Fiscal morality and the underground economy in countries of the European Union and the USA

Roxana Adriana Mititelu
The Bucharest University of Economic Studies, Bucharest, Romania
roxanamititelu@gmail.com

Bogdan Florian Amzuică
The Bucharest University of Economic Studies, Bucharest, Romania
bogdanamzuica@gmail.com

Alina Chiriac
The Bucharest University of Economic Studies, Bucharest, Romania
alina88chiriac@yahoo.com

Ileana Nişulescu
The Bucharest University of Economic Studies, Bucharest, Romania
ileana.nisulescu@cig.ase.ro

Abstract. The research was conducted to explore fiscal morality and underground economy of European countries and the US. The study was based on the assumption that the growth rate of an economy has a significant influence on tax compliance. In addition, the research investigated the effect of other factors on tax compliance of various countries. The factors included life expectancy, GDP growth rate, expenditure on education, and proportion of people living below the median income. Tax revenue was used to represent the level of tax compliance. The nations considered for this study included Germany, Italy, France, UK, and the US. Data was obtained from the World Bank Database, for the period 1971-2020. The findings depicted that economic growth was negatively associated with tax revenue. However, life expectancy, education expenditure, and poverty levels had a positive association with tax revenue. The regression models indicated that Italy had the most suitable model for estimation of tax compliance of fiscal morality among the selected countries.

Keywords. tax morality, underground economy, tax evasion, tax ethics, sanctions, taxes, education, economic growth, life expectancy
1. Introduction

The payment of tax is a civic duty and an integral undertaking that contributes to national economic development. Although the payment of tax, including but not limited to pay as you earn, value-added tax, among other types of tax, is inevitable, people are increasingly devising approaches to reduce their tax liability. Alm and Torgler (2011) claim that individuals do not like paying tax as they perceive it to be burdensome. The inclination to alleviate this purported burden has resulted in the widespread emergence of underground economies. Even though tax cheating is rampant, Alm and Torgler (2011) claim that it could be worse; therefore, the real puzzle with taxation is not why tax cheating occurs, but why there is so little tax evasion cases in comparison to cases of tax compliance; to debunk this puzzle, the role of ethics and fiscal morality is explored in the current study (Chiriac et al., 2021).

The willingness to pay tax and comply with all taxation policies despite being financial liabilities on the taxpayer is termed tax morality. According to Du Chenne (2018), tax morality is driven by a myriad of factors that combine to define whether people feel declined or inclined to contribute to a nation’s tax revenue. When the aforementioned factors are extremely negative, they can cause a breakdown in tax morality. A study by Du Chenne (2018) describing tax morality in South Africa stated that a surge in instances of government corruption and an increase in the public’s mistrust of the tax authority nudges people to start questioning why they should bother to pay taxes. The widespread mistrust in the system brews tax evasion, hurting the economic resource pool while benefiting the tax evaders.

The contemporary European economic climate is characterized by underground economies’ widespread emergence and growth. Nonetheless, a plethora of definitions for underground economies have been advanced by different scholars. According to a study by Easton and Veldhuis (2001), the underground economy is a general or generic name that refers to an array of economic activities; as such, it often means different things to different people and agencies. The central idea of an underground economy is hiding economic activities to evade taxes or government scrutiny. Another study by Epstein (1993) posited that an underground economy is vast, and its scope can range from a physician accepting off-the-books cash payment for a Saturday office visit to a waiter who reports some but not all her tips. Notably, the activities can be legal or illegal (Easton and Veldhuis, 2001). Given that underground economic activities are conducted in the shadows, there is a severe lack of accountability and measurement. As a result, most activities enshrined in the underground economy do not get included in the computation of a nation’s gross domestic product.

A broad body of research has been undertaken to elucidate why law-abiding citizens may opt to switch to underground economies and avoid paying taxes (Kassa, 2021). Despite being a criminal offense, tax evasion is propagated by an array of factors. Some of the economic drivers of tax evasion include business sanctions, the level of the tax burden, and business stagnation (Kassa, 2021). For instance, in the current economic climate characterized by reduced demand and profits because of the COVID-19 pandemic, the tax burden may prove unbearable for most business establishments, nudging them to evade taxes or start operating in underground economies (Kassa, 2021). The incidence and application of sanctions and tax policy uncertainty also imprints challenges on business ethics and compliance and triggers non-conformity risks (Aivaz et al., 2022b). Other triggers of tax evasion include legal, social, mental, demographic, and moral factors. One of the moral elements that may nudge most people to adopt evasive strategies to minimize the tax burden is tax fairness. Tax fairness is based on the public perception of the fairness (Munteanu, 2021) of the tax collection procedures, principles, and the utilization of the tax revenue.
The current study aims to determine the state of fiscal morality in European countries. Fiscal morality will be measured based on people and businesses’ willingness to comply with tax policies and the ratio of tax-compliant establishments compared to tax non-compliant business entities and individuals. The trend of this phenomenon, whether people and businesses are increasingly tax compliant or non-compliant, will be assessed. Furthermore, the current study will evaluate the size and changes in the size of underground economies of select European countries. Given that underground economic activities are tailored to evade the surveillance of taxation authorities, factors that drive either the growth or the decline of underground economies will be explored in-depth. Also, the correlation between fiscal morality and corruption, voluntary compliance for payment of tax, education level, level of taxes, and the computerization of the tax office will be evaluated. Finally, the relationship between the level of tax morality in a nation and the growth of the underground economy will be deduced.

2. Literature Review
2.1. Definition of Fiscal Morality

Varying definitions have been advanced by researchers for tax morality. According to Du Chenne (2018), tax morality is the willingness of a business or an individual to comply with tax laws within a nation and pay the taxes owed. The inclination or the declination to contribute to one's nation's tax revenue pool is driven by numerous factors (Du Chenne, 2018). The study of fiscal morality was started in the 1960s in the School of Fiscal Psychology in Cologne, Germany (García et al., 2012). The study into morality as a driver of tax compliance was promoted by the need to understand the nature of tax compliance, especially in developed countries. Moral tax, a term coined during the period, was defined as a set of existing frameworks, beliefs, and values in a society that are used to determine the proper tax compliance (García et al., 2012). The stronger and broader acceptance of this value translates to increased tax compliance within an economy (Aivaz et al., 2022a).

Alm and Torgler (2011) study on tax compliance determined that most people weigh the benefit of tax evasion against the risk prospect of detection and punishments. Nevertheless, the inclination to pay taxes is also impacted by an individual's sense of morality or moral tax; therefore, ethics plays a role in people’s compliance with tax laws. In nations where people feel a high moral obligation to contribute to the nation's tax pool, the higher the tax compliance rate, and vice versa. Wenzel (2005) defines tax ethics as the belief that everyone has a moral responsibility to pay taxes and be honest in all tax dealings. Nonetheless, Wenzel (2005) raises a looming question: what causal function does ethics play in tax-paying behavior? Does ethics determine the compliance, or does it rationalize an otherwise self-interest behavior exhibited by taxpayers? The study found that tax ethics causally affected tax compliances; therefore, the more ethical a populace is, the more compliant it was to tax regulation (Wenzel, 2005; Fagbemi et al., 2010).

2.2. Tax Evasion and the Causation of the Phenomenon

According to Kong and Wang (2014), in theory, governments strive to maximize financial gain to comfortably provide the public with essential services that span from education to healthcare. A surge in tax evasion weakens the government’s capacity to pool revenue and impedes a government’s ability to fund developmental projects (Gërxbhani and Wintrobe, 2021). As a result, it has become increasingly imperative that the causation of tax evasion is addressed. Despite government efforts to enact policies and promulgate regulations intended to prevent tax evasion, the practice remains pervasive, and it is still challenging to measure the full extent of
According to Alm (2012), it is difficult to measure the full extent of tax evasion because people who engage in this illicit practice do so in utmost secrecy. Kassa (2021) asserted that one of the leading drivers of tax evasion is economic factors. A study by Kong and Wang (2014) corroborates this point, particularly, the researchers pinpoint income level, sources of income available to taxpayers, inspection rate, the financial penalty imposed for tax evasion, and the marginal tax rate as the main propagators of tax evasion (Mocan et al., 2020). Middle-class people are more willing to comply with tax laws than lower and higher-income earners because they are more afraid of the financial and psychological consequences that they will suffer as punishment for tax evasion (Fuest and Riedel, 2009). The source of income also determined the level of tax evasion because it was more difficult to collect taxes and account for the income of a populace, which is largely engaged in agricultural activity and small-scale trade.

Another aspect that may shape an individual's inclination to comply with tax laws is demographic factors, which encompass age and gender. According to Kong and Wang (2014), persons aged above 65 years and married posted a higher compliance level than those that were unmarried. Young people were less compliant with tax laws because they are mostly risk-averse, like taking risks, and are less deterred by punishment (Kong and Wang, 2014). Moreover, men were more likely to pursue non-withholding professions as opposed to women, who mostly pursued traditional professions such as nursing, teaching, clerk, and laboratory technicians.

Other factors that propagated tax compliance are majorly behavioural, and they include but are not limited to tax fairness, tax morals, the complexity of the tax system, understanding of tax authority, and corruption. A study conducted by Bertinelli et al. (2019) found that corruption in the form of widespread acceptance of bribes in the tax collection agency or any other related establishment markedly reduced tax compliances. Ajaz and Ahmad (2010) assert that the main deterrent of tax compliance in developing countries is corruption. The fact that tax agencies readily accept bribes and the perception that the tax system is not fair result in the collection of low tax revenues and an increased number of people opting to evade taxes. Baum et al. (2017) assert that in an effort to foster compliance in a country that is adversely impacted by corruption, it is integral that tax and other related institutions are strengthened.

The level of taxpayer education on the importance of complying with tax laws is also a core determinant of tax compliance in most countries. Gitaru (2017) found that stakeholder sensitization, specifically education taxpayers about the benefits of paying taxes and how their contributions impact the greater economy, is instrumental in promoting tax compliance. The other attribute that deters tax compliance is the complexity of the tax payments and returns filing process. According to a study by Wasao (2014), electronic tax filing significantly improves tax compliance is the process is straightforward and less complicated. Technology, especially in a country where the populace is predominantly tech-savvy, improves compliance because it increases the ease of complying with tax laws (Mascagni et al., 2021). The study found that relying on IT increased the tax revenue for income tax by 12% and 48% for VAT. Therefore, process optimization can be leveraged in developing countries as a tax revenue maximization and compliance improvement strategy.

2.3. Underground Economies in Europe

One of the most used tax evasion strategy used around the world is operating in the shadows, away from the scrutiny of tax collection agencies. According to Enste’s (2018) study, underground economies play a pivotal role in shaping a nation’s economic climate.
evade taxes by employing people illegally or working in the shadow economy (Enste, 2018). The study elucidated that Poland has the highest underground economy in Europe, 26.6% of the GDP in the country, followed by Greece and Italy with 26.1% and 23.4%, respectively, while Switzerland has the smallest underground economy, which constitutes 8.2% of its GDP (Enste, 2018). The difficulty of measuring the economic activity occurring in an underground economy makes it a formidable task to tax activities occurring within this economic space.

The underground economy continues to thrive despite stringent regulations intended to foster tax compliance. In this regard, factors that foster the growth of the underground economy must be covered (Erdinç, 2015; Navickas et al., 2019; Maftei, 2013.). According to a study by Tanzi (1993), the growth of the underground economy can be attributed to taxes, prohibitions, regulations, and bureaucratic corruption. In countries where the tax burden is so high, more people are inclined to shift their economic activities underground because as the tax rate increase, so does the incentive to evade them (Tudose and Clipa 2016; Richardson, 2006). Moreover, the more regulation within an economy, the more the pressure for businesses and individuals to try and go around them, and this results in an increase in the propensity of establishments to shift their operations underground (Chiriac et al., 2022). Moreover, the prohibition of highly sort after items results in the sprout of the underground economy because the availability of the demand necessitates the emergence of a supply. Lastly, bureaucratic corruption, which stems from some employees using their power for personal gain, gives people and companies the incentive to evade taxes by paying bribes in return for escaping the watch of relevant government agencies.

3. Methods
This section presents a detailed description of the research process. The information concerns the methods and justification of the study. It also describes a number of stages of research, which includes identification and selection of a population sample, research design, data collection, and data analysis processes. This section also presents research questions and hypotheses that are addressed in the study. Based on these hypotheses, the researcher identifies the most suitable data analysis procedures that achieves the objective of the study.

4. Research Questions and Hypotheses
The research questions form a basis of the study because they determine the design, data collection methods, and procedures for data analysis. The present research seeks to determine the state of fiscal morality in European nations. It uses fiscal morality to measure willingness of businesses and people to comply with tax policies. The study also uses factors like tax compliance, level of education, life expectancy, poverty levels, and GDP growth rate to determine the contribution of tax-related elements to economic growth. The research questions of the study are as follows:

RQ1. What is the impact on economic growth on tax compliance of the United Kingdom?
RQ2. What is the relationship between the expenditure on education and tax compliance?
RQ3. How does life expectancy relate with tax compliance?

The research hypotheses are as follows:
H1. A high level of economic growth increases the level of tax compliance.
H2. There is a strong and positive relationship between expenditure on education and tax compliance.
H3. There is a strong and positive association between life expectancy and the level of tax compliance.

5. Research Design
A research design is the most crucial part of the study because it dictates the processes and procedures of the research. According to Marczyk et al. (2017), research design is a strategy used to integrate a number of elements of the research in a logical manner to endure the research questions are effectively addressed. The study used a quantitative research method, using a descriptive research design to address the research questions. The data was obtained from secondary sources, such as the World Bank Database. The researcher identified two reasons for selecting this research design. Firstly, a descriptive design is used to address how fiscal morality elements contribute to the growth of the economy. Secondly, a qualitative research design is suitable for this study because it facilitates acquisition of evidence that demonstrate the association between variables. In this case, the descriptive design explored the fiscal morality elements’ role on the growth of the economy.

6. Data and Data Collection
The study used secondary data obtained from World Bank Database. Five variables were included in the data analysis. These variables included GDP growth rate, life expectancy, tax revenue, proportion of people living below 50% of median income, and current education expenditure in public institutions. The data was collected for four countries, which were selected randomly to represent various regions of the globe. These countries include the United States, Germany, United Kingdom, Italy, and France. The data was collected for the period 1971-2020, which is a sample size of N=50 observations.

7. Data Analysis
Data analysis was conducted using two approaches. These methods included correlation and regression analysis. Correlation analysis was conducted to determine the strength and nature of relationship between variables. The researcher used Pearson correlation at 5% significance level. Regression analysis was used to develop models for prediction of future trends in fiscal morality.

8. Results and Discussion
8.1. Correlation Analysis
This statistical technique was used to determine the strength of association between variables. Table 1 presents the correlation results based on Germany data. It shows that there was an inverse and weak correlation between economic growth rate and tax revenue, $r = -0.4822$. Life expectancy is positively associated with tax revenue, $r=0.7848$, which is a strong and positive relationship. The proportion of people living below 50% of median income is also positively related to tax revenue, $r=0.5623$. Lastly, tax revenue is positively correlated to current education expenditure. Just like Germany, the correlation results for Italy, France, UK, and the US data also depict overall positive association between tax revenue and other variables, except for GDP growth. Generally, the determinants of tax revenue (fiscal morality) might positively contribute to the level of tax compliance. Therefore, it is recommended to investigate the linear association between tax revenue and other variables.
### Table 1. Correlation

<table>
<thead>
<tr>
<th>Metric</th>
<th>GDP growth (annual %)</th>
<th>Tax revenue (% of GDP)</th>
<th>Life expectancy at birth, total (years)</th>
<th>Proportion of people living below 50 percent of median income (%)</th>
<th>Current education expenditure, total (% of total expenditure in public institutions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP growth (annual %)</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tax revenue (% of GDP)</td>
<td>-0.48224</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Life expectancy at birth, total (years)</td>
<td>-0.55326</td>
<td>0.784777</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proportion of people living below 50% of median income (%)</td>
<td>-0.11393</td>
<td>0.562293</td>
<td>0.427424</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Current education expenditure, total (% of total expenditure in public institutions)</td>
<td>-0.18473</td>
<td>0.684938</td>
<td>0.85324</td>
<td>0.47664</td>
<td>1</td>
</tr>
</tbody>
</table>

#### 8.2. Regression Analysis

This statistical technique was used to develop a regression model to predict future trends of tax revenue. The research used tax revenue to represent the level of fiscal morality, which was the dependent variable. The independent variables used in the model include GDP growth rate, life expectancy, proportion of people living below 50% of median income, and the current education expenditure in public institutions. Table 2 presents the summary of the regression model that was estimated at 5% significance level. Five different models were developed to represent five countries. Table 2 presents the summary of regression models’ parameters. The model for US had the lowest coefficient of determination of 0.0362, followed the UK with 0.1738, Germany with 0.2599, France with 0.4633, and finally Italy with 0.6778. The coefficient of determination indicates the proportion of change in tax revenue that can be explained by changes in GDP growth rate, life expectancy, proportion of people living below 50% of median income, and current education expenditure in public institutions. Based on the listed models, Italy had the highest value in coefficient of determination, which shows that only 67.78% of variation in tax revenue can be explained by changes in GDP growth rate, life expectancy, tax revenue, proportion of people living below 50% of median income, and current education expenditure in public institutions. Table 2 also shows that an increase in GDP growth rate by one unit would increase tax revenue by 0.094 units. An increase in life expectancy by one year is likely to increase tax revenue by 1.856 and increase in proportion of below median income would increase tax revenue by 0.125. However, raising expenditure in education has a negative impact on tax revenue. Therefore, among the models estimated in this section, the regression model for Italy was statistically fit in describing fiscal morality in terms of tax compliance or revenue.
Table 2. Regression Models

<table>
<thead>
<tr>
<th>Model</th>
<th>Constant</th>
<th>GDP Growth</th>
<th>Education expenditure</th>
<th>Life Expectancy</th>
<th>Proportion below median income</th>
<th>R-squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>-13.914</td>
<td>0.012</td>
<td>-0.005</td>
<td>0.324</td>
<td>-0.043</td>
<td>0.2599</td>
</tr>
<tr>
<td>Italy</td>
<td>-121.84</td>
<td>0.094</td>
<td>-0.077</td>
<td>1.856</td>
<td>0.125</td>
<td>0.6778</td>
</tr>
<tr>
<td>France</td>
<td>-35.408</td>
<td>-0.083</td>
<td>0.010</td>
<td>0.723</td>
<td>-0.067</td>
<td>0.4633</td>
</tr>
<tr>
<td>UK</td>
<td>-8.446</td>
<td>-0.216</td>
<td>0.000</td>
<td>0.424</td>
<td>0.024</td>
<td>0.1738</td>
</tr>
<tr>
<td>US</td>
<td>8.503</td>
<td>0.082</td>
<td>0.000</td>
<td>0.024</td>
<td>0.010</td>
<td>0.0362</td>
</tr>
</tbody>
</table>

9. Conclusion
The research was conducted to determine the state of fiscal morality in European nations and the United States. The findings demonstrate that there was negative relationship between GDP growth rate and tax compliance. It also depicted that there was a positive relationship between tax compliance and life expectancy, and expenditure on education and tax compliance. Tax revenue was used to represent tax compliance, which is a measure of fiscal morality. Five regression models were developed to estimate tax compliance. However, only one model was suitable. The model for Italy was statistically significant in predicting tax revenue. Therefore, future estimation of fiscal morality for the countries in Europe and the United States might adopt the regression model because it describes the effect of life expectancy, expenditure on education, GDP growth rate, and poverty levels on fiscal morality.

References


