Tax Evasion and Education Level: Evidence from the European Union Countries
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TAX EVASION AND EDUCATION LEVEL: EVIDENCE FROM THE EUROPEAN UNION COUNTRIES

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Abstract: This paper analyses the impact of education level and civic income on tax evasion. Tax evasion is an illegal attempt to deliberately avoid paying taxes by individuals, companies, corporations, funds and other institutions. There is a certain amount of research on this issue in the world academic literature, but a scarce number of studies dedicated to the countries of the European Union (EU) is noticeable. Therefore, for the authors of the research, this fact was the basic motivational source. A sample of nine EU countries was selected for the sample: Malta, Cyprus, Italy, Spain, Austria, Belgium, Denmark, Finland and Sweden. The TAX criteria for selecting the countries in the sample were EU membership, geopolitical position and business culture. Eurostat macro data on the net income of the working population, the share of the working population by level of education and tax evasion costs for EU countries were used. The econometric method was used in the research. In order to analyse the impact of education and net income on tax evasion, a regression model was set up. Based on the results for the case of tertiary educated, a set of two predictor variables explains 60.4% of the tax evasion variability. The remaining 39.6% could be attributed to other variables that were not included in the model. Based on the statistical significance, the variable "tertiary education" has a contribution to tax evasion. If tertiary education jumps by one point, tax evasion falls by -6.263. The contribution of the variable "income of tertiary educated" exists, but is not statistically significant, so it cannot be taken into account. In the case of low-educated citizens, the value of R2, as well as education contribution and income impact, are not statistically significant, so they cannot be taken into account. When the results of our research were compared with similar research conducted outside the EU, certain differences were noticeable. While our research found an unequivocal impact of tertiary education on reducing tax evasion, in surveys that targeted countries outside the EU (McGee, 2012), it was concluded that wealthier citizens were generally more educated but also were taxed higher by the state. Therefore, they tend to view tax evasion as a positive behaviour. Also, the results of the Honk Kong study (Kwok and Yip, 2018) shown that the positive effect of tax education, in the form of non-academic courses, on tax compliance is weaker for postgraduates than undergraduates. Contradictory results can be explained by a different business culture of EU states comparing to non-European countries.
Keywords: Tax evasion, education, net income, business culture, EU countries

1. INTRODUCTION

Tax evasion is s very complex and dynamic phenomenon. This is an illegal attempt to deliberately avoid paying taxes by individuals, companies, corporations, funds and other institutions. Tax evasion is a serious offense. Subjects that are found liable can be fined, jailed, or both (Kagan, 2021). The following common methods of tax evasion are most often mentioned in the literature (Bankbazaar, 2021): failing to pay the due, submitting false tax returns, inaccurate financial statements, using fake documents to claim exemption, not reporting income, bribery and storing wealth outside the country. Great attention is paid to analysing the factors affecting this phenomenon. The most common causes of tax evasion are ethical, ideological reasons, wrong economic policy, inadequate financial legislation, high tax rates, linear taxation, behavioural factors, etc. Criticizing the approach of John Maynard Keynes, representatives of the Austrian School (Mises, 2009; Rothbard, 1969) pointed out that such a concept of economic policy introduces regulations in the economy and that the government provides subsidies and incentives in the form of more spending and more borrowing. Incentives raise taxes and inflation, and if the money is borrowed, it means that future taxes will go up, which will further burden citizens and investors. Based on a survey of 387 taxpayers in Albania, high tax rates are a key factor for tax evasion (Salé et al., 2021). The authors also point out that government policies positively correlate with taxpayers' behaviour regarding tax compliance. The inclination towards tax evasion can also be explained by the character of the business culture of a given country. According to Acemoglu and Robinson (2021) cultural figurations also legitimize and support different institutional arrangements. On the example of England, China, African countries, Islamic world and the Indian caste system, the authors showed that there is an interplay between culture, institutions, politics and economics. How this interaction will take place depends on the fluidity of the culture. A culture that is not fluid can become a limitation at some point,

because its attributes are more specific or complex. Less fluid culture, the authors argue, may sometimes reduce the responsiveness of culture to changing circumstances (Ibid.).

This study presents an economic analysis of the impact of education and income levels on tax evasion. According to McGee (2012) wealthier taxpayers are generally more educated, so they respect the rule of law more. On the other hand, richer people are taxed more than the poor, so tax evasion from that side can be tempting for them. Kasipillai et al. (2003), based on a survey conducted among undereducated students in Malaysia, confirmed a positive co-foundation between education and tax compliance. Based on the results, the correlation was especially confirmed in female students after one semester of pursuing a preliminary taxation course. Kwok and Yip (2018) in a study conducted in Hong Kong, founded a significantly positive association between tax education and tax compliance, supporting the attitude that tax knowledge encourages tax compliance. Kumiawan (2020) based on a survey conducted on 100 students who regularly attended night classes held at the Politekunik Negeri Batam (Polibatam) and who met the requirements to be taxpayers, indicate that tax education has a significant effect on tax compliance. Similar results were obtained in interviews with two students, two tax lecturers, and one employee of the Directorate General of Taxation. Shamana and Alito (2020) analyzed the willingness of 160 small, medium and large tax payers in Ethiopia to pay tax liabilities such as VAT, TOT, Income Tax, Withholding Taxes and Customs duties in equal measure. Based on the results of the research, taxpayers accept any new system introduced if they have ample knowledge to understand it. Based on the conducted survey, it was determined that after attending tax courses, most respondents improved their tax knowledge, and thus their readiness to meet tax obligations. Similar results were obtained in the Yemeni study (Al-Ttaffi et al., 2020) on tax compliance behaviour of individual taxpayers. Based on the data collected, tax knowledge of citizens had a significant impact on their likely compliance behaviour. Our research started from the following hypothesis H: The level of education and civic income affect the level of tax evasion in the countries of the European Union.

2. MATERIALS AND METHODS

The technique of intentional sampling was used in the research. Nine countries were selected for the sample: Malta, Cyprus, Italy, Spain, Austria, Belgium, Denmark, Finland and Sweden. Membership in the European Union, geopolitical position and business culture of the country were used as criteria for selecting the state. Eurostat data for the net income of the working population (Eurostat 2021a), the share of the working population by level of education (Eurostat 2021b), and tax evasion costs (Amstrong, 2019) were used. Data for the COVID-19 pandemic years were avoided due to bias, so the data for 2019 were used in the calculations. Table 1 shows the data for the given variables:

Table 1. Net income, level of education and tax evasion costs in billions of Euros

	Median equivalised net income, the lowest education (EUR)	Median equivalised net income, tertiary education (EUR)	The share of low educated, 15 to 64 years %	The share of tertiary educated, 15 to 64 years %	Tax evasion costs in billions of Euros
Malta	13992	23083	38.8	27	2.39
Cyprus	12797	21124	21.5	40	0.72
Italy	14377	23491	39.8	17.4	0.11
Spain	12143	20999	39.6	35.1	0.3
Austria	21301	30905	18.7	31.1	0.38
Belgium	19741	31045	25.9	36	0.5
Denmark	29092	36742	26	33.4	0.1
Finland	19485	29901	20.8	37.8	0.61
Sweden	21093	32027	16.9	38.5	0.13

Source: Eurostat 2021; Amstrong, 2019.

The econometric method is used in the research. Calculations were performed in SPSS 25 software.

3. RESULTS AND DISCUSSION

To test hypothesis H, the following model was set:

Ti = C + b1wi1 + b2Ei2 + ei
Where, for i= n observations:
T = Tax evasion costs in EU countries in billion of Euros (dependent variable)
C = R intercept (Constant)
b1 = slope coefficient of independent variable w
b2 = slope coefficient of independent variable E
w = net income of correspondent education
E = education level of observed population
e = random error

A significance level was set to α=0.05. The model was first tested in the case of tertiary educated citizens. The income of tertiary educated was used as another independent variable. The R2 coefficient was taken into account (Table 2). Based on the results, a set of two predictor variables explains 60.4% of the variability of tax evasion.

Table 2 Tertiary educated and tax evasion.

Regression Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.777a	0.604	0.472	43.64244
a. Predictors: (Constant), tertiary educated %, income of tertiary educated				

Source: Authors' calculations based on Eurostat and Statista data

The remaining 39.6% could be attributed to other variables that were not included in the model. Based on the statistical significance, the variable tertiary education has a contribution to tax evasion (Table 3)

Table 3 Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	282.564	95.175		2.969	0.025
	income of tertiary educated	-0.001	0.003	-0.130	-0.492	0.640
	Tertiary educated %	-6.263	2.249	-0.736	-2.785	0.032
a. Dependent Variable: Tax evasion costs in bn. of Euro						

Source: Authors' calculations based on Eurostat and Statista data

If tertiary education jumps by one point, tax evasion falls by -6,263. The contribution of the variable "income of tertiary educated" is not statistically significant, so it cannot be taken into account.
In the case of low-educated citizens (Table 4), the value of R2, as well as contributions by predictors (Table 5) are not statistically significant, so they cannot be taken into account.

Table 4 Low educated and tax evasion

Regression Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.582a	0.339	0.119	56.39130
a. Predictors: (Constant), education level: less prime, prime and low 2nd %, income 2nd and less educated				

Source: Authors' calculations based on Eurostat and Statista data

Table 5 Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-72.904	131.907		-0.553	0.600
	income 2nd and less educated	0.000	0.004	0.027	0.069	0.947
	Education level: less prime, prime and low 2nd %	3.827	2.530	0.596	1.512	0.181
a. Dependent Variable: Tax evasion costs in bn. of Euros						

Source: Authors' calculations based on Eurostat and Statista data

It can be stated that increasing the share of tertiary education affects the reduction of tax evasion. In the case of the low educated, the link with tax evasion has not been confirmed. The impact of civic income on tax evasion has not been confirmed in either the highly or the low educated.

Compared with research on similar topics and sample composition (Kumiawan, 2020), in third world countries, matching results were obtained. Mc Gee (2012), on the other hand, using WVS data on the example of several countries, the readiness for tax evasion connects to some behavioral factors that guide taxpayers 'opinions in different directions. The richer are generally more educated, but the state taxes them with larger amounts. Therefore, they tend to view tax evasion as a kind of positive behavior. It is interesting to compare the results of our research with the mentioned study on Hong Kong (Kwok and Yip, 2018). The study measured the impact of tax education on tax compliance. Tax education means knowledge gained in special courses on the Hong Kong tax system. The authors' conclusion is that tax education has a positive impact on tax compliance. It is interesting to note that the positive effect of tax education on tax compliance is weaker for postgraduates than undergraduates. However, according to the authors, the negative impact of the level of education on the association between tax education and tax compliance are mitigated by working experience and tax-paying experience. The reasons for this result, which do not coincide with the findings of our research, should be sought in the characteristics of Hong Kong's business culture.

4. CONCLUSION

Summarizing the results of the research, the following is concluded. The jump in the share of tertiary educated people has the effect of reducing tax evasion. In the case of highly educated people, education and net income synergistically explain 60.4% of the variability of tax evasion, while the rest 39.6% could be explained by variables not present in the model. These are probably variables from the domain of business culture and psychological sphere. In this regard, there is room to refine the model by adding new variables. For example, scalar evaluation of citizens' attitudes about readiness for tax evasion in the following form "tax evasion could always be implemented" - could be very usefull. Besides, it is possible to measure the degree of citizens' trust in the Ministry of Finance, which is the creator of tax policy. Inserting these variables would probably reveal a share of causal relationships in 39.6% of cases not covered by the model.

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