Property Tax Compliance in Twifo Hemang Lower Denkyira District in the Central Region of Ghana: Does Distance to Nearest Tax Office Matter?

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Abstract

This study assesses factors that influence property tax compliance in Twifo Hemang Lower Denkyira District. Some studies have made efforts to identify some factors that deter property tax compliance however distance to the nearest tax office has been left unattended. Therefore, this study fills this gap by examining its effect in addition to some demographic factors on property tax compliance. The sample for this study was selected using a stratified sampling technique, simple random, and convenience where 400 property owners were selected as the sample size for the study. The data collection instrument used in collecting data for the study was a self-administered survey questionnaire. Since we proxy property rate compliance with binary variables such as paid and not paid, we employed binary logistic regression. The study found that distance to the nearest tax collection centre influences property tax compliance in the sense that the longer the distance, the less likely it is to comply. Other factors such as the gender of the property owner, age of the property owner and educational attainment of the property owner predict property tax compliance in Twifo Hemang Lower Denkyira District. The study recommends that the district assembly should increase the number of tax collection centres in the district.

Keywords: Property tax, distance to the nearest tax office, Binary logistic regression, Compliance

1. Introduction

The purpose of each legislature is to enable social management and infrastructure improvements to develop the lives of their citizens. To ensure equality in social development to improve people's lives, the economy must ensure decentralization (Badu, 2007). Decentralization is the process by which the government governs the people and has become an increasingly broad and significant

aspect of political and administrative reforms in many developing countries, where Ghana is no exception (Smith, 1985; World Bank, 1989). The program allows local authorities to act as primary agents to promote equal opportunities, wealth redistribution and poverty alleviation at the local level (Badu, 2007). Therefore, for the local government to perform decentralisation, it is necessary to have an appropriate level of income, which can be transferred locally or from the central government and make consumption decisions (Adu-Gyamfi, 2014).

In Ghana, District assemblies are mandated with extensive powers and functions under the 1992 Constitution and the Local Government Act 1993 to provide political and administrative guidance and to supervise other administrative authorities in their district, as well as take responsibility for overall development in their areas of jurisdiction (Petio, 2013). Section 10 of the Act empowers them with three sources of revenue: the District Assembly Common Fund (DACF), ceded revenue, and locally generated revenue raised through local taxation, rents and levies. The DACF is the main source, providing a constitutionally guaranteed minimum share of government revenue to local government (not less than 5%, and currently 7.5%). Ceded revenue refers to revenue received from a number of lesser tax fields that the central government has ceded to district assemblies. Ceded revenues are collected by the Internal Revenue Service (IRS), which is now part of the Ghana Revenue Authority, and transferred to district assemblies via the Ministry of Local Government and Rural Development. Examples of ceded revenue include entertainment tax, casino levies, betting tax, gambling tax and daily transport tax. Finally, there is locally generated revenue, collected through property rates, basic rates, fees, fines, licences, rents from municipal properties, ground rents emanating from 'stool' (royal and tribal) land, and royalties from timber and mineral revenues (Asante, 2011). This means that the Metropolitan Municipal District Assemblies (MMDAS) has several sources of income, such as internal government funding, intra-investment and bilateral and multilateral donor support and technical assistance income transfer (Adu- Gyamfi, 2014; Kuusaana, 2015). These available revenues are then used for developmental projects in their respective communities (Atuguba, 2006).

Boamah (2013) argues that property taxes (or property rates) are the most reliable, sustainable and income generating source of revenue for local governments around the world. This means that MMDAS cannot be exempted from property tax, so the focus on "what taxes, who pay taxes, taxes and issues of tax compliance" is related to the executive heads and other managers of MMDAS. Without uncertainty, tax revenue has always been a significant source of currency-

related assets, which should increase the development agenda (Al-Mamun et al., 2014). The concepts of property tax and property rate are often used interchangeably. The term "rate" is used primarily for countries with British colonial heritage and refers to property taxes imposed at the local government level (Norregaard, 2013). According to Adem and Kwateng (2007), property taxes are the financial burden imposed on real estate and are paid annually by their respective owners. In Ghana, sources of revenue to MMDAs are central government transfers, internally generated revenue as well as revenue from bilateral and multilateral donor support and technical assistance (Local Government Act 462, 1993). Property tax constitutes a substantial part of the internally generated revenue of Metropolitan, Municipal and District Assemblies. Boamah (2013) reported that property tax is the most dependable, sustainable and lucrative source of local government revenue across the globe, which means effective development to take place, the local government must be able to mobilize more tax most especially from property tax. Similarly, Prichard (2010) also reported that property taxes are safer source of income available to governments around the world.

However, like most developing countries, Ghana's tax collection capacity remains woefully inadequate (International Growth Centre, 2017) and nowhere is the inadequacy of tax collection capacity more apparent than in local governments, which collect a negligible fraction of local income in taxes. The government of Ghana report in 2016 revealed that local authority revenue collections total less than two per cent of the country's GDP (NDPC 2016). This is as a result of most of the Municipalities including Twifo Hemang Lower Denkyira District (THLDD) in Ghana are not able to meet their revenue target of which property tax is the main source. According to the head of the revenue unit, THLDD has not been able to meet her revenue target for the past five years. The statistics available at the district assembly reveal that the majority of the property owners in the district do not pay property tax. The District Chief Executive (DCE) acknowledged that their inability to mobilize enough revenue, especially from property tax has a negative effect on the development of the district. On the part of the government too, Ayitey et al., (2013) conducted a study in Ghana and found that the government of Ghana is incapacitated in addressing all the financial needs of the MMDAs including THLDD. Therefore, for THLDD to improve upon its provision of public goods to meet the needs of the citizens there is the need to find better ways of improving the collection of property tax, which remain the largest source of revenue within the local authority.

Although, various authors such as Adu-Gyamfi (2014), Gorder (2017), Palil (2010), Agbadi (2011), Alabede, Ariffin, and Idris (2012), Castro and Scartascini (2015) and Chauke and Sebola (2016) have conducted studies on property tax and revenue none of them looked at distance to the nearest tax office on property tax compliance. However, Adu and Amponsah (2016), has considered distance to the nearest tax office on tax stamp, the current study considered this factor in predicting the property tax compliance level of THLDD. The rest of the paper is structured as follows; section 2 discusses the literature review, section 3 describes the method and data, section 4 discusses the empirical results, and section 5 includes the conclusion and recommendations.

2. Reviewed Literature

The main theory underpinning the study is the Fisher Model by Fischer, Wartick and Mark (1992), who argued that tax compliance behaviour has been categorised into socio-economic, attitude and perception, and administrative factors (Kirchler, 2007; Palil, 2010). The Fisher Model has been applied in the literature, providing some explanation for taxpayer compliance behaviour. The interaction between tax compliance and some variables such as gender, perception of detection and punishment and education is inconsistent or still complex. For example, Ali et al., (2014), consistent with the theory of economic deterrence, suggest that the risks of detection and punishment tend to promote compliance with tax obligations. However, Leviner (2008) argues that punitive measures are not effective in implementing tax compliance. Engida and Baisa (2014) using a cross-sectional design to assess the factors that affect tax complaints in Ethiopia have found no connection between the behaviour of the appeal and the perception of people about power. This conclusion, however, is limited and inaccessible; as such observation may be caused by other factors such as the enforcement effort that the researcher did not carry out.

Annan et al., (2013) investigated the factors that determine tax evasion in Ghana using time series data covering the periods 1970-2010. They employed the currency demand approach to estimate the level of tax evasion for the entire period. The analytical technique used by them was the bounds test technique of cointegration. They measured age as a proportion of the Ghanaian population that falls in the age category between 15 and 64. A study about property tax was mostly related to other factors such as capital gains, firm performance and except some studies related to mobilisation and compliance (see Adu-Gyamfi, 2014; Chirico et al., 2016; Gordon, 2017; Blake

& Kriticos, 2019; Carrillo et al., 2021; Collin et al., 2022; Kresch et al., 2023). For instance, Adu-Gyamfi (2014) only focused on improving revenue mobilisation rather than compliance. Again, Gordor (2017) who did a similar study considered the compliance level but used other factors rather than distance to the nearest tax office in determining property tax compliance. Blake and Kriticos (2019) explored various factors influencing property tax compliance through case studies but did not present any empirical results. Carrillo et al. (2021) on the other hand focused on how rewards such as lotteries promote property rate compliance. Their results confirm with Chirico et al. (2016) who identified that rewards promote property tax compliance.

Since these similar studies have used other factors, the current study used the distance to the nearest office to the nearest tax office and controlled demographic factors such as age, gender, educational level, marital status, and household size, to determine property tax compliance level. Again, logistic regression was the main methodological approach for the study.

3. Materials and Method

3.1 Materials

The study used 400 respondents from THLDDA using a self-administered questionnaire. The property owners were identified with the help of screening questions. The researcher used a standard set or sequence of questions that was used to collect data from all respondents. The researcher read the questions exactly as they appeared on the survey questionnaire to the respondents and filled it on behalf of the respondents except those who were willing to read by themselves. This approach aims to ensure that each respondent is presented with the same questions in the same order. This approach ensured easy retrieval and allowed the researchers to explain questions which are unclear to respondents. It is also considered to be suitable as some of the respondents are likely to be illiterates. This also ensures that answers can be reliably aggregated and that comparisons can be made with confidence between sample subgroups.

The dependent variable is property tax compliance proxied with binary response which takes the form of 1 for compliance, and 0 for non-compliance. This variable was used to identify the compliance level of property tax in THLDDA. The main independent variable is the distance to the tax office which is proxied with the number of minutes a taxpayer uses to visit the tax office to make payment (Adu & Amponsah, 2016). This variable is continuous and it was used because it lacks empirical backing. Additionally, this variable was employed because, in THLDDA, the

distance to the tax office is far which could probably prevent taxpayers from paying taxes willingly.

The control variables consist of education, age, marital status, employment, gender, income level and household size. These variables were based on empirical studies (see Adu & Amponsah, 2015, Chau & Leung, 2009) and the characteristics of the community. Education is a categorical variable which is made up of 5 categories including no formal education, primary, JHS, SHS/Voc and tertiary education. We used these categories as dummies with "no formal education" as the reference category. This variable was used because higher educational levels are associated with a greater likelihood of tax compliance, as individuals with more education tend to better understand the consequences of non-compliance (Chau & Leung, 2009). The age of the respondents is a continuous variable which is measured in years. We employed this variable based on the assumption that old age leads to high compliance behaviour (Widianto, 2015). Marital status is a dummy variable with 0 as single and 1 as married. Employment level has been categorised into unemployed, formal sector employment and informal sector employment. It is important to note that unemployed is used as the referee category. We considered this variable with the notion that compliance is mostly associated with individuals employed in the informal sector who are likely to invade taxes (Torgler & Valev, 2010). Therefore, we test empirically if it is so in THLDDA. Gender was measured with a dummy variable with a male as 1 and a female as 0. It is asserted that women are less aggressive and unlikely to evade tax (Al-Mamum et al., 2014; Richardson & Sawyer, 2001). This study is interested in knowing whether men evade property tax more than women. Income level is an important determinant of compliance (Abdul, 2001; Baisa, 2014), therefore omitting this variable may lead to omitting variable issues. Hence, we examine the effect of income level (proxied with continuous in Ghana cedis) on property tax compliance. Lastly, household size is identified as one of the factors that prevent tax compliance (Adu & Amponsah, 2016). It is imperative to test empirically if it is so for THLDD.

3.1.1 Sample Size Determination

The target population for this study was all property owners in THLDD. The district consists of two traditional areas namely; Denkyira traditional area and Hemang traditional area. A stratified sampling technique was used to divide the district into two strata namely; the Denkyira traditional area and the Hemang traditional area. Stratified was used again to divide each traditional area into

urban and rural. A simple random sampling technique was employed to select one urban community and one rural community from each traditional area. The convenience sampling technique was finally used to select the respondents from the communities.

The district assembly does not have data on all the property owners in the district and therefore, the target population was unknown. The unknown population formula is used to determine the sample size and is specified in equation (1).

$$n = \frac{pqz^2}{E^2} \qquad (1)$$

From equation (1), n is the sample size for the study, and *p* is the percentage belonging to the specified category (percentage of property owners who pay property tax). It is based on assumed population proportion, existing information or pilot studies, *q* is 1- *P*, the percentage not belonging to the specified category (percentage of property owners who do not pay property tax), *z* is the z-value corresponding to the level of the confidence required, and *E* is the margin of error required. Using $p = 0.5$ for an unknown population sample produces the largest possible sample size (Cochran, 1977; Saunders et al., 2012). Hence, the study used $p = 0.5$ with 95% as the level of confidence, 5% margin of error and a z-value of 1.96, the minimum sample size is calculated as:

$$n = \frac{0.5(0.5)(1.96)^2}{(0.05)^2} = 384 \qquad (2)$$

The sample size of 384 was rounded up to 400 property owners to take care of the maximum error. To ensure representativeness, the sample size was distributed according to the population of each community since there was no data on the number of property owners in each community. The researcher selected 200 property owners who have paid property tax and 200 property owners who have not paid property tax. The justification was that there was no data on the total percentage of property owners who pay tax and the total number of property owners in the district.

3.2 Method

Following the Fischer Model and some prior studies (Abdul, 2001; Baisa, 2014; Adu-Gyamfi, 2014; Gordon, 2017), we specify our empirical model as shown in equation (3). We followed the literature because they used some of these variables in their study

$$Y_i = \beta_0 + \beta_1 Dist_i + \beta_2 Edu_i + \beta_3 A_i + \beta_4 Ms_i + \beta_5 Emp_i + \beta_6 G_i + \beta_7 In_i + \beta_8 Hse_i + \varepsilon_i \quad (3)$$

Where Y_i is property tax compliance which takes a form of binary responses; 1 for paid property rate and 0 for not paid, β_0 is the intercept, β_{1-8} are the coefficients, ε_i is the error term or unobserved variables, $Dist_i$ represent the distance to the nearest tax office, Edu_i is the educational level of respondents which is categorical (No formal educ, Primary, JHS, SHS/Voc and Tertiary). In_i is the income level of the respondent, G_i is the gender which is a dummy variable [1= male, 0= female], A_i denotes the age of the respondents. Emp_i is the employment level and is a categorical variable [unemployed, formal sector employment and informal sector employment). Ms_i is the marital status which is dummy variable [0= single, 1= married] whereas Hse_i represent the household size.

The study used binary logit regression because the dependent variable has a binary response, which takes the form of 1 for paid property tax, and 0 for not paid. Binary logistic regression is a statistical modelling technique used to relate the probability of a binary (categorical) dependent variable to one or more independent variables, which can be either numeric or categorical. When dealing with a dependent variable with two categories (in our case, paid and not paid), this method estimates the likelihood that an observation belongs to each category based on the given independent variables (Agresti, 2003).

4. Results and Discussions

4.1 Descriptive Statistics

The study collected data from 400 property owners and the analysis was made. This section explains the descriptive of the variables used which is presented in Table 1. It is worth noting that we used the mean-min approach for continuous variables whereas the frequencies-percentage approach was used for dummy and categorical variables. Property tax compliance is low in

THLDDA as shown in Table 1 where only 26% pay the property rate whereas the remaining 74% default in paying the property rate. This therefore necessitates the need to identify factors that promote compliance.

Table 1: Gender

Variables	Total (percentage%)	Mean	Max	Min	SD
Compliance					
Paid	104 (26)				
Not paid	296 (74)				
Total	400 (100)				
Distance		44 mins	180 mins	10 mins	38 mins
Gender					
Female	201 (50.25)				
Male	199 (40.75)				
Total	400 (100)				
Education					
No formal Education	91 (22.75)				
Primary	43 (10.75)				
JHS and Middle	129 (32.25)				
SHS	83(20.25)				
Tertiary	54 (13.5)				
Total	400 (100)				
Household size		2	8	1	1.5
Age		48	100	28	11
Income		762.31	9500	100	605.84

Source: Field Work, 2024

Table 1 shows that most of the respondents took about 44 minutes before they reached the nearest office to pay their property rate, among them boarding a taxi which led to an additional cost aside they paying the rate. The highest number of minutes spent before one reaches the nearest office is 180 minutes, among these respondents walk to the nearest office. 10 minutes is the time spent by these respondents to get to the nearest office, those who spent 10 minutes happen to be those who stay close to the tax office. The distribution of respondents according to gender is presented in Table 1, 201 (50.25%) property owners were females while 199 (49.257%) were males. The academic qualification of the respondents was also important for the study as shown in Table 1. in the study area than those with no formal education or other form of formal education.

Out of the 400 respondents, 129 (32.25 per cent) have attained junior high education while 20.25 per cent have had Senior High/Vocational/Technical education. Out of 400 respondents used for the study, 43 of them had attended primary school representing 10.25 per cent whereas 54 out

of 400 respondents had tertiary education with a percentage of 13.5 per cent. However, Table 1 shows that 91 out of the 400 property owners had no formal education. This means that people with Junior High school education own more property. With a higher proportion of property owners, having attained Junior High school education suggests that tax knowledge is likely to be fairly high. This is based on the argument made by Chau and Leung (2009) who stated that property rate compliance is expected to be high for a district with high formal education. However, it conforms to the findings of Adu and Amponsah (2016) who stated that a district with a low level of formal education is likely to evade tax. Age was measured with a continuous variable and from Table 1, it was identified that the oldest property owner in the district is 100 years whereas the youngest property owner is 28 years.

Similarly, income was also measured with continuous variables and the findings from Table 1 showed that most of the property owners have an average salary of GH¢762.31 with the associated standard deviation being GH¢605.84. The maximum income received by these property owners was GH¢ 9,500 whereas the minimum amount received was GH¢100. This means most of the respondents earn just a minimal income monthly. Studies such as Abdul (2001) and Baisa (2014) claimed that taxpayers who face personal financial constraints (low income) are more likely to evade taxes than taxpayers with less financial difficulties. This is because people with financial constraints tend to prioritise their needs, and in most cases, tax burdens are not their preferred expenditure (Abdul, 2001). By implication, most of the property owners in Twifo Hermang Lower Denkyira District Assembly are likely to have less tax compliance since most of them are identified with financial constraints.

4.2 Binary Logistic Results for the Effect of Distance on Property Tax Compliance

This section discusses the binary logistic regression that is presented in Table 2. We first discuss the effect of the main variable interest (i.e., distance to the tax office), thereafter, we discuss the results of the control variables and end the discussion with the estimation diagnostics.

Table 1: Factors Affecting Property Tax Compliance

Variable	Coefficient	Marginal Effect	VIF
Constant	-7.8076***		
	(1.3306)		
Distance	-0.0216***	-0.0016***	1.24
	(0.0056)	(0.0003)	
Education			1.33
Primary	2.9950***	0.3033***	
	(0.9643)	(0.0849)	
JHS and Middle	2.6873***	0.2779***	
	(0.5483)	(0.0624)	
Shs, Voc, Tech	3.4479***	0.3378***	
	(0.6207)	(0.0619)	
Tertiary	3.4827***	0.3402***	
	(0.6691)	(0.6670)	
Gender	-2.1059***	-0.1524***	1.19
	(0.4144)	(0.0274)	
Age	0.1934***	0.0140***	1.50
	(0.0313)	(0.0012)	
Marital Status	0.2527	0.0183	1.08
	(0.4338)	(0.0320)	
Employment			1.14
Informal	0.0218	0.0016	
	(0.4907)	(0.0366)	
Formal	0.5408	0.0383	
	(0.5701)	(0.0366)	
Income	0.0000632	4.57e-06	1.04
	(0.0002)	(0.00002)	
HseSize	0.0322	0.0023	1.03
	(0.1414)	(0.0103)	
Average VIF			1.29
Obs	400		
Wald chi2 (12)	95.61***		
Log pseudo-likelihood	-95.9587		
Pseudo R^2	0.5814		

Note: Standard error are in parenthesis, *p<0.01, **p<0.05, ***p<0.001
Source: Field Work, 2024

Starting from our main variable of interest, Table 2 shows that distance was significant in determining property tax compliance. Distance to the nearest tax collection centre is also expected to have a negative relationship with property tax compliance. This expectation was met in this study given that the marginal effect of distance to the nearest tax collection centre is negative and significant at 1 per cent. The marginal effect of -0.00156 indicates that a minute increase in the time spent to travel from the property owner's house to the nearest tax collection centre decreases the probability of the property owner paying property tax by 0.156 percentage points. This implies that the nearer the tax collection centre the more likely a property owner will pay property tax.

Most residents in THLDDA lack personal transportation, making it inconvenient to travel from their homes or workplaces to the tax office. As a result, they must rely on public transport, which often involves waiting for it to fill up before departing, further prolonging the trip to the tax office. Therefore, for the THLDDA to increase property tax collection, then the distance must be closer to the property owner's residence. This is consistent with the findings of Adu and Amponsah (2016) who indicated that the nearer the distance of the revenue collection centre, the more likely the taxpayer would increase the number of tax stamps purchased. The property owners could attribute the result of the distance to the fact that increasing distance from the tax office increases the transportation cost of paying property tax from the tax office.

Four dummies with "no formal education" as the reference category captured the property owners' level of education. All four dummies were significant at 1% as shown in Table 2. The marginal effect of the property owner with primary education is statistically significant at a 1 per cent level and possesses the right (positive) sign. The implication is that those property owners with primary education are more likely to pay property tax as compared with property owners with no formal education. The marginal effect of 0.303 indicates that holding all other factors constant, the probability of a property owner with primary education paying property tax as compared to a property owner with no formal education increases by 30.3 percentage points as indicated in Table 2. Also, the probability of a property owner with JHS/ middle school education and a property owner with SHS/Voc/Tech school education as compared to a property owner with no formal education increases by 27.8 percentage points and 33.7 percentage points respectively. Similarly, the marginal effect of property owners with tertiary education is 0.3402 and it shows that the probability of a property owner with tertiary school education as compared to a property owner with no formal education paying property tax increases by 34.02 percentage points. This implies that property owners with formal education are more likely to comply with property tax as compared to property owners with no formal education. However, tertiary education tends to be more when it comes to complying with property tax as compared to the other forms of formal education. This can be attributed to the fact that a taxpayer with tertiary education knows the role tax plays in the development of a country and therefore, sees paying tax as an obligation (Adu & Amponsah, 2016). Perhaps, this confirms Chau and Leung (2009) argument that formal education tends to promote compliance because it facilitates people's understanding of the tax system. The result also confirms the findings of Kriz, Merikull, Paulus and Staehr, (2007) that income tax

evasion is most prevalent among taxpayers who relatively have low-level education. Similarly, Armah-Attoh and Awal (2013) also found tertiary education to have a statistically negative correlation with tax evasion, they observed that the primary level of education also lowers the inclination to evade tax. Armah-Attoh and Awal (2013) argued that individuals need not attain the highest level of education before becoming tax-compliant.

In addition, the marginal effect of gender was -0.152 with a P-value of 0.000 and it implies that the probability of a male property owner paying for property tax as compared to a female property owner decreases by 15.2 percentage points. Gender was measured as a dummy variable with 1 for male and 0 for female where female was used as a referee point. The negative sign means that males are less likely to pay property tax as compared to females. These results suggest that, with respect to property rate, female property owners are more compliant as compared to male property owners. This observation complements the findings of Asante and Baba (2011) who also made a similar observation among self-employed income taxpayers in Ghana. The finding also confirms the assertion by Chau & Leung (2009) that females are by nature less aggressive and more conforming to laws including tax obligations. In line with this assertion, many studies have found that females are more likely to honour their tax liabilities than their male counterparts (Richards & Sawyer, 2001; Al-Mamun et al., 2014).

Furthermore, the age of the property owner was found to be significant at 1 per cent with a positive coefficient. The positive marginal effect means that an increase in the age of the property owner is more likely to let the property owner pay property tax. The marginal effect of 0.014 indicates that when a property owner attains one additional year, the probability of that property owner paying property tax increases by 1.4 percentage points. This means as property owners grow older, they are more likely to fulfil their tax obligations than young taxpayers. This is consistent with the claim made by Widianto (2015), who believes that older taxpayers are less likely to fulfil their tax obligations than young taxpayers. Again, the study agrees with Torgler and Valev (2010) who stated that Greater age is correlated with a lower justifiability of corruption and tax evasion. According to Asante and Baba (2011), elderly self-employed are less tax non-compliant than young self-employed. According to Annan et al. (2013) Ghanaian taxpayers within the age category “15 and 64 all-inclusive” are more willing to take risks and less sensitive to sanctions, giving rise to a positive relationship. By implication, elderly property owners are risk-averse and are less sensitive to sanctions. Contrary, Studies conducted by Adu and Amponsah (2016),

Adimassu and Jerene (2015) and Devos, (2008) found that the age of the taxpayer has no significant effect on tax compliance.

We turn our attention to the estimation diagnostics as shown in Table 2 and in Appendix A (see Tables A.1 and A.2). From Table 2, it is clear that distance and other factors such as the level of taxpayer's education, gender and age determine property tax compliance. The Wald chi-square with a P-value of 0.000 tells us that the model as a whole is statistically significant. The model is free from multicollinearity since both individual and average Variance Inflation Factor (VIF) are less than 5. Also, there is no misspecification or specification error since the *p*-value of the hatsq i.e., *p*-value =0.117 is not significant (see Table A.1), so the null hypothesis that there is no specification error in the model fails to be rejected. Thus, the model for this study was correctly specified and no additional predictors can be found to be statistically significant except by chance. Table A.2 also suggests that using a group of nine for this study, property tax compliance had a Hosmer-Lemeshow chi2 (8) of 4.56 (with a p-value of 0.7132). Hosmer-Lemeshow chi-square was insignificant at a five (5) per cent level of significance (see Table 5 of the appendix). The insignificant Hosmer-Lemeshow chi-square means that the null hypothesis that the model fits the data is accepted (Hosmer & Lemeshow, 2000; Hosmer et al., 2013; Tabachnick & Fidell, 2013).

5. Conclusion and Recommendation

This study sought to assess property tax collection in Twifo Hemang Lower Denkyira District. The sample for this study was selected using a stratified sampling technique, simple random, and convenience where 400 property owners were selected as sample size for the study. The data collection instrument used in collecting data for the study was a self-administered questionnaire. The binary logit model was used to find out the significant factors that influence property tax compliance in the study area and content analysis was used to analyse the qualitative aspect of the study. The study found that distance to the nearest tax collection centre was found to have significant effects on property tax compliance. Some control variables such as the gender of the property owner, age of the property owner, and educational attainment of the property owner also predicted the compliance level.

From the results and findings of this study, a number of recommendations are made to policymakers, DCEs and revenue unit heads: Firstly, the district assembly should increase the number of tax collection centres in the district. Thus, the district assembly should endeavour to

bring tax collection centres closer to the people. This can be done through the establishment of new tax collection posts and centres. Secondly, since distance to the nearest tax office, affects compliance level, the assembly should employ more tax collectors to visit the property owners to collect the tax. Lastly, the assembly can likewise leverage on technology such as mobile money in collecting tax so that no property owner can use distance as an excuses to evade tax.

Competing Interest

Not applicable. The study has no conflict of interest

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Reference

Acquah-Ababio, A. S. (2015). Immovable Property Tax Administration in Kumasi Metropolis. Prospects and Challenges. *Unpublished Master's Degree thesis, KNUST*.

Adebisi, J. F., & Gbegi, D. (2013). Effect of tax avoidance and tax evasion on personal income tax administration in Nigeria. *American Journal of Humanities and Social Sciences, 1*(3), 125-134. doi:10.11634/2329078 11301328.

Adem, M. N., & Kwateng, O. A. (2007). Review of Real Property Tax Administration in Ghana. *Master of Science Thesis.*

Adimassu, N. A., & Jerene, W. (2015). Determinants of Voluntary Tax Compliance Behavior in Self Assessment System: Evidence from SNNPRS, Ethiopia. *International Journal of Science and Research*.

Adu, K. O., & Amponsah, S. (2016). Factors Influencing Tax Stamp Purchases in Ghana: A Case of Twifo-Atti Morkwa Sub-tax District. *Journal of Accounting & Marketing*, 1-7.

Adu-Gyamfi, E. (2014). Effective Revenue Mobilisation by Districts Assemblies: A Case Study of Upper Denkyira East Municipal Assembly of Ghana. *Public Policy and Administration Review, 2*(1), 97-122.

Agbadi, B. S. (2011). Determinants of tax compliance: A case study of VAT flat rate scheme on traders in the Accra Metropolis. *Master's thesis, Kwame Nkrumah University of Science and Technology, Ghana. Retrieved from datad. aau.org/handle/123456789/765*.

Agbi, E. S. (2014). The size of the tax evasion problems on self-employment income: An examination of effects of tax policies on compliance. *International Journal of Business and Management Review, 2*(3), 73-101.

Agbolosoo, K. H. (2009). Problems and prospects of taxing small businesses in the Achimota District of Accra Region. . *Unpublished master's dissertation, University of Cape Coast, Cape Coast, Ghana.* .

Ahmad, E., Brosio, G., & Pöschl, C. (2014). *Local property taxation and benefits in developing countries-overcoming political resistance.* London School of Economics. London: Asia Research Centre Working Paper (65).

Ajzen, I. (1991). The theory of planned behaviour. *Organizational Behaviour and Human Decision Processes, 50*, 179-211.

Akakpo, V. K. (2009). *Principles, concepts and practice of taxation* (3rd ed.). Accra: Black Mask Ltd.

Akerlof, A. G., & Kranton, R. E. (2010). *Identity Economics.* New Jersey: Princeton University.

Akhand, M. H. (2012). Coercion or Persuasion? Making large corporations tax compliant in Bangladesh. *Doctoral thesis, University of Birmingham, Birmingham*. Retrieved from etheses.bham.ac.uk/3801/1/Akhand_12_ PhD. pdf.

Akintoye, R. I., & Tashie, G. A. (2013). The effect of tax compliance on economic growth and development in Nigeria, West-Africa. *British Journal of Arts and Social Science, II*(11), 222-231.

Alabede, J. O., Ariffin, Z. Z., & Idris, K. M. (2012). Noncompliance Opportunities and Tax Compliance Behavior in Nigeria: The Moderating Effect of Taxpayers' Financial Condition and Risk Preference. *Journal of Modern Accounting and Auditing*, *8*(4), 445–46.

Al-Ebbin, M., & Al-Moumany, S. N. (2013). The role of accounting information systems in combating tax evasion. *Interdisciplinary Journal of Contemporary Research in Business, 5*(6), 73-91.

Ali, M., Fjeldstad, O. H., Sjursen, I. H., & Insitute, C. M. (2013). Factors affecting tax compliant attitude in Africa: Evidence from Kenya, Tanzania, Uganda and South Africa. *Centre for the Study of African Economies 2013 Conference.* Oxford: Oxford University.

Allingham, M. G., & Sandmo, A. (1972). Income tax evasion: a theoretical analysis. *Journal of Public Economics*, 323-338.

Al-Mamun, A., Entebang, H., Mansor, S. A., Yasser, Q. R., & Nathan, M. A. (2014). The Impact of Demographic Factors on Tax Compliance Attitude and Behaviour in Malaysia. *Journal of Finance, Accounting and Management, 5(1),* 109.

Arunatilake, N., Jayawardena, P., & Wijesinha, A. (2012). *Tax reforms in Sri Lanka: Will a tax on public servants improve progressivity?* (Working paper 13) Partnership Economic policy.

Blake, M., & Kriticos, S. (2019). Enhancing property tax compliance in Mandalay.

Carrillo, P. E., Castro, E., & Scartascini, C. (2021). Public good provision and property tax compliance: Evidence from a natural experiment. *Journal of Public Economics*, *198*, 104422.

Chirico, M., Inman, R. P., Loeffler, C., MacDonald, J., & Sieg, H. (2016). An experimental evaluation of notification strategies to increase property tax compliance: free-riding in the city of brotherly love. *Tax Policy and the Economy*, *30*(1), 129-161.

Collin, M. E., Di Maro, V., Evans, D. K., & Manang, F. (2022). Property tax compliance in Tanzania.

Gordor, S. (2017). Assessing Factors Affecting Property Rate Compliance Behaviour in Ghana: The Case of Ga East Municpality. *Unpublished Masters' degree, Legon.*

Jones, M. R., & Hara, A. B. (2014). Do double-up Families Minimize Household Size-Level Tax Buurden. *Working paper*.

Kobayashi, S. (2018). Empirical analysis of property tax on capital investment Kohei Kobayashi. *RIETI Discussion Paper Series 18-J-031*.

Kresch, E. P., Walker, M., Best, M. C., Gerard, F., & Naritomi, J. (2023). Sanitation and property tax compliance: Analyzing the social contract in Brazil. *Journal of Development Economics*, *160*, 102954.

Kriz, K. A., Merikull, J., Paulus, A., & Staehr, K. (2007). Why do individuals evade payroll and income taxation in Estonia.

Kuusaana, E. D. (2015). Property rating potentials and hurdles: what can be done to boost property rating in Ghana? *Commonwealth Journal of Local Governance*

Appendix A

Table A.1 Link Test

Variable	dy/dx	Std. Error	T-Stat	P Value	95% Conf.	Interval
Constant	.1200129	.2183057	0.55	0.582	-.3078584	.5478843
Hat	1.111158	.1437602	7.73	0.000	.8293933	1.392923
Hatsq	-.0558461	.0356461	-1.57	0.117	-.1257113	.014019
Log likelihood	-94.925256		Pseudo R2	0.5859		
LR Chi	268.60		Prob> Chi	0.0000		

Source: Field Work, 2024

Table A.2: Goodness of Fit

Variables	Values
Number of observations	400
Number of groups	9
Hosmer-Lemeshow chi2(7)	4.56
Prob > chi2	0.7132

Source: Field Work, 2024

Appendix B

Survey Questionnaire for Property Owners

Community code: **Date of Interview**: Day Month _____/_____/2020

Research Topic: Assessing property tax collection in Twifo Hemang Lower Denkyira District.

Introduction

This is an instrument of data collection by a team of researchers from the Department of Banking and Finance, University of Professional Studies Accra to identify how distance to the nearest tax office and other factors can influence property tax compliance. You are assured of confidentiality and all responses provided will be used strictly for the research. This information will contribute to knowledge and pave the way for further studies in the field of Taxation. Your contribution will be greatly appreciated. Kindly respond to the questions below:

Please tick (√) the appropriate box as required and fill where it is necessary.

Do you have a property that qualifies you to pay the property rate? Yes [ ] No [ ]

SECTION A: Background of Respondent.

1. Gender: 0= Female [ ] 1= Male [ ]
2. Age: ……..
3. Level of schooling: 0= No schooling [ ]
   1= Primary [ ]
   2= JSS/JHS/Middle school [ ]
   3= Sec/SHS/SSS/Tec/Voc [ ]
   4=Post sec/A level [ ]
   5= Nursing/Teacher training [ ]
   6= University/Polytechnic [ ]
   7= other (specify)……
4. Marital status: 0=Single [ ] 1= Married [ ]

5. Religious affiliation: 0= Christian [ ] 1= Muslim [ ] 2=traditionalist [ ] 5= others (specify) ……..
6. What is your employment status? 0= Unemployed [ ] 1= Employed in the informal sector [ ] 2= Employed in the formal sector [ ]
7. On the average, how much do you earn per month? ……
8. What is the size of your household? ……..

SECTION B: This section is about property tax

9. Are you aware of property tax? Yes [ ] No [ ]
10. On a scale of 1 to 5, where 1 means high and 5 means low, indicate your level of awareness. …….
11. How many taxable properties do you have? …….
12. How long have you owned the taxable property?.....
13. Has your property been valued by the assembly? Yes [ ] No [ ]
14. Have you paid property tax before? Yes [ ] No [ ]
15. Did you pay property tax for your property(ies) in 2019? Yes[ ] N0[ ]
16. If yes to Q14, did you pay the total amount you were supposed to pay? Yes [ ] No [ ]
17. If yes to Q16, how much did you pay for the property(ies)? …….
18. If No to Q14, what are the reasons for not paying property tax?
    ……
    ……
    ……
    ……
    ……
    ……
    ……
    …….
19. Do you receive a bill on how much you are supposed to pay every year? Yes [ ] No [ ]
20. If Yes to Q19, how do they send it to you?
    Tax collector [ ] l go to the office to pick [ ] text message [ ] post office [ ]
21. What is your perception about the amount you are supposed to pay as the rate?
    Expensive [ ] moderate [ ] low [ ]

22. Do you think it is important to pay property tax? Yes [ ] No [ ]
23. If No to Q22, why do you think it is not important to pay?

    ……
    ……
    ……
    ……
    ……
    ……

24. For the past 12 months has any tax collector visited you to collect or remind you to pay property tax? Yes [ ] No [ ]
25. If Yes to Q24, how many times have tax collector(s) from the assembly visited you? ……
26. How long will it take (in minutes) to get to the nearest property tax collection office?.....
27. What is the means of transport to the nearest tax office? ……..
28. Do you have mobile money account? yes [ ] No [ ]
29. If yes to Q28, will be okay if you are asked to pay property tax via your mobile money account? Yes [ ] No [ ]
30. Is the mode of paying property tax convenience for you? Yes [ ] No [ ]
31. If No to Q30, what mode of payment do you prefer? ……
32. Will you feel discomfort if you are caught by tax collectors for not paying property tax? Yes [ ] No [ ]
33. Are you aware that you can be sanctioned for not paying property tax? Yes[ ] No [ ]
34. How much is the cost of transport to the nearest tax office? ……
35. How many minutes do you spend in the tax office?.....

SECTION C: property tax payment challenges

36. What are the main challenges that deter property owners from paying property tax?

    ……
    ……
    ……
    ……
    ……
    ……
    ……

……
……

37. In your own view, what do you think can be done to solve the challenges mentioned?

……
……
……
……
……
……
……

Thank you.