Tax Morale and Its Determinants in the Republic of Kosovo

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Abstract

This paper aims to look into empirical determinants such as socio-demographic and socio-economic in tax morale in the Republic of Kosovo. The data set survey of 300 respondents is intended to research socio-demographic and socio-economic determinants in tax morale. Due to a lack of data from the World Value Survey or other relevant institutions, we conducted an online survey with Kosovar residents. The impact of socio-demographic and socio-economic determinants on tax morale was examined using the ordered probit model. Based on the results of the scientific work it has emerged that, tax morale is positively influenced by larger family sizes (6.00), whereas lower financial conditions (2.00), smaller family sizes (1.00), and the perception of a negative impact of the informal economy (1.00) significantly decrease tax morale. Also some of the factors included in the analysis which do not have a significant effect on tax morale are: gender, age, residential locality, education, participation in undeclared work, purchase of goods and services in the informal market, perceptions of punishment for unregistered activities, opinions of the amount of tax paid, consideration of social benefits in tax avoidance, non-issuance of fiscal receipts by business. Therefore, policymakers should pay special attention to the lower financial conditions, smaller family sizes, informal economy impact and other factors with significant negative impact on tax morale. The study has some limitations, which have to do with the exclusion of other factors that could affect tax morale, apart from socio-demographic and socio-economic determinants. Although the study's findings may be helpful to researchers, policymakers' institutions.

1. Introduction

This research aims to investigate factors that influence tax morale in the Republic of Kosovo, including socio-demographic and socio-economic determinants. As many other authors, tax morale is presented as an internal or external incentive to pay taxes (Torgler and Schaltegger, 2006). Due to the increased taxes they must pay, a sizable portion of taxpayers would want to avoid them. However, the government wants to collect the maximum taxes possible to fund its budget. One of the assets of the state is the high tax morale, this is because it brings benefits and at the same time increases the power of policy making (Sjoberg et al ., 2019). Therefore, analyzing the socio-demographic and socio-economic factors that influence tax morale is crucial. The primary requirement for raising fiscal revenues is bolstering and boosting tax morale, which will rely on taxpayers.

Numerous academic works have examined the factors influencing tax morale in various nations. Nevertheless, the studies (Bejaković and Bezeredi, 2019; Korgaonkar, 2022; Deyganto, 2018) have concluded that factors such as gender, and age positively influence tax morale. One of the studies turned out that gender does have a no positive effect on tax morale (Ristovska et al., 2013). According to several studies, the more educated the population, the higher the level of tax morale will be (Muharremi et al., 2022; Schoeman, 2023; Martinez and Coelho, 2019; Cyan et al., 2016; Holkova et al., 2023). On the other hand, the analysis revealed that the degree of education does not influence the level of tax morale (Deyganto, 2018; Ristovska., et al., 2013). Based on the results of the survey, it turned out that marital status has a positive effect on tax morale (Özdemir et al., 2019). Although in one of the studies turned out that marital status does not have a positive effect on tax morale (Ristovska et al., 2013). The authors found out that tax penalty have positive effect on tax morale, which results in higher level of tax morale (Mannan and Farhana, 2020; Mcculloch et al., 2020; Daneshwara and Riandoko, 2023).

Therefore, the paper's research question is how much influence do socio-demografic and socio-economic determinants have on tax morale in Kosovo and which one has the greatest impact? The ordered probit model was employed to test the effect of socio-demographic and socio-economic determinants on tax morale. The paper contributes to the economic literature for researchers' further review of literature. The paper is organized as follows: Section II presents literature review, Section III Data & Methodology**,** Section IV Conclusion, Section VII References and Appendix.

2. Literature review

One of the most essential aspects to analyze in taxes system is the perception of taxpayers to avoid taxes, what is known as tax morale, which varies a lot in the individual and national aspects. In the literature, there are a large number of authors who analyze the impact of socio-demographic and socio-economic determinants on tax morale. Different studies have resulted in different results regarding the influence of the factors taken for analysis on tax morale.

The study by authors (Bejaković and Bezeredi, 2019), which has as its purpose of analyzing determinants that shape tax morale in 2015 Croatia, applied the ordered logit model to identify the determinants that influence tax morale and found that socio-demographic factors like gender, age and region influence tax morale in a positive way. Especially, women have the highest tax morals compared to men, and tax morals increase with age. Many researchers show that tax morale increases with age.

Also, one of the author's works (Korgaonkar, 2022) who has had as an aim to analyze tax morals within the period 1990-2014 in India and used the ordered probit model, resulting based on the findings that age and female gender positively affect tax morals.

Paleka et al., 2023 having as a goal to analyze (non-) compliance with specific emphasis on age, gender, and education within the period October 2021 and January 2022 in Croatia, found through the OLS regression analysis that these factors have an impact on the behavior of individuals to pay taxes.

Authors Muharremi et al., 2022 aimed to inform and push to think with their paper Albanian citizens and taxpayers about tax evasion, avoidance, and compliance, within the period February to July 2020 in Albanian, used Fisher's Exact Test on count matrices technique and found out that socio-demographic factors have impact in tax compliance that resulted with high tax morale. The more educated the population, the higher the tax morale will be. Regarding the residential locality, the population in urban areas has higher tax morale due to recognizing the importance of taxes that should be paid and not avoided based on the answers.

In the paper of the author (Schoeman, 2023), we can say that it has a purpose to analyze the impact of demographic variables on value-added tax within the period June 2018 to January 2019, in South Africa, through empirical analysis with a quantitative approach, it concluded that with the increase in the percentage of VAT, education was the only variable that had a significant impact on tax compliance and resulted in higher level of tax moral. This is reflected in a higher % of declaration of purchases by the consumer side and from the business

side, it turned out to be the highest % of the sales declaration. According to gender, women turned out to have higher tax morale, while the more years the respondents have had, the higher the level of tax payment.

The analysis of the authors (Özdemir et al., 2019) has two related objectives, to determine factors that can influence tax morale and model to analyze determinants of tax morale by using the best model, in July 2015, for Turkey, using ordered probit (OPROBIT) and alternative ordered response models which includes generalized ordered logit model (GOLOGIT), it has been found that there is a positive relationship between marital status and income, so the more income, the less there will be a tendency to avoid taxes. According to the survey results, it turned out that marital status is of great importance if taxes will be avoided or not, and married people have a higher level of tax morals based on the results.

The group of authors (McCulloch et al., 2020) in their analysis which study social contracts for citizens to pay taxes and as a reward to get public goods and services, for the period July 2018, in Nigeria through OLS regression, concluded that whether taxes will be avoided will depend on the penalties they will receive. According to the analysis, individuals who voluntarily do not have any contracts tend to avoid taxes. On the other hand, the attempt to get private services is an indication that residents will avoid taxes according to the study.

The authors (Holkova et al., 2023), in their studies with the tendency to study tax behavior and in the other hand to analyze the tendency for tax evasion in Slovakia, used statistical and logistic regression approach and found that the avoidance of taxes is done in high percentage whether they do it on purpose or not this is reflected in low tax morale.

The study by authors (Martins and Gomes, 2014) analyze the impact of occupational status, income level, behavioral, political, and psychological factors on tax morale in 2008, for Portuguese citizens, which applied multiple regression analysis, concluded that income and professional status has a positive impact on tax morale. On the other hand, employed and unemployed taxpayers have low morale compared to part-time taxpayers, housewives, and pensioners.

According to the authors (Martinez and Coelho, 2019), which had as a goal to study the level of tax morals with a particular focus on socio-demographic factors, between period May and August 2017 for Brazilian citizens, through the method of multiple regression concluded that men have lower tax morale comparing to women, while the higher the level of education, the higher will be the level of tax morale.

The group of authors (Cyan et al., 2016), which have as a purpose to determine taxpayers' tax morale for the period 2014 in Pakistan, with the method of binary probit regression model concluding that respondents who have a higher level of education as an example with bachelor degree have a higher level of tax morale comparing with respondents with lower level of education, according to the analysis of gender, women are characterized with higher moral and age is positive determinant for tax moral.

The author (Deyganto, 2018) had the purpose of identifying determinants of tax compliance with taxation in Ethiopia country, with two methods used: binary logistic regression and Pearson correlation matrix, concluded that the level of education does not influence in level of tax morals, but gender, age, awareness of penalty, perception of tax rate influence positively tax moral.

The study by (Bilgin and Bilgin, 2016), having as its objective to determine tax moral factors between the period July 12th and 31st in 2008, for Bosnia and Herzegovina which used an ordered probit model has concluded that female has a higher level of tax morale and therefore tax morale increases with increasing ages of residents, marital status with particular focus married people has a tendency to influence positively tax morale as a result of penal sanctions, according to employment status employee people has lower tax moral compared with retired people.

Authors (Ristovska et al., 2013), having as the objective to analyze factors that shape tax morale in Macedonia compared to EU countries in 2008 with an ordered probit model, concluded that gender, marital status, and education as factors have a net positive effect on tax morale. Age as a factor in Macedonia is the only factor that positively influences tax morale. However, compared to European countries, factors such as gender, age, and marital status have shown the opposite, this factors influence tax morale.

According to an analysis by the authors (Williams and Krasniqi, 2017), the purpose of analyzing aspects of individual and national heterogeneity in morale in 35 Eurasian countries in 2010 which used a series of binomial logit regression models, have concluded that aspects of age, middle-aged, marital status, the married people, according to education, people with a university degree, by the employment status, employment people has a higher level of moral comparing with other categories.

The study by authors (Daneshwara and Riandoko, 2023) has as a purpose to determine the effect of trust in the government, trust in tax administration, national pride, the likelihood of being caught in tax evasion efforts, and

the level of punishment on tax morale, for Indonesia and have adopted method Ordinary Least Squares (OLS), as a result of this concluded that there is a positive effect on tax morale if there is any chance of being caught in tax evasion efforts and in the other hand the level of punishment.

One of the analyses of the group of authors (Holkova et al., 2023), which had as a goal to study the tax behavior of citizens in Slovakia, with the method of logistic regression, concluded that women have a higher level of tax morale, whereas the tendency for tax evasion depends on the education, age, which mean that the more educated the population the higher the tax morale will be, according to the age, people over 60 years has higher moral comparing with another age group.

The analysis by authors (Mannan and Farhana, 2020), which is intended to identify factors that influence compliance of individual income of taxpayers, between the period 1st December 2019 to 15th February 2020 for Bangladesh, with the ordered logistic regression model, found that tax penalty, perception of government spending have a positive effect on tax compliance which results in a higher level of tax morale.

According to (Daude et al., 2012), the goal was to determine drivers of tax morals in developing countries for the year 2005, with the model probably concluding that age, gender, employment status, and educational attainment have a positive impact in tax morale.

To summarize, several studies have examined the various factors that affect tax morale; however, in the case of Kosovo, there has not been any analysis of the determining factors for tax morale. This is a gap that will be filled with this work, including factors such as socio-demographic and socio-economic. The contribution to the existing literature will be pretty important since the socio-economic determinants include factors that are not analyzed in the existing literature and this will increase the existing literature, which will then serve as a review of literature by the other authors.

3. Data & Methodology

3.1 .Descriptive Statistics

The data set of 300 respondents is used to investigate socio-demographic and socio-economic determinants in tax morale. Due to a lack of data World Value Survey or other relevant institutions, we carry out a survey, which involves an online questionnaire with Kosovar residents. We measure tax morale as the dependent variable through the question, "Please tell me what is your opinion on the taxpayers of the Republic of Kosovo? Do they avoid taxes"? The responses of residents are recorded at 4-point scale.

Table 1. Weighted distribution sample of tax morale

		Frequency	Percent
Valid	High tax morale	39	13.0
	Mid high tax morale	119	39.7
	Mid low tax morale	101	33.7
	Low tax morale	41	13.7
	Total	300	100.0

Source: Authors calculation

Table 1 shows weighted distribution sample in terms of tax morale, categorized into four levels: high tax morale, mid high tax morale, mid low tax morale, and low tax morale.

The majority of respondents (39.7%) exhibit a "Mid High" level of tax morale. A significant portion of the sample (33.7%) also falls into the "Mid Low" category.

Only a small fraction of the sample has either "High" (13.0%) or "Low" (13.7%) tax morale.

This distribution indicates that while there is a substantial middle ground in terms of tax morale, there are fewer respondents at the extremes (high and low). This information can be crucial for designing policies or interventions aimed at improving tax morale by targeting the mid-level groups who might be more easily influenced than those at the high or low ends.

Table 2. Descriptive statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Gender	300	1.00	2.00	1.5067	.50079
Age	300	1.00	6.00	2.2833	1.20050
Residential locality	300	1.00	2.00	1.1800	.38483
Education	300	1.00	4.00	2.6000	.85387
Financial condition	300	1.00	3.00	1.6400	.58727
Marital status	300	1.00	4.00	1.5667	.55970
Family size	300	1.00	7.00	4.3767	1.41473
Employment status	300	1.000	7.000	2.37333	2.250371
Participation in undeclared work	300	1.00	2.00	1.8967	.30490
Purchase of goods and services in the informal market	300	1.00	2.00	1.3633	.48176
Do you think that if we are involved in unregistered activities we can be punished by law?	300	1.00	5.00	3.6600	1.34552
Do you think the amount of tax you paid is…?	300	1.00	5.00	3.1300	1.15653
Do you think people consider the social benefits aspect when avoiding taxes?	300	1.00	5.00	2.5800	1.22554
Do you think that the non-issuance of fiscal receipt by businesses affects tax revenues?	300	1.00	5.00	4.0867	1.07533
Do you think the informal economy has an impact on reducing tax morale?	300	1.00	5.00	3.7100	1.11507
Valid N (listwise)	300				

Source: Authors calculation

The table provides descriptive statistics for various socio-demographic and socio-economic factors related to tax morale.

The gender variable is coded as 1 for male and 2 for female, with a roughly equal distribution (mean close to 1.5). Age categories range from 1 to 6. The average falls in the lower end of the range, suggesting a younger sample overall. This variable likely differentiates between urban (1) and rural (2) localities, with a majority in urban areas (mean close to 1). Education levels range from 1 to 4, with a mean around 2.6, suggesting a

moderately educated sample. Financial conditions range from 1 to 3, with most respondents in the lower to middle category. Marital status ranges from 1 to 4, with most respondents closer to the first category. Family sizes vary widely, with an average size of about 4.4. Employment status varies broadly, with the average indicating more secure employment statuses. Most respondents do not participate in undeclared work (mean close to 2). Some respondents do purchase in the informal market, but many do not (mean closer to 1). Perception of legal punishment is moderately high (mean above 3). Perception of tax amount is average (mean around 3). Respondents slightly consider social benefits when avoiding taxes (mean below 3). Most respondents believe non-issuance of receipts affects tax revenues (mean above 4). Informal economy is seen as having a significant impact on tax morale (mean above 3.7).

3.2 Econometrics Modeling

Tax morale will be taken as a dependent variable in the applied model. While gender, age, residential locality, education, financial condition, marital status, family size, employment, participation in undeclared work, purchase of goods and services in the informal market, expected sanctions/punishments, type and amount of tax, social benefits, tax revenues, the informal economy were taken as explanatory variables. The data are presented based on the number of 300 respondents and the program used in the paper is SPSS.

The method used in the paper is ordinal regression, which is appropriate for modeling relationships between an ordinal dependent variable and one or more independent variables. In our paper will be used an ordered probit model, which has four categories. The four ordered categories used are: high, mid high, mid low, and low. Therefore, the analysis of the dependent variable, which is order, is done through ordered probit model (Kondelaji et al., 2016). The choice of the ordered probit model is supported by authors (Daykin, R Anne & Moffatt, G Peter,2002) since the data are ordinal. Given the ordinal nature of tax morale (low to high) and the distributional assumptions, the ordered probit model is appropriate to be used.

Equation for Ordered Probit Model:

$Yi = \beta o + \beta 1\ X_{1+}\ \beta 2\ X_2 + \beta_k X_k + \varepsilon$ (1)

where:

$Y^* =$ The latent (unobserved) variable representing the propensity or inclination towards a certain level of tax morale.

β_0 is the intercept term.

$\beta_1, \beta_2.... \beta_{15}$ are the coefficients to be estimated for each respective factor, corresponding to the explanatory variables $X_1\ X_{2...}\ X_k$

$X_1, X_{2...} X_k$ is the socio-demografic and socio-economic explanatory variables

ε represents the error term, assumed to follow a standard normal distribution in the ordered probit model

Since Y^* is unobserved, what we observe is $Y,$ the ordinal tax morale variable, which takes on discrete values depending on where Y^* falls relative to certain thresholds $\mu_j.$ These thresholds divide the continues latent variable into discrete outcomes:

$Yi = j \quad if\ \mu_{j-1<}\ Yi^* \leq \mu_j$ (2)

where *j* ranges from *1* to *J*, the number of ordinal categories.

Model specification:

TAX MORALE= α+ β_1(GEND)X_1+ β_2(AGE)X_2+ β_3(LOC)X_3 + β_4(EDUC)X_4 + β_5(FINA COND)X_5 + β_6(MAR STAT)X_6 + β_7(FAM SIZ)X_7 + β_8(EMP)X_8 + β_9(PART IN UND WORK)X_9 + β_{10}(PURCH OF GOOD AND SER IN INFOR MAR)X_{10} + β_{11}(EXPEC SANC/PUN)X_{11} + β_{12}(TYPE AND AMO OF TAX)X_{12} + β_{13}(SOC BEN) X_3 + β_{14}(TAX REV)X_{14} + β_{15}(INFO ECON)X_{15} + ε   (3)

In the ordered probit model, we observe the categorical variable Tax Morale, which is derived from the latent variable Tax morale* based on the threshold values:

The observed Tax Morale is categorized as follows (Determination of Thresholds):

1   if   *Tax Morale $\leq \mu_1$*

2   if   *μ_1 < Tax Morale $\leq \mu$*

Tax Morale=   3   if   *μ_2 < Tax Morale $\leq \mu$*

4   if   *Tax Morale > μ_3*   (4)

where μ_1, μ_2 and μ_3 are the threshold parameters to be estimated along with the β coefficients.

The likehood function for the ordered probit model is based on the cumulative distribution function (CDF) of the standard normal distribution ϕ. The probability that the observed Yi equals a specific category j is given by:

P(Tax morale=j)= $\phi(\mu_j \cdot X_i\beta)$- $\phi(\mu_{j-1} \cdot X_i\beta)$ (5)

For j=1,2,3,4:

where ϕ is the cumulative distribution function (CDF) of the standard normal distribution.

X is the vector of explanatory distribution.

B is the vector of coefficients.

μ_j are the threshold parameters.

3.3. Econometrics Results

In this part, we are going to examine the effect of socio-demographic and socio-economic in tax morale. Table (3) presents an ordered probit estimation of socio-demografic factor in tax morale.

Table 3. A ordered probit estimation of socio-demografic factor in tax morale

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[Tax morale = 1.00]	-.233	.914	.065	1	.799	-2.025	1.559
	[Tax morale = 2.00]	1.096	.916	1.430	1	.232	-.700	2.892
	[Tax morale = 3.00]	2.227	.920	5.864	1	.015	.425	4.030
Location	[Gender=1.00]	.143	.149	.924	1	.336	-.149	.435
	[Gender =2.00]	0[a]	.	.	0	.	.	.
	[Age=1.00]	1.170	.745	2.467	1	.116	-.290	2.630
	[Age =2.00]	1.133	.732	2.397	1	.122	-.301	2.568
	[Age =3.00]	1.104	.737	2.242	1	.134	-.341	2.548
	[Age =4.00]	1.090	.749	2.118	1	.146	-.378	2.558
	[Age =5.00]	.879	.777	1.279	1	.258	-.644	2.401
	[Age =6.00]	0[a]	.	.	0	.	.	.
	[Residential locality =1.00]	.252	.189	1.772	1	.183	-.119	.623
	[Residential locality =2.00]	0[a]	.	.	0	.	.	.
	[Residential locality =1.00]	.008	.323	.001	1	.981	-.625	.640

[Education =2.00]	-.252	.217	1.350	1	.245	-.678	.173
[Education =3.00]	-.287	.204	1.980	1	.159	-.688	.113
[Education =4.00]	0[a]	.	.	0	.	.	.
[Financial condition =1.00]	-.449	.305	2.161	1	.142	-1.047	.150
[Financial condition =2.00]	-.595	.297	4.001	1	.045	-1.178	-.012
[Financial condition =3.00]	0[a]	.	.	0	.	.	.
[Family size =1.00]	-1.146	.586	3.831	1	.050	-2.293	.002
[Family size =2.00]	-.267	.346	.598	1	.439	-.945	.410
[Family size =3.00]	.299	.295	1.029	1	.310	-.279	.878
[Family size =4.00]	.116	.283	.169	1	.681	-.439	.672
[Family size =5.00]	.224	.276	.659	1	.417	-.317	.764
[Family size =6.00]	.547	.312	3.066	1	.080	-.065	1.159
[Family size =7.00]	0[a]	.	.	0	.	.	.
[Participation in undeclared work =1.00]	.265	.231	1.319	1	.251	-.187	.717
[Participation in undeclared work =2.00]	0[a]	.	.	0	.	.	.
[Purchase of goods and services in the informal market =1.00]	.184	.147	1.561	1	.211	-.104	.472
[Purchase of goods and services in the informal market =2.00]	0[a]	.	.	0	.	.	.
[Do you think that if we are involved in unregistered activities we can be punished by law=1.00]	.121	.257	.221	1	.638	-.383	.625

[Do you think that if we are involved in unregistered activities we can be punished by law =2.00]	-.080	.236	.115	1	.735	-.543	.383
[Do you think that if we are involved in unregistered activities we can be punished by law =3.00]	.186	.188	.975	1	.323	-.183	.555
[Do you think that if we are involved in unregistered activities we can be punished by law =4.00]	-.120	.205	.345	1	.557	-.522	.281
[Do you think that if we are involved in unregistered activities we can be punished by law =5.00]	0ᵃ	.	.	0	.	.	.
[Do you think the amount of tax paid is…?=1.00]	-.300	.313	.921	1	.337	-.913	.313
[Do you think the amount of tax paid is…?=2.00]	.086	.254	.114	1	.735	-.411	.583
[Do you think the amount of tax paid is…?=3.00]	-.045	.215	.043	1	.835	-.467	.378
[Do you think the amount of tax paid is…?=4.00]	.296	.244	1.472	1	.225	-.182	.774
[Do you think the amount of tax paid is…?=5.00]	0ᵃ	.	.	0	.	.	.
[Do you think people consider the social benefits aspect when avoiding taxes=1.00]	.210	.248	.716	1	.397	-.276	.695
[Do you think people consider the social benefits aspect when avoiding taxes =2.00]	.110	.254	.186	1	.667	-.389	.608

	B	S.E.	Wald	df	Sig.	Lower	Upper
[Do you think people consider the social benefits aspect when avoiding taxes =3.00]	.207	.235	.775	1	.379	-.254	.669
[Do you think people consider the social benefits aspect when avoiding taxes =4.00]	.358	.313	1.303	1	.254	-.257	.972
[Do you think people consider the social benefits aspect when avoiding taxes =5.00]	0ᵃ	.	.	0	.	.	.
[Do you think that the non-issuance of fiscal receipt by businesses affects tax revenues? =1.00]	.748	.508	2.162	1	.141	-.249	1.744
[Do you think that the non-issuance of fiscal receipt by businesses affects tax revenues? =2.00]	-.466	.330	1.994	1	.158	-1.112	.181
[Do you think that the non-issuance of fiscal receipt by businesses affects tax revenues? =3.00]	-.335	.207	2.623	1	.105	-.740	.070
[Do you think that the non-issuance of fiscal receipt by businesses affects tax revenues? =4.00]	.004	.185	.000	1	.983	-.358	.366
[Do you think that the non-issuance of fiscal receipt by businesses affects tax revenues? =5.00]	0ᵃ	.	.	0	.	.	.
[Do you think the informal economy has an impact on reducing tax morale=1.00]	-1.286	.422	9.299	1	.002	-2.113	-.459
[Do you think the informal economy has an impact on reducing tax morale =2.00]	.119	.312	.145	1	.703	-.493	.731

[Do you think the informal economy has an impact on reducing tax morale =3.00]	-.157	.197	.640	1	.424	-.543	.228
[Do you think the informal economy has an impact on reducing tax morale =4.00]	-.191	.195	.958	1	.328	-.573	.191
[Do you think the informal economy has an impact on reducing tax morale =5.00]	0ᵃ	.	.	0	.	.	.

Source: Authors calculation

Based on the table, the following factors have positive or negative effects on tax morale. Positive effects on tax morale have family size (6.00), with significance .0.80 (marginally significant, p< .1). Larger family sizes, specifically six members, seem to have marginally positive effect on tax morale. Whereas, financial condition (2.00), have negative effects on tax morale with significance .0.45 (marginally significant, p<.05). Individuals in financial condition category show significantly lower tax morale. In the other hand, family size (1.00) with significance .050 (marginally significant p<.05). Smaller family size, specifically one member is associated with significantly lower tax morale. Informal economy impact (1.00), with significance .002 (highly significant, p<.01). A strong belief that the informal economy reduces tax morale correlates with significantly lower tax morale. The results of analysis for the participation in undeclared work are in line with the previous researchers (Bejaković and Bezeredi 2019), who conclude that participation in undeclared work will be less likely to be reported and the probability of reporting tax morale is 13.2%. Tax morale is positively influenced by larger family sizes, whereas lower financial conditions, smaller family sizes, and the perception of a negative impact of the informal economy significantly decrease tax morale.

Other factors that has no significant effect in tax morale are: gender, age, residential locality, education, participation in undeclared work, purchase of goods and services in the informal market, perceptions of punishment for unregistered activities, opinions on the amount of tax paid, consideration of social benefits in tax avoidance, non-issuance of fiscal receipts by businesses. The finding of the paper that gender has statistically no significant relationship with tax morale is consistent with the results of the previous researchers (Ristovska et al., 2013 and Kondelaji et al., 2016). Also, the results of analysis is in line with authors (Windebank and Horodnic, 2017) which it turned out that the tax morale will be low if it will be applied higher penalties.

Table 4. Model fitting information

Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	762.313			
Final	708.251	54.062	40	.068

Source: Authors calculation

Model fitting information provides information: -2 log likelihood: 762.313, for final model we have -2 log likelihood: 708.251, chi-Square: 54.062, degrees of freedom (df): 40, significance (sig.): 0.068.
This indicates that the final model, which includes socio-demographic and socio-economic determinants, significantly improves the fit compared to the intercept-only model, but the p-value (Sig.) of 0.068 suggests that this improvement is not statistically significant at the conventional 0.05 levels.

Table 5. Goodness-of-fit

Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	883.674	857	.257
Deviance	708.251	857	1.000

Source: Authors calculation

Pearson Chi-Square: 883.674 with 857 degrees of freedom, showing a significance level of 0.257. This indicates that the model fits the data reasonably well but is not statistically significant.

Deviance: 708.251 with 857 degrees of freedom, showing a significance level of 1.000, indicating an excellent fit to the data. This statistical analysis implies that both socio-demographic and socio-economic factors have been evaluated in determining tax morale. The goodness-of-fit measures suggest the models used are fitting the observed data well, but the significance values indicate that further analysis might be needed to understand the specific contributions of these factors to tax morale comprehensively.

Table 6. Pseudo R-Square

Pseudo R-Square

Cox and Snell	.165
Nagelkerke	.179
McFadden	.071

Source: Authors calculation

According to the Cox and Snell, the value is 0.165, which suggests that about 16.5% of the variability in tax morale is explained by the socio-demographic and socio-economic determinants included in the model.

The results of Nagelkerke R-square with 0.179, meaning 17.9% of the variance in tax morale is explained by the model.
A value of 0.071 indicates that about 7.1% of the variability in the model explains tax morale.

The values provided suggest that the model has a modest explanatory power. In other words, socio-demographic and socio-economic determinants explain a small but significant portion of the variability in tax morale. It's important to consider that other factors not included in the model might also influence tax morale significantly.

4. Conclusions

The results show that within the framework of socio-economic and socio-demographic determinants, the larger family sizes, specifically with six members, there is marginally positive effect on tax morale. Financial condition (2.00) has negative effects on tax morale. In the other hand, smaller family size with one member is associated with lower tax morale. Perceptions of a negative impact on the informal economy significantly decrease tax morale. Other factors that has no significant effect in tax morale are: gender, age, residential locality, education, participation in undeclared work, purchase of goods and services in the informal market, perceptions of punishment for unregistered activities, opinions on the amount of tax paid, consideration of social benefits in tax avoidance, non-issuance of fiscal receipts by businesses. Based on analysis, socio-economic factors appear to have more influence on tax morale than socio-demographic factors.

There are several research limitations that should be mentioned. One of the limitations of the work is the inclusion of 300 respondents in the analysis, so increasing the sample would be recommended. Regarding the limits of the work is that we considered only two determinants such as socio-demographic and socio-economic for analysis and we exclude other determinants, which other researchers can further analyze. Also, more questions on the determinants of tax morale can be included in the paper this would increase the value of the paper. As another limitation of the paper is that we considered only one country for analysis, therefore other researchers can take into consideration other countries to analyze and then make a comparison regarding the

differences, and similarities for the level of tax morale. Since the topic of determining the tax morale of residents is quite sensitive and the answer given may not be very real for different reasons, it can be recommended to combine different methods for analysis for further studies.

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Appendix

Questionnaire

TAX MORALE AND ITS DETERMINANTS IN THE REPUBLIC OF KOSOVO

1.   **Gender:**

1. Male   2. Female

2.   **Age:**

1. 15-24   2. 25-34   3. 35-44   4. 45-54   5. 55-64   6. Over 65

3.   **Residential locality**

1. Urban 2. Rural

4.   **Level of education:**

1. Uneducated 2. Elementary school 3. Professional high school

4. High school 5. Bachelor 5. Master 6. PhD

5.   **Financial condition:**

1. Satisfied   2. Unsure   3. Dissatisfied

6.   **Marital status:**

1. Single 2. Married   3. Widow   4. Divorced

7.   **Number of family members (who live together economically) is:**

              1   2   3   4   5   6   7

8.   **Employment status:**

        1. Employee 2. Self-employed with employees 3. Self-employed without employees

        4. Unpaid family worker 5. Unemployed 6. Retired 7. Student

9.   **Have you worked and been paid but not declared in the last 12 months (eg worked without a contract)?**

1. Yes   2. No

10.   **Have you bought goods/services in the informal market in the last 12 months (eg you bought the product but did not receive a receipt)?**

1. Yes   2. No

11.   **Please tell me how acceptable are the categories:**

(Likert scale from 1 to 5, where 1- Not at all acceptable and 5 Completely acceptable):

Do you think law can punish us if we are involved in unregistered activities?

12. Please tell how acceptable categories are:

(Likert scale from 1 to 5, where it means 1- Strongly oppose and 5- Strongly favor):

Do you think the amount of tax you paid is...?

13. Please tell me how acceptable are the categories:

(Likert scale from 1 to 5, where 1- Never and 5- Always):

Do you think people consider the social benefits aspect when avoiding taxes?

14. Please tell me how much you agree with this category:

(Likert scale from 1 to 5, where it means 1- Strongly disagree and 5-Strongly agree)

Tax revenues should be used for the benefit of all citizens through investments in public services.

15. Please tell me how much you think the categories are influential:

(Likert scale from 1 to 5, where 1- Not at all influential and 5- Extremely influential)

Do you think the informal economy has an impact on reducing tax morale?

16. "Please tell me what is your opinion on the taxpayers of the Republic of Kosovo, do they avoid taxes"?

(Likert scale from 1 to 10, where 1 means 'Absolutely unacceptable' and 10 means 'Absolutely acceptable'):

Absolutely unacceptable - 1   2   3   4   5   6   7   8   9   10 - Absolutely acceptable

Table 1. The list of variables used in the analysis

The list of variables used in the analysis		
Variables	**Description**	**Values**
Dependent variable		
Tax morale	"Please tell me what is your opinion on the taxpayers of the Republic of Kosovo, do they avoid taxes"?	The 4-point scale has been recorded into a four- point scale: 1-4= 1=low tax morale (responses from 4 through 10); 2=mid low scale morale (response 3); 3=mid high tax morale (response 2); 4=high tax morale (response 1).
Explanatory variables:		
Gender		Male=1; Female= 2
Age		15-24 = 1; 25-34 = 2; 35-44 = 3; 45-54 = 4; 55-64 = 5; Over 65= 6
Residential locality		Urban= 1; Rural=2

Education	Level of education	Uneducated=1; Elementary school=2; Professional high school=3; High school=4; Bachelor=5; Master=6; PhD=7
Financial condition		Satisfied= 1; Unsure=2; Dissatisfied= 3
Marital status		Single= 1; Married=2; Widow=3; Divorced=4
Family size	Number of family members (who live together economically) is:	1 =1; 2 =2; 3 =3; 4 =4; 5 =5; 6 =6; 7 =7
Employment status		Employee=1; Self-employed with employees=2; Self-employed without employees=3; Unpaid family worker=4; Unemployed=5; Retired=6; Student=7
Participation in undeclared work	Have you worked and been paid but not declared in the last 12 months (eg worked without a contract)?	Yes= 1; No= 2
Purchase of goods and services in the informal market	Have you bought goods/services in the informal market in the last 12 months (eg you bought the product but did not receive a receipt)?	Yes= 1; No= 2

Expected sanctions/penalties	Please tell me how acceptable are each of the categories below: (Likert scale from 1 to 5, where 1-Not at all acceptable and 5-Completely acceptable): [Do you think that if we are involved in unregistered activities we can be punished by law?]	Strongly oppose= 1; Somewhat oppose= 2; Neutral= 3; Somewhat favor= 4; Strongly favor= 5
Type and amount of tax	Please tell how acceptable each of the categories is: (Likert scale from 1 to 5, where it means 1-Strongly opposes and 5-Strongly favor): Do you think the amount of tax you paid is...?	Strongly oppose =1; Somewhat oppose= 2; Neutral= 3; Somewhat favor= 4; Strongly favor = 5
Social benefits	Please tell me how acceptable are each of the categories below: (Likert scale from 1 to 5, where 1-Never and 5-Always): [Do you think people consider the social benefits aspect when avoiding taxes?]	Never= 1; Rarely= 2; Sometimes=3; Often= 4; Always=5
Tax revenue	Please tell me how much you agree with each of the categories below: (Likert scale from 1 to 5, where it means 1- Strongly disagree and 5-Strongly agree): [Tax revenues should be used for the benefit of all citizens through investments in public services.]	Strongly disagree=1; Disagree=2; Neither agree or disagree=3; Agree=4; Strongly agree=5

	Please tell me how much you think each of the categories below influences:(Likert scale from 1 to 5, where 1-Not at all influential and 5-Extremely influential): [Do you think the informal economy has an impact on reducing tax morale?]	Not at all influential= 1; Slightly influential= 2; Somewhat influential= 3; Very influential 4; Extremely influential=5	
Informal economy			

Source: Authors calculation

Table 2. Marginal percentage for ordered probit model for socio-demografic and socio-economic determinants

		N	Marginal Percentage
Tax morale	High tax morale	39	13.0%
	Mid high tax morale	119	39.7%
	Mid low tax morale	101	33.7%
	Low tax morale	41	13.7%
Gender	Male	148	49.3%
	Female	152	50.7%
Age	15-24	89	29.7%
	25-34	108	36.0%
	35-44	54	18.0%
	45-54	30	10.0%
	55-64	16	5.3%
	Over 65	3	1.0%
Residential Locality	Urban	246	82.0%
	Rural	54	18.0%
Education	High school	20	6.7%
	Bachelor	133	44.3%
	Master	94	31.3%
	PhD	53	17.7%
Financial condition	Satisfied	125	41.7%
	Unsure	158	52.7%
	Dissatisfied	17	5.7%
Family size	1.00	6	2.0%
	2.00	23	7.7%
	3.00	51	17.0%
	4.00	78	26.0%
	5.00	78	26.0%
	6.00	42	14.0%
	7.00	22	7.3%
Participation in undeclaredPo		31	10.3%

work	Jo	269	89.7%
Purchase of goods and services in the informal market	Po	191	63.7%
	Jo	109	36.3%
Do you think that if we are involved in unregistered activities we can be punished by law?	1.00	25	8.3%
	2.00	41	13.7%
	3.00	66	22.0%
	4.00	47	15.7%
	5.00	121	40.3%
Do you think the amount of tax you paid is…?	1.00	26	8.7%
	2.00	58	19.3%
	3.00	114	38.0%
	4.00	55	18.3%
	5.00	47	15.7%
Do you think people consider the social benefits aspect when avoiding taxes?	1.00	71	23.7%
	2.00	70	23.3%
	3.00	104	34.7%
	4.00	24	8.0%
	5.00	31	10.3%
Do you think that the non-issuance of fiscal receipt by businesses affects tax revenues?	1.00	9	3.0%
	2.00	16	5.3%
	3.00	59	19.7%
	4.00	72	24.0%
	5.00	144	48.0%
Do you think the informal economy has an impact on reducing tax morale?	1.00	13	4.3%
	2.00	23	7.7%
	3.00	95	31.7%
	4.00	76	25.3%
	5.00	93	31.0%
Valid		300	100.0%
Missing		0	
Total		300	

Source: Authors calculation

The table summarizes the results of an ordered probit model analyzing socio-demographic and socio-economic determinants related to tax morale. The data is collected from 300 valid responses, with no missing data. The percentages reflect the distribution of responses across various categories related to tax morale and associated socio-demographic and socio-economic factors.

Table 3. Weighted distribution sample of marital status

		Frequency	Percent	Cumulative Percent
Valid	Single	138	46.0	46.0
	Married	156	52.0	98.0
	Widow	4	1.3	99.3
	Divorced	2	.7	100.0
	Total	300	100.0	

Source: Authors calculation

This table shows the distribution of respondents based on their marital status. The majority of respondents are either single or married, comprising 46.0% and 52.0% of the total, respectively. A small percentage of respondents are widowed (1.3%) or divorced (0.7%). The cumulative percent column shows the cumulative total as each category is added, reaching 100% at the end.

Table 4. Weighted distribution sample of employment status

		Frequency	Percent	Cumulative Percent
Valid	Employee	195	65.0	65.0
	Self-employment with employees	23	7.7	72.7
	Self-employment without employees	16	5.3	78.0
	Unpaid family worker	3	1.0	79.0
	Unemployment	14	4.7	83.7
	Retired	2	.7	84.3
	Student	47	15.7	100.0
	Total	300	100.0	

Source: Authors calculation

This table shows the distribution of respondents based on their employment status. The majority of respondents are employees (65.0%).Self-employment (both with and without employees) accounts for a combined 13.0% (7.7% + 5.3%).Students make up 15.7% of the respondents.Unpaid family workers, unemployed individuals, and retirees constitute smaller percentages, with 1.0%, 4.7%, and 0.7% respectively.The cumulative percent column again shows the cumulative total as each category is added, reaching 100% at the end.