DMU

Advanced Journal of Interdisciplinary Studies 9(2025) 1755-1771

AJIDS

Journal homepage: www.ajids.dmu.edu.et

Volume 9(1), June 2025

Determinants of Tax Evasion in Bale Goro Town, Bale Zone, Oromia Region, Ethiopia.

Ewunetu Dejen, Bantayehu Tamrie Alemu*

Department of Economics, College of Business and Economics, Debre Markos University. POB 269, Debre Markos, Ethiopia.

*Corresponding author email: bantayehut@gmail.com or bantayehutamrie@dmu.edu.et

Abstract

Tax evasion remains a significant challenge for tax administration in developing countries, in which the problem is more severe in Ethiopia. This study identified determinants of tax evasion in Bale Goro town; Oromia regional state of Ethiopia, The study employed a survey research design and adopted a quantitative research method. The sampling approach utilized was stratified sampling, followed by simple random sampling to select items from each stratum. A total of 242 samples were selected from the population. The study used both primary and secondary data. Descriptive statistical tools and inferential statistical methods, including binary logistic regression analysis, were employed. The study found that demographic determinants affect tax evasion: male taxpayers are more likely to evade taxes than females, age negatively affects tax evasion, and education level has a positive and significant effect on tax evasion. Institutional determinants include tax rate and tax system complexity, which positively affect tax evasion, while the probability of detection and penalty level negatively and significantly affect tax evasion. Corruption positively and significantly affects tax evasion, while compliance cost and incentives negatively and significantly affect it. Behavioral determinants include peers' attitudes, which negatively affect tax evasion, public accountants, which significantly and positively affect it, and the category of taxpayers, which negatively affects tax evasion. Among the three classifications of determinants, institutional factors have the strongest and most significant effect on tax evasion, followed by demographic and behavioral factors. Therefore tax authorities and policymakers should give attention for the issue and work to reverse it.

Keywords: Tax payers, Tax evasion, Logistics regression, Goro town, Ethiopia.

1. Introduction

Taxation is a system of imposing compulsory levies on all income, goods, services, and properties of individuals, partnerships, trustees, executors, and companies by the government. Tax evasion is any action by taxpayers that results in the concealment of all or part of their legitimate or illegitimate economic activities from tax authorities to escape payment of taxes (Al-Asfour & McGee, 2024). Tax revenue is the amount of funds raised through taxation. It is the lifeblood of any government around the world, and the effectiveness of a government largely depends on the ability of citizens to voluntarily discharge their tax obligations without any coercion (Sarin & Mazur, 2024).

Developing countries are currently dependent more on external financial resources to fund their development activities (Wudeneh, 2018). Government in most of African countries are confronted with the challenge of lack of funds to carry out their social responsibilities due to low tax revenue caused by high rate of tax evasion by individuals' act of concealing taxes through submission of false documents, false statements or unrealistic information. This will be harmful to an economy especially the evolving economies, in such a manner that it distorts investment and dwindle development (Omodero, 2019).

There was a clear pattern showing that developing countries collects less taxes share of their GDP than their developed counterparts. This is due to, among others, the large share of informal sector, low tax morale; weak tax administration and less developed financial sector (Andualem *et. al.*, 2019). Ethiopia, like many other developing countries, has faced challenge in raising sufficient revenue to advance the socio-economic development of the country. The country has experienced a consistent surplus of public expenditure over the revenue, leading government running persistent budget deficit. The government of Ethiopia has undertaken comprehensive tax reform programs, with the aim of broadening the tax base and facilitating the overall development of the economy. It was intended to encourage trade, investment and development through transparent and stable functioning of tax system and to increase government revenue to support social and economic development programs there by alleviate poverty (Goitom, 2020).

However, the problem exists in reality with collection of taxes. In Ethiopia, the tax contribution to the GDP ratio remained low and is relatively shrinking due to tax compliance including tax evasion and tax avoidance. In comparison to neighboring countries like Kenya (17.7%) and Rwanda (14.1%), the country's tax to GDP ratio in 2010 was 12.2%, the lowest among SSA nations (average of 20%). Ayenew (2016). Tax evasion recently remains the greatest problem plaguing tax administration in developing countries. The act of evading tax has affected the revenue base of the government especially in providing essential services in the society. People naturally prefer to reduce their tax liabilities by deliberately overstating their expenses and make false entries in their book of account, causes tremendous reduction in the revenue accruable to the government which eventually reduces revenue in the treasury of government (Usman, 2019).

Many problems observed like poor administration, failure to collect sufficient tax revenue, lack of government and economic stability, and low capacity of tax administration to monitor tax compliance among tax payers. The sub-Sahara Africa countries have a relatively low capacity of tax revenue at 20% of their GDP, on average, the lowest in the world. This is due to primarily to the low level of economic development, the large share of agricultural sector in economic activity, and the large size of the shadow or informal economy (Goitom, 2020).

Like other nations in Sub-Saharan Africa (SSA), Ethiopia struggles to generate enough revenue to support economic expansion. The nation's high percentage of tax evasion makes this issue even worse. The real tax revenue as a percentage of the

country's GDP (about 13%) is still low when compared to the average for SSA and low-income nations, per a 2024 study on tax evasion and people' impression of government legitimacy. With general economic growth, the share of tax income that should increase in relation to GDP because of a progressive tax structure has not increased as anticipated. Poor tax compliance practices and inadequate tax administration may be the cause of this state of affairs in the revenue system (Loratoa et al., 2024).

The underground economy is also common problem, in Ethiopia, 36% of the economy is not reported and captured by the official statistics. The amount of tax evasion reached 10% of the economy in 2010. For the period from 2006–2012, the average growth rate of tax revenue has raised by 36%, nevertheless, the growth rate of tax revenue has been fluctuating between 10.1% in 2006/07 to 8.6% in 2008/09 and 11.5% in 2010/11 fiscal years(Wudeneh, 2018).

Regarding the complexity of the problem, several studies has been conducted in this area. Empirical studies undertaken so far on the assessment of determinants of tax evasion are, inconclusive, only based on tax payers' side and concentrated on behavioural patterns. For example, Manchilot (2023), a study on determinants of tax compliance in Gonder city, concluded that simplicity of tax system, probability of detection and organizational strength of tax authority found to be significant determinants of tax compliance attitude of tax payers (Tilahun, 2018). Category A taxpayers are more likely to engage in tax evasion than category B taxpayers, according to a study by Yonas Sendaba, Daniel Balcha, et al. on what influences tax evasion attitude in SNNPR, Ethiopia. Other factors that have been identified to influence tax evasion attitudes include peer pressure, education level, tax rate, and tax structure (Sendaba et al., 2021). Both studies concentrated on attitude and behaviours of tax payers towards tax evasion based on tax payers' side and do not analyse tax evasion directly from documented files in tax authority. As per the researchers' knowledge, an individual or group cannot divulge or evince a negative attitude in such sensitive criminal issues, thus the segregation of tax payers to evader or elsewhere from tax payers' point of view in this condition is questionable. Therefore, lack of direct investigation on tax evasion and failure to segregate tax payer on the basis of existing file in tax authority in earlier studies is the research gap in this aspect.

Similar to other locations in Ethiopia's Oromia regional state, the study area of Bale Goro town faces an imbalanced gap between tax collection and tax expenditures, which is caused by non-compliance by taxpayers. Because the municipality is currently not collecting enough taxes, the government is struggling to make ends meet, which results in inadequate funding for public services and ultimately places a burden on the people. Additionally, because of the current issue, no research has been done on the environment of tax evasion in Bale Goro town.

Therefore, the first intention is to fill the research gap that were not addressed by many earlier studies (Tilahun, 2018; Sendaba et al., 2021; Muhammed and Sebhat, 2019; Orkaido, 2018) which is mostly not specifically and directly

investigated tax evasion as well as failure to segregate tax payer on the basis of existing file in tax authority, while the second motive is to fill the study's area based gap, absence of earlier study by identifying the issue. Hence, this study aims to address the main objective of identifying determinants of tax evasion in Bale Goro town, Oromia, Ethiopia.

The study "Determinants of Tax Evasion in Bale Goro Town, Bale Zone , Oromia region , Ethiopia." is significant because it has the ability to provide light on the fundamental causes of tax evasion in a particular Ethiopian setting. The study's identification and analysis of these characteristics can help tax authorities and policymakers understand the main problems impeding tax compliance. This knowledge can help build focused tactics and interventions that increase voluntary compliance, increase the effectiveness of tax collection, and eventually raise the tax revenue required for economic development and growth. Furthermore, by providing comparative viewpoints and workable solutions that may be modified for comparable situations, the findings can add to the body of knowledge on tax evasion in developing nations.

2. Research Methods

2.1. Description of the study area

Goro district is one of the 18 districts of Bale zone in Oromia region of Ethiopia, which was bordered by Guradamole in Southwest, Berbere in West, Sinana Dinsho in Northwest, Gindir in Northeast and Somali region in Southeast. Goro town is located 494 km away from Adis Abeba, the capital city of Ethiopia and 60 km from Robe, the capital town of Bale zone. The 2007 national census reported of total population of the district was 99,724 (of whom 50,517 were males and 49,207 were females), and the town has total population of 7,833 (of whom 3,935 were males and 3898 were females).

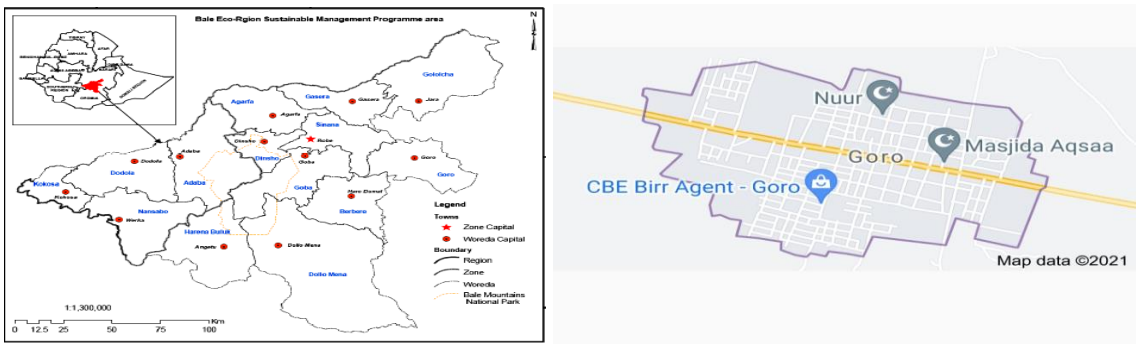

Figure 1. Map of the study area (Goro woreda, 2023)

2.2. Research design

This study adopted explanatory types of research design. Finding and comprehending the cause-and-effect linkages between variables is the goal of explanatory research design, By examining the fundamental causes and mechanisms, this kind of research aims to explain why and how particular events occur. It

frequently entails testing hypotheses and collects data through surveys, experiments, and case studies.

2.3.Research method or approach

The researchers employed a cross-sectional research design with a deductive approach. A cross-sectional design involves collecting data at a single point in time from a sample that represents a larger population. This method is useful for identifying patterns and relationships among variables without the need for long-term observation. The deductive approach, on the other hand, starts with a theoretical framework or hypothesis and then tests it through empirical observation. By combining these methods, the researchers aimed to systematically investigate the determinants of tax evasion in Bale Goro Town, providing a snapshot of the current situation and testing their hypotheses based on existing theories.

2.4. Target population

The target population of this study are those tax payers including all entrepreneurs that are engaged in wholesale and retail trade, manufacturing industries, hotel and restaurant and others which will exist under Bale Goro town tax authority. The tax payers book of account or income statement and tax estimation of tax authority are used to decide the tax liability of the tax payers. Therefore, the total target population was 614 tax payers at Bale Goro town tax authority.

2.5. Sample size and sampling technique

2.5.1. Sample size

To determine the sample size, the researcher used mathematical formula of Yamane's formula. Taro Yamana (1967) provides a simplified method to calculate the sample size. It assumes the sample has 95% of desired confidence level or reliability about the population and the sample error is 5%. (Yamane, 1967). The simplest formula was given as follows.

$$n = \frac{N}{1+N(e^2)}$$

where n is sample size, N is number of total population and e stands for an error. Accordingly, the sample size for this study is calculated as;

$$n = \frac{614}{1+614(0.05)^2} = 242$$

Therefore, the researcher took 242 samples from the total population i.e. all tax payers in Bale Goro town.

2.5.2. Sampling techniques

The sampling approach that was utilized by the researcher is stratified sampling method. Stratification was based on the type of business that the tax payer engaged in this study ensure elements are most homogeneous within each stratum and most heterogeneous between each stratum. Accordingly, all tax payers in the town are classified into seven strata namely wholesale traders, retail traders, small manufacturing enterprises, non-distributive services, distributive services, construction and urban agri-business enterprises. The researcher used simple random sampling for selection of items from each stratum that every item of the population in each stratum that have an equal chance of inclusion in the sample. This ensures statistical regularity and sample representativeness.

Next, the researcher followed proportional allocation. Accordingly, the proportional allocation adopted to get sample sizes

under each strata using the formula; $n_i = n (\frac{Ni}{N})$, where ni is sample size in i strata, Ni is population in i strata and N is total population. Therefore, the size of sample in each stratum was determined in in the following table below.

Table . Sample size from stratum

S. No.	Classification of strata	Target population within stratum	Proportional sample size allocation	Sample size within stratum
1.	Wholesale trade	22	242(22/614)	9
2.	Retail trade	391	242(391/614)	154
3.	Small manufacturing enterprises	19	242(19/614)	8
4.	Non-distributive services	123	242(123/614)	48
5.	Distributive services	54	242(54/614)	21
6.	Construction	2	242(2/614)	1
7.	Urban agri-business enterprises	3	242(3/614)	1
	Total population	**614**	**Total sample size**	**242**

2.6. Data type and source

This study used both primary and secondary types of data. The main source of primary data that was self-administered questionnaire. Secondary data sources: file of tax payers at tax authority office, different reference books, university publication, documents and reports from tax authority and officials and the internet. The researcher also used secondary data obtained from file of tax payers and report of revenue authority of the town to analyse, whether tax payers are engaged in tax evasion or not, and triangulating purpose.

2.7. Data collection instruments and methods

The researcher applied a structured or self-administered questionnaire. The questionnaire has two sections; the first section was regarding of the overall demographic characteristics of the respondents while the second section was questions with regard to examining the determinants of tax evasion.

The questionnaire was closed ended questionnaires and no direct questions about tax evasion was used in the questionnaire because of the sensitiveness of the issue. Instead various oblique and proxy questions were used by the researcher for accumulation of information on the determinants of tax evasion.

2.8. Methods of data analysis

For the achievement of the study's objective, this study used both descriptive and inferential statistical methods of data analysis. The study used descriptive statistical method to analyse the raw data collected from primary source to get frequency, percentages, tables, mean and standard deviation. Summaries are presented as counts or frequency, and

percentages in tables to understand trends, variability and behaviour of study variables. For the inferential statistical methods of data analysis, the researchers used a binary logistic regression analysis to examine determinants of tax evasion in Goro town, which was dichotomous variable regression analysis method.

2.9. Model specification and test

In this study, the dependent variable is tax evasion, whether tax payer or respondents are tax evader or not, is a binary model, which was dichotomous regression model. We consider tax evader, if there is an evidence of a tax payer, who never paid his/her tax properly in the data collection year. For the analysis of dichotomous outcomes, a logistic regression model is appropriate over others in that it is very flexible and easily useable model that provides results in expressive interpretation.

The functional form of logistic model is specified as follows.

$$Pi = EY = \frac{1}{Xi} = 11 + e - (\beta_0 + \beta_1 X_i) \text{ -- ---------- (1)}$$

The probability, respondents are tax evader expressed in the above equation was written as

Pi = 11 + ei – Yi, and not being tax evader was written as Pi1 – Pi = 1 + eYi1 +e – Yi. Taking the natural log of this equation was written as follows.

$$Li = LnPi1 - Pi = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots \beta_n X_n + U_t \text{ ----------(2)}$$

Where Pi = is a probability of tax evasion ranges from 0 to 1 and Yi = is a function of n explanatory variables (X) which is also expressed as-

$$Yi = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots \beta_n X_n + U_t \text{ ----------(3)}$$

Where β_0 = is intercept; $\beta_1, \beta_2 \ldots \beta_n$ = are slopes of equation in the model

X_1, X_2, X_n = are vector of relevant determinants of tax evasion

Li = is log of odds ratio, which is linear in Xi;U_t = is the disturbance term of the logit model.

Therefore, for this study, the binary logistic regression model was written as follows.

$$Y_i = \beta_0 + \beta_1 GEN + \beta_2 AGE + \beta_3 EDU + \beta_4 TRL + \beta_5 TCL + \beta_6 PDT + \beta_7 PNL + \beta_8 CRP + \beta_9 CPC + \beta_{10} INC + \beta_{11} PEER + \beta_{12} PAC + \beta_{13} CAT + U_t \text{ ----------(4)}$$

Table 2. Summary of study variables

Variable's Symbol	Description of variable	Unit of Measurement	Expected sign
Dependent variable			
TEV	Express tax payer be evader or not	Dummy	
Independent variables			
GEN	Sex characteristics of tax payers	Dummy	(+)
AGE	Age characteristics of tax payers	Ordinal	(-)
EDU	Educational background of tax payers	Ordinal	(+)
TRL	tax rate level on tax evasion	Scale	(+)

TSC	level of tax system complexity	Scale	(+)
PDT	probability of detection	Scale	(-)
PNR	penalty rate on tax evasion	Scale	(-)
CRP	corrupted tax officials	Scale	(+)
CPC	compliance cost on tax evasion	Scale	(+)
INC	incentives on tax evasion	Scale	(-)
Peer	peers influence of tax evasion	Scale	(+)
Pacct	public accountants on tax evasion	Dummy	(+)
Categ	tax payers' category on tax evasion	Scale	(+)

3. Results and Discussion

3.1. Descriptive statistical results

The demographic characteristics of respondents' gender as it were depicted in the table 4.1. below shows that, majority of respondents are male (74.12%) while 25.88% are females which indicates males have more opportunity to be engaged in business than females. The average age characteristics of respondents resulted 35 years, which indicated present domination of the youth in business activity which was also educated enough since 83.33% of them have 2nd level and 3rd level educational background (58.77% and 24.56%, respectively). The rest 12.72% have 1st level (grade 1-8), while 3.95% have no educational background.

Table 3.1.also resulted a significant portion i.e. 41.23% (94 respondents) were found being engaged in tax evasion activity which shows present expansion of tax evasion by tax payers. More specifically, of these respondents who are found to be tax evaders, 82.97% (78 respondents) were found to be male and educated well who have primary and secondary educational background (i.e, 58.51% (55 respondents) having 2nd level and 26.59 (25 respondents) having 3rd level educational background). The result also showed, of the total tax evader respondents, 89.36% (84 respondents) who complained high tax rate imposed by tax authority, 79.78% (75 respondents) who complained high complexity of tax system existed, 74.46% (70 respondents) with low probability of detection or less audited, 65.08% (64 respondents) not or less penalized for non-compliance, 85.10% (80 respondents) who complained existed high corruption within tax authority and officials, 81.91% (77 respondents).

Table 3. Descriptive statistic results

Variable	Character	Percent	Evasion character (Freq.)		Mean	Std. Dev.	Min	Max	Chi 2	P>chi2
			Evade	**Not evade**						
Tax evasion character	Evade	41.23			0.412	0.493	0	1		
	Not evade	58.77								

Gender of respondents	Male	74.12	78	91	0.741	0.438	0	1	6.539	0.011
	Female	25.88	16	43						
Age of resp.					35.13	8.848	21	64		
Education background	No educ.	3.95	5	4	3.039	0.729	1	4	2.277	0.517
	1st level	12.72	9	20						
	2nd level	58.77	55	79						
	3rd level	24.56	25	31						
Tax rate level	Low	6.14	0	14	2.416	0.606	1	3	111.1	0.000
	Medium	46.05	10	95						
	High	47.81	84	25						
Tax system complexity level	Low	9.21	1	20	2.377	0.648	1	3	70.58	0.000
	Medium	43.86	18	82						
	High	46.93	75	32						
Probability of detection (Audit level)	Low	51.75	70	48	1.592	0.680	1	3	35.59	0.000
	Medium	37.28	22	63						
	High	10.96	2	23						
Penalty level	Low	39.47	64	26	1.842	0.780	1	3	60.50	0.000
	Medium	36.84	25	59						
	High	23.63	5	49						
Corruption level in tax authority	Low	10.53	2	22	2.412	0.674	1	3	71.49	0.000
	Medium	37.72	12	74						
	High	51.75	80	38						
Compliance cost level	Low	13.16	0	30	2.350	0.702	1	3	76.05	0.000
	Medium	38.60	17	71						
	High	48.25	77	33						
Incentives	Yes	31.58	10	62	0.315	0.465	0	1	32.46	0.000
	No	68.42	84	72						
Peers attitude on tax evasion	Revolt	25.88	17	42	2.149	0.804	1	3	10.80	0.005
	Neutral	33.33	27	49						
	Support	40.79	50	43						
Respondent hired pub. Accountant	Yes	27.63	50	13	0.276	0.448	0	1	52.25	0.000
	No	72.37	44	121						
Category of tax payer	A	7.89	17	1	2.543	0.638	1	3	103.9	0.000
	B	29.82	55	13						
	C	62.28	22	120						

Source- Own computation (2023)

who complained high compliance cost, 89.36% (84 respondents) who blamed for no incentives given for non-compliant, 53.19% (50 respondents) who hired legal public accountant and 81.91% (77 respondents) who are within A and B categories of tax payers, were found to be engaged in tax evasion activity.

3.2. Inferential statistical results

3.2.1. Determinants of tax evasion; Binary logistic model regression result

Table 3.2. Binary logistic regression result

	Binary logistic regression
	Number of obs = 228
	LR chi2(13) = 221.73

	Prob > chi2 = 0.0000					
	Pseudo R2 = 0.7217					
taxevas |	Coef.	Std. Err.	Z	P>|z|	[95% Conf. Interval]	
gender |	0.3658684	0.8033958	0.46	0.649	-1.208758	1.940495
age |	-0.1235968	0.0464301	-2.66	0.008	-.2145982	-0.0325955
education |	0.0895598	0.4229592	0.21	0.832	-0.739425	0 .9185446
taxrate |	1.887268	0.5972965	3.16	0.002	0.7165883	3.057948
tcomlex |	1.201277	0.5256105	2.29	0.022	0.1710989	2.231454
detctlvl |	-0.012024	0.5484874	-0.02	0.983	-1.08704	1.062992
penalty |	-0.8425578	0.4401936	-1.91	0.056	-1.705321	0.0202059
corrupt |	0.7888901	0.5453306	1.45	0.148	-0.2799382	1.857718
compcost |	1.363875	0.5825096	2.34	0.019	0.2221776	2.505573
incentive |	-0.5549776	0.8164902	-0.68	0.497	-2.155269	1.045314
peersatt |	-0.5597792	0.4255206	-1.32	0.188	-1.393784	0.2742258
pacct |	0.3193174	0.8504214	0.38	0.707	-1.347478	1.986113
category |	-2.578259	0.7275513	-3.54	0.000	-4.004233	-1.152284
_cons |	-0.1827317	4.000476	-0.05	0.964	-8.02352	7.658057

Source- Own computation (2023)

Table 3.3 Marginal effect of logistic regression

	Marginal effects after logit						
	y = Pr(taxevas) (predict)						
	= .28870265						
Variable	dy/dx	Std. Err.	Z	P>|z|	[95% Conf. Interval]		X
gender *|	0.0722064	0.1496	0.48	0.629	-0.220997	0.36541	0.740088
age |	-0.025381	0.00975	-2.60	0.009	-0.044492	-0.00627	35.1322
education |	0.0183914	0.08677	0.21	0.832	-0.151666	0.188449	3.04405
taxrate |	0.387557	0.12528	3.09	0.002	0.025401	0.467971	2.37445
tcomlex |	0.2466863	0.1129	2.18	0.029	0.025401	0.467971	2.37445
detctlvl |	-0.0024692	0.11267	-0.02	0.983	-0.223297	0.218358	1.59471
penalty |	-0.1730221	0.09304	-1.86	0.063	-0.355369	0.009325	1.84581
corrupt |	0.1620013	0.11324	1.43	0.153	-0.059946	0.383948	2.40969
compcost |	0.2800765	0.1183	2.37	0.018	0.048216	0.511937	2.35242
incent~e*|	-0.1085845	0.15014	-0.72	0.470	-0.402848	0.185679	0.312775
peersatt |	-0.1149526	0.08995	-1.28	0.201	-0.291248	0.061343	2.14537
pacct*|	0.0674607	0.18345	0.37	0.713	-0.292101	0.427022	0.273128
category |	-0.5294543	0.16968	3.12	0.002	-0.862026	-0.196882	2.55066

(*) dy/dx is for discrete change of dummy variable from 0 to 1

Source- Own computation (2023)

Gender: The study's findings indicate that men are more likely than women to avoid taxes. Hypothesis Ho is thus approved. There is a positive and substantial correlation between tax evasion and male taxpayers (β1 = 0.3658684). According to the marginal effect, a shift in gender led to a positive change in tax evasion of 0.072264. This finding aligns with research by Orkaido (2018), Tadese and Goitom (2014), and Amina and Sanay (2015), which all revealed that women have a more positive attitude toward tax compliance than men do, meaning that men are more likely to engage in tax evasion than women.

Regarding to age effect of respondents on tax evasion, the result of this study revealed statistically insignificant and negative relationship between age and tax evasion (β_2=-0.1235968). The result indicated that the higher age of tax payers the less engagement in tax evasion activity meaning the young is more tax evader than the old aged tax payers. The marginal effect shows one-year change in age resulted negative change of (-0.025381) to tax evasion. This result supports the findings by Orkaido (2018), which found more aged tax payers has positive attitude to tax compliance than younger tax payers because aged people learn more, thinks more through their long life time.

The education level of tax payers have positive and significant effect on tax evasion (β_3= 0.0895598). In other words, the higher the education levels of tax payers, the more their engagement in tax evasion. The result showed that respondents having secondary educational background are more tax evaders than those respondents who have primary education and no educational background. The marginal effect of increase by an education level resulted for positive change (0.0183914) towards tax evasion. This result is similar with Sendaba,

According to Teklemariam et al. (2021), tax evasion attitudes are positively correlated with educational attainment. Additionally, the survey discovered that secondary school graduates are more likely to evade taxes than primary school graduates. Asfaw and Sibhat (2019) also discovered a positive correlation between the two variables: the higher the tax payer's educational attainment, the more likely they are to comply with tax laws or avoid paying taxes.

The findings also reveal that a positive and statistically insignificant relationship between tax evasion and tax rate (β_4= 1.88). This indicated that, an increase in tax rate increases tax evasion. If other things held constant, the marginal effect for tax rate implies, the change in unit of tax rate increase tax evasion to the same direction (0.38). These findings were similar with Sendaba, Teklemariam, et.al. (2021) that found, tax rate has positive effect on tax evasion which also showed that tax rate that is perceived as heavy, unfair and inequitable has significant contribution to enhanced positive attitude to tax evasion.

The findings also show that, insignificant and positive relation between tax system complexity and tax evasion at 0.05% of level of significance was resulted in this study(β_5=1.20). The marginal effect result shows also (0.24) a positive change to tax evasion due to a change in tax system complexity. In reality, as well, the more complexity of tax system, the more tax payer be non-compliant, i.e. the tendency of tax payers to be engaged in tax evasion activity increases. This result is also supported by Manchilot, (2018) found that whenever tax system is going to complex and complex, compliance level was discouraged and tax evasion attitude of tax payers increases.

Probability of detection (Audit) – the probability of detection or being audit has (β_6=-0.012) negative and strong significant relationship with tax evasion. As a result, hypothesis H_6 was accepted. The marginal effect to the change in a unit

of detection probability resulted change to the opposite direction of tax evasion (-0.002), keeping other things constant. This result is consistent with Tilahun and Yidersal, (2014), suggested that the more probability of being audit, the more tax compliance attitude (the less tax evasion attitude) of respondents which implies tax payers engaged less in tax evasion for the reason that they fear may caught by tax audit. Hailu and Kechema, (2020), also found the higher frequency of audit and detection could encourage tax payers to become more careful and discourage their tax evasion perception.

Penalty- with regarding penalty for evading tax, penalty level has negative and significant association with tax evasion since β_7= -0.17. Thus, hypothesis H_7 is accepted. The result revealed that, the higher penalty rate for evading tax, the lower tax payers to evade tax. The marginal effect to the change in a unit of penalty level resulted opposite change of tax evasion (-0.17), keeping other things constant. This finding is consistent with Tadese and Goitom, (2014), Orkaido, (2018) indicated that the higher the penalty the greater discouragement for potential tax evasion.

Corruption– analysis from this study resulted a positive and statistically significant relationship between tax evasion and corruption available within tax authority and officials (β_8= 0.79). This indicated that, an increase in corruption level increases tax evasion. If other things held constant, the marginal effect for corruption level implies, the change in unit of level of corruption increase tax evasion to the same direction (0.16). This finding is similar with findings of Wondosen and Yimer (2022), which found attitude of tax payers towards tax evasion, was positively and significantly affected by corruption in tax administration.

Compliance cost – the level of compliance cost in tax authority has positive (β_9 = 0.28) and insignificant relationship with tax evasion. This result entails the higher the compliance cost at tax authority office, the more tax payer tendency to evade tax. The marginal effect to the change in a unit of compliance cost resulted change to the same direction of tax evasion (0.28), keeping other things constant. This result is consistent with the findings of Wondosen and Yimer, (2022).

Incentive– according to the result of this study, incentives given by tax authority for good tax payers has negative (β_{10} =-0.55 and strong significant effect on tax evasion. Hence hypothesis H_{10} is accepted. The marginal effect shows a unit availability of incentive resulted negative change of (-0.10) to tax evasion. This result is consistent with studies of Asfaw and Sibhat, (2019), found giving recognition and incentives to loyal and honest tax payers has negative effect on tax evasion by enhancing tax compliance behaviour of tax payers.

Peers attitude– insignificant negative relationship between peers' attitude and tax evasion resulted from analysis of this study (β_{11}=-0.55). The behaviour and attitude of peers supporting tax evasion motivates tax payers to be engaged in tax evasion. The marginal effect shows a change in peers attitude concerning other factors held constant, resulted negative change (-0.11). This finding is also the same with Wondwosen and Yemer,

(2022), which found majority of tax payers are tax evaders and tax payers are influenced by their peers engaged in tax evasion activities to evade tax.

Public accountants – strongly significant and positive relationship between tax evasion and the role of authorized public accountants were found (β_{12}=-0.32). Those tax payers who have public accountants are engaged in tax evasion that shows the instrumental role played by authorized public accountants in facilitating tax evasion. The marginal effect showed that, availability or having public accountant resulted change of (0.067) tax evasion to the same direction. The results of Sendaba, Teklemariam, et al. (2021), who discovered a high and favorable correlation between tax evasion and public accountants, are likewise comparable to this one. The result revealed that, there is insignificant but negative effect of category of tax payers (β_{13}=-2.57) on tax evasion. In other words, Category 1 (category-A) and 2 (category-B) tax payers are more engaged in tax evasion activity than category 3 (category - C). The marginal effect shows that, citrus-paribus, decreasing change in category of tax payers from A to B to C, the engagement in tax evasion was changed to opposite direction (-0.52). It is similar with a study of Sendaba, Teklemariam, et.al.,(2021).

Generally, education followed by gender from demographic determinants strongly and positively affected tax evasion. With the institutional determinants of tax evasion, probability of detection followed by incentive and corruption strongly affected tax evasion, but the effect of the former two variables was negative while latter was positive. Behavioural determinants that strongly affect tax evasion was the role of public accountant followed by peers' attitude, and their impact were found to be positive and negative, respectively. Comparing the three determinant classifications institutional determinant factor followed by demographic and behavioural determinant factors found to result strong and significant effect on tax evasion.

4. Conclusion and Recommendation

4.1. Conclusion

In conclusion, the study identified several key determinants of tax evasion in Bale Goro town. Demographic factors revealed that male taxpayers are more likely to evade taxes than females. Age showed a statistically insignificant and negative relationship with tax evasion, while higher education levels positively and significantly influenced tax evasion.

Institutional factors also played a significant role. The tax rate and tax system complexity had positive but statistically insignificant relationships with tax evasion, indicating that higher tax rates and more complex tax systems increase tax evasion. The probability of detection and penalty levels had negative and significant associations with tax evasion, suggesting that higher detection probabilities and penalties reduce tax evasion. Corruption had a positive and significant effect, while compliance costs were positively but insignificantly related to tax evasion. Incentives for good taxpayers had a negative and significant effect on tax evasion.

Behavioral determinants showed that peers' attitudes had an insignificant negative relationship with tax evasion,

indicating that supportive peer behavior encourages tax evasion. Public accountants had a strongly significant and positive effect, highlighting their role in facilitating tax evasion. The category of taxpayers had an insignificant but negative effect, with Category 1 and 2 taxpayers more engaged in tax evasion than Category 3.

Overall, education and gender were the most influential demographic factors, while the probability of detection, incentives, and corruption were the most significant institutional factors. Among behavioral determinants, the role of public accountants and peers' attitudes were crucial. Institutional factors had the strongest impact on tax evasion, followed by demographic and behavioral factors.

4.2. Recommendations

Based on the conclusion, the study recommended the following solutions and policy options. Awareness of tax compliance and its role in building national as well as regional economy should be given to tax payers continuously specially with a priority target of male and educated tax payers. Tax rate should be examined and according to tax payers' ability to pay thereby affordable, fair, and equitable tax rate should be imposed by both local and federal government tax authority.

Tax system should be simple and any complexity and beurocratic activities within tax system should be revised and corrected. Probability detection or being audit should be strongly conducted with continuous frequency and those tax payers caught in evasion practise should be penalized in accordance to the low which should educate others.

Government together with tax authorities should increase or strength the administration capacity of tax authorities at all level and reduce or eliminate corrupted officials by creating awareness, conducting training and upgrading their education.

The level of compliance cost in tax authority should be lowered and free of any automation of tax payers. Further more loyal and honest tax payers should be rewarded enough and recognized with publicity. Government should have to reduce the role of public accountants in tax payment and replace them with internal accountants from tax authority sides.

Acknowledgement

We would like to express our gratitude to all data enumerators who gather the information properly. We also thank all educators who support for the required facilities.

5. References

Al-Asfour, F. & McGee, R.W. (2024). Tax Evasion and Tax Compliance: What Have We Learned from the 100 Most Cited Studies? In R.W. McGee & J. Shopovski (Eds.), *The Ethics of Tax Evasion,* 2(1): *New Perspectives in Theory and Practice. Springer.*

Angaye, E. (2020). Tax evasion and avoidance by SMEs and its effect on Bayelsa state economy. [Niger Delta University]. *International journal of Economics and business management,* 6(3). https/:www.iiardpub.org.

Demle, E. (2019), Determinants of tax evasion in Addis Ababa city

administration: the case of bole sub city category "A" taxpayers [Master thesis, Adiss Abeba university], Adiss Abeba, Ethiopia.

Folayan, D.O. and Adeniyi, A.G. (2018). Effects of tax evasion on government revenue generation in Oyo state [Osun state college of technology]. *European journal of accounting, auditing and finance,* 6(1), 76-89. URL: www.eajournals.org.

Gashaw, A. and Ayalsew, M. (2019). A study on tax evasion and avoidance in Ethiopia: The case of Ethiopian revenue and custom authority Bahir Dar branch [Debre Markos University]. *Research journal of finance and accounting*, 10(23). DOI: 10.7176/RGFA/10-23-06, URL: www.iiste.org.

Goitom, A. (2020). Tax assessment and collection problems of category "A" taxpayers: In the case of ministry of revenue eastern Addis Ababa taxpayers branch office [Master thesis, St. Mary's university]. Adis Abeba, Ethiopia.

Google Image (2021), Retrieved from http://latitude.to > satellite map Goro woreda.

Hailu, B. & Kechema, T. (2020). Impact of Tax Evasion among Tax Payers of Bale Robe Town Administration [Master thesis, Madda Walabu university]. *International journal of finance research,* 1(1).

Kebede, M. et.al (2019). Determinants of revenue collection efficiency and administration; The case of local government authorities in Wolaita zone, [Master thesis, Wolaita Sodo University]. Wolaita Sodo, Ethiopia.

Kenno, G. (2020). Factors Affecting Perception of Taxpayers toward the Seriousness of Tax Evasion in Bale Robe Town Administration [Master thesis, Madda Walabu University]. *International journal of finance and accounting,* 9(2): 21-30. DOI: 10.5923/j.ijfa.20200902.01, URL: http://journal.sapub.org/ijfa.

Kong, F. & Wang, C. (2015). *The determinants of tax evasion:* P 70-79

Macharia, J. (2014). The effect of tax evasion on tax revenues in Kenya [Master thesis, University of Nairobi]. Nairobi, Kenya

Oduro, R. et. al. (2017). Determinants of tax evasion in the developing economies: A structural equation model approach of the case of Ghana. [University of Cape coast]. *Journal of accounting and taxation*, 10(4), 37-47. DOI: 10.5897/JAT 2017.0275, URL:

Omodero, O.C. (2019). Tax evasion and its consequences on an emerging economy: Nigeria as a focus. [Master thesis, Michael Okpara university of Agriculture]. *Research in world economy,*https://doi.org/10.5430/rwe.v10n 3p127.

Sarin & Mazur (2024) The Inflation Reduction Act's Impact on Tax Compliance and Fiscal Sustainability

Tarekegn, M. (2015). Ethics of Tax Evasion: Evidence from self-employed tax-payers' of Dessie town administration [Master's thesis, Wollo university]. *Universal journal of accounting and finance*, 3(5), 153-170. DOI: 10.13189/ujaf.2015.0501,

Usman, M. (2019). Effect of Tax Evasion and Avoidance on Revenue Generation in Nigeria [Master thesis, Umaru Musa Yar'adua university]. *International journal of academic research in business, arts and science,* DOI: 10.5281/zenodo.3365698.

WB report, (May 2015). *Tax compliance cost burden and tax perceptions survey in Ethiopia*. World Bank group

Wintrobe R. (2018). *Tax evasion and trust; A comparative analysis* [Amesterdam institute for Advanced labour studies, University of Western Ontario], JEL codes: H11,O17,O5.

Wudeneh, M. (2018). Factors affecting tax payer's compliance with the tax system: category "a" tax payer's in Addis Ababa [Master thesis, St. Mary's university]. Adis Abeba, Ethiopia.

Appendices /Supplementary/ materials

Binary logistic regression
Number of obs = 228
LR chi2(13) = 221.73
Prob > chi2 = 0.0000
Pseudo R2 = 0.7217

taxevas |	Coef.	Std. Err.	Z	P>|z|	[95% Conf.	Interval]
gender |	0.3658684	0.8033958	0.46	0.649	-1.208758	1.940495
age |	-0.1235968	0.0464301	-2.66	0.008	-.2145982	-0.0325955
education |	0.0895598	0.4229592	0.21	0.832	-0.739425	0 .9185446
taxrate |	1.887268	0.5972965	3.16	0.002	0.7165883	3.057948
tcomlex |	1.201277	0.5256105	2.29	0.022	0.1710989	2.231454
detctlvl |	-0.012024	0.5484874	-0.02	0.983	-1.08704	1.062992
penalty |	-0.8425578	0.4401936	-1.91	0.056	-1.705321	0.0202059
corrupt |	0.7888901	0.5453306	1.45	0.148	-0.2799382	1.857718
compcost |	1.363875	0.5825096	2.34	0.019	0.2221776	2.505573
incentive |	-0.5549776	0.8164902	-0.68	0.497	-2.155269	1.045314
peersatt |	-0.5597792	0.4255206	-1.32	0.188	-1.393784	0.2742258
pacct |	0.3193174	0.8504214	0.38	0.707	-1.347478	1.986113
category |	-2.578259	0.7275513	-3.54	0.000	-4.004233	-1.152284
_cons |	-0.1827317	4.000476	-0.05	0.964	-8.02352	7.658057

Marginal effects after logit
y = Pr(taxevas) (predict)
= .28870265

Variable	dy/dx	Std. Err.	Z	P>|z|	[95% Conf.	Interval]	X
gender *|	0.0722064	0.1496	0.48	0.629	-0.220997	0.36541	0.740088
age |	-0.025381	0.00975	-2.60	0.009	-0.044492	-0.00627	35.1322
education |	0.0183914	0.08677	0.21	0.832	-0.151666	0.188449	3.04405
taxrate |	0.387557	0.12528	3.09	0.002	0.025401	0.467971	2.37445
tcomlex |	0.2466863	0.1129	2.18	0.029	0.025401	0.467971	2.37445
detctlvl |	-0.0024692	0.11267	-0.02	0.983	-0.223297	0.218358	1.59471
penalty |	-0.1730221	0.09304	-1.86	0.063	-0.355369	0.009325	1.84581
corrupt |	0.1620013	0.11324	1.43	0.153	-0.059946	0.383948	2.40969
compcost |	0.2800765	0.1183	2.37	0.018	0.048216	0.511937	2.35242
incent~e*|	-0.1085845	0.15014	-0.72	0.470	-0.402848	0.185679	0.312775
peersatt |	-0.1149526	0.08995	-1.28	0.201	-0.291248	0.061343	2.14537
pacct*|	0.0674607	0.18345	0.37	0.713	-0.292101	0.427022	0.273128

category |	-0.5294543	0.16968	3.12	0.002	-0.862026	-0.196882	2.55066

Stata output for Multicollinearity test

```
. vif
```

Variable	VIF	1/VIF
category	2.35	0.424916
pacct	2.03	0.493295
taxrate	1.78	0.561453
compcost	1.73	0.577972
incentive	1.60	0.625630
corrupt	1.58	0.631884
tcomlex	1.55	0.643218
detctlvl	1.41	0.708974
penalty	1.41	0.709466
peersatt	1.17	0.855531
age	1.15	0.872609
gender	1.13	0.883837
education	1.11	0.900119
Mean VIF	1.54	

Correlation matrix; spearman correlation result

```
. spearman taxevas gender age education taxrate tcomlex detctlvl penalty corrupt co
> mpcost incentive peersatt pacct category, star(0.05)
(obs=227)
```

	taxevas	gender	age	educat~n	taxrate	tcomlex	detctlvl
taxevas	1.0000						
gender	0.1669*	1.0000					
age	-0.1640*	0.1807*	1.0000				
education	0.0536	0.0243	-0.0367	1.0000			
taxrate	0.6859*	0.1904*	-0.1300	0.1034	1.0000		
tcomlex	0.5475*	0.1615*	-0.1012	0.0995	0.5305*	1.0000	
detctlvl	-0.3922*	-0.0665	0.0471	-0.0061	-0.3877*	-0.3826*	1.0000
penalty	-0.5080*	-0.1005	0.0132	-0.1306*	-0.3682*	-0.3800*	0.3259*
corrupt	0.5452*	0.1809*	-0.1392*	-0.0487	0.4228*	0.2387*	-0.2427*
compcost	0.5807*	0.1409*	-0.1218	-0.0141	0.4560*	0.3569*	-0.3349*
incentive	-0.3881*	-0.1418*	0.1051	-0.0246	-0.3510*	-0.2154*	0.3930*
peersatt	0.2092*	0.1685*	-0.0196	0.1126	0.1847*	0.1587*	-0.1386*
pacct	0.4744*	0.1604*	0.0753	0.1055	0.3623*	0.2670*	-0.1624*
category	-0.6701*	-0.2124*	-0.0418	0.0182	-0.4959*	-0.3719*	0.2831*

	penalty	corrupt	compcost	incent~e	peersatt	pacct	category
penalty	1.0000						
corrupt	-0.3138*	1.0000					
compcost	-0.3453*	0.4879*	1.0000				
incentive	0.2988*	-0.4441*	-0.4851*	1.0000			
peersatt	-0.1717*	0.1969*	0.2537*	-0.2553*	1.0000		
pacct	-0.2772*	0.3680*	0.4055*	-0.2003*	0.2297*	1.0000	
category	0.4234*	-0.4503*	-0.4478*	0.3127*	-0.2882*	-0.6755*	1.0000

Stata output for Heteroskedasticity test

```
. hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
         Ho: Constant variance
         Variables: fitted values of taxevas

         chi2(1)      =     0.96
         Prob > chi2  =   0.3278
```