

THE ROLE OF SELECTED ECONOMIC AND NON-ECONOMIC FACTORS ON TAX EVASION: AN EMPIRICAL INSPECTION

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Abstract

Although tax evasion is accepted as a phenomenon, recent researches show that it can be defined and explained. It is possible to claim that the tax evasion behavior is determined by economic and non-economic factors. For this purpose, I investigated a survey on personal income taxpayers in Turkey. The results show that the main determinants of tax evasion are tax morale, tax equity, public expenditures, tax burden, tax penalties, tax rates and other taxpayers. According to results of ordered probit regression, there is a negative significant relationship between tax evasion and all items except other taxpayers.

Keywords: Tax evasion, tax compliance, tax morale, tax equity, public expenditures.

JEL: H26, H21, H41, K34

1 INTRODUCTION

On tax compliance literature, researches have been investigated by economic analysis that frame the taxpayer's decision to pay or not to pay tax as an individual's rational attempt to maximize profits (e.g., Allingham & Sandmo, 1972). However, recent researches claim that non-economic social factors also influence taxpayer's behavior; for example tax morale, perceived fairness, social and cultural norms (e.g., Alm, McClelland & Schulze, 1992; Alm, Sanchez & DeJuan, 1995; Cowell, 1992; Kirchler, 1999; Wenzel, 2002, 2004; Frey & Feld, 2002; Torgler, 2001, 2002, 2008).

Although economic factors are important in the understanding of tax evasion behavior, they alone do not appear adequate to describe and predict the phenomenon. A more complete model of tax evasion behavior should include some consideration of the role of social-psychological processes as determinants of the behavior (Kaplan et

al., 1986). In the present experiments, two different social psychological theories, attribution theory and equity theory, are applied to tax evasion behavior.

Equity theories propose that humans are more likely to comply with rules if they perceive the system which determines these rules to be equitable (Thibaut et al., 1974). To correct perceived inequities in exchange relationships, individuals often adjust their inputs to the exchange (Adams, 1965). If the income tax system is viewed as a system of exchange relationships, equity theory would predict that the taxpayer will be less likely to participate in tax evasion if the tax system is perceived as becoming more equitable. Consistent with this view, Spicer and Becker (1980) concluded that tax evasion is an attempt to restore equity in the system of trade conducted with the government.

Adding socio-demographic structure is fully in line with the traditional tax compliance model that only abstracts from such variables for analytical convenience in order to focus on the main economic arguments. Empirical analyses necessarily have to control for socio-demographic variables in order to be more realistic. However, the empirical evidence implies that the standard economic model augmented by socio-demographic control variables is not able to explain the extent of tax compliance in a satisfactory way (Frey & Feld, 2002).

The fairness of the procedures leading to particular political outcomes as well as the way the government and the taxpayers treat each other are part of the contractual relationship. A genuine reward is therefore obtained only if taxpayers as citizens have an inclusive, respectful relationship with the community (Feld & Frey, 2006).

From the perspective of a standard economic theory, a much more direct incentive for tax compliance than deterrence or rewards consists in the goods and services that the government provides to citizens in exchange for their tax payments (Smith and Stalans, 1991).

Elffers (2000) points out that “the gloomy picture of massive tax evasion is a phantom”. For making clear this phantom, economists have given much more attention on this topic in recent years. One aspect of this phantom is perception of tax equity; the other one is perception of public expenditures.

We focus to determine the relationship between tax evasion and perception of tax equity and relationship between tax evasion and perception of public expenditures. In seeking empirical insights to this, we work with the primary data from a survey conducted in Turkey. It is not the intention of this paper to explain Turkish taxpayers’ point of views. We use this data set that help to explore the same questions, namely whether perception of tax equity and public expenditures affects tax evasion. The results in this dataset indicate that perception of tax equity and public expenditures have a negative effect on tax evasion decision. This means, both tax equity and perception of public expenditures have a positive effect on tax compliance.

2 TAX EQUITY

Social psychology research suggests that a lack of equity in an exchange relationship creates a sense of distress, especially for the victim (see Walster, Walster and Berscheid, 1978). Many researchers have stressed the importance of equity considerations (see Tyler and Smith 1998, Bordignon 1993, Alm, McClelland and Schulze, 1992; Falkinger, 1995; Kim, 2002; Torgler 2001, 2002). Classical economic models assume that individuals reporting decisions depend exclusively on how their reports affect their wealth. However, previous research suggests that preferences for non-pecuniary factors such as honesty or equity can also play an important role in reporting decisions (e.g., Young, 1985; Evans et al, 2001; Luft, 1997).

A tax system must be fair in the view of the taxpayers. If a taxpayer feels an unfair contract which is between taxpayers and government, probably be less likely to comply. Taxpayers are more inclined to comply to the law if the exchange between the paid tax and the performed government services are found to be equitable. A number of survey research studies have reported a positive correlation between perceptions of fiscal inequity and tax evasion (Spicer, 1974; Song and Yarbrough, 1978). Torgler et al. (2008) find that fairness has a significant positive effect on tax compliance and tax morale.

There are two variety of equity in tax literature. One of them is horizontal equity, the other one is vertical equity (see Salanié, 2003). Lambert and Yitzhaki (1995) point out that “horizontal equity and vertical equity are two of the basic commands of social justice, and can be seen as hierarchical: the information content of the vertical equity command is sufficient also to implement horizontal equity. In the case of the income tax, the distinction between the horizontal equity and vertical equity commands, and the no reranking criterion which has coexisted in the income tax literature with these for the last 15 years, is drawn.” Horizontal and vertical equity are taken into account as fairness in the tax context. In this paper, fairness is limited to taxpayers’ perception of tax equity which the government imposes.

We conducted our survey with active personal income taxpayers. The income tax is the unique tax instrument through which the government approaches its citizens directly, and is therefore subject to criteria of equity (Musgrave, 1976; Manser, 1979). However, tax literature discloses these equities with an economic overview which takes into consideration to the objective tax burden (see Morgan, 1994; Kim, 2002). Scholz and Pinney (1995) point out that perceptions or subjective evaluations exert a stronger influence in determining tax compliance more than objective measurable factors. Tax equity we consider in this paper is subjective equity what taxpayers feel about taxes which they paid.

3 PERCEPTION OF PUBLIC EXPENDITURES

Why governments collect taxes? For taxpayers, it is very important to know where or how the taxes are spent. Frey & Feld (2002) argue that tax compliance is driven by a psychological tax contract between citizens and tax authorities. However, this psychological tax contract strongly depends on reciprocity. Alm, Jackson & McKee (1992) point out that taxpayer compliance increases with greater audit and penalty rates; however, these are not large. Compliance is also greater when people face an acceptable tax rate and when they receive something for taxes which they paid. Kim, Evans & Moser (2005) point out that the level of government services is varied to manipulate taxpayers perceived exchange equity with the government. Also, several previous experimental studies have examined the effect of providing public goods on tax reporting decisions (e.g., Alm, Jackson & McKee, 1992; Alm, McClelland, & Schulze, 1992; Becker, Buchner, & Sleeking, 1987; Kim, 2002). Results show that taxpayers who receive public spending mostly perceive taxes more equitable than taxpayers who receive no public spending.

Vihanto (2003) points out that if the government squanders most of the tax revenue, tax evasion may be a symptom of a legitimate discontent of the taxpayers. Public expenditures are very important instruments for redistributing process. Taxpayers perceive taxes in an equitable manner if they perceive public spending necessary, according to reciprocity principle. We use the question “Public revenues are spent extravagantly in Turkey” to measure the perception of public expenditures by taxpayers. So, we focus to notify the relationship between tax evasion attitude and perception of public spending.

4 DATA SET

Our survey focuses on the Aegean Region of Turkey and was conducted between August 2007 and January 2008. There are eight cities in the region that can be classified in three economic and geographic groups, namely 1) Izmir (The largest and most developed city of the Region), 2) Manisa, Aydin, Denizli, Mugla, and 3) Afyon, Kutahya, Usak. Using a random process we have limited the survey to the following cities: Izmir, Manisa, Aydin, Denizli, Afyon and Usak. Table 1 indicates that our sample is comparable to the distribution of personal income taxpayers in this region. We used the cluster sampling method based on the number of businesses and demographic characteristics and the interview was conducted in a face-to-face manner.

Table 1 Sample Structure

City	Number of Income Tax Taxpayers	N Sample	%
Izmir	120 303 (46.7%)	310	48.4
Afyon	12 608 (4.9%)	46	7.2
Usak	7 729 (3.0%)	50	7.8
Aydin	24 048 (9.3%)	92	14.4
Manisa	29 197 (11.3%)	77	12.0
Denizli	22 547 (8.8%)	65	10.2

We use the question “I never evade taxes” (1=strongly disagree, 5=strongly agree) to measure tax evasion.

We use the question “The tax authority imposes tax in an equitable manner” (1=strongly disagree, 5=strongly agree) to measure perception of tax equity.

To measure perception of public expenditure we use the question “Public revenues are spent extravagantly in Turkey” (1=strongly agree, 5=strongly disagree).

We have built a tax morale index based on eight tax morale proxies explored previously (All questions and frequencies are in the appendix). The Cronbach’s α for the items is 0.67, giving the possibility to put them as one index (average of the items).

We have also built a subjective tax burden variable by computing the questions “I feel I am heavily taxed” (1=strongly agree, 5=strongly disagree) and “Tax is a forcing burden for me” (1=strongly agree, 5=strongly disagree).

To measure perception of tax penalties we use the question “Tax evaders must be punished more heavily” (1=strongly disagree, 5=strongly agree).

We use the question “Tax rates are too high in Turkey” (1=strongly disagree, 5=strongly agree) to measure perception of tax rate.

Taxpayer might be affected by the reference groups. We use the question “Tax evaders encourage others to evade tax, as well” (1=strongly disagree, 5=strongly agree) to measure perception of other taxpayers and we use the question “Accountants have a negative effect on tax compliance” (1=strongly disagree, 5=strongly agree) to measure perception of tax preparers.

5 ESTIMATION RESULTS

A basic model is estimated with mostly demographic variables. We estimate ordered probit equation to analyze the effects of variables on dependent variable tax evasion attitude. Then, additional variables are integrated into the analysis.

Table 2 and 3 present the results of ordered probit regression analysis, indicating that the previous findings are quite robust. All coefficients of variables which we use to explain the dependent variable are statistically significant (within 0.01 and 0.1). The marginal effect indicates the change in the share of taxpayers (or the probability)

belonging to a specific tax evasion level, when the independent variable increases by one unit.

Coefficients of tax equity and perception of public expenditure are significant with negative sign. Thus, perception of tax equity and perception of public expenditure have a positive impact on tax compliance, controlling for demographic factors: employment, marital status and income. In line with the previous results we observe that women are more compliant than men and married individuals have a lower level of compliance than singles. However, we observe neither a statistically significant effect of education nor a negative correlation between age and tax evasion. On the other hand, we observe a strong effect of tax morale on tax evasion. In all equations, coefficients of tax morale index are highly significant.

We use ordered probit equations by adding the other variables which can affect tax evasion. We observe that tax burden, tax penalty, tax rate, other taxpayers and tax preparers have significant impact on tax evasion decision. Coefficients of all variables are significant with a negative sign, except other taxpayers.

Tax burden is an important factor on tax evasion decision. As Scholz and Pinney (1995) stress, we also think that perceptions of subjective tax burden has a stronger impact in determining tax compliance more than objective tax burden. Tax burden we consider in this paper is subjective tax burden what taxpayers feel about taxes which they paid. We find that if taxpayers perceive a high level of tax burden, their tax compliance level decreases.

Tax penalty is a very important factor on tax evasion decision. In the Allingham-Sandmo approach, tax penalties are accepted as most important deterrence factor for the taxpayer decision about tax evasion. For this purpose, we added the perception of tax penalties to the equation model. The results are show that tax penalties have a strongly impact on tax evasion decision. When the perception of tax penalties are increases, tax evasion decreases.

By adding other factors, we composed Table 3. As it is seen from the both tables, R-square is increasing step by step and probability (Chi-square) is highly significant in all equations. Table 3 especially shows that there is a negative significant relationship between tax evasion (tax compliance) and tax rates. This means, if tax rates increase, tax compliance level decreases.

Table 2 Determinants of Tax Evasion-1

<i>Ordered probit</i>	<i>1</i>			<i>2</i>		
<i>Variables</i>	<i>Coeff.</i>	<i>z-Stat.</i>	<i>Marg.</i>	<i>Coeff.</i>	<i>z-Stat.</i>	<i>Marg.</i>
AGE 30-49	0.161	1.41	0.056	0.186	1.58	0.065
AGE 50-64	-0.001	-0.01	0.000	0.028	0.17	0.009
AGE 65+	0.469**	2.29	0.144	0.492**	2.35	0.150
FEMALE	-0.488***	-4.68	- 0.179	-0.484***	-4.69	- 0.178
EDUCATION	0.055	1.45	0.019	0.064*	1.69	0.023
SELF EMPLOYED	0.108	0.94	0.037	0.077	0.67	0.027

MARRIED	0.261**	2.39	0.093	0.249**	2.26	0.089
INCOME	-0.016	-0.32	- 0.005	-0.006	-0.11	- 0.002
TAX EQUITY	-0.091***	-2.64	- 0.032	-0.088**	-2.55	-0.031
TAX MORALE	-0.239***	-4.27	-0.057	-0.236***	-4.16	-0.056
PUBLIC EXPENDITURES				-0.160***	-2.61	-0.056
TAX BURDEN						
TAX PENALTY						
Observations	640			639		
Prob(Chi-Square)	.0000			.0000		
R Square	0.1824			0.1863		
<i>Ordered probit</i>	<i>3</i>			<i>4</i>		
<i>Variables</i>	<i>Coeff.</i>	<i>z-Stat.</i>	<i>Marg.</i>	<i>Coeff.</i>	<i>z-Stat.</i>	<i>Marg.</i>
AGE 30-49	0.177	1.49	0.061	0.148	1.23	0.052
AGE 50-64	-0.007	-0.04	- 0.002	-0.025	-0.15	- 0.009
AGE 65+	0.475**	2.25	0.146	0.382*	1.90	0.120
FEMALE	-0.483***	-4.66	- 0.178	-0.520***	-4.91	- 0.191
EDUCATION	0.063*	1.66	0.022	0.059	1.59	0.021
SELF EMPLOYED	0.062	0.54	0.022	0.065	0.58	0.023
MARRIED	0.234**	2.11	0.084	0.261**	2.34	0.093
INCOME	0.005	0.09	0.002	-0.002	-0.04	- 0.001
TAX EQUITY	-0.094***	-2.70	-0.033	-0.087**	-2.49	- 0.031
TAX MORALE	-0.279***	-4.18	- 0.051	-0.198***	-4.86	-0.064
PUBLIC EXPENDITURES	-0.166***	-2.76	-0.059	-0.155**	-2.51	-0.054
TAX BURDEN	-0.108**	-2.58	-0.038	-0.101**	-2.40	-0.035
TAX PENALTY				-0.160***	-3.62	-0.056
Observations	640			640		
Prob(Chi-Square)	.0000			.0000		
R Square	0.1904			0.1995		

Notes: Dependent variable: TAX EVASION on a four point scale. In the reference groups are MALE, EMPLOYEE, NOT MARRIED,
 Significance levels: * 0.05 < p < 0.10, ** 0.01 < p < 0.05, *** p < 0.01, *Marg.:* Marginal effect

Table 3 Determinants of Tax Evasion-2

<i>Ordered probit</i>	5			6		
<i>Variables</i>	<i>Coeff.</i>	<i>z-Stat.</i>	<i>Marg.</i>	<i>Coeff.</i>	<i>z-Stat.</i>	<i>Marg.</i>
AGE 30-49	0.153	1.28	0.054	0.138	1.15	0.048
AGE 50-64	-0.010	-0.06	- 0.004	-0.029	-0.18	- 0.010
AGE 65+	0.317	1.57	0.102	0.322	0.49	0.102
FEMALE	-0.535***	-5.06	- 0.197	-0.511***	-4.77	- 0.187
EDUCATION	0.062*	1.65	0.022	0.068*	0.80	0.024
SELF EMPLOYED	0.067	0.59	0.023	0.026	0.23	0.009
MARRIED	0.254**	2.27	0.091	0.258**	0.29	0.091
INCOME	0.001	0.01	0.000	0.003	0.06	0.001
TAX EQUITY	-0.092***	-2.62	- 0.032	-0.084**	-2.40	- 0.029
TAX MORALE	-0.231***	-4.88	- 0.053	-0.296***	-4.53	- 0.055
PUBLIC EXPENDITURES	-0.148**	-2.45	-0.052	-0.171***	-2.89	-0.059
TAX BURDEN	-0.072*	-1.66	-0.025	-0.078*	-1.81	-0.027
TAX PENALTY	-0.152**	-3.38	-0.053	-0.171***	-3.82	-0.059
TAX RATE	-0.136**	-2.84	-0.048	-0.130***	-2.69	-0.045
OTHER TAXPAYERS				0.154***	3.54	0.053
TAX PREPARERS						
Observations	640			639		
Prob(Chi-Square)	.0000			.0000		
R Square	0.2041			0.2114		
<i>Ordered probit</i>	7					
<i>Variables</i>	<i>Coeff.</i>	<i>z-Stat.</i>	<i>Marg.</i>			
AGE 30-49	0.141	1.17	0.049			
AGE 50-64	-0.022	-0.13	- 0.008			
AGE 65+	0.306	1.40	0.097			
FEMALE	-0.514***	-4.79	- 0.187			
EDUCATION	0.065*	1.71	0.022			
SELF EMPLOYED	0.027	0.24	0.009			
MARRIED	0.254**	2.26	0.089			
INCOME	-0.003	-0.07	- 0.001			
TAX EQUITY	-0.085**	-2.43	- 0.030			
TAX MORALE	-0.313***	-4.02	-0.056			
PUBLIC EXPENDITURES	-0.173***	-2.91	-0.060			

TAX BURDEN	-0.078**	-1.80	-0.027			
TAX PENALTY	-0.162***	-3.64	-0.056			
TAX RATE	-0.121**	-2.42	-0.042			
OTHER TAXPAYERS	0.164***	3.71	0.057			
TAX PREPARERS	-0.089*	-1.94	-0.031			
Observations	640					
Prob(Chi-Square)	.0000					
R Square	0.2139					

Notes: Dependent variable: TAX EVASION on a four point scale. In the reference groups are MALE, EMPLOYEE, NOT MARRIED, Significance levels: * $0.05 < p < 0.10$, ** $0.01 < p < 0.05$, *** $p < 0.01$, *Marg.:* Marginal effect

6 CONCLUSIONS

The first intention of this paper was to introduce the determinants of tax evasion behavior. Most important question in the tax compliance literature is how many people pay their taxes even though penalties and audits are not very high. The purpose of this paper was to clarify the reasons of this kind of behavior. For this purpose, we made a survey and asked some questions to personal income taxpayers. The questionnaire is carried out as a face to face manner by professional interviewers in six different cities of Turkey. We developed a basic ordered probit regression model with some demographic variables. Then, we added the other variables to the model step by step. We found some economic and non-economic factors which effect the tax evasion decision.

According to results, the main determinants of tax evasion or tax compliance of taxpayers are tax equity, tax morale, public expenditures, tax burden, tax penalties, tax rates and other taxpayers. Of course some different economic or non-economic factors can be effective on tax evasion decision. In this paper, we found some of these determinants which are interesting. For example, public expenditures are very important for a taxpayer to evade or not to evade as an economic factor. Similarly, perception of other taxpayers is very important for a taxpayer. If a taxpayer perceives other taxpayer as a tax evader, his tax compliance level can decrease. If he perceives other taxpayer in a high tax morale level, he can decide not to evade tax. Also, perceived tax equity has a very important impact on tax evasion decision. If the government is perceived as equitable manner, tax compliance level of society will increase. In other words, if a government wants to decrease tax evasion, it has to do taxation equitable manner.

The results also show that if a government wants to decrease tax evasion, it has to decrease tax rates and tax burden. Similarly, for increasing the tax morale of the

society, government has to use the public goods appropriately. If taxpayers think that the public goods are expanding extravagantly, he doesn't want to pay taxes voluntarily. Tax morale seems to be a key determinant for reducing the tax evasion. But, to generalize to findings, it is necessary to make more empirical studies to better understand tax evasion behavior and taxpayer compliance.

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Appendix

Descriptive Statistics (Frequencies)

	AGE	GENDER	MARITAL STATUS	EDU.	OCCUP.	INCOME	TAX EVASION	TAX EQUITY
Mean	1,8563	1,7391	1,4016	3,2297	3,4844	1,7203	3,8281	2,3094
St. Dev	,78401	,43949	,55917	1,27774	,87911	,88540	1,15001	1,36508
Min	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
Max	4,00	2,00	3,00	6,00	5,00	5,00	5,00	5,00

	TAX MORALE	PUBLIC EXPEND.	TAX RATE	TAX PENALTY	TAX PREPARERS	OTHER TAX PAYERS	TAX BURDEN
Mean	3,4570	4,6156	4,1656	3,9156	3,1250	3,8594	2,2602
St. Dev	,69116	,73526	1,01046	1,21122	1,15063	1,15018	,93525
Min	1,00	1,00	1,00	1,00	1,00	1,00	1,00
Max	5,00	5,00	5,00	5,00	5,00	5,00	5,00

Tax Morale Index

1. Tax evading must be regarded as immoral behavior. (1=strongly disagree, 5=strongly agree) **TM1**
2. I can't continue my occupation if I pay all the taxes imposed on me by the tax authority. (1=strongly agree, 5=strongly disagree) **TM2**
3. I pay taxes voluntarily and without public coercion. (1=strongly disagree, 5=strongly agree) **TM3**
4. Tax evaders should be condemned by society. (1=strongly disagree, 5=strongly agree) **TM4**
5. If my family discovered that I evade taxes, then I would be ashamed. (1=strongly disagree, 5=strongly agree) **TM5**
6. Slight tax evasion can be tolerated. (1=strongly agree, 5=strongly disagree) **TM6**
7. I pay less tax if I know I will not be penalized. (1=strongly agree, 5=strongly disagree) **TM7**
8. We can not blame taxpayers who evade tax. (1=strongly agree, 5=strongly disagree) **TM8**