected by non-economic determiners. Complicatedness is specifically the most important determiner of tax evasion. Other meaningful determiners include education, source of income, accuracy and tax morale. Generally, the regression analysis indicates that a low level of complicatedness, and high level of education, source of income, accuracy and tax morale leads to a low level of tax evasion (Richardson, 2006).

Tax related studies evaluates culture as a “black-box” and this situation leads to a failure in determining how certain cultural dimensions affect tax evasion (Uadiale et al. 2010; Richardson, 2008). At this point, it would be a wise attempt to mention two studies about the relationship between culture and tax using Hofstede’s cultural dimensions. The first one is Tsakumis et al. (2007)’s study. The second one is Richardson (2008)’s study. Based on these two studies, our study examines the relationship between tax and culture with reference to Hofstede’s cultural dimensions.

In the first study that made use of Hofstede’s cultural dimensions as a descriptor of international tax compliance, Tsakumis et al. (2007) analysed the relationship between tax evasion and culture via OLS regression analysis. He used the rate of tax evasion he gathered from unrecorded economic data measured by Schneider (2004) as a dependent variable. The explanatory variables in the study were Hofstede’s cultural dimensions. National income per capita was used as control variable in the same study (Tsakumis et al., 2007, 140; Schneider, 2004).

OLS regression analysis concluded that there is a positive relationship between tax evasion and uncertainty tolerance, masculinity and power distance dimensions, whereas there is a negative relationship between evasion and individualism. It has also been found out that there is a negative relationship between tax evasion and national income per capita. The results indicate that culture is an important factor for explaining the rate of evasion among countries (Tsakumis et al. 2007).

Having improved Tsakumis et al. (2007)’s study, Richardson (2008) analyzed the effects of legal, political and religious variables via regression analysis. According to the OLS regression analysis results, a statistically significant relationship between Hofstede’s uncertainty avoidance & individualism dimensions and tax evasion has been found. Another point is that there is also a statistically significant relationship between tax evasion and legal, political, religious variables & economic development index. The study also concludes that there is not any statistically significant relationship between tax evasion and power distance & masculinity dimensions.

Richardson (2008) states that countries that have a high level of uncertainty avoidance and a low level of individualism suffer from a high rate of tax evasion. In addition, the weakness of legal practices, trust in the government and religious values are accompanied by a high rate of tax evasion.

Gabor (2012) analysed the relationship between tax evasion and Hofstede's national cultural dimensions. The study was based on Taskumis et al. (2007). Results in the study supported the general proposition that there is a relationship between tax evasion levels and Hofstede's culture dimensions. According to OLS results, uncertainty avoidance and power distance have a positive relationship with tax evasion, whereas individualism and masculinity have a negative relationship with tax evasion.

#### 4. METHODOLOGY, MODEL AND DATA

In these study hypotheses were tested using the Tobit model. Tobit model is developed by James Tobin. The Tobit model is also called the censored normal regression model. Tobit model is one with censoring from below at zero where the latent variable is linear in regressors with additive error that is normally distributed and homoskedasticity\* (Gujarati, 2004; Cameron & Triverdi, 2005).

We can express tobit model as follow;

$$Y_i = \beta_1 + \beta_2 X_i + u_i \quad (1)$$

In Formula 1, dependent variable subject to either a lower bound  $Y_L$  or upper bound  $Y_U$ . For upper bound the model can be characterized as follow;

$$Y = Y^* \quad \text{for } Y^* > Y_L$$

$$Y = Y_L \quad \text{for } Y^* \leq Y_L$$

For upper bound, we can similarly characterized. This model is called a censored regression because  $Y^*$  is unobserved for  $Y^* < Y_L$  or  $Y^* > Y_U$ . In this case, OLS estimates of the parameters obtained from the subset of  $n_1$  observations will be biased as well as inconsistent. But we can estimate tobit model the method of maximum likelihood (Gujarati, 2004; Dougherty, 2007). We use tobit model the method of maximum likelihood in order to tax morale rate varies between 0 – 1.

Tax morale determiners are analysed either experimentally or empirically (Doerrenberg & Peichl, 2011). Torgler (2007) mentioned about the deficiency of experimental studies on the issue and stated that more experimental studies should be conducted. Most studies about tax morale have used World Value Survey. The World Values Survey Association (WVSA) -is a non-profit association- provides the this survey. WVSA has been founded in order to help social scientists and policy-makers better understand worldviews and changes that are taking place in the beliefs, values and motivations of people round the world. Association explains the WVS as follows (WVSA, 2008).

*"The WVS is the only source of empirical data on people's beliefs and values covering a majority of the world's population. This data have been used in thousands of scholarly publications and the findings have been reported in leading media such as Time, Newsweek, The New York Times, The Economist, the World Development Report and the UN Human Development Report. The WVS data have been made available free of charge on the WVS website (<http://www.worldvaluessurvey.org>), they have been downloaded by thousands of researchers, journalists, policy-makers and others interested in global cultural change."* World Values Survey offers valuable data for international comparisons. This study also uses World Values Survey results as a dependent variable.

The answer to the question below has been used in order to determine the level of tax morale:

*"lease tell me for each of the following statements whether you think it can always be justified, never be justified, or something in between, using this card. (Read out statements. Code one answer for each statement). Cheating on taxes if you have a chance" (V200) Justifiable: cheating on taxes* <sup>†</sup>

Consequently, it can be stated that countries giving 1 point more have a high level of tax morale, whereas countries giving 10 points have a low level of tax morale. This question of World Values Survey about tax morale has been taken as a basic data in many studies and is used as a dependent variable in the analyses. While this question has been used as a dependent variable, different data have been used as explanatory variable with the ultimate aim to find a relationship between tax morale and factors affecting it.

Hofstede's cultural dimensions used in this study can be summarized as follows:

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\* The homoskedasticity conditions state that the disturbance terms ( $u_1, \dots, u_n$ ) in the ( $n$ ) observations are drawn from probability distributions that have 0 mean and the same variance (Dougherty, 2007).

<sup>†</sup>WORLD VALUES SURVEY, (2005). "World Values Survey Methodological questionnaire".

Power Distance Dimension: this dimension is about the degree of equality or inequality between individuals. It can be defined as the extent to which the less powerful members of organizations and institutions accept and expect that power is distributed unequally (Hofstede et al. 2010, 61). The status differences between individuals are not tolerated in countries that endorse low power distance (Hofstede; 1984, 90). On the other hand, the development of power and wealth inequality is permitted in high power distance countries. Therefore, tax system in these countries is unfair and that's why tax payers try to evade taxes (Richardson, 2008, 69).

Individualism vs. Collectivism: Individualism stands for the societies where individuals are not bound to one another. People are expected to stand up for themselves and their immediate family. In contrast, collectivism stands for the societies where individuals act predominantly as members of a lifelong and cohesive group or organization (Hofstede et al. 2010, 92). In high individualistic societies, rules and procedures must be applied equally and consistently for all individuals. Therefore, in these countries the distribution of tax burden may be fairer, which leads to tax compliance of the payers. In low individualistic situations, on the other hand, value standards may differ from one group to another. This means that different rules and procedures are needed for different groups. As a result, tax system in these countries becomes unfair and tax payers do not comply with taxes (Richardson, 2008, 69).

Uncertainty Avoidance: It is defined as a society's tolerance for uncertainty and ambiguity (Hofstede et al., 2010, 61). It reflects the extent to which members of a society attempt to cope with anxiety by minimizing uncertainty (Richardson, 2008, 69). Countries with high uncertainty avoidance require laws more than countries with low uncertainty avoidance. Interestingly enough, countries with high uncertainty avoidance that need laws more do not have more confidence in legal system compared to the other group. In fact, the increase of laws decreases the confidence in them. It has been observed that there is a negative correlation between the question of "confidence in legal system" asked in the World Values Survey and uncertainty avoidance (Hofstede, 2001). Therefore, countries with high uncertainty avoidance will have written tax laws and regulations. The studies conducted indicate that the disorder of tax laws are directly proportional to tax evasion (Richardson, 2006, 153).

However, Hofstede (2001) states that individuals in countries with high uncertainty avoidance think that laws are against them and they are against violating the "unfair" laws. This may lead to a situation where people are against violating the "unfair" tax laws in countries with high uncertainty avoidance. In such a situation, tax evasion will be low and tax morale will be high.

Masculinity vs. Femininity: There is a clear distinction among emotional gender roles in masculine societies. In masculine cultures, men are assumed to be more assertive, powerful, and materialistic, while women are thought to be more sensitive and place more value on the quality of life. It is also assumed that in a feminine society, men and women lead a more modest, sensitive life placing more value on the quality of life (Hofstede, 2001). Countries with high masculinity and femininity may have either a high tax compliance or a low one. Different studies point at different relationships (Richardson, 2006, 153).

Tsakumis et al.(2007) used tax compliance as dependent variable in his model. Our study uses tax morale as dependent variable. Hofstede's cultural dimensions are used as independent variable and GDP growth is used as control variable. We test our hypotheses by estimating the following model:

$$TMORAL = a + UA + IND + MASC + PD + GDP \quad (2)$$

In formula 2, TMORAL shows tax morale rate acquired from World Values Survey. World Values Survey consists of survey results conducted in the years 2005-2007. UA stands for Hofstede's Uncertainty Avoidance dimension, IND stands for Individualism vs. Collectivism Dimension, MASC – Masculinity Dimension, PD- Power Distance Dimension. They represent the cultural dimensions in 2005. GDP stands for the growth rate within 2005-2007. These growth rates have been measured by using world bank records.

Traditionally, culture is accepted as virtually unchanged. Hofstede emphasizes that cultural changes are very slow and that they should be measured within generations and centuries not within decades. Hofstede adds that the correlation between variables about culture scores has not decreased within years (Taras et al., 2012; Tsakumis et al., 2007). Therefore, analysis includes the years in between 2005 and 2007.

Hypotheses in the study are as follows:

H1: The higher UA in a country, the lower the level of tax morale in that country.

H2: The higher IND in a country, the higher the level of tax morale in that country.

H3: The higher MAS in a country, the higher the level of tax morale in that country.

H4: The higher PD in a country, the lower the level of tax morale in that country

H5: The higher GDP in a country, the higher the level of tax morale in that country.

**5. RESULTS**

**5.1. Descriptive statistics**

Table 1 shows descriptive statistics for 42 countries for the years 2005 – 2007. In the Tobit regression model dependent variable is TMORAL derived from World Value Survey and TMORAL shows that percentage of “never justified” response. Survey years are different from country to country involving the years 2005, 2006, 2007. TMORAL ranges from 26.9 to 85.

Control variable is GDP growth obtained from World Bank, with an average for 2005 – 2007. GDP growth rate ranges from 1.60 to 12.73 with 5.25 from year 2005 to 2007. For cultural dimensions, UAI ranges from 29 to 101 (mean=65), IDV ranges from 6 to 90 (mean=46), MAS ranges from 5 to 95 (mean=48), PDI ranges from 13 to 104 (mean=59).

**Table 1 Descriptive Statistics**

Variable	Obs	Mean	Std. Dev.	Min	Max
TMORAL	42	61	14.63084	26.9	85
UAI	42	65	22.0512	29	101
IDV	42	46	24.18479	6	90
MAS	42	48	17.60932	5	95
PDI	42	59	21.20017	13	104
Growth Rate	42	5.25	2.50231	1.60	12.73

**5.2. Tobit Regression Results**

Tobit regression model results using the World Values Survey Data as dependent variable have been shown in Table 2. Model 1 has been estimated first in Tobit regression model. Model 2 has been estimated after deducing the statistically insignificant variables from Model 1.

**Table 2 Tobit Analysis Results**

$$TMORAL = a + UA + IND + MASC + PD + GDP$$

Explanatory variables	Expected sign	Coefficient	t-Value	Prob	Coefficient	t-Value	Prob
C		64.52815	3.76	0.001	42.70146	4.7	0.000
UA	-/+	0.1805451	1.94	0.059	0.2127234	2.3	0.027
IND	+	-0.20276	-1.48	0.146			
MAS	+/-	0.2610798	2.47	0.018	0.2359284	2.21	0.033
PD	-	-0.504963	-3.68	0.001	-0.373174	-3.49	0.001
GDP Growth	+	2.123016	2.19	0.035	2.843067	3.30	0.002
N		42			42		

Prob		0.0014			0.0015		
R <sup>2</sup>		0.0582			0.0518		

Table 2 shows Tobit regression model results. According to the estimated results in Model 1, t-values of Masculinity vs. Femininity (MAS), Power Distance Dimension (PD), and Uncertainty Avoidance Dimension (UA) variables are statistically significant, whereas t-values of Individualism vs. Collectivism (IND) variables are statistically insignificant. Model 2 estimates the relation between statistically significant variables and tax compliance again by using Tobit regression model.

The results of the analysis are in accordance with the theoretical infrastructure and previous studies. According to Tobit analysis results, there is a statistically significant negative relationship between the rate of Uncertainty Avoidance (UA) and tax morale. A low rate of tax morale (TMORAL) has been observed in countries with high uncertainty avoidance, which supports H1 hypothesis.

Although the opposite of the value estimated between individualism vs. collectivism dimension (IDV) and tax morale is marked, it is not ranked in Model 2 since it is statistically insignificant. The only statistically insignificant variable in the analysis is IDV.

The higher MAS in a country, the higher the level of tax morale in that country. This result is different from the results obtained by Tsakumis et al.(2007), Richardson (2008) and Gabor (2012). High masculinity will increase the level of tax morale in that country. countries with high masculinity will have low tax evasion. This relationship is statistically significant and positive. Despite a differently marked result in previous studies, the results of the analysis are in accordance with the theory.

There is a statistically significant negative relationship between tax morale and power distance dimension (PD). Countries with high power distance dimension will have low tax morale. These results support the hypothesis that ‘The higher PD in a country, the lower the level of tax morale in that country’.

Another finding of the analysis is that there is a statistically significant positive relationship between economic variables – which is used as control variable- and tax morale. The higher GDP in a country, the higher the level of tax morale in that country. In addition, these results are in accordance with the results of other studies in the literature.

## 6. FINAL REMARKS AND CONCLUSIONS

This study focuses on analysing the relationship between tax morale and Hofstede’s cultural dimensions for 42 countries. This relationship is estimated by using Tobit regression model and Tsakumis et. Al. (2007)’s model. Different from the literature, tax morale is used as dependent variable instead of tax evasion with an aim to create an opportunity to compare and contrast the estimation results with the results of other studies in the literature. The results of the analysis are in accordance with the theory and the results of other studies.

Hofstede’s cultural dimensions have an effect on tax morale. There is a statistically significant negative relationship between Uncertainty Avoidance (UA) rate and tax morale. The relationship between Masculinity vs. Femininity dimension and tax morale is found to be different from the other studies conducted. According to Tobit regression model results, the higher MAS in a country, the higher the level of tax morale in that country. there is also a statistically significant relationship between Hofstede’s other dimension – power distance- and tax morale. This relationship is negative parallel to the results of previous studies.

Although the opposite of the value estimated between individualism vs. collectivism dimension (IDV) and tax morale is marked, there is a statistically insignificant relationship between them. Thus, this dimension is not included in the second model. It can be clearly seen that the relationships appear more powerfully in Model 2.

Similar to the other studies in the literature, growth rate is used as control variable in this study. The Tobit regression coefficient for GDP Growth is positive and significant. This means that higher economic growth leads to higher tax morale across countries.

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