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The Determinants of Malaysian Land Taxpayers' Compliance Attitudes

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Abstract

This article analyzes the determinants of Malaysian land taxpayers' compliance attitudes. While income taxpayers often have the structural opportunity to underreport income/overstate deductions, it is more difficult to hide land ownership. Despite this, there are high levels of uncollected land tax revenue in Malaysia. We document the factors associated with land taxpayers' compliance attitudes and our results should be useful to policy makers in Malaysia and elsewhere, as we find that independent variables significant in prior income tax compliance research also extend to the field of property and land tax compliance.

INTRODUCTION

In this study, we extend the nature and scope of tax compliance research. Prior compliance research has focused almost exclusively on income tax, and been conducted in western economies such as the U.S. (Jackson & Milliron 1986; Fischer *et al.* 1992; Richardson & Sawyer 2001). By focusing on land tax compliance in a developing country, we respond to the call by Andreoni et al. (1998) for more empirical research from jurisdictions outside the U.S. Although there have been prior studies on VAT compliance (Adams & Webley 2001), we are not aware of any prior work on land taxpayers' compliance attitudes.

Land taxes contribute significant revenues to the Malaysian state governments. For example, they accounted for 30% of revenue in the 1980s (Abdul Rahim *et al.* 1990) and 46% of Kedah state revenue in 2000 (Mustaffa 2001). The Pahang state government has even stated its objective to make land tax the highest source of revenue contribution[1]. Accordingly, it is important for compliance research to document the factors associated with compliance attitudes under the Malaysian land tax. Although there are no specific prior studies on land tax compliance, the voluminous prior work on income tax that has tested a compliance framework

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[1] See the official Pahang State Government homepage, http://ptg.pahang.gov.my/main.php

(including demographics, non-compliance opportunity, taxpayer knowledge etc.), provides a baseline of a-priori expectations for the current study.

The nature of land and property taxation is essentially different from income tax. Under a land tax regime, landowners are imposed with land tax, whereas for income tax reporting, taxpayers file a paper/electronic tax return containing their reported income, with tax based on the income declared. Thus, income taxpayers have more structural opportunities to exploit tax laws than do land taxpayers. In Malaysia, the state governments determine the amount of land tax for each landowner and notify the owner of the tax owed. However, despite a lower opportunity for non-compliance, recent reports suggest there are still high levels of uncollected land tax revenue. For example, in 2001 total land tax arrears in Malaysia were more than RM600 million (approximately $US158 million) (Nor Aziah, 2004).

The remainder of this article is structured as follows. The next section outlines the current structure of the Malaysian state government, briefly reviews the Malaysian constitution and the division of authorities between federal, state and local governments and then describes the present structure of the land tax system and the laws behind it. Section three discusses our research method and outlines the dependent and independent variables used in the study. Section four reports our results and section five offers some brief conclusions and a discussion of the limitations of the study.

THE MALAYSIAN LAND TAX SYSTEM

The Federal constitution in Malaysia clearly outlines the relationship between federal, state and local government. The highest bodies in the federal administrative machinery are the ministries that carry the responsibilities entrusted to the government. The Ministry of Land and Co-operative Development oversees the Department of Director General of Land and Mines, which monitors the land tax revenue of each state and requires property owners to pay an "assessment tax" imposed by the relevant local authority.

With regard to the state administrative mechanisms, each state has its own assembly whereby the chief minister of the state acts as the chief executive of the state government. At the state level, the state secretariat is the highest administrative office and is headed by the state secretary who also acts as the chief advisor to the chief minister of the state and the state executive council. Land offices in state governments have the authority to collect land taxes from landowners.

The administration of land is a state matter and the federal government or local authority has no direct control over matters pertaining to land tax. This indicates that the state government has sole power in terms of managing their lands. The establishment of the National Land Council however, is one of the efforts by the federal government to co-ordinate and monitor all related matters concerning administration of land between state governments in Peninsular Malaysia[2]. The National Land Code (NLC) 1965 empowers the Federation and the rights of state authority on land, classification and use of land, disposal of land and all aspects of

[2] See the National Land Code (Act 56 of 1965) and Regulations. The Federal Government National Land Code 1965 is currently enforced in all states in Malaysia (excluding Sabah and Sarawak).

alienated land. One of the main aims of the introduction of the NLC in 1966 was to ensure uniformity of laws and policies in respect of land matters in all states[3].

In Malaysia, tax on land is solely based on the location, area, and the use of the land, excluding the value of the land, development or improvement of the land. The government of each individual state levies a land tax upon landowners known as "quit rent". The applicable rate of quit rent varies with the category of land use and size. The taxes are levied on the owner and not on the user of the land. The rates of land tax imposed in one state may differ from the rates imposed in other states because each state government has the authority to determine land tax rates.

After land taxes are computed by the land offices of state governments, bills are sent out to landowners at the end of December for the following financial year. Land taxpayers have until June 30th to pay the land taxes without penalty[4]. If the landowner is late for payment, they are charged a penalty of 10% - 20% of the land tax or a certain minimum amount according to the state government involved.

Under the NLC, state governments have the power to issue a reminder to pay, summons for non-payment through the magistrates' court, and distress warrants that allow bailiffs to confiscate the land. Normally a reminder will be issued after June 30th (or May 31st) and the landowners have up to three months to pay the land tax and penalty. After this period, a summons from the magistrates' court is sent to the landowner[5]. Although the state governments have the right to confiscate land under sections 100, 129, 130 and 131 of the National Land Code, 1965, in practice, this occurs only rarely. In Kedah state government, for example, only seven land parcels were confiscated between 1995 and 2000 despite large arrears and many non-compliant landowners (Nor Aziah *et al.* 2001).

The problem of arrears and low collection rates is not restricted to Kedah. Table 1 shows the overall percentage of land tax collections of all eleven states in Peninsular Malaysia over the period 1996 to 2001. It is apparent that significant sums are involved and that there is a general trend towards decreasing land tax collections in recent years.

METHOD

Research instrument and sample

A questionnaire was utilized to collect data for this study. The questionnaire[6] had two main sections. The first section measured landowner's perceptions on the fairness of the tax system, sanctions, detection probability and positive incentives. It also measured their tax knowledge, ethics and moral values. The second section measured demographics including age, gender, marital status, type of income, occupation, level of income, type of land and size of land.

[3] Federal Constitution 1957, Article 76 clause (1)(b) and (4)
[4] Several states like Johor and Pulau Pinang, however, give only until May 31st for the land owner to pay the bill without penalty.
[5] Section 131, National Land Code, 1965
[6] Available from the authors on request.

TABLE 1 PERCENTAGES OF LAND TAX COLLECTIONS FROM 1996 TO 2001

	1996	1997	1998	1999	2000	2001	All years average
Johor	84.3	70.3	55.2	46.1	36.9	36.0	54.8
Melaka	-	65.0	65.9	50.9	47.5	52.6	56.4
Negeri Sembilan	79.0	67.8	72.7	67.5	76.3	48.1	68.6
Selangor	63.2	64.9	66.4	60.1	64.9	71.2	65.1
Pahang	-	-	-	58.9	55.7	56.7	57.1
Perak	57.0	51.5	51.0	53.5	54.9	57.4	54.2
Pulau Pinang	91.7	88.4	82.5	78.2	70.5	67.3	79.8
Kedah	70.6	73.4	67.4	57.1	56.4	56.8	63.6
Perlis	81.4	66.5	59.6	53.6	50.7	49.8	60.3
Kelantan	66.4	68.1	65.1	66.4	66.3	70.5	67.2
Terengganu	54.6	44.4	48.0	37.2	33.7	32.4	41.7
Average	72.0	66.0	63.4	57.2	55.8	54.4	61.5

Note: Data was collected in person by the authors.
Figures expressed are:
Current year land tax collection + current year arrears collection
Amount of current land tax assessed + accumulated arrears

The research questionnaire was carefully constructed and piloted. The questionnaire had to cater for the varying educational background of the recipients and their different levels of knowledge of the land tax system. The process of developing and writing of questionnaires took about four months[7] to complete and was developed in two languages (English and Bahasa Malaysia).

The addresses of the landowners were obtained from each state government. As the names and addresses of landowners are confidential, the authors were not allowed full access to state records. However, with the co-operation of individual states, we were provided with a total sample of 800 names and addresses of landowners. A cover letter explained the purpose of the study, the importance of honest responses, and guaranteed respondents' anonymity. The cover letter also drew attention to the English and Malay versions and that respondents could choose to answer either version. After deleting names with incomplete addresses, a total of 750 questionnaires were distributed.

Model

The model tested in this study extends models reported extensively in the income tax compliance literature (Jackson & Milliron 1986; Fischer *et al.* 1992; Hasseldine *et al.* 1994; Chan et al. 2000), with four additional variables incorporated into the model to accommodate the Malaysian land tax environment. Specifically, the model to be tested takes the following form:

[7] We started constructing the questionnaires in March 2002 until July 2002 and conducted a pre-test in Malaysia in October 2002.

$$COMPLY = \alpha_0 + \beta_1 AGE + \beta_2 GENDER + \beta_3 RACE + \beta_4 EDUC + \beta_5 INCOME\_LEVEL + \beta_6 INCOME\_SOURCE + \beta_7 OCCUPATION + \beta_8 ETHICS + \beta_9 FAIRNESS + \beta_{10} SANCTION + \beta_{11} KNOWLEDGE + \beta_{12} INDUCEMENT + \beta_{13} TYPE + \beta_{14} LOCATION + E$$

The dependent and independent variables are now outlined.

Dependent Variables

In order to increase the robustness of the study, three separate dependent variables were measured. Respondents were asked to indicate their answers on a continuous scale (0 - 100) in respect of the following three questions:

i. *"Out of every 100 people who own land, how many would you say paid no land tax at all?"*

ii. *"Out of every 100 people who own land, what percentage do you believe are honest on their land tax payment?"*

iii. *"Among your friends, at what percentage are you confident they paid their land tax honestly?"*

Responses to the first question were reverse-scored so that for all three questions, higher scores indicate more compliant attitudes and lower scores indicate less compliant attitudes.

Independent Variables

This section documents the independent variables suggested by prior literature, split by demographics, non-compliance opportunity, attitudes and perceptions, tax system structure and knowledge, incentives, type of land and location (Jackson & Milliron 1986; Fischer *et al.* 1992; Christensen *et al.* 1994; Hasseldine *et al.* 1994; Hajah Mustafa 1996; Tayib 1998 and Chan *et al.* 2000). There are fourteen independent variables, i.e. *V1* to *V14* tested in this study.

Demographic Variables. Three demographics are included in this study, which are age *(V1)*, gender *(V2)* and race *(V3)*. Studies generally indicate that older taxpayers are less likely to evade, but these results are not uniform (Christian & Gupta 1993). Tittle (1980) suggests that generally, young taxpayers are more willing to take risks and are less sensitive to sanctions, and that generation differences may also be important. Warneryd and Walerud (1982) also conclude that significant differences in compliance are attributable to the sensitivity of the younger generation. In their study, Warneryd and Walerud (1982) find that multivariate analyses of the data indicate that younger people have more tendencies to evade tax. Wahlund (1992) also found the same trend in a Swedish survey, where younger people were more likely to evade tax than older people.

Unlike the above findings, Clotfelter (1983) finds that the youngest and the oldest segments of the population have the same degree of compliance. He suggests a substantial curvilinear relationship between age and compliance whereby the youngest and the oldest segments of the population have the highest degree of compliance. On the contrary, Wallschutzky (1984) finds Australian tax evaders tended to be older than compliers.

The majority of previous studies investigating gender effects, show females are more compliant with the tax laws than males. Tittle (1980) suggests that females are identified in accordance with conforming roles; traditionally female children have been brought up with more moral restraints than male children, thus leading to their more conservative life patterns. This in turn promotes tax compliance. Fallan (1995) also finds that there are gender differences on a test of assessing student tax knowledge.

Hite (1997) argues that female subjects with higher education are significantly more tolerant towards evasion behavior than less educated females. Glen (1998) also reports that the interaction between gender and education impacts a taxpayer's attitudes and values. He establishes that female undergraduate students are more likely to exhibit compliant behavior than their male counterparts.

Malaysia is a multiracial, multi-cultural, multi-religious and multi-lingual society. There are three major races among Malaysia's population of 23.27 million (Census, 2000)[8]. It comprises *Bumiputera* (referring to Malays and other indigenous races such as the Iban, Kadazan and Orang Asli), Chinese and Indians. The Malays and other indigenous races make up 65 percent of the population, while Chinese comprise 26 percent and Indians 7 percent. This study will examine whether race is associated with compliance attitudes.

Non-compliance Opportunity. The four variables included under this category are education *(V4)*, income level *(V5)*, source of income *(V6)* and occupation *(V7)*. Wallschutzky (1984) believes that education is one of the variables that has the potential to hold the most long-term promise in improving tax compliance levels. Some evidence exists which suggests that taxpayers may fail to comply with the tax laws because of insufficient knowledge on how to do so (Hajah Mustafa 1996). Christian and Gupta (1993) report a negative correlation between income level and opportunity of being in business or being able to claim for tax deductions. Their study on taxpayers with taxable incomes of less than US$50,000 found that income is negatively correlated with tax evasion; hence indirectly implying that income is positively correlated with tax compliance. Hite (1997) suggests that higher income levels increased the apparent acceptability of tax non-compliance for female subjects, but had no effect on the behavior of male participants.

Over 40 years ago, Groves (1958) identified income source as a significant influence on tax compliance. Wallschutzky (1984) also found both evaders and non-evaders agreed that the greatest opportunity to evade tax exists with those who derive their income from self-employment, independent trade and farming, and the least opportunity exists for those whose source of income was wages/salary subject to withholding tax. Malaysian landowners are not subject to withholding in advance to pay land tax.

According to Jackson and Milliron (1986), research on occupation as a compliance variable is relatively sparse and they noted that a clear research direction was lacking. The main cause of this lack of clarity appears to be the inconsistent and rather ad hoc categories into which the occupation variable has been categorized in individual studies. These occupational categories have ranged from blue collar/white collar

[8] From the 2000 Census. See http://www.statistics.gov.my/English/pressdemo.htm

(Porcano 1988) to manufacturing/service (Beron *et al.* 1992), with very few studies taking the same approach to classification. Westat (1980a) suggests that white-collar taxpayers are associated with the overstatement of deductions whereas blue-collar workers evade taxes by omitting income. This may also be due to opportunity; the more opportunities one has to evade, the greater the likelihood of evasion. Westat (1980b) however, reports that employment in manufacturing or trade organizations was associated with higher self-reported tax compliance and that the occupational categories of professional/managerial, clerical/sales, and service employees were associated with lower levels of compliance.

Attitudes and Perceptions. Ethics *(V8)* and perceived fairness *(V9)* of tax system are included in this category. Westat (1980a) finds moral concerns about tax compliance to be relatively weak. Taxpayers were generally ambivalent about whether tax cheating, especially when small amounts are involved, is morally wrong. In their review of compliance research, Jackson and Milliron (1986) report on several tax studies that found that ethical beliefs generally increased compliance. However, they also note the difficulty of defining ethical behavior. Reckers *et al.* (1994) indicate that individual moral beliefs are highly significant in tax compliance decisions. When tax evasion is seen as a moral issue, individuals are less likely to evade taxes regardless of the tax situation.

Porcano (1988) finds that taxpayer needs and ability to pay were the most significant variables related to perceptions of a fair tax system. Christensen *et al.* (1994) believe that fairness and complexity of tax laws will also influence taxpayer compliance behavior. According to Jackson (1994) and Tayib (1998), an efficient tax system should have attributes such as equity or fairness. It is suggested that an approximate measure of tax fairness could be the level of taxpayer acceptability in respect to the current tax system. Spicer and Becker (1980) highlight that taxpayers are less compliant when they perceive the tax system or their exchange relationship with the government to be unfair. By extension, if individuals perceive tax procedures to be unjust or perceive tax laws to be so complex that are unfair then they will be more likely to evade.

Tax System Structure and Taxpayer Knowledge. Sanctions are always written into tax law *(V10)*. Previous studies have shown that taxpayer compliance behavior is indeed influenced by the perceived likelihood of detection and punishment. Tittle (1980) reveals that non-compliant taxpayers generally have been found to perceive a lower chance of detection than compliers. Warneryd and Walerud (1982) however, report no relationship between admitted evasion and perceived probability of detection. Hasseldine *et al.* (1994) on the other hand, indicate that the perceived severity of penalties has a positive correlation with tax evasion.

Milliron (1985) indicates a positive relationship between individual understanding of tax laws (*V11*) and tax compliance. Hajah Mustafa (1996) also includes knowledge and understanding as variables in the model that used to explain taxpayer compliance behavior. He argues that a better understanding of the tax system would improve taxpayer attitudes and perceptions, and finally have an impact on tax compliance behavior. However, as people become more knowledgeable about the tax system, they may either understand and appreciate the benefits received from the government or become more aware of tax evasion opportunities. According to Fallan (1999), better tax knowledge means people consider their own tax evasion more serious, that the

perceived fairness in taxation increases and that the attitude towards other people's tax evasion becomes stricter.

Incentives. This study includes positive inducements *(V12)* as an independent variable. The effectiveness of positive reinforcements for encouraging compliant behavior has been recognized in a number of fields (Richardson and Sawyer 2001), including tax. Yet, while researchers have acknowledged the need for a tax system to provide taxpayers with both incentives to comply with tax laws, and sanctions or penalties where non-compliant behaviors are discovered (Slemrod 1992; and Smith 1992) they have not been subject to empirical testing due to the lack of incentives in actual tax environments around the globe.

Land type/location. Type of land *(V13)* is a new variable in this study. In Malaysia, landowners pay different rates of tax according to different types and locations of land. Agricultural land has the lowest rate of tax in all states in Malaysia, yet it is uncertain whether agricultural landowners are likely to be most/least compliant. Land taxpayer's location (*V14*) is also a new additional variable in this study. Since rates and valuations are different between states, it would be useful to policymakers to see if there is any significant relationship between location and compliance attitudes.

RESULTS

Of the 750 questionnaires mailed, 179 usable responses were received – a response rate of 24%[9]. In order to test for non-response bias, we recorded the date of response and tested late responses versus early responses. We measured non-response bias by comparing mean response. Since questionnaires to the land taxpayers were distributed in stages, the late returned questionnaires were selected based on the last two returned questionnaires of each state. Since there is no way of knowing who responded and who did not respond due to enforced confidentiality and anonymity, this method is adopted based on the presumption that 'late' respondents are reasonable surrogates of non-respondents. Exactly 18 late response questionnaires were selected, representing 10% of the total 179 usable responses. The (unreported) results show no significant differences between the late respondents and early respondents for any of the dependent or independent variables and we conclude that non-response bias is not significant.

Frequency statistics for the sample are reported in Table 2. As shown, the sample includes landowners with a broad set of attributes. The sample may be characterized as representing diversity in level of education, source of income, beliefs about ethics, the fairness of the land tax system, understanding tax laws, sanction and detection probability, incentives and types of land. The sample may also be characterized as mostly middle age, male, Malays, low-income level with non-executive occupations. Table 2 also show the mean scores for each dependent variable (out of 100). One-way ANOVA statistics and correlation analysis are also reported in Table 2. At a univariate level, independent variables including age, race, education, income level, ethical beliefs, perceived fairness and incentive beliefs are statistically significant for one or more of the three dependent variables.

[9] Although low, it is comparable to Hite's (1989) response rate of 29% among United States taxpayers and Hasseldine *et al.'s* (1994) response rate of 22% among New Zealand taxpayers.

TABLE 2 DESCRIPTIVE ANALYSIS OF SAMPLE

Variables		(N=179) Frequency	%	Compliance Attitude Score Model 1	Model 2	Model 3
1. Age	Up to 40	43	24	65.8***	61.5*	64.8**
	41-60	107	60	76.4	69.2	76.8
	Above 60	29	16	82.1	72.2	72.7
2. Gender	Male	120	67	71.7	68.6	75.0
	Female	59	33	76.3	67.5	72.8
3. Race	Chinese	44	25	76.5	74.3*	78.6
	Indian	39	22	71.1	64.2	70.2
	Malay	96	53	75.5	66.4	72.1
4. Education	Low education	58	32	79.8***	70.8	73.5*
	Medium education	68	38	78.4	68.9	77.7
	High education	53	30	64.7	63.3	67.3
5. Income Level	Up to RM24,000	126	70	76.6*	69.9*	73.4
	Above RM24,000	53	30	70.5	63.0	72.4
6. Source of Income	Private sector	51	28	73.4	64.6	70.0
	Public sector	73	41	72.7	66.9	73.6
	Sole proprietor	55	31	78.9	72.1	75.8
7. Occupation	Executive	58	32	75.2	70.9	71.2
	Non-executive	121	68	74.6	66.4	74.2
8. Ethics (tax evasion)		179		-.261***	-.220***	-.197***
9. Fairness		179		.161**	.263***	.248***
10. Sanction		179		-.060	.024	-.132**
11. Understanding Tax Law		179		-.294***	-.151**	-.111*
12. Incentive		179		-.120	-.113*	-.138**
13. Type of land	Agricultural	77	43	75.9	68.0	72.0
	Non-agricultural	102	57	73.9	67.7	74.2

Note: Univariate results are ANOVA tests of the independent variables and compliance attitude scores.
Mean scores and significant levels are next to every independent variable for each model.
Correlation analysis are tested for ethics, fairness, understanding tax law and incentive variables.
*** Significant at the 1% level ** Significant at the 5% level * Significant at the 10% level

Model 1: Out of every 100 people who own land, how many would you say paid no land tax at all? (Enter a number between 0 and 100)

Model 2: Out of every 100 people who own land, what percentage do you believe are honest on their land tax payment? (Enter a number between 0 and 100)

Model 3: Among your friends, at what percentage are you confident they paid their land tax honestly? (Enter a number between 0 and 100)

To test our multivariate model, the assumptions of multiple regression analysis were tested and the data comply with the requirements of regression analysis (Hair *et al*., 1998) with the results showing that the assumptions of linearity and homoscedasticity are met. A statistical graphical plot also suggests that heteroscedasticity is not a problem in this study. In identifying multicollinearity, Variance Inflation Factor's (VIF) were used to indicate whether an independent variable had a strong linear relationship with the other independent variable(s).

Table 3 reports the multiple regression results for the three dependent variables. Model 4 combines all three questions into an overall average. The maximum likelihood estimates for each independent variable are included. All models are highly significant ($p < 0.001$) and the adjusted R^2s' range from 29% for Model 3 to over 37% for Model 2.

For Model 1 ("how many pay no land tax") the dependent variable is reverse scored so that higher scores indicate more compliant attitudes. The results in Table 3 show 8 significant independent variables ($p < .05$). Two negative estimates indicate that land taxpayers with medium level of education (V4) and who believe evasion is morally unethical (V8) are more likely to exhibit compliant attitudes. Age (V1), source of income (V6) and understanding tax laws (V11) are significant indicating land taxpayers who are older, work in the public sector, are sole proprietors, and have a better knowledge of land tax laws are more likely to exhibit compliant attitudes. In addition, Race (V3), occupation (V7) and incentives (V12) are also significant indicating land taxpayers who are Indians, who have low or high levels of education, non-professional/executive occupations, and who believe that strong incentives are necessary to elicit tax compliance, are less likely to exhibit compliant attitudes.

While the first dependent variable asked out of every 100 people how many paid no land tax at all, the dependent variable used in Model 2 was based on respondents' estimate of the proportion out of every 100 landowners believed to be compliant on their land tax payment. The regression results for Model 2 show nine significant independent variables. Age, occupation and ethics give the same result as Model 1.

In comparison with Model 1, differences exist for race, education, income level, source of income, perceived fairness, sanction, understanding tax laws, incentive and location. Thus, land taxpayers who are Malays or Indians, with high income levels are less likely to exhibit compliant attitudes and land taxpayers who perceive the land tax system as fair are more likely to have compliant attitudes with the land tax laws. Rather unexpectedly, the result shows that level of education has no significant relationship with compliance attitudes. Although counter-intuitive, land taxpayers who believe that the chances of sanctions applying are low are also more likely to exhibit compliant attitudes. The result also shows that Johor, Negeri Sembilan and Kelantan land taxpayers (V14) are more likely to exhibit compliant attitudes.

TABLE 3 RESULTS OF MULTIPLE REGRESSIONS (N=159)

	Dependent Variables			
	Model 1	Model 2	Model 3	Model 4
Independent Variables (predicted sign where applicable)	(numbers in parenthesis are *t*-statistics)			
(V1) *Age* (+)				
Middle age (40 – 60)	.248**	.273***	.220**	.275***
	(2.561)	(2.837)	(2.139)	(2.794)
Older age (above 60)	.300***	.240**	.177*	.263***
	(3.027)	(2.442)	(1.680)	(2.612)
(V2) Gender (+)	.052	.075	.153**	.107
	(.728)	(1.050)	(2.016)	(1.468)
(V3) *Race*				
Malays	-.008	-.251**	-1.135	-.152*
	(-.083)	(-2.512)	(-1.259)	(-1.483)
Indians	-.217**	-.338***	-.255**	-.303***
	(-2.016)	(-3.164)	(-2.232)	(-2.772)
(V4) *Education* (+)				
Low level of education	-.187*	-.140	-.235**	-.210**
	(-1.930)	(-1.454)	(-2.287)	(-2.130)
High level of education	-.544***	-.061	-.168	-.274**
	(-4.503)	(-0.508)	(-1.314)	(-2.234)
(V5) Income level (-)	-.119	-.348***	.010	-.169*
	(-1.300)	(-3.829)	(-.099)	(-1.816)
(V6) *Source of Income* (+)				
Public sector	.164*	.111	.161*	.162*
	(1.792)	(1.218)	(1.655)	(1.735)
Sole proprietor	.233**	.144	.132	.186**
	(2.532)	(1.582)	(1.348)	(1.990)
(V7) Non professional/executive	-.462***	-.344***	-.013	-.292***
	(-4.735)	(-3.553)	(-.125)	(-2.950)
(V8) Ethics (tax evasion) (-)	-.201**	-.390***	-.218**	-.302***
	(-2.484)	(-4.853)	(-2.531)	(-3.680)
(V9) Fairness (+)	.014	.158**	2.013**	.128*
	(.192)	(2.129)	(2.280)	(1.689)
(V10) Sanction (-)	-.048	.169**	-.062	.023
	(-.623)	(2.195)	(-.749)	(.298)
(V11) Understanding Tax Law (+)	.149**	.084	.028	.094
	(2.445)	(1.213)	(.384)	(1.321)
(V12) Incentive	-.157*	-.153**	-.181**	-.183**
	(-2.106)	(-2.070)	(-2.292)	(-2.421)
(V13) Type of land	.088	.127	.132	.130
	(1.131)	(1.649)	(1.600)	(1.652)
(V14) Locations				
Johor	-.013	.194**	.106	.111
	(-.141)	(2.150)	(1.099)	(1.207)
Melaka	-.070	-.051	-.248***	-.141*
	(-.941)	(-.688)	(-3.156)	(-1.876)
Negeri Sembilan	-0.22	.162*	.009	.058
	(-.256)	(1.901)	(.094)	(.660)
Pahang	-.057	.001	-.156*	-.081
	(-.656)	(.014)	(-1.704)	(-.922)
Selangor	-.094	.104	.079	.039
	(1.391)	(1.555)	(1.103)	(.571)

Perak	-.056	.064	-.055	-.017
	(-.656)	(.755)	(-.610)	(-.191)
Pulau Pinang	-.015	.008	-.099	-.041
	(-.174)	(.094)	(-1.086)	(-.473)
Kedah	-.126	-.087	-.142	-.132
	(-1.465)	(-1.013)	(-1.556)	(-1.509)
Kelantan	-.032	.167**	.080	.084
	(-.406)	(2.103)	(.937)	(1.034)
Adjusted R^2	.367	.378	.286	.348
F-value	4.450	4.617	3.388	4.178
p-value	.000	.000	.000	.000

*** Significant at the 1% level ** Significant at the 5% level * Significant at the 10% level

Model 1: Out of every 100 people who own land, how many would you say paid no land tax at all? (Enter a number between 0 and 100)

Model 2: Out of every 100 people who own land, what percentage do you believe are honest on their land tax payment? (Enter a number between 0 and 100)

Model 3: Among your friends, at what percentage are you confident they paid their land tax honestly? (Enter a number between 0 and 100)

Model 4: An average of scores from model 1, model 2 and model 3.

The dependent variable in Model 3 measures respondents' beliefs as to the percent of their friends that comply with land tax. The results show that middle-aged and older land taxpayers have more compliant attitudes than young land owners. In comparison with Models 1 and 2, females believed their friends to be more compliant than males believed their friends to be. Results of ethics, fairness and incentives are all consistent with Model 2. The results also show that Melaka land taxpayers are less likely to exhibit compliant attitudes. This is also the case, but to a lesser extent for Pahang land taxpayers.

By combining responses to the three separate dependent variables an overall compliance indicator is established (Model 4). Using Model 4, gender is not significant. Income level however shows a significant negative estimate indicating that landowners with high income levels are less likely to exhibit compliant attitudes. The results also show that sole proprietor landowners are more likely to exhibit compliant attitudes. This is also the case, but a lesser extent for those who work in public sectors. Using Model 4, Melaka land taxpayers are less likely to exhibit compliant attitudes.

Thus, it appears that the relationship between demographic characteristics and compliance attitudes in this model provides some support for prior studies. Compliers were generally at middle age (in contrast with Clotfelter 1983, yet similar to Tittle 1980; and Warneryd & Walerud 1982), more likely to be women (similar to Tittle 1980) and at a low income level (in contrast with Christian & Gupta 1993). The results also show that land taxpayers with a medium level of education, sole proprietor status (in contrast with Wahlund 1992), and a non-professional/executive background (similar to Westat 1980b) are more likely to exhibit compliant attitudes. For attitude and perception behavior, the results are similar to that of the studies reviewed by Jackson and Milliron (1986). When tax evasion is seen as a moral issue, individuals are less likely to evade taxes regardless of the tax situation. Taxpayers are more likely to exhibit compliant attitudes when they perceive the tax system to be fair. For the tax knowledge variable, the result is also similar to Milliron (1985), indicating a positive relationship between individual understanding of tax laws and tax compliance attitudes. A number of researchers have acknowledged the need for a tax system to provide taxpayers with incentives to comply with tax laws (Slemrod 1992; Smith

1992). This study, to the authors' knowledge, is the first to do so, and finds that respondents who felt positive incentives were important to ensure compliance indicated lower compliance scores.

CONCLUSION

This article tests a compliance model for a new tax (land tax) in a non-western country (Malaysia) with four previously untested variables (race, positive incentives, land type and location) to identify factors associated with landowners' compliance attitudes. Our regression results show that age, race, level of education, level of income, occupation and ethics strongly influence land tax compliance attitudes. In addition, the independent variables of perceived fairness toward tax compliance, understanding tax laws, incentives and location are also statistically related to land tax compliance attitudes.

These results should prove useful to policymakers and land tax administrators in both Malaysia and elsewhere. As no prior studies have specifically studied land tax, the finding that the income tax compliance literature extends to land tax is an important contribution of this study. In particular, one option that would appear to have promise is to increase taxpayer understanding of land tax laws through information campaigns or advertising containing persuasive messages. This in itself may even improve actual compliance. Such efforts might be targeted towards younger taxpayers and those with either low or high levels of education.

One limitation of this study and others, is that tax compliance research has been criticized for relying on self-reports of behavior. Information provided by respondents on actual compliance behavior is sensitive and potentially incriminating, and could be misrepresented (Hanno & Violette 1996). For this reason, the dependent variables used in this study were of an 'indirect' nature and did not directly ask for respondents' self reported compliance behavior.

While it may be unwise to generalize from this study to other contexts of land and property taxation, this study acts as a baseline for future compliance research in these settings. Such future research could even validate the effectiveness of using persuasive messages to land owners' targeted according to the factors identified in this study. Future research could also address how other moral and social factors might influence landowners' attitudes. Finally, interaction of various beliefs, demographic characteristics, norms and situational factors might also be examined. Overall, our study demonstrates that the compliance framework adopted can be useful in predicting compliance attitudes, as well as extending extant knowledge of race and incentive effects.

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