PAYING TAXES IN EURO AREA COUNTRIES: ISSUES BEHIND TAX MORALE

Virgilijus RUTKAUSKAS
Institute of Social Welfare, Lithuanian Social Research Center
E-mail: virgis.lstc@gmail.com

Abstract. This article investigates theoretical and practical aspects of tax morale in euro area countries. The attitude of households on tax payment – whether to pay taxes or not – is assessed quantitatively by employing dichotomous logit-probit regression analysis. Research is based on household level data received from World Values Survey and European Values Study. The results suggest that the main issues behind weak tax morale are corruption, disrespect to the country. Additionally, tax morale is significantly affected by factors like age, gender, religiousness, income and education. Article concludes on possible policy options in order to increase tax morale.

Keywords: tax morale, public goods, logit-probit analysis.

JEL classification: H26, H31.

Introduction

Payment of taxes is an agreement among tax payers and the state. Tax payers commit to pay taxes and the state provides public goods and security that otherwise would not be available in market economy. However, universal aversion to tax theory contradicts previous statement in a way that every rational economic agent will tend to increase its wellbeing by reducing tax payments and seeking public benefits. Practical outcomes support this statement: for instance, 90 % of public income is raised from tax contributions, but at the same time uncollected taxes constitute nearly one fifth. Therefore, attention to the practical and theoretical examination of factors that have the most pronounced influence to tax payment is growing.

Classical economic theory looks at the tax payer as a simple decision maker. The background for decision whether to pay taxes or not is based on cost-benefit analysis. Usually two main indicators – tax base and tax ratio – are unable fully and comprehensively explain changes in tax payments suggesting existence of other explanatory variables. This is the reason behind growing attention to the alternative factors, which could disclose factors under unwillingness to pay taxes more accurate. The main drawback of such research approaches is lack of suitable data sources. Usually assessments in field of tax evasion are based on data provided by surveys, experiments, or laboratory outcomes.

The aim of this paper is to disclose factors affecting unwillingness of tax payment in separate countries of euro area. The analysis is based on the data provided by World Values Survey and European Values Study. Data received from these surveys are quantitatively assessed by employing dichotomous logit-probit regression models. Most significant factors behind

unwillingness to pay taxes are revealed and described for every country in euro area separately. Results of this paper are beneficial for practitioners, because public authorities could direct their efforts more precisely in order to increase tax compliance. Moreover, results of this paper enrich academia's views on alternative factors under tax payers' decisions, that can be guidance for further researches. In the end of the paper a suggestion on policy measures that could be helpful to increase tax compliance is provided.

Without introduction and conclusions this paper constitutes of three main sections. The first section reveals importance of taxes in contemporary economy and magnitude of tax evasion. Second section deals with main factors under tax morale, which are discovered in existing literature. In third section of this paper a quantitative assessment of tax morale in euro area countries has been revealed and results are presented. Some ideas that are provided in this paper to some extent have been published by the author (Rutkauskas V., Ivaškaitė-Tamošiūnė, V. 2015: Vengimas mokėti mokesčius ir jo vertinimas Baltijos šalyse), however this article presents much broader and deeper assessment of tax morale questions.

Economic meaning of taxation

Taxes are affecting economy and behavior of tax payers in different ways. As Levine-Schayowitz (2005) presents, when governments raise taxes, people alter their behaviors and make decisions they would not make otherwise. This suggests that when the behavior of private citizens is affected by a tax, the allocation of resources changes as well. Because taxes raise the prices buyers pay, providing incentives to consume less, and lower the prices sellers receive, providing incentives to produce less, the size of the market shrinks below its optimum level in the sense that revenues raised by government taxation may be less than the distorting market outcomes. Therefore, to better understand the impact of taxation on behavior it is necessarily to take into account how taxes influence the prices consumers pay, the quantities consumers demand, and the resulting tax revenues raised. Changes in tax policies also affect decisions to participate in the labor market, choice of occupation, tax avoidance schemes, and degree of tax evasion activities through participation in the formal or informal sector of the economy.

Taxes constitute main part of public sector income in modern economies. Usually changes in tax collection determine whether the government is running budget surplus or deficit. In case public sector has more income and savings rather than expenditures, public spending towards consumption and investment increases without building up debt. This makes positive contribution to general economy because public spending increases *ceteris paribus* aggregate demand. In case public expenditure remains higher for longer period the widening gap between income and expenditure need to be covered by borrowed funds or decrease in reserves (in case particular country has reserves). Both outcomes are generally unwelcome, because growth of debt means increase in debt burden for future generations and usually it is leading indicator for future tax increases as is proposed by Ricardo – De Viti – Barro equivalence theorem. Thus economic agents' decisions whether to pay taxes or not have ultimately direct impact to them as tax

payment is directly interlinked with provision of public goods and services and the indebtedness of public sector.

In many countries differences among theoretically calculated and collected tax income are noticeable. The newest possible researches suggest that in years 2012 and 2013 gap between theoretically calculated and collected tax income constituted 6,8 % (HMRC 2014). Similar figure for EU in 2009 constituted 22,1 %. For every year uncollected taxes in the region reach approximately EUR 1 billion. According to Murphy (2012) the main reason behind this is significantly large shadow economy. Moreover, reversal calculations show that public sector debt could be repaid in 9 years (based on data for 2009) if all taxes would be paid as they were supposed to. Assessment of the gap between theoretically calculated and practically collected value added tax in EU suggests, that in 2011 the gap constituted 18 % or 1,5 % of GDP. The greatest measure was in Romania, Latvia, Greece, and Lithuania (CPB 2013). Thereby shadow economy and corruption in these countries are suggested to be among the highest in EU (see Schneider 2013 and EC 2014). Unwillingness to pay taxes negatively affect economies, households' welfare and prevent decrease of social exclusion, because insufficient gathering of public income in terms of taxes results in inability to provide sufficient public goods and security.

The factors affecting public sector's income gathering and budget balancing are important to securing fulfillment of contract among public and private sectors. Thus tax base, tax rates and taxation systems in general are and will be under high interest in searching for the most efficient taxation model or policy that enables the state to maximize public income. Classical taxation model suggests looking at the tax payer as a decision maker with an aim to maximize benefit. Thus before paying taxes economic agent performs cost and benefit analysis and looks for two possible options. One of them is not to pay taxes and in case of audit by tax authority to pay fine, second – to pay taxes. However, number of unanswered questions remains. For instance, why economic agents tend to pay taxes and why not; what are the main factors behind their decisions; how these factors could be influenced; what role could be played by the government. Based on this, the increasing number of researchers is looking for ways to explain the so called "soft factors" – other than tax base and rate – behind tax payers' behavior.

Factors behind tax collection

In contemporary economic theory payment of taxes is bilateral agreement between economic agent and the state, because later one is grounded on that way of funding. Economic agents agree to pay taxes to the state, for public goods and security in return. At the same time economic agents are rational seekers for benefit compared to cost and will try to avoid or minimize tax payment and simultaneously will seek public goods and security. Samuelson (1954) argued that the private provision of public goods will be inefficiently low, because each individual will have an incentive to "free ride" on the private purchases of others. The theory of general reluctance to pay taxes also brings arguments that are contrary to the concept of conscious taxpayers' agreement with the state. Fiscal illusion theory adds that rational economic agent realizes the

need to have balanced public finance (the expenditures on public goods and security should not exceed income of the state in long run). Notwithstanding this, rational economic agent tends to seek financial benefits from the state and not pay for public goods and services via taxes. Thus this behavior is assessed as irrational.

Public sector uses legal powers to force economic agents distribute part of their income via taxes. There are three possible ways to deal with taxation: 1) agree to pay taxes; 2) evade taxes; 3) avoid taxes. Agreement to pay taxes is not under aim of this research, thus will not be assessed further in this article. Tax evasion and tax avoidance have at once similar and different meanings that must be clarified. According to Organization for Economic Cooperation and Development tax evasion is linked to illegal agreements among parties in order to conceal on taxes or elude for fulfilment tax liabilities. Meanwhile tax avoidance is linked to searching for legal abilities enabling to diminish tax payments (OECD 2015). For the purpose of this article differences between tax evasion and tax avoidance are not that important, because the result of general unwillingness to pay taxes is under concern and not the type of it (evasion or avoidance). By taking this into account in scope of this article tax evasion and tax avoidance have been taken as synonyms.

The most famous income tax avoidance model was presented in 1972 by M. Allingham and A. Sandmo. Their research was based on G. S. Becker "Crime and Punishment: An Economic Approach". In this paper G. S. Becker proposes to look at the tax payment as an optimal portfolio formation exercise, where the tax payer rather chooses to take risky position and not to pay taxes, but faces probability to be audited by tax authority. Or tax payer can choose safe portfolio and pay taxes as it is stated in the law. S. Yitzhaki (1974) complemented the model with fine in case the fact of tax evasion is detected. Such approach allows investigating sensitivity of tax payer behavior to factors like probability to be audited, fines, tax rate, etc. However, this model receives some critique, which is acknowledged by authors. The weakest point here is an assumption, that tax payer receives benefit only by avoiding paying taxes, because classical model does not take into account the economic goods and services that are provided by the state. Thus the only rational outcome in this case would be to avoid paying taxes and free-ride as it is suggested by Samuelson (1954). This drawback is well perceived by the authors, however because of simplicity it is commonly used to explain unwillingness to pay taxes.

Thus why are people paying taxes? This question has been raised by J. Alm et al. (1992) and results of their experiment suggest that compliance occurs, because some individuals overweight the low probability of audit, although such overweighting is not universal. The compliance does not occur simply because individuals believe that evasion is wrong since subject behavior is unchanged by the use of either neutral or loaded terms. Moreover, there is evidence that individuals pay taxes because they value the public goods that their taxes finance. An increase in the amount that individuals receive from a given tax payment increases their compliance rate. At this stage it should be noted that individuals exhibit a remarkable diversity in behavior. They sometimes appear to overweight low probabilities, they sometimes appear to be risk-seeking, they are on occasion cooperative, and at other times they are free-riders.

Recent research results in tax payment field recognize that models like M. Allingham and A. Sandmo lack explanatory power in some occasions. It is suggested that behavioral economics theory could add to the classical model more realistic factors like psychological comfort, prestige of paying taxes and others. Daude et al. (2012) explain that tax morale is based on aspiration to be honest with the state and other tax payers and trust of government. Contrary, dishonesty and distrust towards government is directly linked to tax evasion. For instance, poor quality of public goods could be perceived by tax payer as dishonest behavior by the authorities and thus result in unwillingness to buy public goods by avoiding tax payment. Factors behind willingness to pay taxes have been investigated differently by several authors (Slemro, Yitzhaki 2002; Slemrod, Weber 2012). T. O. Weber et al (2014) claims that main challenge investigating tax morale is criminal background of such activity. Models and field experiments confirm positive relation among quality of public goods and willingness to pay taxes. Also correlation is found among tax payment and social norms like belonging to social group, country, patriotism, justice. Field experiments confirm that relations between tax payers and tax collectors as robbers and police do not encourage paying taxes, thus should be avoided.

Quantitative assessment of tax payment

Among number of the issues that are challenging assessment of tax avoidance is criminal background of such activity. As a result, a scarcity of data is common for researches in the field of tax morale. One of commonly used sources is World Values Survey (WVS) and European Values Study (EVS) data. These globally performed regular surveys investigate respondents' opinion in different fields like living conditions, family, religion, society, policy, economy, etc. Martinez-Vazquez and Torgler (2005), Alm and Torgler (2006), Torgler and Schneider (2006), Lago- Peñas and Lago- Peñas (2010) have used WVS and EVS data for investigating tendencies among willingness to pay taxes and other indicators. WVS and WVS are based on the common methodology, thus data are comparable among time and countries.

As a dependent variable for analysis the individual answers to question "Cheating on taxes if you have a chance" are taken with possible answers varying from 1 ("never)" to 10 ("always"). Taking into account that answers data are categorical variables according to Gujarati (2014) simple linear regression is not suitable and instead logit-probit regression model should be used. Moreover, such approach is supported by number of researchers in tax morale field. The summary of previously made researches in tax morale field (see Lago-Peñas and Lago-Peñas (2010)) shows that main independent variables are age, gender, religiousness, employment, marital status, trust in public institutions, democracy.

For the researchers in tax morale field it is common to use dichotomous (binary) instead of multinomial logit-probit regressions. According to Torgler and Schneider (2006) the main reason behind this is lack of depended categorical indicators to perform reliable analysis. In order to explain main factors behind tax payers' behavior for every combination of variables at least 20 % of opposite indicators should appear (the same rule is applied in other types of logit-probit

regressions; Gujarati (2014)). Otherwise the explanatory power of model decreases sharply. However, some categories are lacking data to ensure this 20 % rule, thus it is common to use dichotomous instead of multinomial logit-probit regressions. On the one hand this ensures explanatory power of the model, on the other hand data received from WVS and EVS are based on surveys, thus on the opinions of the respondents and not on the factual data. This is especially important for tax morale researches as the object contains criminal activity.

Moreover, independent variables of the model are assessed by odds ratio. Odds ratio is specific ratio for logit-probit models and shows how dependent variable (in this case cheating on taxes if you have a chance) could change in case one of independent variables will increase by 1 and all others will remain unchanged. Odds ratio is defined as the ratio of the probability of success P(Y=1) and failure P(Y=0) or P(Y=1)/P(Y=0). This ratio is assumed as the main one in assessing importance of independent variables to assess dependent one. The value of odds ratio could vary from close to 0 (in case probability of failure is approaching to 100) and to infinity (in case probability of success is approaching to 100). By analyzing dependent variable, it is important to observe whether the value of independent variable odds ratio is bellow or above 1. In case odds ratio is 1, the probabilities of success and failure are equal to 0.5. Growth of value of independent variable by 1 with odds ratio below 1 means that dependent variable has higher probability to success (P(Y=1)) than to failure (P(Y=0)). Contrary, growth of value of independent variable by 1 with odds ratio above 1 means that dependent variable has lower probability to success (P(Y=1)) than to failure (P(Y=0)).

Research of tax morale factors in euro area countries is based on WVS and EVS data. 86 surveys on individual households for all 19 euro area countries were made starting from 1981 till 2013. The most covered country with 8 surveys during above mentioned period is Spain and the least – Greece and Luxembourg. Data received for every single country have been assessed separately by applying dichotomous logit-probit regression analysis. 10 independent variables (based on results from earlier researches; see Lago-Peñas and Lago-Peñas (2010)) and one dependent variable have been taken to investigate importance of different factors to tax morale for every single euro area country and 3-6 are selected as significant. The significance of independent variables is based primarily on the measure of p-value. The suitability of whole model is assessed not by coefficient of determination as it is common for liner regressions, but by the share of classified cases. The case is assessed as classified, when the results received by the model are the same as actually collected during the survey. As Gujarati (2014) suggests that more than 50 % of classified cases by the model, allows to assess the model as suitable. Below the results of logit-probit regression analysis for each country are presented in alphabetical order.

The surveys in *Austria* have been conducted in 1990, 1999 and 2008. The main factors behind tax evasion as suggested by dichotomous logit-probit regression analysis are perception of corruption, national proud, religion and marital status. All these factors are statistically significant (only exception is for national proud factor in 2008, where p-value reached 0.12) and ensures 69-72 % of positive cases by the models. Based on odds ratio the most significant factor behind tax evasion is perception of corruption – the more person will tend to accept bribe, the more one will try to evade paying taxes. The case of Austria suggests that citizens who feel less national proud

will tend to evade taxes more, as it is the case with religiousness as well. Moreover, not married or single persons have greater probability to avoid taxes.

The surveys in *Belgium* have been conducted in 1981, 1990, 1999 and 2009. The main factors behind tax evasion as suggested by dichotomous logit-probit regression analysis are gender, national proud, trust in parliament, and perception of corruption. All these factors are statistically significant (based on p-value) and ensures 66-71 % of positive cases by the models. Based on odds ratio the most significant factor behind tax evasion is perception of corruption – the more person will tend to accept bribe, the more one will try to evade paying taxes. The case of Belgium suggests that citizens who feel less national proud or less trust in parliament will tend to evade taxes more. Moreover, men have greater probability to avoid taxes than women in Belgium.

The surveys in *Cyprus* have been conducted in 2006, 2008 and 2011. The main factors behind tax evasion as suggested by dichotomous logit-probit regression analysis are perception of corruption, national proud, religion, and employment status. Not all factors are statistically significant for Cyprus, however they all have been kept in model in order to ensure consistency among years and substantial share of positive cases (79-90 %). Based on odds ratio the most significant factor behind tax evasion is perception of corruption – the more person will tend to accept bribe, the more one will try to evade paying taxes. The case of Cyprus suggests that citizens who feel less national proud will tend to evade taxes more, as it is the case with religiousness as well.

The surveys in *Estonia* have been conducted in 1990, 1996, 1999, 2008 and 2011. The main factors behind tax evasion as suggested by dichotomous logit-probit regression analysis are perception of corruption, national proud, religion and marital status. All these factors are statistically significant and ensure 66-76 % of positive cases by the models. Based on odds ratio the most significant factor behind tax evasion is perception of corruption – the more person will tend to accept bribe, the more one will try to evade paying taxes. The case of Estonia suggests that citizens who feel less national proud will tend to evade taxes more. Moreover, male and younger persons have greater probability to avoid taxes.

The surveys in *Finland* have been conducted in 1981, 1990, 1996, 2000, 2005 and 2009. The main factors behind tax evasion as suggested by dichotomous logit-probit regression analysis are perception of corruption, age, gender, and religion. All these factors are statistically significant as measured by p-value and ensures 66-70 % of positive cases by the models. Based on odds ratio the most significant factor behind tax evasion is perception of corruption – the more person will tend to accept bribe, the more one will try to evade paying taxes. The case of Finland suggests that more religious citizens tend to evade taxes less. Moreover, women and older persons have lesser probability to avoid taxes in Finland.

The surveys in *France* have been conducted in 1981, 1990, 1999, 2006 and 2008. The main factors behind tax evasion as suggested by dichotomous logit-probit regression analysis are perception of corruption, age, gender, and national proud. All these factors are statistically significant as measured by p-value and ensures 66-70 % of positive cases by the models. Based on odds ratio the most significant factor behind tax evasion is perception of corruption – the more person will tend to accept bribe, the more one will try to evade paying taxes. The case of France

suggests that with more national proud people tend to evade taxes less. Moreover, women and older persons have lesser probability to avoid paying taxes.

The surveys in *Germany* have been conducted in 1981, 1990, 1997, 1999, 2006, 2008 and 2013. The latest survey is not suitable for this research, because there were no data on dependent variable, thus summary of results bellow is given from 6 surveys. The main factors behind tax evasion as suggested by dichotomous logit-probit regression analysis are perception of corruption, age, status of employment, and national proud. All these factors are statistically significant as measured by p-value and ensures 67-76 % of positive cases by the models. Based on odds ratio the most significant factor behind tax evasion is perception of corruption – the more person will tend to accept bribe, the more one will try to evade paying taxes. Close to odds ratio of perception of corruption in Germany is national proud – the more person feels national proud, the more it will pay taxes. The case of Germany suggests that unemployed persons or those with lower salaries will tend to evade taxes less. Moreover, older persons have lesser probability to avoid taxes.

The surveys in *Greece* have been conducted in 1999 and 2008. The main factors behind tax evasion as suggested by dichotomous logit-probit regression analysis are perception of corruption and national proud. All these factors are statistically significant (with exception for national proud for the year 1999 as p-value exceeds 0.05 threshold) and ensures 65-77 % of positive cases by the models. Based on odds ratio the most significant factor behind tax evasion is perception of corruption – the more person will tend to accept bribe, the more one will try to evade paying taxes. Moreover, the case of Greece suggests that persons who feel higher national proud will tend to avoid cheating on taxes more.

The surveys in *Ireland* have been conducted in 1981, 1990, 1999 and 2008. The main factors behind tax evasion as suggested by dichotomous logit-probit regression analysis are perception of corruption, age, gender, and national proud. All these factors are statistically significant as measured by p-value and ensures 66-70 % of positive cases by the models. Based on odds ratio the most significant factor behind tax evasion is perception of corruption – the more person will tend to accept bribe, the more one will try to evade paying taxes. The case of Ireland suggests that the more citizens feel national proud, they will tend to evade taxes less. Moreover, women and older persons have lesser probability to avoid taxes.

The surveys in *Italy* have been conducted in 1981, 1990, 1999, 2005 and 2008. The main factors behind tax evasion as suggested by dichotomous logit-probit regression analysis are perception of corruption, age, and national proud. All these factors are statistically significant as measured by p-value and ensures 65-72 % of positive cases by the models. Based on odds ratio the most significant factor behind tax evasion is perception of corruption – the more person will tend to accept bribe, the more one will try to evade paying taxes. The case of Italy suggests that citizens with greater national proud tend to evade paying taxes less. Moreover, older persons have lesser probability to avoid taxes.

The surveys in *Latvia* have been conducted in 1990, 1996, 1999 and 2008. The main factors behind tax evasion as suggested by dichotomous logit-probit regression analysis are perception of corruption, age, gender and national proud. All these factors are statistically significant (with

exception of one year's model for national proud indicator) as measured by p-value and ensure 70-76 % of positive cases by the models. Based on odds ratio the most significant factor behind tax evasion is perception of corruption – the more person will tend to accept bribe, the more one will try to evade paying taxes. The case of Latvia suggests better tax collection from those persons who feel greater national proud. Moreover, women and older persons have lesser probability to avoid taxes.

The surveys in *Lithuania* have been conducted in 1990, 1997, 1999 and 2008. The main factors behind tax evasion as suggested by dichotomous logit-probit regression analysis are perception of corruption, age, income and national proud. All these factors are statistically significant as measured by p-value and ensures 65-74 % of positive cases by the models. Based on odds ratio the most significant factor behind tax evasion is perception of corruption – the more person will tend to accept bribe, the more one will try to evade paying taxes. The case of Lithuania suggests that national proud plays significant role for citizens in making decision to pay taxes or not: more national proud is directly linked to stronger tax payments. Moreover, person with higher income tend to avoid taxes more.

The surveys in *Luxembourg* have been conducted in 1999 and 2008. The main factors behind tax evasion as suggested by dichotomous logit-probit regression analysis are perception of corruption and level of education. All these factors are statistically significant as measured by p-value and ensures 60-67 % of positive cases by the models. Based on odds ratio the most significant factor behind tax evasion is perception of corruption – the more person will tend to accept bribe, the more one will try to evade paying taxes. The case of Luxembourg suggests that tax evasion increases in line with growth of education level.

The surveys in *Malta* have been conducted in 1983, 1991, 1999 and 2008. The main factors behind tax evasion as suggested by dichotomous logit-probit regression analysis are perception of corruption and religion. All these factors are statistically significant as measured by p-value and ensures 83-86 % of positive cases by the models. Based on odds ratio the most significant factor behind tax evasion is perception of corruption – the more person will tend to accept bribe, the more one will try to evade paying taxes. Also more religious citizens in Malta tend to evade taxes less.

The surveys in *Netherlands* have been conducted in 1981, 1990, 1999, 2006, 2008 and 2012. The main factors behind tax evasion as suggested by dichotomous logit-probit regression analysis are perception of corruption, age and gender. All these factors are statistically significant as measured by p-value and ensures 63-74 % of positive cases by the models. Based on odds ratio the most significant factor behind tax evasion is perception of corruption – the more person will tend to accept bribe, the more one will try to evade paying taxes. The case of Netherlands suggests that older citizens will tend to evade taxes less (however last survey showed slightly opposite estimations). Moreover, women tend to avoid taxes less.

The surveys in *Portugal* have been conducted in 1990, 1999 and 2008. The main factors behind tax evasion as suggested by dichotomous logit-probit regression analysis are perception of corruption, age and religiousness. All these factors are statistically significant as measured by p-value (except for the age in the last survey) and ensures 61-79 % of positive cases by the models.

Based on odds ratio the most significant factor behind tax evasion is perception of corruption – the more person will tend to accept bribe, the more one will try to evade paying taxes. The case of Portugal suggests that more religious and older people tend to avoid taxes less.

The surveys in *Slovakia* have been conducted in 1991, 1998, 1999 and 2008. The main factors behind tax evasion as suggested by dichotomous logit-probit regression analysis are perception of corruption, age and national proud. All these factors are statistically significant as measured by p-value (except age for the first survey) and ensures 64-76 % of positive cases by the models. Based on odds ratio the most significant factor behind tax evasion is perception of corruption – the more person will tend to accept bribe, the more one will try to evade paying taxes. The case of Portugal suggests that older people and those who feel greater national proud tend to avoid taxes less.

The surveys in *Slovenia* have been conducted in 1992, 1996, 1999, 2005, 2008 and 2011. The main factors behind tax evasion as suggested by dichotomous logit-probit regression analysis are perception of corruption, gender, age and national proud. All these factors are statistically significant as measured by p-value (except gender for the fourth survey) and ensures 68-86 % of positive cases by the models. Based on odds ratio the most significant factor behind tax evasion is perception of corruption – the more person will tend to accept bribe, the more one will try to evade paying taxes. The case of Slovenia suggests that women, older people and those who feel greater national proud tend to avoid taxes less.

The surveys in *Spain* have been conducted in 1981, 1990, 1995, 1999, 2000, 2007, 2008 and 2011. The main factors behind tax evasion as suggested by dichotomous logit-probit regression analysis are perception of corruption, age, religiousness and national proud. All these factors are statistically significant as measured by p-value (except religiousness for the fourth survey) and ensures 65-80 % of positive cases by the models. Based on odds ratio the most significant factor behind tax evasion is perception of corruption – the more person will tend to accept bribe, the more one will try to evade paying taxes. The case of Spain suggests that older, more religious citizens and those who feel greater national proud tend to avoid taxes less.

According to Weber (2014) tax morale could be increase by signing "tax payers honor code" as this in general will increase dependence to society (thus national proud). Trust in government and tax authority plays noticeable role for tax morale. Moreover, quality of public goods is not the least important to be considered while making decisions to pay taxes. Weber (2014) continues that public institutions with reputation of coercive mechanism should find the way to earn the reputation of high quality service providers. E. F. Luttmer and M. Singhal (2014) adds that cooperation between state and individual tax payer increases tax morale, as well as dependency to the group and cultural effects which in long run could lead to higher tax compliance. Also, for tax authorities it should be important to investigate more deeply tax payers that are younger and male, with higher education and higher income. As this research suggests and as other authors confirms tax payment could be increased not only by making pressure to tax payers, but also by employing soft measures.

Conclusion

The main share of public sector income constitutes of tax contributions. However rational economic agents tend simultaneously to avoid tax payments and consume public goods. According to different researches unpaid taxes constitute nearly one fifth of all tax income receivable. Classical models of unwillingness to pay taxes are not always able to explain factors behind the weak tax morale. Thus gap in this field is filled with alternative methods suggested by tax morale researches and is assessed quantitatively by employing dichotomous logit-probit regression analysis.

Results of tax morale analysis in all euro area countries suggest that main factors behind weak tax payment are corruption and weak national pride. More efforts of national authorities while investigating tax evasion should be given to men and tax payers of younger age. Additionally, more educated persons and those with higher income tend to evade taxes more; however, this has been evidenced only for some of countries under investigation. Also religiousness has direct strong positive link (especially in some countries) to willingness to pay taxes. Based on results of this research, it could be confirmed that the main factor under weak tax morale in euro area is corruption, which additionally is closely interlinked with shadow economy.

Systematic assessment of factors behind weak tax payment is guidelines for public authorities in field of greater tax morale in the country. Different measures like tax payer honor code, better quality of public goods, greater trust in state, patriotism and community should be employed in order to increase tax morale. After employing different measures public sector could expect closing the gap between the real collection of taxes and planed tax collection, thus ensuring better standing of public finance and abilities to provide goods and services.

References

Allingham, M., and Sandmo, A. (1972). Income Tax Evasion: A Theoretical Analysis. *Journal of Public Economics*, 1: 323–338.

Alm, J., and Torgler, B. (2006). Culture Differences and Tax Morale in the United States and in Europe. *Journal of Economic Psychology*, 27: 224–246.

Alm, J., McClelland, G. H., and Schulze W. D. (1992). Why do people pay taxes? *Journal of Public Economics*, 48: 21–38.

Becker, G. S. (1968). Crime and Punishment: An Economic Approach. *The Journal of Political Economy*, 76(2): 169–217.

CPB Netherlands Bureau for Economic Policy Analysis. (2013). Study to Quantify and Analyse the VAT Gap in the EU-27 Member States. Final Report.

Daude, C., Gutierrez, H., and Melguizo, A. (2012). What Drives Tax Morale? *OECD Development Center*, Working Paper No. 315.

European Commission. (2014). *Corruption*. Special Eurobarometer 397.

EVS: European Values Study. Data and Downloads. Retrieved July 2, 2016. 1–4 from http://www.europeanvaluesstudy.eu.

Gujarati, D. (2014). *Basic Econometrics. Fourth Edition*. McGraw-Hill Companies.

HMRC 2014: Measuring Tax Gaps. Tax Gap Estimates for 2012–13. Retrieved June 15, 2016 from https://www.gov.uk/government.

Lago-Peñas, I., and Lago Peñas, S. (2010). The Determinants of Tax Morale in Comparative Perspective: Evidence from European Countries. *European Journal of Political Economy*, 26(4): 441–453.

Levine-Schayowitz, H. (2005). Taxation and consumer behavior. Handbook of public sector economics (ed. Robbins, D.). Marcel Dekker / CRC Press LLC.

Luttmer, E. F., and Singhal, M. (2014). Tax Morale. *Journal of Economic Perspectives*, 28(4): 149–168.

Martínez-Vázquez, J., and Torgler, B. (2005). The Evolution of Tax Morale in Spain. *Georgia State University*, Working Paper No. 21.

Murphy, R. (2012). *Closing the European Tax Gap*. A Report for Group of the Progressive Alliance of Socialists & Democrats in the European Parliament. Tax Research LLP, February 10.

OECD 2015. Glossary of Tax Terms. Retrieved August 15, 2016 from http://www.oecd.org/ctp/glossaryoftaxterms.htm.

Rutkauskas, V., and Ivaškaitė-Tamošiūnė, V. (2015). Vengimas mokėti mokesčius ir jo vertinimas Baltijos šalyse. *Pinigų studijos*, 15 (2): 74–87.

Samuelson, P. (1954). The pure theory of public expenditure. *Review of Economics and Statistics*, 36: 387–390.

Schneider, F. (2013). *The Shadow Economy in Europe*. A. T. Kearney.

Slemrod, J., and Weber, K. (2012). Evidence of the Invisible: Toward a Credibility Revolution in the Empirical Analysis of Tax Evasion and the Informal Economy. *Tax and Public Finance*, 19(1): 25-53.

Slemrod, J., and Yitzhaki, S. (2002). Tax Avoidance, Evasion, and Administration. *Handbook of Public Economics*, 3: 1425–1469.

Torgler, B., and Schneider, F. G. (2006). What Shapes Attitudes Toward Paying Taxes? Evidence from Multicultural European Countries. *Social Science Quarterly*, 88(2): 443–470.

Weber, T. O., Fooken, J., and Herrmann, B. (2014). Behavioral Economics and Taxation. *European Commission*, Working Paper No. 41.

WVS: World Values Survey. Data & Documentation. Retrieved July 2, 2016. 1–6 from http://www.worldvaluessurvey.org.

Yitzhaki, S. (1974). A Note on Income Tax Evasion: A Theoretical Analysis. *Journal of Public Economics*, 3(2): 201–202.