

# IMPACT OF GOVERNANCE QUALITY AND RELIGIOSITY ON TAX EVASION: EVIDENCE FROM OECD COUNTRIES

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## ABSTRACT

*The study examines the effects of governance quality and religiosity on tax evasion (TE) in the OECD (Organisation for Economic Co-operation and Development) countries. Further, the study investigates which government qualities and religiosities affect TE significantly. Ordinary least squares has been used to analyze the data gathered from 36 OECD countries covering the period of 2002–2015 based on the latest data of TE. The results show the negative impact of governance quality and religiosity on TE; it implies the higher level of governance quality and religiosity, and the lower level of TE across the countries. Among the governance qualities, the higher the government effectiveness (GE), the rule of law (RL), and regulatory quality (RQ), the lower the level of TE as they have a negatively significant impact on TE. On the contrary, the positive impact of the voice of accountability (VA) and political stability (PS) on TE implies that with increasing the VA and PS, TE also increases. Moreover, during the investigation of religiosities on TE, the study found that Catholics (CATH) have a significant and negative effect on TE, while Muslim (MUSL) is found to be positively significant. Overall findings of the study suggest the government of the OECD countries to emphasize enhancing the governance quality and practicing of peoples' religious activities freely, which demotivates people to evade tax.*

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**Keywords:** Governance quality; religiosity; tax evasion; OECD countries; World Government Indicators (WGIs); sustainable well-being (HPI)

## INTRODUCTION

Tax evasion (TE) is a widespread phenomenon, and it has been seen as the most controversial issue over the last few decades. It is considered a severe loss of government revenue, resulting in pressure on the government in providing public services smoothly (Islam, Rashid, Hossain, & Hashmi, 2020). In result, it also increases the tax burden not only on the government but also on compliant taxpayers and thereby demotivates them to comply with tax obligation properly. Therefore, it has been a challenging issue for governments and tax authorities to increase the taxpayers' tax revenue. TE occurs if taxpayers do not comply with their tax obligations intentionally, either through the failure of filing returns, misreporting income or overstating expenses, or evading tax despite having the ability to pay the tax (Rashid, 2020).

TE has been considered a subject of discussion for academic research in developed and developing countries (Nurunnabi, 2018; Richardson, 2016; Umar, Derashid, Ibrahim, & Bidin, 2019; Yamen, Allam, Bani-Mustafa, & Uyar, 2018). Policymakers have not had any specific solution to overcome these challenges. It is almost impossible to efficiently and effectively mitigate the side effects of government policy without a proper understanding of TE and its relationship to tax policy and state governance (Prinz & Hokamp, 2015). In developed countries like the United States, 17% of total income tax is unpaid each year, whereas, in Australia, Canada, New Zealand, and Japan, it was 8.6% in 2013 (Ahmed, 2016). Similarly, in European countries, the second-largest economy globally with a gross domestic product (GDP) of €16.5 trillion in 2016 (International Monetary Fund, 2017), \$1.3 trillion is lost due to TE (Ahmed, 2016). Moreover, after the financial crisis of 2008, the unity of the European Union (EU) has been vulnerable, especially with the impact of economic recession on Greece, Italy, and Spain. Moreover, investigating the perception of the tax burden among the high- and low-income groups of people in Japan, Yamamura (2014) found that high-income earners pay more tax than low-income earners.

Most of the researchers have focused principally on the economic variables (Alm, Martinez-Vazquez, & McClellan, 2016; Torgler & Schneider, 2007), while some researchers have highlighted noneconomic variables in TE studies (Riahi-Belkaoui, 2004). Moreover, Alm and Torgler (2006) noted that numerous factors are causes of TE beyond economic factors. Many researchers have attempted to investigate the determinants of TE. Conducting a 45 cross-country investigation, Richardson (2006) showed the noneconomic factors also play a crucial role in determining the impact of TE and have a more substantial effect in comparison to the economic factors.

The rationale for examining the TE in Organisation for Economic Co-operation and Development (OECD) countries is related to the recent economic situations, strength, and dissimilarities in terms of currency. Moreover,

the OECD countries are typically democratic, which supports free-market economics. The goal of this organization is to shape policies that foster prosperity, equality, opportunity, and well-being for all. Therefore, it is expected that the governance qualities of the OECD members are higher and thereby reduce TE. For example, Yamen et al. (2018) exhibited institutional qualities on TE in European countries and found that institutional factors are negatively significant with TE. Moreover, Umar et al. (2019) adopted a conceptual approach to explain the relationship between public governance quality and tax compliance in developing countries. Similarly, a high degree of religiosity has a beneficial effect on a human being (Nazaruddin, Rezki, & Rahmanda, 2018). Religion is a powerful tool for influencing people's lives and answering questions about different aspects of their lives. It does not permit TE because it teaches fairness, and the right people pay the state their tax. Torgler (2006) found that religious faith substantially impacts the taxpayers' tax morale behavior; it ultimately shapes the taxpayers' compliance behavior. Nurunnabi (2018) and Islam et al. (2020) found religiosity as the most crucial factor that negatively influences TE. There is limited research on the effect of governance quality and religiosity on TE in OECD countries. Therefore, this study raises the following research questions: Whether the governance quality and religiosity impact TE in OECD countries? If yes, which governance qualities and religiosities significantly affect TE?

In addition to addressing the research questions, the study will contribute to the existing literature in several ways. First, the research offers a helpful insight into the causes of TE in OECD countries, which are predominantly noneconomic variables. Second, the study will also check the robustness of the findings, comparing the results in the context of higher and lower income member states of OECD. Third, the outcome of this research will guide the government and policymakers to understand the interrelationship among governance qualities, religiosity, and TE, which helps to take necessary steps to develop policy frameworks for reducing TE. Finally, the study provides a key summary of multiple data sources for future international tax researchers and practitioners.

The remainder of the chapter is structured as follows. Section "Theory and Hypothesis Development" discusses theories and develops the hypotheses considering the relationship between governance qualities, religiosity, and TE. Section "Methodology" describes the research methods and design with the empirical specification laid out. Section "Findings and Discussions" analyses the results and sets out the discussion of the study, and finally, section "Conclusions" offers the conclusions and implications, along with the limitations of the research and suggestions for future research.

## **THEORY AND HYPOTHESIS DEVELOPMENT**

Among many other theories, researchers who have worked on the noneconomic factors of TE have explored socioeconomic theory, psychological contract

theory, and contingency theory (Nurunnabi, 2018; Pickhardt & Prinz, 2014). The socioeconomic theory deals with the sociocultural forces which have an impact on TE.

Several factors of socioinstitutional norms have been identified in prior research, which has effects on TE (Nurunnabi, 2018). Governance qualities (Umar et al., 2019; Yamen et al., 2018) and religiosity (Islam et al., 2020; Nurunnabi, 2018) may affect the tax behavior of society in particular. Nurunnabi (2018) identified three major players – the state, the tax authority, and taxpayers – in the tax social network within which they interact among themselves, which in turn affects TE. As per the psychological contract theory, the contract is viewed as a crucial element of the relationship between taxpayers and government, where taxpayers contribute to the government revenue for the services provided by the government (Pickhardt & Prinz, 2014). Feld and Frey (2007) developed the concept of a psychological tax contract between government and taxpayers to establish a fair and reciprocal obligation through governance qualities, where one party gives and another take something – a quid pro quo situation. Based on this theory, taxpayers feel discouraged from paying tax if they perceive low governance quality in general. Likewise, the moral sentiment theory infers religiosity as an act that shapes people’s behavior toward internal moral force in tax payment (Smith & Smith, 2014). Islam et al. (2020) found that people with religious faith have more moral sense and keep people away from all evil deeds and deter TE. Furthermore, Richardson and Sawyer (2001) suggested that contingency factors depend on the nature of the study. For instance, Riahi-Belkaoui (2004) found that it is necessary for the contingency theory of tax compliance that calls on not only economic determinants of tax compliance but also governance and moral determinants. Therefore, based on the socio-economic, psychological contract, moral sentiment, and contingency theories, this study considers governance qualities and religiosity as noneconomic factors that may affect TE.

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#### *Governance Qualities*

Torgler and Schneider (2009) analyzed the effect of tax morale and governance quality on the shadow economy from 57 developed and developing countries. They demonstrated that when the tax morale and governance qualities increase, the shadow economy decreases. Similarly, Yamen et al. (2018) investigated the effect of institutional quality on TE with a comparison between old (pre-2004) and new (post-2004) European member states. They found that institutional quality is higher in old EU countries than in new EU countries. The higher institutional quality leads a country’s economy to experience lower TE as governance quality negatively affects TE (Dreher, Kotsogiannis, & McCorriston, 2009). Nurunnabi (2018) and Islam et al. (2020) also found a negative relationship between governance quality and TE in Asian countries. Moreover, in terms of what happens between governments and people, Umar et al. (2019) studied the connection between governance qualities and tax compliance in developing

nations, leading the people to pay or abstain from paying tax. Based on the previous research (Islam et al., 2020; Umar et al., 2019; Yamen et al., 2018), the present study posits a negative relationship between six government indicators and TE.

#### *Voice and Accountability*

Voice and accountability (VA) refer to the perception of capturing the extent to which a country's people can select their government. It also measures freedom of expression about the government, organizational freedom, and freedom of the press. Furthermore, Walker, Gardner, Herr, and Ostrom (2000) also believe that this is also essential to improve the effectiveness of collaboration and operation, involvement, and voting. The study of Umar et al. (2019) also proposed a positive relationship between VA and tax compliance. Therefore, this debate contributes to the following hypotheses of Yamen et al. (2018), who hypothesized that there is a negative association between VA and TE.

#### *Political Stability*

Investigating the relationship between democracy and crime, Cuesta (2013) reviewed several theories. For instance, civilization theory predicts lower crime rates as democratic systems become more established, i.e., have higher political stability (PS) (LaFree & Tseloni, 2006). Political instability faced by taxpayers can be classified into two types: not knowing which political party will be in control and not knowing whether they would be caught for evading taxes by a new government (Katz & Owen, 2013). Evidence from prior research suggests a positive link between tax morale and established democratic traditions (Alm & Torgler, 2006). Riahi-Belkaoui (2004) found that a good "... deterrent to tax evasion is the creation of tax morale." This theory suggests that PS leads to higher tax morale and lower TE (Umar et al., 2019). Similarly, the study of Yamen et al. (2018) anticipated that if PS increases, then TE is expected to decrease.

#### *Government Effectiveness*

Government effectiveness (GE) refers to the efficiency of formulating government policy and how much the government is responsible for the implementation of such policies. According to Allingham and Sandmo's (1972) theoretical model, concealment of income depends on the taxpayer's evaluation of the expected utility of the income. It also depends on the efficient allocation of resources by the government. Torgler and Schneider (2009) advocated that "... better institutions provide stronger incentives to behave legally and increase the costs of illegal activities as a consequence of greater institutional accountability." Yamen et al. (2018) found a positive relationship between GE and TE, while Umar et al. (2019) proposed a negative relation between the two.

### *Regulatory Quality*

Regulatory quality (RQ) measures the perception of the ability of the government to encourage private sector development through formulating and implementing sound policies and regulations. To establish and maintain a good relationship with taxpayers, governments should establish transparent and fair regulations that foster a healthy environment for the private sector to thrive. Hofmann, Gangl, Kirchler, and Stark (2013) argued that creating such an environment through high RQ should reduce the hostile and antagonistic interactions towards the government that can lead to higher tax compliance levels. Also, high RQ encourages higher tax morale. Yamen et al. (2018) found that RQ and TE were negatively related.

### *Rule of Law*

The rule of law (RL) measures the perception of the government's ability to enforce the laws for society and, in particular, how well these laws tackle crimes and violence with the quality of the contract, property rights, the police, and the courts. Wahl, Kastlunger, and Kirchler (2010) argued that the level of TE is subject to several factors, including trust in authority and the deterrence power of the tax authority. Kirchler, Hoelzl, and Wahl (2008) differentiated between two types of societies, namely those with antagonistic climates and with synergistic climates. When individuals perceive the government as legitimate, they are persuaded to accept a service and client culture. Kirchler et al. (2008) advocated that tax compliance can be achieved through an increase within a society to be committed to following its rules. Previous researchers proposed a negative relationship between RL and TE (Yamen et al. (2018).

### *Control of Corruption*

Control of corruption (CC) measures the perception of a government's ability to prevent the exercise of power for private gain and prevent small- and large-scale corruption. Friedman, Johnson, Kaufmann, and Zoido-Lobaton (2000) advocated that "... greater corruption and a weaker legal environment are all associated with a larger informal economy." Besides, Alon and Hageman's (2013) study of 5,000 firms operating in 22 former Soviet countries found evidence of lower tax compliance under a high level of corruption. It can be argued that corruption can incentivize individuals and businesses to evade paying taxes as well as to facilitate it through public officials. It is proposed that with increasing the level of CC, the level of TE will decline.

### *Religiosity*

Religiosity is defined as a devotion to religion and the loyalty of an individual. A high level of religiosity will positively impact everyday life (Nazaruddin et al., 2018). The results of previous studies indicate that religiosity has a positive impact on individual compliance in paying taxes (Benk, Budak, Yüzbaşı, & Mohdali, 2016; Torgler, 2006). However, several studies show that religiosity

does not affect tax compliance (McKerchar, Bloomquist, & Pope, 2013). Richardson (2008) found a negative relationship between religiosity and TE. Major religions condemn a fellow man's manipulation relatively evenly. These religions' antimanipulative ethos tends to form a strong social norm against all types of nation-wide manipulative conduct (Callen, Morel, & Richardson, 2011).

In addition, risk aversion offers another potential connection between religion and TE, indicating that religious people are more risk-averse than the general population (Hilary & Hui, 2009). Risk-averse people are less likely to be involved in TE (Callen et al., 2011). A negative relationship between religiosity and TE has been found in the previous literature (Nurunnabi, 2018). According to Hirschi and Stark (1969), religion might inhibit illegal behavior because religion is a sanctioning system that legitimizes and reinforces social value. Stack and Kposowa (2006) examined the impact of religiosity on the acceptability of tax fraud in 36 nations and discovered that the acceptability of religiosity and tax fraud has a negative relationship.

#### *Muslim (MUSL)/Islam*

According to Islam, "God will punish us if we do not pay to the state" (Jalili, 2012). In Islam, Zakah (tax and paying tax) is the third pillar of Islam and is mandatory. As per the Quranic verse,

...indeed, those who believe and do righteous deeds and establish prayer and give Zakah will have their reward with their Lord, and there will be no fear concerning them, nor will they grieve. (Surat Al-Baqarah, 2:277)

Moreover, in Islam, Surah 4 verse 29 states that: "Believers do not devour one another's possessions wrongfully; rather than that, let there be trading by mutual consent." The commentators on the Quran indicate that the expression "wrongfully" embraces all transactions which are opposed to righteousness and which are either legally or morally reprehensible, and "mutual consent" means that the exchange should be free of undue pressure, fraud, and deception (Callen et al., 2011). Bartke and Schwarze (2008) found the Muslims as more risk-averse than Protestants and the latter are more risk-averse than Catholics. Catholics have a higher tendency to evade tax. Conducting a study in 38 Muslim majority countries worldwide, Nurunnabi (2018) found a significant and negative relationship between Muslims and TE.

#### *Catholics (CATH)*

In Christianity, the New Testament states that: "Therefore each one of you must hold off falsehood and talk to his neighbor in truth, for we are all members of one body" (Ephesians 4:24–26). The literature also found a significant negative relationship between TE and Christian religiosity across countries. Tittle (1980) commented that "religiosity discourages deviant forms of behavior and is therefore crucial in shaping social norms." Grasmick,

Bursik, and Cochran (1991) found that both church attendance and individual religiosity have a negative relationship with TE. Though Richardson (2016) did not find any association between Catholics and TE, Torgler (2006) found a strong correlation between religiosity and tax morale. He also mentioned that strong effects could be observed for those who had a religious education and those actively involved in a church or a religious organization. Prior researchers have argued that there is less risk-averseness among CATH than MUSL and PROT (Bartke & Schwarze, 2008; Callen et al., 2011).

#### *Protestants (PROT)*

According to Furnham (1983), one reason might be that people with stronger protestant ethics are naturally against certain aspects of taxation, believing that success is based “purely upon effort and that the poor and unemployed are to blame for their plight.” He also found that a higher degree of protestant work ethic leads to more opposition to taxation. Torgler (2006) found that Orthodox and Protestants tend to have lower tax morale than the Catholics, Hindus, and Buddhists, while Richardson (2016) found no significant relationship between Protestants and TE. In contrast, Callen et al. (2011) proposed PROT is more risk-averse than CATH.

## METHODOLOGY

### *Sample*

The study uses the shadow economy as a proxy for TE and considers a sample of 504 from 36 OECD countries, covering the period of 2002–2015. The primary consideration for the inclusion of individual countries in the study is the availability of TE data. However, due to data unavailability, the five countries – Chile, Israel, Mexico, South Korea, and Iceland in the OECD – are excluded from the study, while the other five countries – Bulgaria, Croatia, Cyprus, Malta, and Romania – have been included.

### *Dependent Variable*

In this study, the dependent variable is TE as a proxy of the shadow economy (Yamen et al., 2018). It is measured as a percentage of GDP for the 14 years 2002–2015. Most previous studies estimated the size of the shadow economy at the macro levels (Schneider & Buehn, 2012). As there is no perfect measure of TE, this research also considers the macroeconomic measure of shadow economy based on the MIMIC model (multiple causes multiple indicators) (Islam et al., 2020).<sup>1</sup> International Monetary Fund (IMF) defines the shadow economy as:

By nature, the shadow economy is challenging to quantify, as agents involved in the shadow economy activities attempt to remain hidden. The scale of the shadow economy’s growth over time is driven by its political and economic importance. In addition, overall economic activities involving official and unofficial production of goods and services are needed to establish economic policies that respond to changes.

### *Independent Variables*

The independent variables used in this study are government quality calculated as an average score of all six World Government Indicators (WGIs) and the percentage of people having religious faith in line with the prior studies (Islam et al., 2020; Nurunnabi, 2018). Further, we considered six WGIs and three major religions of the OECD countries to determine which government qualities and religions affect TE. They are as follows:

- Governance qualities indicating six WGIs, namely voice accountability (VA), PS, GE, RQ, RL, and CC; and
- Three religion, namely Catholics (CATH), Muslims (MUSL), and Protestants (PROT).

The data sources for the independent variables are WGIs for governance qualities and individual country's websites for religion. These are set out in Appendix 2.

### *Control Variables*

For panel research with the cross-country, it is essential to include a few variables to regulate the country's social and economic differences. The control factors that are included in the model to adjust social and economic distinctions are unemployment rates (UNEM) as a proportion of the total population, and agriculture (AGR) as a proportion of GDP, level of income (Income), and Happy Planate Index (HPI) (Yamen et al., 2018). The higher the rate of unemployment, the higher the level of TE expected. On the other hand, the higher the level of income and the higher the score of HPI, the lower the level of TE. As a source of income, the higher a country's farming is, the lower its TE. Both the data of UNEM and AGR have been gathered from the World Bank database (World Bank, 2018), while the data of HPI were collected from the NationMaster. Finally, all the OECD countries were classified into two board groups based on income level: higher and lower. The states with lower-level income include low income and lower-middle income, whereas the countries with higher levels include upper-middle and high income classified by the World Bank.

### *Estimation*

The following OLS (ordinary least squares) regression model is projected to examine the prospective connection between good governance indicator, culture, religion, unemployment, agriculture, and the shadow economy, across the European and non-European nations.

$$TE_i = \alpha_0 + \beta_1 VA_i + \beta_2 PS_i + \beta_3 GE_i + \beta_4 RQ_i + \beta_5 RL_i + \beta_6 CoC_i + \beta_7 CATH_i + \beta_8 MUSL_i + \beta_9 PROT_i + \beta_{10} UNEM_i + \beta_{11} AGR_i + \beta_{12} INCOME_i + \beta_{13} HPI_i + \varepsilon_i$$

where,  $TE_i$  = tax evasion as a proxy of shadow economy;  $VA_i$  = voice and accountability;  $PS_i$  = political stability;  $GE_i$  = government efficiency;  $RQ_i$  = regulatory quality;  $RL_i$  = the rule of law;  $CC_i$  = control of corruption;  $CATH_i$  = the percentage of Catholic;  $MUSL_i$  = the percentage of Muslim;  $PROT_i$  = the percentage of protestant;  $UNEM_i$  = the percentage of unemployment;  $AGR_i$  = the percentage of agriculture;  $INCOME_i$  = a dummy variable has been used to indicate the income where 1 is for low- and lower-middle-income countries and 2 for upper-middle and high-income countries classified by the World Bank;  $HPI$  = score of Happy Planet Index; and  $\varepsilon_i$  = error term for country  $i$ ;  $i$  = number of countries.

### Method

As the study uses noneconomic variables, data are static (Islam et al., 2020). As a standard constant technique, we have used the pooled OLS method. It is often known to estimate data under the chief assumption that there is no heterogeneity between cross-sectional units; more precisely, all cross-sectional units are considered a single unit in this process. Thus, the pooled OLS approach assumes no differences between the cross-country or individuals or businesses within the cross-sectional data. This approach estimates a single constant “a” for all cross-country operations.

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Pooled OLS model:

$$Y_{it} = a + \beta_1 x_{1it} + \beta_2 x_{2it} + \beta_3 x_{3it} + \beta_4 x_{4it} + u_{it} \quad (1)$$

## FINDINGS AND DISCUSSIONS

### Descriptive Statistics

Table 1 summarizes the descriptive statistics for the variables used in this 36-country research with a sample of 504 observations. This table demonstrates that TE is widespread among the OECD countries as the standard deviation of TE is high ( $SD = 7.85$ ) while the mean is 18.72%. This outcome occurs as the summary suggests that the range of government qualities significantly varies from a negative score to a positive score. The standard deviation of the governance indicators is also scattered among the OECD nations. Similarly, the religiosity among the people highly varies as the percentage of standard deviation is more than the average percentage of all the religions.

### Correlations

Furthermore, the findings of the Pearson pairwise correlation are shown in Table 2, which shows that there are many important correlations between TE and the independent variables. For instance, all six governance indicators have a significant and negative correlation with TE at a 1% level. TE and VA ( $r = -0.71$ ), TE and PS ( $r = -0.46$ ), TE and GE ( $r = -0.79$ ), TE and RQ ( $r = -0.74$ ),

**Table 1.** Descriptive Statistics.

Variables	Obs.	Min	Max	Mean	Stand. Dev.
TE	504	5.9	36.1	18.72	7.85
GQ	504	-0.27	1.97	1.14	0.53
REL	504	16.00	86.00	46.08	20.73
VA	504	-0.37	1.8	1.15	0.39
PS	504	-1.49	1.76	0.79	0.50
GE	504	-0.36	2.35	1.24	0.62
RQ	504	-0.04	1.97	1.25	0.44
RL	504	-0.26	2.1	1.22	0.63
CC	504	-0.52	2.47	1.18	0.82
CATH	504	0.05	93	37.34	32.60
MUSL	504	0.02	98.6	6.25	16.30
PROT	504	0.08	86.2	15.68	24.09
UNEM	504	2.49	27.47	8.40	4.38
AGR	504	0.23	12.5	2.59	2.00
HPI	504	26.4	51.6	42.93	6.23
INCOME	504	0	1	0.75	0.43

Source: Author's own calculation.

TE and RL ( $r = -0.81$ ), and TE and CC ( $r = -0.78$ ). Thus, these results imply that the higher the governance qualities, the lower the level of TE.

Furthermore, this study found no correlation between CATH and TE, while MUSL and PROT are positively and negatively correlated with TE. The results indicate that with an increase in the number of Muslims in the OECD countries, the level of TE increases. In contrast, an increase in the number of Protestants reduces the level of TE. Besides, there is a positive correlation between UNEM and TE ( $r = 0.44$ ) and AGR and TE ( $r = 0.57$ ) at a 1% level of significance. The results mean that the higher the level of the unemployment rate and agriculture, the higher the level of TE. On the contrary, HPI and INCOME are found to be a negative and significant correlation with TE. These results imply that the level of TE goes down with increasing the level of happiness and income. These findings provide some preliminary support to the hypotheses of the study. However, the results expose that some of the governance qualities are highly correlated with each other. It technically seems that there is a multicollinearity problem among the variables.<sup>2</sup> It was further addressed by considering the VIF values in the stepwise regression analysis (see Table 3 and Appendix 3).

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#### Regression Analysis

Table 3 shows the regression results of governance quality and religiosity on TE in the OECD countries, along with lower-income and higher-income countries separately. The leading cause behind this separation is to determine the

**Table 2.** Pearson Pairwise Correlations.

	TE	VA	PS	GE	RQ	RL	CC
TE	1						
VA	-0.71**	1					
PS	-0.46**	0.74**	1				
GE	-0.79**	0.87**	0.61**	1			
RQ	-0.74**	0.88**	0.62**	0.88**	1		
RL	-0.81**	0.91**	0.64**	0.95**	0.92**	1	
CC	-0.78**	0.88**	0.59**	0.95**	0.89**	0.95**	1
CATH	0.06	0.03	0.17**	-0.13**	-0.14**	-0.11*	-0.18**
MUSL	0.25**	-0.53**	-0.60**	-0.24**	-0.36**	-0.30**	-0.23**
PROT	-0.32**	0.39**	0.21**	0.48**	0.46**	0.46**	0.48**
UNEM	0.44**	-0.45**	-0.41**	-0.47**	-0.52**	-0.52**	-0.52**
AGR	0.57**	-0.66**	-0.47**	-0.61**	-0.57**	-0.64**	-0.54**
HPI	-0.10*	0.06	0.08	0.14**	-0.01	0.10*	0.15**
INCOME	-0.71**	0.68**	0.39**	0.61**	0.56**	0.62**	0.61**
	CATH	MUSL	PROT	UNEM	AGR	HPI	INCOME
CATH	1						
MUSL	-0.24**	1					
PROT	-0.43**	-0.12**	1				
UNEM	0.24**	0.04	-0.23**	1			
AGR	-0.23**	0.44**	-0.27**	0.26**	1		
HPI	0.01	0.18**	-0.03	-0.11**	0.07	1	
INCOME	0.01	-0.34**	0.21**	-0.23**	-0.55**	-0.08	1

Note: \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ .

Source: Author's own calculation.

robustness of whether there is a significant difference in TE between the groups. The findings of all models demonstrate that both governance quality and religious faith have a significant and negative effect on TE. The results imply that the higher the governance quality among the nations and the religious faith among the people of the OECD member countries, the lower the level of TE. More specifically, an increase in governance quality and religious faith significantly reduces TE. Table 3 also shows that UNEM has a positive and significant effect on TE. These findings indicate that the higher the unemployment rate, the greater the level of TE in OECD countries. In contrast, INCOME and HPI shows a negative and significant impact on TE. The results indicate that the increase in the level of income and happiness reduces TE to a significant extent. However, there is no significant difference between the high-level and low-level income countries except the significant and positive effect of AGR on TE in high-level income countries. It means that, as a source of income, farmers of higher-income OECD countries would like to pay tax as little as possible as the lower-income countries.

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**Table 3.** Ordinary Least Squares (OLS) Regression Results Based on the Average Score of Religiosity and Governance Quality.<sup>3</sup>

1	2	3	4	5
	VIF	All	High Income	Low Income
GQ	3.25	-7.487*** (-12.13)	-9.397*** (-12.20)	-4.959*** (-5.09)
REL	1.52	-0.023** (-2.18)	-0.060*** (-4.16)	-0.076*** (-4.49)
HPI	1.09	-0.076** (-2.54)	-0.105*** (-3.15)	0.379*** (4.67)
UNEM	1.42	0.220*** (4.32)	0.178** (2.56)	0.079* (1.72)
AGR	1.82	0.009 (0.08)	0.538*** (3.19)	-0.079 (-0.44)
INCOME	1.86	-7.220*** (-12.92)		
Year Dummy		Included	Included	Included
_cons		32.85*** (18.17)	30.425*** (13.56)	16.796*** (5.44)
<i>N</i>		504	378	126
<i>F</i>		77.71	23.781	15.495
r2		0.753	0.544	0.679
r2_a		0.743	0.521	0.635

Note: *t* statistics in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Source: Author's own calculation.

3To examine the fixed effect of religiosity and governance quality on tax evasion (TE), we use a year dummy in a separate model with an average score of World Bank's six dimensions of World Government Indicator (WGI). Similarly, we consider religiosity, which is measured as a percentage of the importance of religions in practical life. These data adopted from a survey conducted by Gallup Poll in 2009 in which they asked for "yes" and "no" questions, "Is religion important in your daily life?" In this model, a dummy year also includes controlling the time effect on TE.

#### Impact of Governance Qualities on Tax Evasion

As Table 3 shows that the average score of governance quality reduces TE in all the models supporting the findings of Nurunnabi (2018) and Islam et al. (2020), Table 4 specifies which governance qualities (indicators) have a significant effect on TE. Moreover, two separate models for higher-income and lower-income countries, along with a full model (all OECD countries), have been drawn to analyze the data.

Of six WGIs, the effect of GE ( $-2.65$ ,  $p < 0.05$ ), RQ ( $-4.31$ ,  $p < 0.01$ ), and RL ( $-7.85$ ,  $p < 0.01$ ) on TE are found to be negative and significant in the full model in the line of the previous studies (Hofmann et al., 2013; Yamen et al., 2018). These results indicate that the higher the level of governance effectiveness, RQ, and the RL, the lower the level of TE. If the governments establish transparency, laws, justices, and fair regulations for citizens, people are encouraged to pay taxes voluntarily, which results in a reduction in TE. The legitimacy of the government (including the lack of corruption and bribery), the fairness of the tax scheme (rates and enforcement), and adequate tax revenue allocation are the most basic contributing factors to reducing TE behavior. On the other hand, the study found a negatively insignificant effect of CC on TE,

**Table 4.** Ordinary Least Squares (OLS) Regression Results (All Countries).

(1)	2 All	3 All	4 High Income	5 Low Income
VA	13.9626*** (1.5615)	12.9818*** (1.8237)	12.0485*** (2.1552)	10.2300*** (2.3247)
PS	1.1295* (0.5934)	-0.0429 (1.2522)	1.3680* (0.7036)	0.6021 (1.0766)
GE	-2.6504** (1.0303)	-3.6508*** (1.1243)	-4.3847*** (1.3010)	0.6369 (1.0863)
RQ	-4.3084*** (1.0874)	-3.1696*** (1.1062)	-5.0865*** (1.2627)	4.1321** (1.8148)
RL	-7.8556*** (1.1790)	-7.4438*** (1.3488)	-11.6610*** (1.6538)	-6.3843*** (1.2424)
CC	-0.4967 (0.8840)	-0.8014 (0.9456)	3.3550*** (1.2047)	-5.5174*** (1.4285)
CATH	-0.0182*** (0.0069)	-0.0246*** (0.0081)	-0.0345*** (0.0088)	-0.0124 (0.0080)
MUSL	0.0749*** (0.0172)	0.0792 (0.0486)	0.1718* (0.1038)	0.0419** (0.0163)
PROT	0.0078 (0.0090)	0.0126 (0.0100)	0.0167 (0.0104)	-0.0036 (0.0278)
UNEM	0.1752*** (0.0498)	0.2223*** (0.0576)	0.1440** (0.0639)	0.1875*** (0.0554)
AGR	0.1238 (0.1344)	0.0457 (0.1545)	0.2967 (0.1860)	0.6361*** (0.1460)
INCOME	-7.9970*** (0.5709)	-7.4545*** (0.6665)		
HPI	-0.1287*** (0.0303)		-0.1768*** (0.0343)	0.3508*** (0.0876)
HDI		0.9981 (0.6192)		
_cons	30.4564*** (1.9839)	26.6118*** (1.8896)	30.3121*** (2.4886)	2.1700 (5.1903)
N	504	472	378	126
F	134.9688	114.2266	46.4227	23.4889
r2	0.7817	0.7643	0.6042	0.7138
r2_a	0.7759	0.7576	0.5911	0.6834

Note: Standard errors in parentheses and \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ .

Source: Author's own calculation.

though Yamen et al. (2018) found a significant and negative relationship between CC and TE. Hence, TE does not depend on the CC, as it is not an essential factor in OECD countries.

Interestingly, however, as the study found a significant and positive relationship between VA and TE (13.96,  $p < 0.01$ ) in all models, it is consistent with a prior study of Yamen et al. (2018). Similarly, the study showed a positive effect of PS (1.13,  $p < 0.1$ ) on TE despite having a negative correlation between VA and TE, and PS and TE are represented in Table 2. The result happens because they may have a suppression effect of multiple regressions that results in a decline in the levels of TE.<sup>4</sup> This issue was investigated further (presented in Appendix 3) whether the coefficient and correlation bear a similar relation.

*Impact of Religiosity on Tax Evasion*

The empirical findings regarding the religious practices on TE have provided mixed results. The outcomes of the effects of each of the three major religions – Catholicism (CATH), Protestantism (PROT), and Islam/Muslim (MUSL) – of the sample countries on TE are also presented in Table 4. In the full model, among the three religions, CATH ( $-0.02, p < 0.01$ ) relates negatively to TE, whereas MUSL ( $0.07, p < 0.01$ ) relates positively to TE. Interestingly, PROT does not affect TE. The negative and significant impact of Catholics on TE is inconsistent with the previous studies of Richardson (2006) and Callen et al. (2011). However, the results imply that the higher the level of the Catholics, the lower the level of TE in the OECD countries. The results also show that the Protestant has an insignificant effect on TE.

On the other hand, the positive and significant impact of Muslims on TE is not consistent with the study of Nurunnabi (2018) and Islam et al. (2020). This finding contradicts with the results of the prior studies (Bartke & Schwarze, 2008; Callen et al., 2011), and as they believe that “accountability is first of all to Allah” (Forster & Fenwick, 2015) and “God will punish us if we do not pay to the state” (Jalili, 2012). Therefore, a question of why MUSL has been found positive with TE may arise. The answer to this question could be either any or all of: (1) Muslims think in a solely Islamic state that the leaders are representatives of God on earth with God’s permission, which justifies and emphasizes the duty to obey them. However, such a state does not presently exist, and even if it does, it is unlikely that it would be run sincerely by the individuals in charge of running the state, as humans are imperfect (Jalili, 2012); (2) In most of the OECD countries, Muslims are not increasing to such an extent as the levels of TE are decreasing as per the data trend over the last 15 years; (3) Another cause of this positive effect of Muslims on TE may be due to the suppressive impact of governance qualities as column 4 and column 5 of Appendix 3 shows the negative impact of Muslims on TE. These two models were run considering VA and PS separately. Similarly, the Protestants show the negative effect as per column 5. These findings indicate that with increasing the number of Muslims and Protestants, the level of TE declines, whereas Catholics increases, so do the level of TE. These findings of the study provide an insight that Catholics are less risk-averse than Muslims and Protestants in OECD nations and have a high tendency to evade tax, which supports the evidence of previous research (Bartke & Schwarze, 2008).

Furthermore, the control variables, HPI, income level, show a negative effect on TE while the unemployment rate shows a positive effect. These results are consistent with Table 3 and prove the robustness of the findings.

*Additional Tests*

Further, the study uses (Human Development Index) HDI instead of HPI in column 3 of Table 4 in line with the study of Yamen et al. (2018) for robustness check. The additional tests documented similar results of the baseline model, which show a negative relationship between the governance qualities and TE, except that the insignificant relationship of MUSL and PS with TE. This result indicates that the Muslims are not supposed to evade tax when they receive three basic dimensions of HDI – healthy life, education, and a decent standard of living. Moreover, the insignificant impact of PS on TE implies that if the three basic dimensions of human development are ensured, PS will not affect TE.

Above all, the findings indicate that a higher level of governance quality is reflected in a lower level of TE in OECD countries, which supports the study of Yamen et al. (2018).

Furthermore, the study also compared the finding between higher- and lower-income countries shown in columns 4 and 5 of the similar Table 4. The results presented a significant and negative effect of GE ( $-4.38, p < 0.01$ ), RQ ( $-5.09, p < 0.01$ ) and RL ( $-11.66, p < 0.01$ ) on TE, while a positive effect of VA ( $12.05, p < 0.01$ ), PS ( $1.37, p < 0.1$ ), and CC ( $3.36, p < 0.01$ ) are found to be significant in higher-income countries. These results explain that GE, RL, and fairness in the tax system may reduce TE in higher-income countries. These findings support the study of Pavlik and Young (2020) as they found that the higher the level of income and lower the level of TE due to greater GE.

On the contrary to the higher-income countries, the lower-income countries demonstrated that RL ( $-6.38, p < 0.01$ ) and CC ( $-5.62, p < 0.01$ ) have a negative impact on TE, while VA ( $10.23, p < 0.01$ ) and RQ ( $4.13, p < 0.05$ ) have a positive impact. Therefore, in lower-income countries, not only the rules and regulations are to be ensured but also corruption must be controlled with a strong hand to reduce the level of TE to a great extent. Additionally, the average TE in lower-income countries is higher than that of higher-income countries as the intercept of lower-income countries is not significant. The finding is also consistent with the study of Yamamura (2014), as he found higher-income people pay more tax than lower-income people. Accordingly, these findings provide evidence of differences in governance qualities between two groups of OECD countries, contributing to the observed differences in the level of TE.

Further, during the investigation of the religious effect on TE among the higher-level and lower-level income countries, the study found that CATH significantly and negatively relates to TE in the higher-income model while insignificantly relates in the lower-income model. In both the groups of countries, the Protestants have no effect of evading tax while the Muslims play a significant and positive role in evading tax. To sum, all these additional tests are almost similar to the baseline model; it proves the robustness of our findings.

## CONCLUSIONS

This study investigates the impact of governance qualities and religiosity on TE. The results of this study have many implications for researchers, policymakers, and the governments as each government would like to reduce the level of TE in their country. The overall results of the study suggest that the governments of the OECD countries should improve the voice of accountability, PS, and enhance government efficiency and CC more as they are not playing an influential role in reducing TE. Their governments also need to focus more on improving freedom of speech and stabilize a strong commitment among the

political parties to reduce TE. Moreover, RL and required quality should be strengthened to combat corruption at all levels instead of employing enforcement efforts. Ultimately, the public must regard the taxing authority as persuasive, the tax system as fair, and government expenditure as helpful and competent to significantly enhance the scenario. The governments, policy-makers, and the officials of the respected countries should focus more on improving the governance indicators to control TE.

Moreover, finding mixed results regarding religions provides some insights. The overall findings imply that if the extent of religious practices among the people increases, this shapes their social norms, which discourage all deviant forms of human behavior, which reduces the level of TE. More specifically, the government of the OECD countries should emphasize more the practicing of peoples' religious activities freely, which in turn demotivates people to evade tax. Moreover, the specific insights should allow governments and policymakers to gain a better understanding of the critical variables that are significantly associated with TE internationally. By designing and implementing sound strategies, the governments and tax authorities should be able to improve their tax collection capacity by reducing TE.

This study is subject to several limitations. First, the research was conducted in OECD countries, most of which are from the developed world. The findings may not be generalized to other parts of the world. Therefore, future researches may consider more countries from different regions. Second, due to space constraint, it was not possible to undertake extensive research like to include additional variables (i.e., demographic characteristics: age, gender, occupation, level of income and education/tax knowledge; environmental macro variables, inflation, and GDP; legal enforcement, doing business, etc.) which is a potential area for future research. Finally, we use the shadow economy as a proxy of TE. However, as there is no perfect TE measure, Alm (2012) remarked, "each approach for estimating tax evasion has its limitation."

## NOTES

1. This multiple causes multiple indicators (MIMIC) model takes into account various factors such as tax burden, regulatory burden, economic freedom index, business freedom index, unemployment rate, and gross domestic product (GDP) per capita (Schneider, Buehn, & Montenegro, 2010), which directly affects the dimensions of the shadow economy over time.

2. Though many of the researchers consider a correlation of above 0.9 as a multicollinearity problem (Hair, Black, Babin, Anderson, & Tatham, 1998), the study of Yamen et al. (2018) did not consider it as a problem despite having a couple of correlations of more than 0.9 as they addressed the issue by considering the VIF values. In line with their studies, we have monitored VIF values in regression analysis.

3. To examine the fixed effect of religiosity and governance quality on tax evasion (TE), we use a year dummy in a separate model with an average score of World Bank's six dimensions of World Government Indicator (WGI). Similarly, we consider religiosity,

which is measured as a percentage of the importance of religions in practical life. These data adopted from a survey conducted by Gallup Poll in 2009 in which they asked for “yes” and “no” questions, “Is religion important in your daily life?” In this model, a dummy year also includes controlling the time effect on TE.

4. A simple linear regression was conducted to justify the base model, which showed that there is a significant and negative relationship between voice of accountability (VA) and TE ( $-5.49, p < 0.01$ ) and political stability (PS) and TE ( $-1.8, p < 0.01$ ). The result is due to the effect of religiosities and income on TE since no relationship was found when religiosities were dropped from the model represented in Appendix 3. Another cause behind the result may be that the people of Organisation for Economic Co-operation and Development (OECD) countries feel free to express their opinions compared to that of other countries. As a result, taxpayers may try to conceal their income in their income tax returns and raise their voice against a very high tax rate, which in turn results in a high tendency of taxpayers to be involved in TE.

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## APPENDIX 1: LIST OF OECD COUNTRIES

European OECD Countries				Non-European OECD Countries	
Austria	Denmark	Slovenia	Latvia	Portugal	Turkey
Belgium	Estonia	Spain	Lithuania	Romania	Australia
Bulgaria	Finland	Sweden	Luxembourg	Slovak Republic	Canada
Croatia	France	Hungary	Malta	United Kingdom	Japan
Cyprus	Germany	Ireland	Netherlands	Norway	New Zealand
Czech Republic	Greece	Italy	Poland	Switzerland	United States

## APPENDIX 2: DATA DESCRIPTION AND SOURCE

Variables	Description	Source
<i>Dependent variable</i>		
Tax evasion (TE)	Tax evasion has been adopted as the proxy of shadow economy, which is defined as the “Market-based production of goods and services, whether legal or illegal, that escapes detection in the official estimates as a percentage of GDP for the year 2002–2015.”	Shadow economy around the world – IMF <a href="https://www.imf.org/~media/Files/Publications/WP/2018/wp1817.ashx">https://www.imf.org/~media/Files/Publications/WP/2018/wp1817.ashx</a>
<i>Independent variables</i>		
Six governance qualities (GQ)	The governance qualities have been used from the World Bank’s six dimensions of Worldwide Governance Indicators (WGI) for the year 2002–2015, on a scale from –2.5 to 2.5, with higher values corresponding to better governance.	World Government Indicators (WGI) <a href="https://datacatalog.worldbank.org/dataset/worldwide-governance-indicators">https://datacatalog.worldbank.org/dataset/worldwide-governance-indicators</a>
Religiosity (REL)	The percentages of Catholics (CATH), Muslims (MUSL), and Protestants (PROT), in 2002–2015. Further, the study used religiosity as a percentage of the importance of religions in practical life. Gallup Poll conducted <a href="https://en.wikipedia.org/wiki/Gallup_Poll">https://en.wikipedia.org/wiki/Gallup_Poll</a> survey in 2009 in which they asked for “yes” and “no” question, “Is religion important in your daily life?”	Individual country’s website and the importance of religion by country <a href="https://en.wikipedia.org/wiki/Importance_of_religion_by_country">https://en.wikipedia.org/wiki/Importance_of_religion_by_country</a>
<i>Control variables</i>		
Unemployment (UNEM)	Unemployment as a percentage of the total labor force of the year 2002–2015.	Word Bank (2018) <a href="https://data.worldbank.org/">https://data.worldbank.org/</a>
Agriculture (AGR)	The value-added of agriculture as a percentage of GDP from 2002 to 2015.	Word Bank (2018) <a href="https://data.worldbank.org/">https://data.worldbank.org/</a> and <a href="https://www.theglobaleconomy.com">https://www.theglobaleconomy.com</a>
Income	The World Bank classifies the countries into four groups based on income, e.g., low, lower-middle, upper-middle, and high income using the Atlas method. The study uses a dummy variable for measuring income where 1 is for 1st two groups and 2 for later two groups.	<a href="https://datatopics.worldbank.org/world-development-indicators/stories/the-classification-of-countries-by-income.html">https://datatopics.worldbank.org/world-development-indicators/stories/the-classification-of-countries-by-income.html</a>
Happy Planet Index (HPI)	The Happy Planet Index combines four elements such as well-being, life expectancy, inequality of outcomes, and ecological footprint to show how efficiently residents of different countries are using environmental resources to lead long and happy lives.	<a href="https://www.nationmaster.com/country-info/stats/Culture/Happy-Planet-Index">https://www.nationmaster.com/country-info/stats/Culture/Happy-Planet-Index</a>

### APPENDIX 3: OLS RESULT REPRESENTING THE IMPACT OF VA ON TE

1	2	3	4	5
	VIF	TE	TE	TE
VA	9.66	10.2885*** (1.5309)	-5.4947*** (1.0226)	
PS	6.77	0.9518 (0.6226)		-1.7997*** (0.6346)
GE	7.84	-6.5600*** (0.8348)		
RQ	5.96	-7.1264*** (1.0724)		
CATH	2.19	-0.0164** (0.0072)	0.0065 (0.0081)	0.0083 (0.0084)
MUSL	1.59	0.0499*** (0.0177)	-0.0513*** (0.0162)	-0.0417** (0.0180)
PROT	1.9	0.0055 (0.0095)	-0.0174 (0.0108)	-0.0294*** (0.0107)
UNEM	1.65	0.2277*** (0.0517)	0.2633*** (0.0565)	0.3128*** (0.0589)
AGR	2.08	0.2492* (0.1335)	0.6223*** (0.1485)	0.8379*** (0.1451)
HPI	5.2	-0.1411*** (0.0316)	-0.1193*** (0.0348)	-0.1449*** (0.0352)
INCOME	2.46	-8.2422*** (0.5956)	-7.9641*** (0.6732)	-9.6285*** (0.5926)
_cons		33.1065*** (1.8522)	32.6510*** (1.9326)	29.2014*** (1.8164)
<i>N</i>		504	504	504
<i>F</i>		138.9595	123.4806	116.1104
<i>r</i> <sup>2</sup>		0.7565	0.6662	0.6524
<i>r</i> <sup>2</sup> <sub>a</sub>		0.7511	0.6608	0.6467

Notes: Standard errors in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Source: Author's own calculation.

## Author Query Form

### Queries and/or remarks

[Q1]	Please check whether the author names are correct.
[Q2]	Please check the keywords "sustainable well-being (HPI)" for correctness.
[Q3]	Unlisted References: References International Monetary Fund (2017) and Smith and Smith (2014) are cited in text. But not provide in reference list. Please check.
[Q4]	Please check the placement of the section headings and correct if necessary.
[Q5]	Note that the Equation (3) has been changed to Equation (1). Please check if appropriate.
[Q6]	Please provide expansion for "VIF".
[Q7]	Please check the layout of Tables 3 and 4, and correct if necessary.
[Q8]	Please confirm if edits made to the reference "Bartke and Schwarze, 2008" are correct.
[Q9]	Please provide complete details for the Ref. [Hofmann et al., 2013].
[Q10]	Please provide editor name(s) for the references [Jalili, 2012; Richardson, 2016].