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Tax Knowledge, Tax Complexity and Tax Compliance in South Africa

Baneng Naape

Department of Economics, University of the Witwatersrand, Johannesburg, South Africa

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Abstract

Purpose: the key objective of this study is to investigate the influence of tax knowledge and tax complexity on tax compliance in South Africa.
Design: the data collection process involved self-structured questionnaires targeted at South African personal income taxpayers. The data was analyzed by means of descriptive analysis, inferential statistics and binary logistic regression.
Findings: the findings from the Pearson correlation test revealed that knowledge on tax types, tax payment methods and tax penalties is positively associated with tax compliance and this association was found to be statistically significant. In addition, the results from the binary logistic regression revealed that knowledge on tax penalties is positively associated with higher probabilities of tax compliance and this association was likewise found to be statistically significant. This, to some extent, implies that tax penalties are well enforced by the government to induce tax compliant behaviour. Meanwhile, demographic factors such as the level of educational attainment as well as perceptions on the state of democracy were found to play a significant role in inducing tax compliance.
Practical Implications: the study recommends the expansion of educational programmes that inform taxpayers about the different tax types they are liable for, the procedure for calculating and filing tax returns as well as the financial and legal consequences of exhibiting a tax non-compliant behaviour.
Originality: The research topic is relevant for the management of tax systems especially during times wherein policymakers are in search of approaches to collect additional budget revenues. The study also presents a historical overview of problems that are observed in the income tax system of the Republic of South Africa, and this analysis is linked to the problems of tax compliance.

* Address Correspondence:
E-mail : Banengnaape@gmail.com

INTRODUCTION

The nexus between tax knowledge, tax complexity and tax compliance has been extensively studied by different researchers such as Saad et al. (2004), Palil (2005) and Pau et al. (2007). This is because, tax knowledge and tax complexity are critical components of voluntary tax compliance. Without proper knowledge and understanding of the different tax types and laws and administrative procedures, taxpayers becomes reluctant to file their tax returns and settle their tax liabilities. The year 2000 marked the introduction of the eFiling system by the South African Revenue Services (SARS) while the year 2011 saw a shift in the power to assess. In terms of the Income Tax Act, No. 58 of 1962, the power to assess was vested in the Commissioner. The Tax Administration Bill however, which was passed before the South African Parliament, introduced the concept of "self-assessment" (Hofmeyr 2011). Self-assessment in this regard, implies that "the taxpayer will have to report the basis of assessment, submit a calculation of the tax due and, usually, make payment of the outstanding tax. The onus will be on the taxpayer to calculate the correct amount of tax payable" (SARS 2011). Although the eFiling system has gained popularity in recent times and accelerated the payment of taxes, the system remains challenged by a number of issues including the lack of tax knowledge and technological literacy. Self-assessment also, implies a shift in responsibility from tax authorities to the individual taxpayer. Saad (2014) notes that in order for taxpayers to execute these responsibilities, they are expected to be well-informed about the exiting tax provisions and laws. Thus, one possible way for creating a tax compliant environment is to improve the availability of tax information to the public. Similarly, a less sophisticated tax system can go a long way in stimulating a tax compliant environment.

Although SARS has various tax awareness programmes, several studies (e.g., Evans and Joseph 2015; Bornman and Ramutumbu 2019) have empirically indicated that tax knowledge remains a hindrant to tax compliance in South Africa and the rest of the world. The majority of South African citizens fail to comprehend different tax laws and provisions set by the government and as a result, have to employ the services of tax consultants at additional costs. Also, the self-assessment system requires some knowledge on and access to technological devices. This is problematic for a country such as South Africa which has failed to harness the digital evolution. Access to technological devices and stable internet connection remains limited more especially in the rural areas. While acknowledging that the topic on the influence of tax knowledge on tax compliance has been studied before, earlier studies were not able to distinguish the different aspects of tax knowledge, a gap which this study aims to fill.

The study will play a significant role in closing the gap on the relationship between tax knowledge and tax compliance in South Africa since few empirical studies have attempted to establish this relationship. Also, compared to previous studies, this study does not use the broad definition of tax knowledge to estimate its influence on tax compliance but rather breaks tax knowledge into three parts: tax calculation knowledge, knowledge on tax reporting and knowledge on tax payments. This is done to understand the overall influence of tax knowledge on tax compliance from different angles. As mentioned earlier, theory suggests that when citizens are well informed about tax laws and provisions, they are most likely to be tax compliant. Thus, this study plays a crucial role by empirically analysing this relationship in the context of South Africa.

The study will be organised as follows: Section 1 will provide an introduction to the study and outline the objectives and significance of the study. Section 2 will provide an overview of literature on the relationship between tax knowledge and tax compliance, both from a theoretical and empirical perspective. Section 3 will unpack the empirical strategy to be executed by the study to estimate the influence of tax knowledge on tax compliance in South Africa. Section 4 will detail the findings of the study in line with existing studies. Section 5 will provide a brief conclusion of the study as well as implications for policymaking.

LITERATURE REVIEW

This section briefly discusses the literature on the influence of tax knowledge on tax compliance. The section is twofold: the first part of the section unpacks theories relating to tax knowledge, tax complexity and tax compliance while the second part summaries findings from earlier studies on the relationship between tax knowledge and tax compliance.

Theoretical literature

A well-designed tax system is crucial to every nation as it has the potential to enhance tax compliance by allowing taxpayers to settle their tax liabilities with ease, thereby reducing administrative costs and raising tax yields. Smith (1776) defines a well-designed tax system as one that is founded on numerous tax principles including equity, efficiency, certainty and convenience. Of interest, however, are

the canons of efficiency and convenience. A tax system is regarded efficient when the cost of collecting and settling tax liabilities is minimal as high tax administration costs would reduce the net tax yield and to some extent, discourage taxpayers from being tax compliant (Naape and Mahonye 2021). Pigou (1954) notes that, because individual taxpayers and businesses plan ahead, tax liabilities due ought to be predictable and communicated in time. In addition, the sum, time and manner of payment of taxes should be convenient to the contributor. The theoretical literature begins by providing a background on the South African Income tax system. This is followed by a discussion on tax knowledge and complexity as well as the nexus between tax knowledge, tax complexity and tax compliance.

South African Income Tax System

The South African Income Tax legislation was first enacted in 1962 through the Income Tax Act no.58 of 1962. The legislation was executed to provide guidance on the exercise of powers and performance of duties by tax authorities as well as the manner in which tax officials may raise and collect taxes from income and donations. During this time, the responsibility to calculate and file tax returns was vested in tax authorities. Thus, taxpayers were not required to be fully abreast of the different tax laws and procedures followed in the calculation and filing of tax returns as compared to today. Also, several tax reforms have since been implemented in the form of tax cuts and hikes as well as changes in tax brackets and exemptions. Through these reforms, the government aimed to improve administrative efficiency and tax revenue collections (Schoeman and Jordaan 2015). The maximum income tax rate in South Africa stood at 50 % in 1980 before a reduction to 45 % in 1987 and a further reduction to 43 % in 1991. During the period under study (2008-2021), the maximum income tax rate remained fixed at 40 % between 2008 and 2015 before an increase to 41 % in 2016 and 45 % in 2017 (Naape and Mahonye 2021). In terms of tax revenue collected, taxes collected from income and donations account for a larger share of the total tax revenue in South Africa. For example, personal income taxes made up 31 % of the total tax revenue collected by the government during the 2008/09 financial year followed by corporate income taxes at 30 % of total tax revenue (Statistics South Africa 2019). A decade later, personal income taxes make up 38 % of total tax revenue collected by the government followed by Value Added Taxes at 24 % of total tax revenue.

Tax Knowledge

Saad (2014) notes that basic understanding of the tax payment system is a crucial factor in a voluntary tax compliance system, more especially in determining and calculating an accurate tax liability. This includes basic understanding of the tax compliance status, filling dates, compliance laws, procedures and consequences as well as the manner in which tax liability is calculated and settled. Knowledge of the different regulations governing taxes and applicable tax reforms is also crucial to avoid both intended and unintended miscalculations.

Tax Complexity

Tax complexity arises when taxpayers find it difficult to comprehend the different tax laws and reforms governing tax administration and compliance (Richardson and Sawyer 2001). Cox and Eger (2006) state that tax complexity can take different forms including compliance complexity, computational complexity, procedural complexity, rule complexity and forms complexity. The six potential causes of tax complexity were first identified by Long and Swingen (1987). This includes record keeping, frequent changes to tax laws, calculations, details, ambiguity and forms.

Empirical literature

Saad (2014) analysed taxpayers views on their level of tax knowledge and whether the income tax system in New Zealand is perceived to be complex or not. The data was collected by means of telephonic interviews and analysed through thematic analysis. The findings revealed that the participants have a lack of technical knowledge on tax and perceived the income tax system to be complex. A study by Bornman and Ramutumbu (2019) assessed the tax compliance risk profile of small business owners in the Soweto township. The data was collected by means of semi-structured questionnaires and analysed through statistical inference and thematic analysis. The findings revealed that a lack of knowledge on tax laws and provisions as well as observations on fairness and opportunity for non-compliance, were major contributing factors to tax non-compliance in the Soweto township.

Damajanti and Karim (2017) analysed the effects of tax knowledge on tax compliance by officials in the Tax Office of the Java Region. The authors made use of questionnaires as a data collection technique. Compared to earlier studies, their study was unique in that they analysed tax knowledge from three aspects, namely: tax calculation knowledge, knowledge of tax reporting and knowledge of tax payments. Based on findings, the three instruments of tax knowledge were found to have a statistically significant influence on the level of tax compliance in the Java Region. Gambo et al. (2014) attempted to establish the

relationship between tax complexity and tax compliance in selected African countries. The study made use of the Pearson Correlation test and Ordinary Least Squares econometric technique to analyse the sourced data. Based on findings, tax complexity has a significant negative impact on tax compliance in the selected African countries. In addition, the study found that as a result of the complex tax system, taxpayers spend roughly 19 hours more in self-assessment than the regional self-assessment average.

Matibe et al. (2015) investigated the extent to which tax knowledge and awareness influence decisions about tax compliance by firms in Export Processing Zones in Kenya. The authors made use of structured questionnaires to gather primary data and analysed the primary data through descriptive and inferential statistics. The study revealed that employees who received adequate training on tax knowledge and awareness were more tax compliant than those with little or no training on tax knowledge and awareness. Thus, it can be inferred that there is a close relationship between tax knowledge and awareness and compliance among firms in Export Processing Zones in Kenya. Palil (2010) explored the relationship between tax knowledge and tax compliance in Malaysia. The data collection process involved large scale postal surveys collected at national level. The individual characteristics of the taxpayer's knowledge were analysed by means of ANOVA and t-test while the relationship between tax knowledge and tax compliance was established by means of multiple regression. The study found a significant relationship between tax knowledge and tax compliance in Malaysia although the level of tax knowledge differs greatly among respondents. Oladipupo and Obazee (2016) estimated the effects of tax knowledge and tax penalties on tax compliance across selected Small and Medium Enterprises (SMEs) in Nigeria. The data was collected by means of structured questionnaires and analysed through econometric techniques such as Ordinary Least Squares. The results revealed that tax knowledge exhibits a positive and statistically significant effect on tax compliance while tax penalties exhibit a positive yet statistically insignificant effect on tax compliance in Nigeria. The findings suggest that tax knowledge is more effective in inducing a tax compliant behaviour among SMEs in Nigeria than tax penalties.

Cechovsky (2018) established the relationship between tax knowledge and tax compliant attitude in Australia. The study employed a mixed methods approach incorporating interviews and self-structured questionnaires. The respondents comprised of a group of 700 vocational business students. The study revealed that tax knowledge encourages a tax compliant attitude and discourages a tax evasion attitude in Australia. Hantono (2021) investigated the influence of selected tax variables including tax awareness, tax knowledge and tax morale on tax compliance. The study made use of self-structured questionnaires to gather data. This comprised of a pool of 100 qualifying respondents and the incidental sampling technique was used to sample the data. By means of the multiple linear regression technique, the study found that tax awareness, tax morale and tax knowledge have a significant positive impact on tax compliance in Indonesia.

Wadesango and Mwandambira (2018) examined the effect of tax knowledge on tax compliance among Small Medium Enterprises (SMEs) in Zimbabwe using a pool of 35 SMEs and 40 tax officials. The findings were that tax knowledge influences a tax compliant behaviour among SMEs and tax officials although issues of high tax rates and perceptions on corruption weigh on the willingness of taxpayers to settle their tax liabilities. Meanwhile, a similar study by Twum et al. (2020) analysed the influence of tax knowledge on tax compliance in panel of 130 managers of SMEs. The data was collected by means of surveys and analysed through structural equation modelling. The findings revealed that knowledge of employment income, awareness of sanctions and knowledge of tax rights and responsibilities have a positive and statistically significant influence on tax compliance in Ghana.

Musimenta (2020) analysed the effect of tax knowledge, tax complexity and compliance costs on tax compliance in Uganda while incorporating the influence of indirect costs of tax compliance. The results indicated that tax knowledge is not correlated with compliance costs and that tax knowledge is better suited at explaining variations in internal costs than external costs of compliance. In addition, the results indicated that tax knowledge has a positive significant influence on tax compliance. Manual and Xin (2016) explored the role of selected tax variables including tax knowledge, tax compliance costs and tax deterrent measures on tax compliance in West Malaysia. A group of 150 self-employed taxpayers was randomly selected. The data collection method included online questionnaire surveys and simple random sampling technique and was analysed through the help of the Pearson Correlation technique and multiple regression. The findings revealed that tax deterrence measures are significantly correlated with tax compliance whereas, on the contrary, tax knowledge and tax compliance costs are not significantly correlated with tax compliant behaviour among self-employed taxpayers in West Malaysia.

Mukhtar et al. (2015) investigated the effect of selected tax compliance factors on government revenue mobilisation in Somaliland. The selected tax compliance variables include tax knowledge, digitalisation of the tax collection system and tax audit. The target population was business owners in the Gobonimo market, and the population was selected using the stratified random sampling technique. In addition, the study employed both primary and secondary data for which primary data was collected by

means of structured questionnaires while secondary data was collected from reliable secondary data sources. The study found that business owners in the Gobonimo market lack the necessary knowledge to settle their tax liabilities which limits the government's ability to mobilise tax revenue. The underlying factors included the inability of taxpayers to use the online tax filling system as well as limited information on the benefits of paying taxes.

RESEARCH METHODOLOGY

Research Approach

A research approach provides a detailed overview of the steps and procedures the researcher plans to execute in the collection and analysis of data as well as interpretation of research outputs. In most cases, the research approach incorporates three components namely, philosophical world view, research methods and research design (Grover 2015). Haradhan (2017) notes that decisions on the research approach are usually based on the objective of the study, the researcher's personal experience and audience of the study. This study employed a quantitative research approach. This includes collecting primary data through self-structured questionnaires and analysing the data by means of inferential statistics.

Sampling Strategy

Identifying and selecting the right sampling technique is crucial in survey research as this ultimately predicts the generalizability of the findings obtained in the study. Although several sampling techniques exist, ranging from probability sampling to non-probability sampling, the most suitable sampling technique for our analysis is the simple probability sampling technique. Under the simple probability sampling technique, participants in the population group are sampled by a random process, usually by a random number table or random number generator (Taherdoost 2016). The target population consisted of South African permanent residents above the age of 18 years and who are registered for income tax with SARS.

Data Collection

Data collection refers to the steps undertaken by the researcher to collect and measure information about the variable(s) of interest (Young 2016). This process enables the researcher to answer specified research questions, engage in hypothesis testing and analyse research outcomes. For the purposes of this study, the researchers made use of primary data collected by means of electronic surveys in the form of self-structured questionnaires.

Data Analysis

Data analysis can be described as the process of systematically visualising information collected through quantitative or qualitative research instruments either to identify the characteristics of the variables in question, to explore the relationship between two or more variables or to measure the impact of one variable on the other (Patel 2009). The data collected in this study was assessed statistically by means of descriptive analysis and inferential statistics.

Descriptive Analysis

Descriptive analysis forms the basis of econometric modelling as it provides a summary of the type of data the researcher is dealing with. In general terms, Descriptive statistics is the process of describing the main characteristics of a dataset which can either be a representation of either the sample of the study or population at large (Sharma 2019). There are several factors which distinguish descriptive statistics from inferential statistics. For example, descriptive statistics, unlike inferential statistics, aim to summarize information about variables while inferential statistics on the other hand, aim to explain the association between two or more variables. In addition, while inferential statistics are based on probability theory, descriptive statistics are not. In other words, research findings cannot be inferred on the basis of descriptive statistics whereas, on the contrary, conclusions can be obtained from inferential statistics.

Pearson Correlation test

The Pearson correlation test attempts to estimate the presence and strength of a linear relationship between two variables (Mukaka 2012). The presence of a linear association between two variables is given by the probability value, usually at the 1 %, 5 % or 10 % interval levels. The strength of the linear relationship between two variables is given by the coefficient value. Cohen (1988) notes that a coefficient value below 10% indicates that there is weak linear association between two concerned variables, while a coefficient value between 10 % and 30 % indicates that there is a moderate linear association between two concerned variables. Any coefficient value above 50 % is indicative of a strong linear association between two concerned variables. The formula for calculating the correlation coefficient for any two continuous

variables is given by:

$$r = \frac{\sum_{i=1}^{n}(x_i - x)(y_i - y)}{\sqrt{[\sum_{i=1}^{n}(x_i - \bar{x})^2][\sum_{i=1}^{n}(y_i - \bar{y})^2]}} \quad (1)$$

Where x_i and y_i are values of x and y for the i_{th} individual. Mukaka (2012) states that one of the conditions of using the Pearson correlation test is that the variables should be normally distributed.

Binary Logistic Regression

The logistic regression model has been widely used by researchers (e.g., Peng et al. 2002; Mertler and Vannatta 2005) to obtain odds ratio in the face of categorical variables. The technique aims to model the chance of an outcome based on individual characteristics (Peng et al. 2002). For example, the technique can be used to estimate whether males succeed in college, whether female adults are most likely to get pregnant or whether male teenagers are most likely to engage in illegal activities or not. The technique works in a similar fashion as the linear multiple regression technique except that the outcome variable is binary (Sperandei 2013). One advantage of using the logistic regression model over other econometric techniques is that it allows the researcher to use continuous independent variables with ease and it can handle more than two independent variables simultaneously. A simple logistic regression model can be expressed mathematically as follows:

$$log\left(\frac{\mu}{1-\mu}\right) = \alpha_1 X_1 + \alpha_2 X_2 + \ldots \alpha_n X_n \quad (2)$$

Where μ indicates the possibility of consequences for each event, α_i represents the slope coefficients associated with the reference group and the X_i independent variables. Unlike discriminant analysis, the logistic regression model does not assume that the explanatory variables are normally distributed. This technique is best situated for our analysis given that the response variable is binary.

Model Specification

Our estimation model will be guided by earlier studies with a few modifications to put it in line with the objectives of the study. The following model will be estimated:

$$tc = \beta_0 + \beta_i \delta_t + \alpha_i \vartheta_t + \varepsilon_t \quad (3)$$

Where tc is a binary tax compliance variable taking a value of 1 for compliance and 0 for non-compliance, β_0 is the constant term, δ_t is a vector for individual level characteristics of the respondent: age, sex, education, employment status, wealth and ethnicity. ϑ_t is a vector for variables that captures different aspects of tax knowledge including tax calculation knowledge, knowledge on tax reporting, knowledge on methods of payment and knowledge on tax penalties. ε_t is the idiosyncratic error term.

Table 1. Description of variables

Gender	Categorised as male and female
Age	Ranging between 18 – 65 years
Education	No education, matric, undergraduate, postgraduate
Employment sector	Private sector, public sector, informal sector
Employment status	Employed, unemployed, self-employed
Reason for evasion	Unfair tax system, taxes are too high, government steals money, I know I won't get caught
Difficulty of evasion	Very easy, easy, neither easy nor difficult, difficult, very difficult
Benefit	Taxpayer's benefit from public services
Tax morale	If the quality of public services inspires the taxpayer
Trade off	The trade-off between higher tax rates and quality public services or lower tax rates and poor quality of services
Social influence	If the perceived compliance of others influences the taxpayer
Corruption	Perception on the level of corruption
Trust in government	Perception on the trust in government
State of democracy	Perception on the state of democracy
Tax liable for	This entails knowledge on which type of the taxes the taxpayer is liable for
Tax return calculation	This entails knowledge on how to calculate tax returns
Payment methods	This entails knowledge on different payment methods that can be used to settle tax liabilities
Tax penalty	This entails knowledge on the different tax penalties applicable to the taxpayers

Source: author

Ethical considerations

Fleming and Zegwaard (2018) note that when dealing with fundamental ethical research that involves human participation, it is important to consider the ethical dilemmas that might play out. The study and data collection instruments were designed in such a way that they take into consideration the possibility of harm to participants. In addition, the study did not pose any psychological or physical harm to participants. Further to this, the study carried no potential for legal or social harm since no information about a participant's behaviour to illegal activities or substance abuse was collected. The study made use of anonymous self-structured questionnaires and surveys wherein participants were not required to give out any information pertaining their identify such as their full names, identity numbers, contact numbers, email or physical addresses.

FINDINGS AND DISCUSSIONS

This section presents findings from the econometric tests performed including descriptive analysis, correlation analysis and binary logit regression. The results are likewise discussed in line with the objectives and hypothesis of the study.

Descriptive Analysis

The descriptive analysis was performed to examine the individual characteristics of the variables including the average, standard deviation, range and skewness. The findings are provided in table 2 below.

Table 2. Descriptive statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
Tax compliance	150	0	1	0.33	0.471	0.747	0.198
Gender	150	1	3	1.65	0.493	-0.449	0.198
Education	150	1	4	2.66	0.566	-1.222	0.198
Age	150	2	7	2.87	0.771	1.824	0.198
Employ status	150	1	3	2.15	0.488	0.360	0.198
Employ sector	150	2	4	2.67	0.807	0.664	0.198
Tax liable for	150	1	2	1.81	0.391	-1.625	0.198
Tax return calculation	150	1	2	1.58	0.495	-0.327	0.198
Payment method	150	1	2	1.59	0.494	-0.356	0.198
Tax penalties	150	1	2	1.63	0.485	-0.529	0.198

Source: author's computations

The findings in Table 2 reveal that the variables have a mean value ranging between 0 and 3. Also, the findings indicate that the standard deviation across all variables is below unity. The combination of lower mean values and standard deviation implies that the data points are closer to the mean. Nonetheless, the skewness of the data is more diversified. Several variables such as gender, education, tax return calculation, tax penalties and knowledge on payment methods were found to be skewed to the left while other including tax compliance, age, employment status and sector were found to be skewed to the right. The total number of observations was 150 across all variables.

Correlation Analysis

The next step involved examining the association between the dependent variable and explanatory variables by means of the Pearson correlation test. The statistical significance of the association was also examined. The results are provided in table 3 below.

Table 3. Pearson Correlation

Variables		Tax compliance	Gender	Educated	Age	Employ status	Employ sector	Tax liable	Tax return	Payment method	Tax penalty
Tax compliance	Corr	1	-0.020	0.193**	-0.052	-0.044	-0.124	0.334**	0.074	0.152*	0.214**
	Sig.		0.405	0.009	0.265	0.295	0.066	0.000	0.183	0.032	0.004
Gender	Corr	-0.020	1	-0.049	0.005	0.143*	0.062	0.004	-0.117	-0.163*	-0.078
	Sig.	0.405		0.277	0.476	0.041	0.225	0.482	0.077	0.023	0.171
Education	Corr	0.193**	-0.049	1	0.131	-0.175*	-0.157*	-0.016	0.014	0.094	0.023
	Sig.	0.009	0.277		0.054	0.016	0.028	0.424	0.433	0.126	0.388
Age	Corr	-0.052	0.005	0.131	1	-0.162*	-0.056	-0.146*	0.036	0.161*	0.124
	Sig.	0.265	0.476	0.054		0.024	0.247	0.038	0.333	0.024	0.065
Employ status	Corr	-0.044	0.143*	-0.175*	-0.162*	1	0.742**	0.046	-0.093	-0.236**	-0.012
	Sig.	0.295	0.041	0.016	0.024		0.000	0.290	0.129	0.002	0.443
Employ sector	Corr	-0.124	0.062	-0.157*	-0.056	0.742**	1	0.103	-0.043	-0.105	-0.005
	Sig.	0.066	0.225	0.028	0.247	0.000		0.104	0.299	0.100	0.476
Tax liable for	Corr	0.334**	0.004	-0.016	-0.146*	0.046	0.103	1	0.355**	0.223**	0.232**
	Sig.	0.000	0.482	0.424	0.038	0.290	0.104		0.000	0.003	0.002
Tax return calculation	Corr	0.074	-0.117	0.014	0.036	-0.093	-0.043	0.355**	1	0.465**	0.321**
	Sig.	0.183	0.077	0.433	0.333	0.129	0.299	0.000		0.000	0.000
Payment method	Corr	0.152*	-0.163*	0.094	0.161*	-0.236**	-0.105	0.223**	0.465**	1	0.472**
	Sig.	0.032	0.023	0.126	0.024	0.002	0.100	0.003	0.000		0.000
Tax penalties	Corr	0.214**	-0.078	0.023	0.124	-0.012	-0.005	0.232**	0.321**	0.472**	1
	Sig.	0.004	0.171	0.388	0.065	0.443	0.476	0.002	0.000	0.000	

Source: author's computations
Note: ** Correlation is significant at the 0.01 level (1-tailed), * Correlation is significant at the 0.05 level (1-tailed).

The findings from the Pearson correlation test revealed a positive association between the level of educational attainment and tax compliance in South Africa. This implies that educated citizens are most likely to be tax compliant given that they are well informed about the different regulations and institutions governing taxes. Furthermore, a positive association was revealed between tax compliance and knowledge about tax types. Individuals who have knowledge about the different tax types and the taxes they are liable for are most likely to be tax compliant, holding other factors constant. Also, the tax payment method and tax penalties were found to be positively correlated with tax compliance and the association was found to be statistically significant. The next subsection provides findings form the binary logistic regression model.

Binary Logistic Regression

The binary logistic regression model was estimated to analyse the impact of tax knowledge on tax compliance in South Africa. The findings are provided in table 4 below. The variable that captures knowledge on tax types was dropped given that it was perfectly correlated with the dependent variable.

Table 4. Model 1

	B	S.E.	Wald	df	Sig.	Exp(B)
Tax return calculation	-0.092	0.417	0.048	1	0.826	0.913
Tax payment method	0.337	0.449	0.564	1	0.453	1.401
Tax penalties	0.894	0.444	4.059	1	0.044**	2.444
Constant	-2.616	0.843	9.632	1	0.002*	0.073

Omnibus Tests of Model Coefficients (0.051)
Hosmer and Lemeshow Test Sig (0.972)

Source: author's computations,
Note: *, ** denote significance at the 1% and 5% level, respectively

The findings revealed that knowledge on calculation of tax return is negatively associated with higher probabilities of tax compliance. This implies that the inability of taxpayers to calculate and file tax returns on their own induces a non-compliant behaviour. The finding however was found to be statistically insignificant. On the contrary, knowledge on tax payment methods was found to be associated with higher probabilities of tax compliance albeit the association was likewise found to be statistically insignificant in explaining variations in taxpayers attitudes. Similarly, knowledge on tax penalties was found to be associated with higher probabilities of tax compliance and the association was found to be statistically significant. This implies that, to some extent, tax penalties in South Africa have been enforced effectively and are thus sufficient to induce taxpayers attitudes.

Table 5. Model 2

	B	S.E.	Wald	df	Sig.	Exp(B)
Tax return calculation	-0.117	0.429	0.075	1	0.785	0.889
Tax payment method	0.371	0.486	0.582	1	0.445	1.449
Tax penalties	1.000	0.474	4.455	1	0.035**	2.718
Gender	-0.012	0.386	0.001	1	0.975	0.988
Education	0.975	0.422	5.330	1	0.021**	2.650
Age	-0.388	0.308	1.579	1	0.209	0.679
Employment status	0.689	0.673	1.046	1	0.306	1.991
Employment sector	-0.565	0.367	2.369	1	0.124	0.568
Constant	-4.318	2.046	4.454	1	0.035**	0.013

Omnibus Tests of Model Coefficients (0.017)
Hosmer and Lemeshow Test Sig (0.953)

Source: author's computations
Note: ** denotes significance at the 5% level

Table 5 presents findings from model 2 which incorporates demographic factors. The findings revealed that selected demographic factors including gender, age and employment sector are negatively associated with higher probabilities of tax compliance although the association was found to be statistically insignificant. In contrast, the level of educational attainment was found to be positively associated with higher probabilities of tax compliance. This implies that educated citizens are most likely to behave in a tax compliant manner given the amount of knowledge they have on tax policies and regulation.

Table 6. Model 3

	B	S.E.	Wald	df	Sig.	Exp(B)
Tax return calculation	-0.057	0.466	0.015	1	0.902	0.944
Payment method	0.748	0.502	2.220	1	0.136	2.113
Tax penalties	0.825	0.493	2.807	1	0.094***	2.282
Social influence	-0.673	0.445	2.284	1	0.131	0.510
Benefit	0.209	0.455	0.211	1	0.646	1.233
Tax morale	0.574	0.567	1.024	1	0.312	1.775
Trade off	-0.200	0.402	0.248	1	0.619	0.819
Constant	-2.996	1.500	3.990	1	0.046	0.050

Omnibus Tests of Model Coefficients (0.063)
Hosmer and Lemeshow Test Sig (0.353)

Source: author's computations
Note: *** denotes significance at the 10% level

Perceptions on government including public services that taxpayers benefit from as well as perceptions on the quality of public services, were incorporated into the initial tax compliance model. The findings indicated that all the variables that capture perceptions on government are statistically insignificant in explaining variations in taxpayers attitudes. The last point of analysis involved the incorporation of political legitimacy into the initial tax compliance model. The findings are provided in

Table 7 below.

Table 7. Model 4

	B	S.E.	Wald	df	Sig.	Exp(B)
Tax return calculation	-0.376	0.467	0.646	1	0.421	0.687
Tax payment knowledge	0.409	0.488	0.704	1	0.402	1.505
Tax penalty knowledge	0.978	0.479	4.167	1	0.041**	2.660
Percept on Corruption	0.695	1.040	0.446	1	0.504	2.004
Trust in government	-0.361	1.178	0.094	1	0.760	0.697
State of democracy	0.799	0.452	3.135	1	0.077***	2.224
Constant	-3.734	1.472	6.436	1	0.011*	0.024
Omnibus Tests of Model Coefficients (.102)						
Hosmer and Lemeshow Test Sig (.695)						

Source: author's computations,
Note: *,**,*** denote significance at the 1%, 5% and 10% level

The political legitimacy model revealed that the state of democracy is positively associated with higher probabilities of tax compliance in South Africa. This is because, in a democratic state such as South Africa, taxpayers believe that they have the authority to deliberate and decide legislation as well as to choose governing officials or parties. As such, they are more likely to be tax compliant given that they have vested their trust in the ruling party. The state of corruption was found to be positively associated with higher probabilities of tax compliance while on the contrary, the state of trust in government was found to be negatively associated with higher probabilities of tax compliance. This indicates that citizens are dissatisfied with the government's conduct and are thus less willing to settle their tax liabilities.

CONCLUSION AND RECOMMENDATIONS

This study was aimed at estimating the influence of tax knowledge and tax complexity on tax compliance in South Africa. The data collection process involved self-structured questionnaires. The data was analysed by means of descriptive analysis and inferential statistics. The study made use of simple probability sampling to obtain the sample population and size. The target population consisted of 300 South African taxpayers although only 151 participants completed the survey. The findings from the Pearson correlation test indicated that knowledge on tax types, payment method and tax penalties is positively correlated with tax compliance in South Africa. Furthermore, results from the binary logistic model revealed that knowledge on tax penalties is positively associated with higher probabilities of tax compliance and this associated was found to be statistically significant. This implies that tax penalties are well in force and effectively communicated to taxpayers to induce a tax compliant behaviour. In contrast, knowledge on tax calculation was found to be negatively associated with probabilities of higher tax compliance although the association was found to be statistically insignificant. Demographic factors such as the level of educational attainment as well as the state of democracy, were found to play a significant role in inducing tax compliance. Given these findings, the study recommends the expansion of programmes that educate taxpayers about the different tax types they are liable for, the importance of filling tax returns on time as well as payment facilities available to avoid penalties. Various methods of communication can be utilised, including through educational television programmes and local radio stations, billboards, and telephonic communication. More attention can be channelled towards specific career groups such as artists and professional athletes, who in most instances, lack the knowledge on tax types they are liable for.

REFERENCES

Bornman, M. and P. Ramutumbu. 2019. A tax compliance risk profile of guesthouse owners in Soweto, South Africa. *Southern African Journal of Entrepreneurship and Small Business Management*, 11(1), pp.a181. https://doi.org/10.4102/sajesbm.v11i1.181.

Cechovsky, N. 2018. 'The importance of tax knowledge for tax compliance: A study on the tax literacy of vocational business students'. *In C. Nägele and B. E. Stalder (Eds.), Trends in vocational education and*

training research. Proceedings of the European Conference on Educational Research (ECER), Vocational Education and Training Network (VETNET), pp. 113–121. https://doi.org/10.5281/zenodo.1319646.

Cohen, J. 1988. *Statistical Power Analysis for the Behavioural Sciences*. 2nd ed. Hillsdale, NJ: Erlbaum.

Cox, S. P. and R. J. I. Eger. 2006. Procedural Complexity of Tax Administration: The Road Fund Case. *Journal of Public Budgeting, Accounting and Financial Management*, 18(3), pp. 259 – 283.

Damajanti, A., and A. Karim. 2017. Effect of tax knowledge on individual taxpayers compliance. *Economics & Business Solutions Journal*, 1(1), pp.1-19.

Evans, C., and S. Joseph. 2015. The South African tax system: Fit for purpose?. *Journal of Tax Administration*, 1(2), pp.26–56.

Fleming, J. and K. E. Zegwaard. 2018. Methodologies, Methods and Ethical Considerations for Conducting Research in Work-integrated Learning. *International Journal of Work-Integrated Learning*, Special Issue: Work-integrated Learning Research Methodologies and Methods, 19(3), pp. 205-213 Retrieved from: https://files.eric.ed.gov/fulltext/EJ1196755.pdf.

Gambo, E. J., A. Mas'ud, M. Nasidi, and O. S. Oyewole. 2014. Tax Complexity and Tax Compliance in African Self-Assessment Environment. *International Journal of Management Research & Review*, 4(5), pp. 575-582.

Grover, V. K. 2015. Research Approach: An Overview. *Golden Research Thoughts*, 4(8), pp. 1-12.

Hantono, L. 2021. The Impact Tax Knowledge, Tax awareness and Tax Morale toward Tax Compliance Boarding House Tax. *International Journal of Research -GRANTHAALAYAH*, 9(1), pp. 49-65. https://doi.org/10.29121/granthaalayah.v9.i1.2021.2966.

Haradhan, K. M. 2017. Research Methodology. *MPRA Paper No. 83457*. Retrieved from: https://mpra.ub.uni-muenchen.de/83457/

Hofmeyr, C. D. 2011. General 1991 Self-Assessement. SAICA Variable Articles Issue No.146. Retreived from: https://www.saica.co.za/integritax/2011/1999._Self_assessment.htm.

Manual, V., and A. Xin. 2016. Impact of Tax Knowledge, Tax Compliance Cost, Tax Deterrent Tax Measures towards Tax Compliance Behavior: A survey on Self-Employed Taxpayers in West Malaysia. *Electronic Journal of Business and Management*, 1(1), pp. 56-70.

Matibe, B. O., F. S. Memba, and O. Oluoch. 2015. Influence of Tax Knowledge and Awareness on Tax Compliance Among Investors in the Export Processing Zones in Kenya. *International Journal of Scientific Research and Management*, 6(10), pp.723-728.

Mertler, C. A., and R. A. Vannatta. 2005. *Advanced and Multivariate Statistical Methods: Practical Application and Interpretation (3rd ed.).* Glendale, CA: Pyrczak Publishing.

Mukaka, M. M. 2012. Statistics Corner: A guide to appropriate use of Correlation coefficient in medical research. *Malawi Medical Journal*, 24(3), pp.69-71.

Mukhtar, A. E., E. Kerosi, and I. T. Ondabu. 2015. Relationship between Tax Compliance Barriers and Government's Revenue Generation at Gobonimo Market in Somaliland. *International Journal of Business Management and Economic Research*, 6(6), pp.380-399

Musimenta, D. 2020. Knowledge Requirements, Tax Complexity, Compliance Costs and Tax Compliance in Uganda. *Cogent Business & Management*, 7(1), pp. 1-19, DOI: 10.1080/23311975.2020.1812220.

Naape, B., and N. Mahonye. 2021. Does South Africa's tax effort fall short of its tax capacity? *Development Southern Africa*, 38(5), pp. 750-768, DOI: 10.1080/0376835X.2021.1883418.

Oladipupo, A. O. and U. Obazee. 2016 Tax Knowledge, Penalties and Tax Compliance in Small and Medium Scale Enterprises in Nigeria. *iBusiness*, 8(1), pp. 1-9. http://dx.doi.org/10.4236/ib.2016.81001.

Palil, M. R. 2005. Does tax knowledge matter in self-assessment system? Evidence from the Malaysian tax administration. Journal of American Academy of Business, 6(2), pp.80 – 85.

Palil, M. R. (2010). Tax Knowledge and Tax Compliance Determinants in Self-Assessment System in Malaysia. *PhD Thesis*, The University of Birmingham.

Pau, C., A. Sawyer, and A. Maples. 2007. Complexity of New Zealand's tax laws: An empirical study. *Australian Tax Forum*, 22(1), pp.59–92.

Peng, C. Y. J., K. L. Lee, and G. M. Ingersoll. 2002. An Introduction to Logistic Regression Analysis and Reporting. *The Journal of Educational Research*, 96(1), pp. 3-14.

Pigou, A. C. 1954. Some Aspects of the Welfare State. *Diogenes*, 7(6)

Richardson, M., and A. Sawyer. 2001. A Taxonomy of the Tax Compliance Literature: Further Findings, Problems and Prospects. *Australian Tax Forum*, Vol. 16, No. (2), pp.137 – 320.

Saad, N. 2014. Tax Knowledge, Tax Complexity and Tax Compliance: Taxpayers' View. *Procedia - Social and Behavioural Sciences*, 109, pp. 1069 – 1075.

Saad, N., M. Mansor, and I. Ibrahim. 2003. The Self-assessment System and its Compliance Costs. *Journal of Financial Reporting and Accounting*, 2(1), pp.1-15.

Schoeman, N., and Y. Jordaan. 2015. Measuring the impact of Marginal Tax Rate Reform on the Revenue Base of South Africa using a Microsimulation Tax Model. Department of Economics, University of Pretoria.

Smith, A. 1776. An Inquiry into the Nature and Causes of the Wealth of Nations, McMaster University Archive for the History of Economic Thought.

Sperandei, S. 2013. Understanding Logistic Regression Analysis. *Biochemia Medica*, 24(1), pp. 8-12.

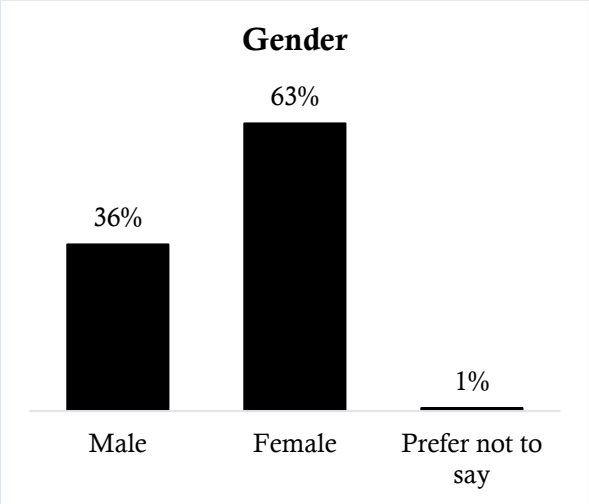
Taherdoost, H. 2016. Sampling Methods in Research Methodology; How to Choose a Sampling Technique for Research. *International Journal of Academic Research in Management*, 5(2), pp. 18-27.

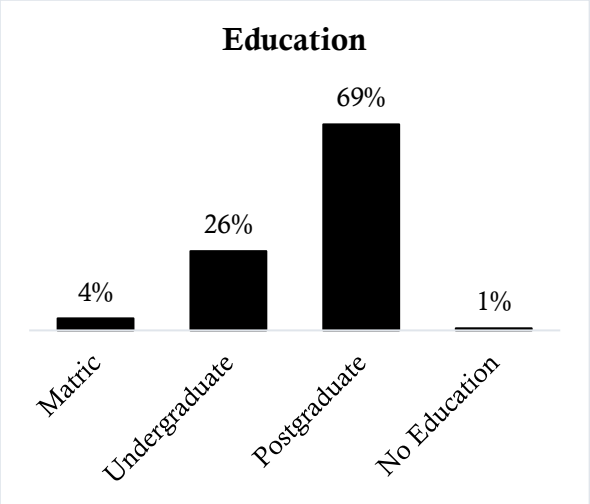
Twum, K. K., M. K. Amaniampong, E. N. Assabil, M. A. Adombire, D. Edisi, and C. Akuetteh. 2020. Tax Knowledge and Tax Compliance of Small and Medium Enterprises in Ghana. *Southeast Asia Journal of Contemporary Business, Economics and Law*, 21(5), pp. 222-231.

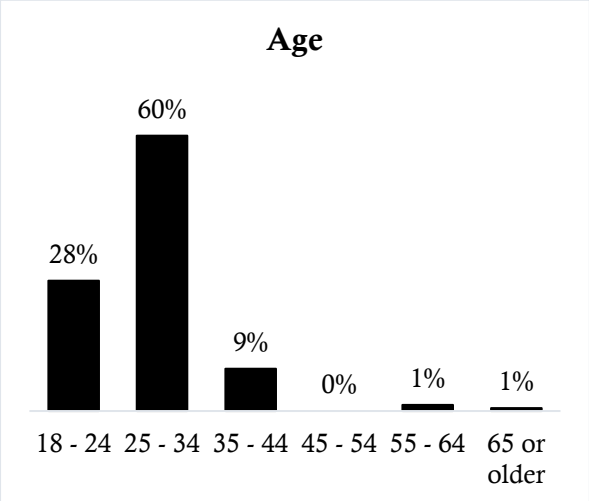
Wadesango, N., and N. Mwandambira. 2018. Evaluating the Impact of Tax Knowledge on Tax Compliance among Small Medium Enterprises in a Developing Country. *Academy of Accounting and Financial Studies Journal,* 22(6), pp. 1-16.

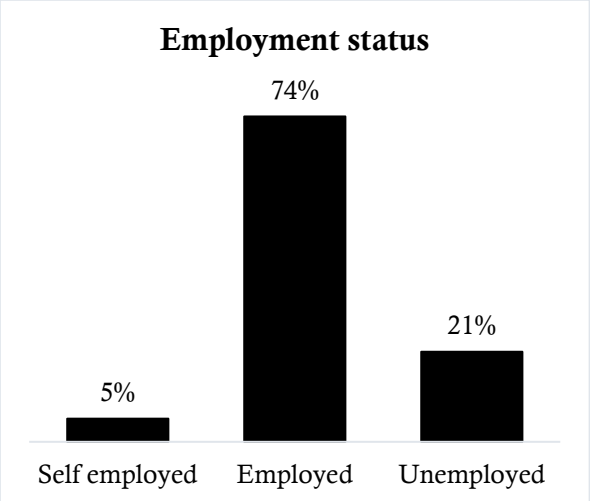
Young T. J. (2016). 'Questionnaires and Surveys'. *In Zhu Hua, Ed. Research Methods in Intercultural Communication: A Practical Guide*. Oxford: Wiley, pp. 165-180.

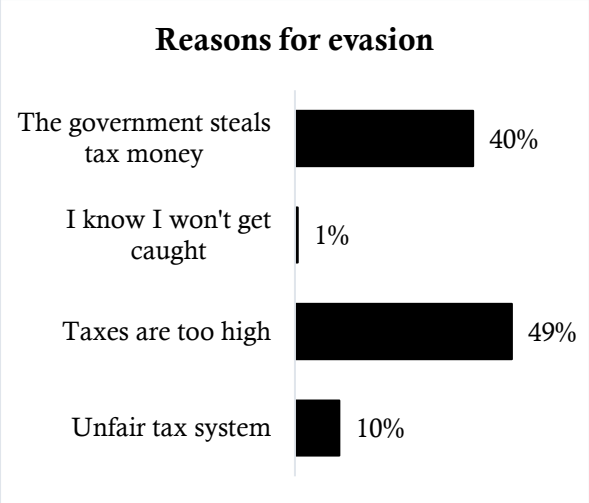
APPENDIX

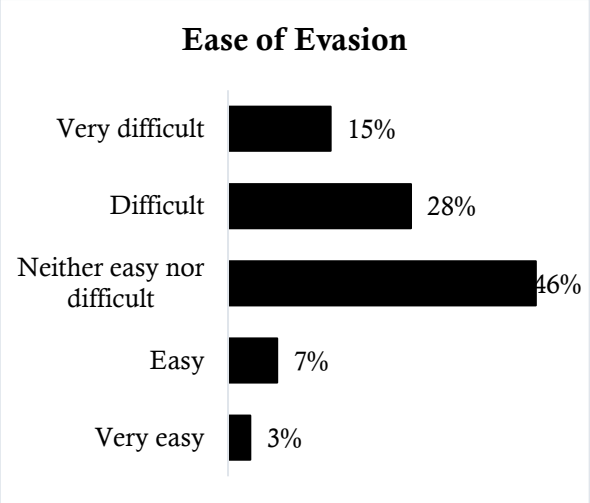


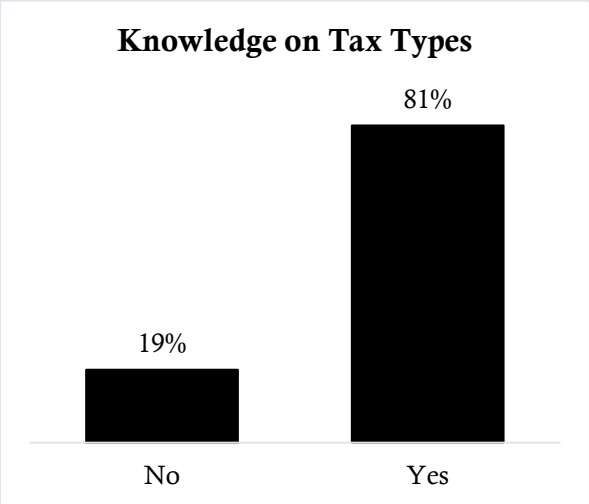


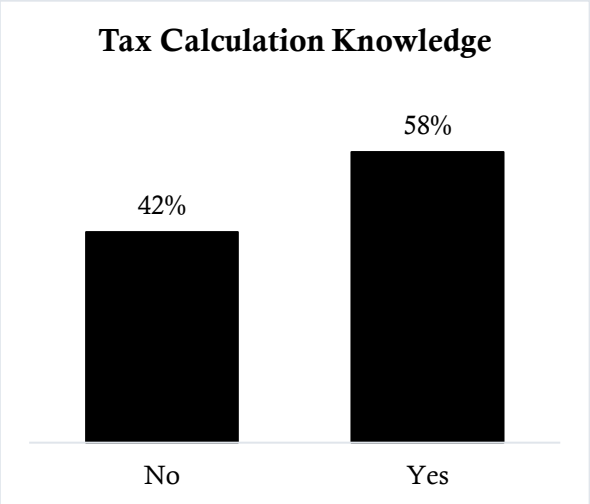


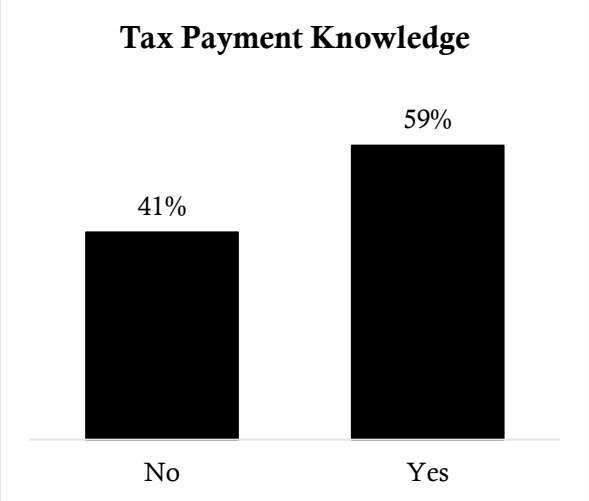


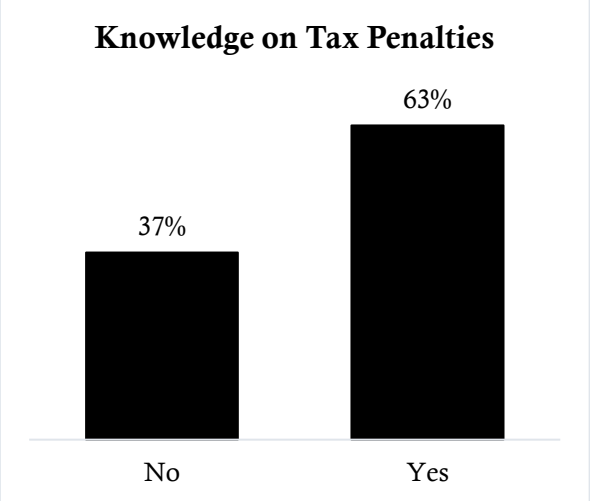

Reasons for evasion
The government steals tax money
40%
I know I won't get caught
1%
Taxes are too high
49%
Unfair tax system
10%

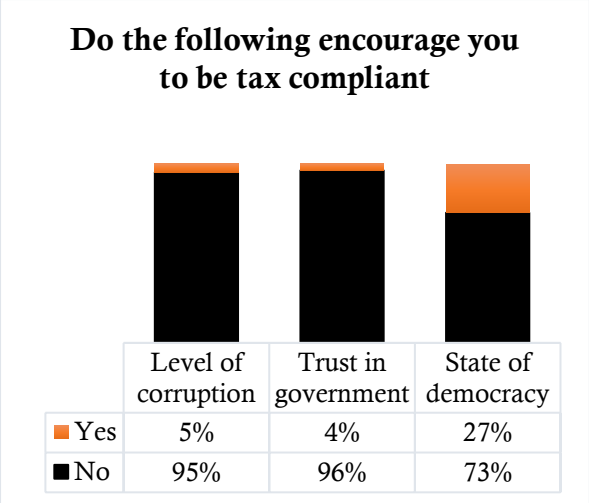

Ease of Evasion
Very difficult
15%
Difficult
28%
Neither easy nor difficult
46%
Easy
7%
Very easy
3%

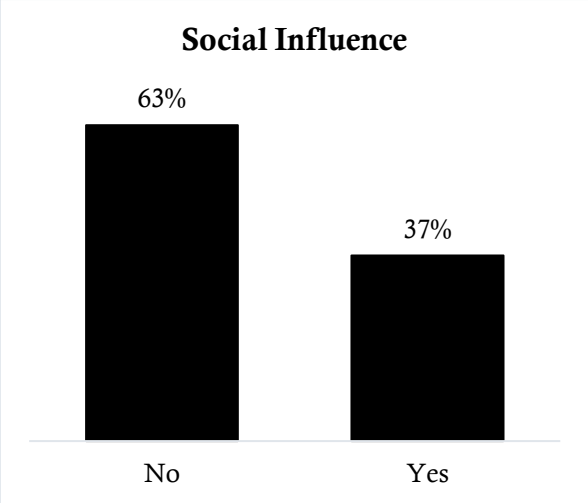

Knowledge on Tax Types
19%
81%
No
Yes


Tax Calculation Knowledge
42%
58%
No
Yes


Tax Payment Knowledge
41%
59%
No
Yes


Knowledge on Tax Penalties
37%
63%
No
Yes


Do the following encourage you to be tax compliant
Level of corruption
Trust in government
State of democracy
Yes
5%
4%
27%
No
95%
96%
73%


Social Influence
63%
37%
No
Yes