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Beyond enforcement: what drives tax morale in Ghana?

Tax morale
in Ghana

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Abstract

Purpose – This paper aims to investigate the determinants of the motivation to pay tax in Ghana. Traditionally, raising tax morale to ensure compliance is often tied to the level of prevailing enforcement. But beyond enforcement, why do citizens pay tax?

Design/methodology/approach – This paper relied on the sixth wave of the World Values Survey data in determining the drivers of tax morale. It used the probit model with different specifications to determine robustness of the results.

Findings – The findings remain robust to model specification and show a non-linear relationship between age and tax morale. The level of education, marital status, patriotism, sector of employment, satisfaction with democracy and one's "fear of God" do not matter in tax morale. The economic class of a person *per se* is also far from being a significant driver and that people are intrinsically motivated to pay tax once they are satisfied with their financial situation, have trust in the government as well as confidence in the parliament.

Originality/value – In addition to being a pioneering micro-econometric work on the determinants of tax morale in Ghana, the main contribution of the study lies in its investigation of a non-linear relationship between age and tax morale in Ghana.

Keywords Ghana, Probit model, Tax, Tax evasion, Tax morale

Paper type Research paper

Introduction

Tax revenue, as a share of the gross domestic product (GDP), is an essential component of the country's consumption basket, especially in the wake of the recent decline of the Ghanaian economy. In 2004, for instance, the total revenue accrued from tax alone amounted to 22.3 per cent of the country's GDP. The figure, however, declined to 21.9 and 20.6 per cent in 2005 and 2006, respectively (CEPA, 2006). Undoubtedly, tax revenues allow the government to provide public goods and services that support and maintain the economic machine (Yew *et al.*, 2015). It plays an important role in sustainable economic development and financing both social programmes and infrastructure investment. Arguably, the capacity of a country to provide for the welfare and security to its citizen, as well as developing and consolidating a representative



democracy, is determined by its ability to raise enough resources through tax (Armah-Attoh and Awal, 2013). Effective mobilization of tax revenues from all economic agents will increase public services and facilitate the achievement of the Millennium Development Goals in developing countries (Cerqueti and Coppier, 2009; Gohou and Soumaré, 2012).

Tax morale is defined as the intrinsic motivation to pay taxes, and is closely related to tax compliance. It is concerned with why people do not evade. Thus, the motivation of a country's citizens to pay taxes, in addition to legal obligations, is what Daude *et al.* (2012) described as tax morale. Tax morale consists of individuals' general attitude towards taxation. For this reason, tax morale is largely framed in the general concept of tax mentality (Torgler, 2004). Tax morale, as argued by many researchers (Frey, 2003; Frey and Feld, 2002; Feld and Tyran, 2002; Torgler, 2001), can help explain the degree of tax compliance and tax evasion.

As the papers would discuss later, Ghana, in recognition of the significance of tax revenue in economic growth, undertook a series of structural tax reforms with the aim of ensuring compliance and reducing tax evasion. However, studies on why people evade tax are non-existent, except Annan *et al.* (2014), who provided a macro-level analysis on the determinants of tax evasion for the period 1970-2010. It is, however, imperative to note that decision to evade tax is largely individualistic, thus macro-level studies like Annan *et al.* (2014) inherently obscure the individual differences among tax payers. This paper thus fills this gap in literature by investigating the drivers of tax morale in Ghana using data from the World Values Survey (WVS). It is worth noting that, despite being a preoccupation of every government to mobilize domestic tax revenue to embark on crucial developmental projects aimed at propelling growth, little attempt is made to systematically investigate the socioeconomic and institutional factors motivating people to honour their tax obligations. To the best of the authors' knowledge, this paper presents a pioneering work on the drivers of tax morale in Ghana and provides new evidence on the factors influencing tax morale. Findings from the study show a U-shaped relationship between age and tax morale –crucial evidence resolving the confusion in literature on the age–tax morale nexus. The level of education, marital status, patriotism, sector of employment, satisfaction with democracy and one's piety do not matter in tax morale. Furthermore, the economic class of a person *per se* is far from being a significant determinant and that people are intrinsically motivated to pay tax once they are satisfied with their financial situation, have trust in the government as well as confidence in the parliament.

The rest of the paper is organized as follows: the second section presents a background and review of related literature. The third section outlines our empirical strategy. The fourth section discusses the findings of the study. Finally, the fifth section concludes the study.

Brief overview of tax reforms and administration in Ghana

Ghana's tax administration has gone through some metamorphosis over the past few decades. In 1983, for instance, the initial tax reform measure of the structural adjustment programme was designed largely to restore the tax base which had been battered by the constant over-valuation of the domestic currency, broaden the tax net and, ultimately, reduce tax evasion. The 1983 reform was followed by the administrative reform of 1985,

which focused on measures to enhance efficiency of the tax administration and improve upon the equity of the tax system (Armah-Attoh and Awal, 2013).

The main components of Ghana's tax regime may be grouped as taxes on income and property, taxes on domestic goods and services, taxes on international trade and value added tax (VAT). Tax revenue remains a critical item in the envelope of resources available to the government for development. Indeed, the government over the years has resorted to special taxes and levies including sector-specific legislations to address a number of development issues. Falling under this category include the Communications Service Tax, 2008, Act 754, and subsequent amendment in 2013. Under the Act, at least 20 per cent of the revenue generated from the tax shall be used to finance the National Youth Employment Programme[1]. Ghana introduced VAT initially in 1995 but withdrew it following public protests. This was attributable to poor education on the purposes and operations of the tax. After a successful public education, the Value Added Tax Act, 1998, Act 546, was passed and implemented in 1998. The VAT Act was amended in 2013 (Act 870). This amendment enabled VAT to cover the supply and input of telephone handsets, and also introduced VAT on certain categories of financial services.

The recent integration of the three tax revenue collection agencies – Internal Revenue Service (IRS), VAT Service and the Customs Excise and Preventive Service – into a single agency known as the Ghana Revenue Authority (GRA) was a major reform aimed at modernizing tax revenue collection and administration as well as improving customer service. This major reform also seeks to harmonize tax collection efforts, minimize compliance costs, reduce wastage and eliminate duplications in the tax regime. As a result, the GRA Act, 2009, Act 791, was passed into law and assented to by the President on 31 December 2009. The Act provides for the establishment of Domestic Tax Division, Customs Division, Support Services Division and any other Division determined by the parliament. The then IRS and VAT Service have since been merged into domestic tax operations on functional lines. As part of the ongoing reforms, the government also embarked on the e-government project in 2011 to electronically link GRA to the Registrar General's Department with the aim of the ensuring easy tracking and collection of tax (Annan *et al.*, 2014).

Despite all the reforms implemented to minimize tax burden, reduce underground economy and, ultimately, stabilize the economy, there is anecdotal evidence that tax evasion continues to be a problem in Ghana, as only 1.5 million people out of Ghana's 24 million pay taxes. It is much easier to collect taxes from institutionalized and formalized outlets than from the informal sector, even though the informal sector is big and keeps growing. The resulting repercussions are reduction in government revenue, high tax for compliant taxpayers and reduction in services rendered to the public (Annan *et al.*, 2014) (Table I).

The share of tax revenue in GDP increased from 16.3 per cent in 2000 to 21.8 per cent in 2004 and marginally declined to 21.3 per cent in 2005. This drop in tax revenue occurred at a point when the GDP per capita increased consistently from 1.3 per cent in 2000 to 3.2 per cent in 2005, while population growth remained fairly constant. Between 2006 and 2012, the share of tax revenue consistently fell below the average of 16 per cent with consequential effect on provision of quality infrastructure.

Tax morale: theory and empirics

Nobody wants to pay tax. Elffers (2000) argues that not everyone with a proclivity to evade tax is able to transform this intention into action. While some may beat the tax

Table I.
Share of tax revenue,
GDP per capita
growth and
population growth
(2000-2012)

Year	Tax revenue (% of GDP)	GDP per capita growth (annual %)	Population growth (annual %)
2000	16.3	1.3	2.4
2001	17.2	1.5	2.5
2002	17.5	1.9	2.5
2003	18.5	2.5	2.6
2004	21.8	2.9	2.6
2005	21.3	3.2	2.6
2006	12.8	3.7	2.6
2007	13.9	3.7	2.6
2008	13.9	5.7	2.6
2009	12.6	1.4	2.5
2010	13.6	5.5	2.4
2011	13.4	12.4	2.3
2012	14.9	6.4	2.2
Average (2000-2012)	16.0	4.0	2.5

Source: World Development Indicators (2014)

administrative structures and thus succeed in cheating on chance, many individuals do not have the knowledge and/or resources to evade. It can be argued that for evaders, the expected utility of dodging tax outweighs the moral cost. [Frey and Schneider \(2000\)](#) note that the moral costs could act as a disincentive for involving in illegal activities and a good citizen has the moral reservation to engage in a forbidden activity.

Empirical research on the determinants of tax morale has concentrated on individual countries ([Torgler 2005](#); [Martinez-Vazquez and Torgler, 2009](#)) and a number of cross-country studies ([Torgler and Schneider, 2006](#); [Alm and Torgler, 2006](#); [Cummings et al., 2006](#); [Torgler, 2004, 2006](#); [Bilgin, 2014](#)) where data are largely drawn from the WVS and/or European Values Survey. For instance, relying on data from these sources, [Torgler and Schneider \(2006\)](#) investigated the determinants of tax morale in Spain, Switzerland and Belgium. Results from their weighted ordered probit model show regional discrepancies in Spain and Switzerland, where for the latter, direct democracy significantly impacts on tax morale. However, support for democracy and citizen autonomy does not always increase motivation to pay tax. They conclude that confidence in justice system, trust in the government, confidence in the parliament, national pride and support for democracy have positive effect on tax morale. [Torgler \(2006\)](#) replicated the study in 32 countries and found that religiosity, risk aversion and satisfaction with one's financial situation increase tax morale. While tax morale is low for the high-class, the motivation to pay tax is high among the retired, married, housewives and part-time workers.

By using the shadow economy as a measure of tax evasion, [Tsakumis et al. \(2007\)](#) investigate the relationship between national cultural dimensions and tax evasion for 50 countries. The ordinary least square estimations show a positive and significant relationship between uncertainty avoidance, individualism, masculinity and tax evasion. In contrast, power distance shows a significant and negative relation with tax evasion. The authors conclude that at higher levels of uncertainty avoidance and power

distance, and lower levels of individualism and masculinity, tax evasion is on a higher scale across countries.

Torgler *et al.* (2008) used several models to explore the puzzle of tax compliance, which refers to the unexpectedly high level of tax compliance predicted using economic models. A multivariate regression model was applied to estimate the shadow economy by regressing tax morale with GDP per capita, share of agriculture in GDP, share of urban population, labour force, marginal tax rate, region and fixed time as control variables. Their results revealed that substantial growth in the shadow economy can lead to crowding out of willingness to pay taxes, or tax morale. The size of the shadow economy was also found to be negatively correlated with trade, but is positively correlated with agricultural GDP and urbanization. Using experiments to examining the impact of tax morale on tax compliance, tax morale is found to have a strong and positive impact on tax compliance. Females and older individuals are more compliant, higher group transfer has a positive impact on tax compliance and individual wealth has a negative impact on tax compliance. A probit regression analysis on tax morale indicated that institutional quality, trust in the judicial system, gender, status, education and religion variables were significant.

A similarly study by Doerrenberg *et al.* (2012) investigated the effects of progressive taxation on individual tax morale. The cross-country analysis reveals that women and married people have higher tax morale than men and singles. Other variables that were found to have positive effect on tax morale were religiosity, patriotism, being retired and being employed.

By relying on data from the WVS, Bilgin (2014) observes that social capital variables and some of the demographic factors such as the confidence in political entities, religion and national pride positively affect tax morale in Turkey. The results were, however, different for Spain, as social capital variables did not have any effect on tax morale. Apart from age and income level, education level was also a significant determinant of tax morale, where people with formal education are less likely to cheat on tax. More recently, Yew *et al.* (2015) applied an ordered probit regression model to study the effects of sociodemographic and institutional variables on individual tax morale in Russia. Findings from their study revealed an inverse relationship between the motivation to pay tax and sector of employment and income level. Sociodemographic variables were found to have varying effects on tax morale, while institutional variables were generally found to enhance individual tax morale.

While a plethora of studies have been done on the determinants of tax morale, majority relate to the developed and emerging economies with relatively well-functioning tax administration. Findings from these studies are far from being conclusive, necessitating further research efforts.

Data source and empirical strategy

Data for the study were gleaned from the WVS, which is carried out in more than 100 countries. The survey assesses the basic values, beliefs and opinions of people around the world, with an increasing number of countries participating over time. The first wave of the WVS was conducted in 1981-1984, while the second was done in 1990-1993. The third, fourth and fifth were, respectively, completed in 1995-1997, 1999-2001 and 2005-2008. This study used the sixth wave of the WVS, which is the most recent and was completed in 2012. The surveys are carried out by professional scientific institutions of

high international reputations and performed via face-to-face interviews at respondents' home and in their respective national or local dialect depending on the literacy level of the interviewee[2]. Our key dependent variable is tax morale and to get individual's motivation to pay tax, the WVS asks respondents the following question:

Please tell me for each of the following actions whether you think it can always be justified, never be justified, or something in between: cheating on taxes if you have a chance.

Responses are measured on a ten-scale order, with 1 representing "never justifiable" and 10 representing "always justifiable". On this scale, we reconstruct a tax morale dummy equalling 1 if an individual selects 1 and 0 if one rates from 2 to 10. Here, we, respectively, define individuals with high tax morale as those who strictly abhor tax evasion and will never justify cheating on taxes, and individuals with low tax morale as those who do not frown on tax evasion and always justify cheating on tax.

We classify our explanatory variables into four categories: demographic factors, employment status, economic status and institutional factors. With regard to demographic, our paper focuses on gender, age, marital status, number of children, educational attainment and religiosity. The employment status considers full-time workers, part-time workers, self-employed, sector of employment, retirees, housewives, students and unemployed. Our third explanatory variables – economic status – measure the self-reported income level as well as the satisfaction of one's financial status. The institutional factors as the last control deal directly with one's confidence in the government and the parliament, support for democracy and one's pride for the nation. The choice of our explanatory variables is motivated by several studies, including Torgler and Schneider (2006), Daude *et al.* (2012), Doerrenberg *et al.* (2012), Bilgin (2014) and Yew *et al.* (2015).

Because of the binary nature of our dependent variable, we use the probit model in performing the micro-econometric analysis. To determine the drivers of tax morale, we argue that the choice to cheat or not to cheat on tax depends on a latent (unobservable) variable, tax morale, TM_i^* , which is influenced by a vector of the four categories of the independent variables W_i such that:

$$TM_i^* = \beta_1 + \beta_2 W_i + \varepsilon_i \quad (1)$$

where

$$TM_i = \begin{cases} 1 & \text{if } TM_i^* > 0 \\ 0 & \text{otherwise} \end{cases}$$

β_1 is constant, β_2 is estimable parameters, while ε_i is error term which is $N(0, 1)$.

From equation (1), there exists a critical threshold TM_p , so that if $TM_i^* > TM_p$, then an individual strictly abhors cheating on tax. It is imperative to note that TM_i is unobservable either and is assumed to be normally distributed with equal mean and variance. Given this caveat, it is permissible to estimate our parameters of interest to obtain information on TM_i^* . This is formalized as:

$$TM_i = P(TM_i = 1 | W_i) = P(TM_i^* \leq TM_p) = P(Z_i \leq \beta_1 + \beta_2 W_i) = F(\beta_1 + \beta_2 W_i) \quad (2)$$

where Z is the standard normal variable assumed to be $N(0, \sigma^2)$, while F is the cumulative normal distribution function (Gujarati and Porter, 2009).

Equation (2) is estimated using the maximum likelihood estimation. As a novel contribution to literature, we include a quadratic term of age – a proxy for old age – to account for possible non-linearities in the age–tax morale nexus. To control for heteroskedasticity, we report the robust standard errors.

Results and discussions

Relying on the WVS data, this section begins with a preliminary descriptive analysis of the variables used in the model (Table II). Out of the 1,552 respondents, 69 per cent have very high tax morale and will thus never justify cheating on tax. This implies that the remaining 31 per cent will always evade tax when given the chance. The gender dynamics of the respondents are evenly distributed, as the male–female ratio is one–to–one. The minimum and maximum ages of the respondents are 18 and 82 years, respectively, with 31 years as the average age. With regard to marital status and number of children, about 42 per cent are married, while the mean number of children is 2. On the educational level of respondents, 93 per cent have some form of formal education and, hence, are able to read and write. Regarding the religious standing of the respondents, majority (97 per cent) consider themselves religious, thus obliging strictly to the principles and practices of their chosen religion.

On the employment status, 58 per cent of the respondents are gainfully employed in the public sector. About 22 and 5 per cent are, respectively, full-time and part-time employed, while 34 per cent are self-employed. Further results show that 2 per cent of the respondents have retired from active work and 9 per cent are housewives. While 22 per cent are students, 15 per cent are jobless.

The economic class of the respondents was also explored, where majority were self-reported to be in the third quintile, while 27 and 21 per cent fall in the second and first quintiles, respectively. This means that majority of the respondents are poor, while 18 and 4 per cent are within the fourth and fifth quintiles, respectively, and by implication are wealthier. However, irrespective of one's income group, about 4 per cent of the respondents are satisfied with their financial situation.

On the national pride, about 95 per cent are very proud of Ghana. However, only 22 and 14 per cent, respectively, trust the government and have confidence in the parliament. Despite the rather low trust in the government and confidence in the parliament, about 82 per cent of the respondents are satisfied with Ghana's democracy.

As a caveat, because the probit model is non-linear, we interpret only the sign of the coefficients and not the magnitude. Results from the probit model on the drivers of tax morale are shown in Table III. Our explanatory variables are grouped into four categories – demographic, employment, economic status and institutional factors. Different models are estimated, where each category of the explanatory variables is introduced successively to examine whether our independent variables are sensitive to model specification.

Model 1 of Table III shows the impact of only demographic factors on tax morale. Only the effects of age and age square are significant. The coefficient of age is negative and significant at 10 per cent, implying that an increase in age decreases the probability of responding to tax obligation. However, the coefficient of age square is positive and significant at 5 per cent, revealing a direct relationship between age square – proxy for

Table II.
Descriptive analysis

Variables	Type of variable	Minimum	Maximum	Mean	SD
<i>Dependent</i>					
Tax morale	Dummy (1 = never justified; 0 = otherwise)	0	1	0.69	0.46
<i>Explanatory variables</i>					
<i>Demographic</i>					
Gender	Dummy (1 = female; 0 = male)	0	1	0.50	0.50
Age	Continuous	18	82	30.92	12.70
Age square	Continuous	324	6,724	1,117.59	1,036.34
Marital status	Dummy (1 = married; 0 = otherwise)	0	1	0.42	0.49
Educational level	Dummy (1 = formal; 0 = no formal)	0	1	0.93	0.25
Number of children	Continuous	0	8	1.5	2.01
Religiosity	Dummy (1 = religious; 0 = otherwise)	0	1	0.97	0.16
<i>Employment status</i>					
Full-time	Dummy (1 = full time employed; 0 = otherwise)	0	1	0.22	0.41
Part-time	Dummy (1 = part time employed; 0 = otherwise)	0	1	0.05	0.21
Self-employment	Dummy (1 = self-employed; 0 = otherwise)	0	1	0.34	0.47
Retirees	Dummy (1 = retired; 0 = otherwise)	0	1	0.02	0.61
Housewife	Dummy (1 = housewife; 0 = otherwise)	0	1	0.09	0.09
Unemployed	Dummy (1 = unemployed; 0 = otherwise)	0	1	0.15	0.36
Students	Dummy (1 = student; 0 = otherwise)	0	1	0.22	0.41
Sector of employment	Dummy (1 = works in the public sector; 0 = otherwise)	0	1	0.58	0.49
<i>Economic</i>					
First quintile	Dummy (1 = falls in the first quintile; 0 = otherwise)	0	1	0.21	0.41
Second quintile	Dummy (1 = falls in the second quintile; 0 = otherwise)	0	1	0.27	0.44
Third quintile	Dummy (1 = falls in the third quintile; 0 = otherwise)	0	1	0.29	0.45
Fourth quintile	Dummy (1 = falls in the fourth quintile; 0 = otherwise)	0	1	0.18	0.39
Fifth quintile	Dummy (1 = falls in the fifth quintile; 0 = otherwise)	0	1	0.04	0.21
Satisfaction with financial situation	Dummy (1 = satisfied with the financial situation; 0 = otherwise)	0	1	0.04	0.20
<i>Institutional</i>					
National pride	Dummy (1 = very proud; 0 = otherwise)	0	1	0.95	0.21
Trust in government	Dummy (1 = great deal; 0 = otherwise)	0	1	0.22	0.41
Confidence in parliament	Dummy (1 = great deal; 0 = otherwise)	0	1	0.14	0.34
Satisfaction with democracy	Dummy (1 = very good; 0 = otherwise)	0	1	0.82	0.38

Variable	Model 1	Model 2	Model 3	Model 4
Constant	0.98688 (0.36812)*	1.06982 (0.41737)**	1.09947 (0.42350)*	1.07842 (0.45363)**
<i>Demographic</i>				
Gender	0.05395 (0.06833)	0.07021 (0.06984)	0.07024 (0.06997)	0.08331 (0.07027)
Age	−0.02607 (0.01568)***	−0.03180 (0.01734)***	−0.03061 (0.01748)***	−0.03087*** (0.01748)
Age square	0.00045 (0.00019)**	0.00053 (0.00021)**	0.00052 (0.00021)**	0.00051 (0.00021)**
Religiosity	−0.25050 (0.21844)	−0.25246 (0.21966)	−0.24832 (0.21988)	−0.27189 (0.22010)
Marital status	0.12496 (0.08373)	0.13124 (0.08450)	0.13258 (0.08474)	0.13722 (0.08489)
Number of children	−0.02729 (0.02707)	−0.02727 (0.02743)	−0.03080 (0.02775)	−0.03152 (0.02780)
Educational attainment	0.01583 (0.13231)	0.01738 (0.13300)	0.01140 (0.13238)	0.01312 (0.13311)
<i>Employment status vis-à-vis full-time employed</i>				
Part-time employed	−	0.01230 (0.16863)	0.00838 (0.16941)	0.00529 (0.17052)
Self-employed	−	0.01271 (0.09545)	0.00141 (0.09623)	−0.00894 (0.09665)
Retired	−	−0.15233 (0.33202)	−0.15751 (0.33369)	−0.12233 (0.32933)
Housewives	−	−0.74108 (0.34589)**	−0.79493 (0.34402)**	−0.85500 (0.35868)**
Unemployed	−	−0.07063 (0.11750)	−0.09286 (0.12011)	−0.10215 (0.12050)
Students	−	−0.01138 (0.11831)	−0.00515 (0.11860)	−0.02736 (0.11898)
Sector of employment	−	0.03420 (0.08565)	0.03049 (0.08575)	0.03465 (0.08643)
<i>Economic status vis-à-vis first quintile</i>				
Second quintile	−	−	−0.03621 (0.09879)	−0.01758 (0.09919)
Third quintile	−	−	−0.03061 (0.09881)	−0.00935 (0.09947)
Fourth quintile	−	−	−0.11690 (0.10875)	−0.10693 (0.11026)
Fifth quintile	−	−	−0.23229 (0.16501)	−0.22114 (0.16472)
Satisfaction with financial situation	−	−	0.35285 (0.18183)***	0.34472 (0.18424)***
<i>Institutional</i>				
National pride	−	−	−	−0.08800 (0.15901)
Trust in government	−	−	−	0.18164 (0.09109)**
Confidence in parliament	−	−	−	0.17887 (0.11115)
Satisfaction in democracy	−	−	−	0.07499 (0.08721)

(continued)

Table III.

Variable	Model 1	Model 2	Model 3	Model 4
Wald χ^2	17.72	24.36	30.55	41.29
Prob > χ^2	0.0133	0.0415	0.0452	0.0110
Pseudo R^2	0.0093	0.0126	0.0156	0.0218
Log pseudo likelihood	-955.7064	-952.5948	-946.6362	-943.6781
Number of observation	1,552	1,552	1,552	1,552

Notes: *, ** and *** denote $p < 0.001$; $p < 0.005$; $p < 0.10$, respectively.

old age – and tax morale. The implication is that the level of tax morale decreases as age increases, but would eventually decline only after reaching a certain age threshold. This suggests that, during youthful age, one will always justify cheating on tax year-on-year but will finally become sober at old age and will never evade tax. Although insignificant, the effect of religiosity and number of children on tax morale is negative. The motivation to pay tax is positively related to gender, marital status and the level of education. However, none of these effects is statistically significant at conventional levels, suggesting that educational attainment, marital status, religiosity, gender and number of children do not matter in tax morale. This finding is, however, inconsistent with Bilgin (2014).

We also account for influence of employment status *vis-à-vis* full-time employed on tax morale. The inclusion of this category does not change the direction of effect and significance of the demographic variables on driving tax morale. In Model 2, the coefficient of the sector of employment is positive and insignificant. Relative to those working full-time, those who are self-employed as well as part-time workers, people on retirement, students and the unemployed are more likely to cheat on tax, although these effects are statistically not different from zero. The coefficient of housewives is also negative and significant. The implication is that, housewives are more likely to evade tax.

Model 3 further includes the economic status of respondents in assessing its effects on tax morale and to check the sensitivity of demographic and employment variables to model specification. In addition to revealing the robustness of the demographic and employment variables, the results show that the coefficients of all the economic class are negative, suggesting that people in all the self-reported income brackets – both the poor and the rich – have lower tax morale, although none of this is significant. The effect of one's satisfaction to own financial situation is positive and significant at 10 per cent. This means that, individuals who are content with the level of their finances have higher tax morale and will never justify cheating on tax. This finding therefore shows that, irrespective of one's level of income, it is only when one is financially satisfied that he or she would be motivated to pay tax. Augmenting Model 3 with the institutional factors shows a positive relationship between national pride and tax morale, albeit insignificantly. While satisfaction in democracy, confidence in the parliament and trust in the government positively drive tax morale, only the coefficient of trust in the government is significant, suggesting that the likelihood of paying tax is higher if people have trust in the government entrusted with managing the affairs of the country. This finding is consistent with Cummings *et al.* (2009). If the State is seen to be acting in a trustworthy manner in a way that inures to the benefit of tax payers in a form of improved infrastructure, then taxpayers/citizens would be more willing to assent to tax obligations.

With regard to the robustness of the variables, the results suggest that, our determinants of tax morale are robust, as they are insensitive to the choice of the model. In other words, all the variables under demographic, employment status and economic maintain their initial impact both in terms of direction and significance (Models 1 to 3). The high value of the Wald chi-squares and the low *p*-values show the overall significance of each model at most 5 per cent level. The marginal effect of each variable is estimated to directly interpret the coefficients of the variables. In other words, we

estimate the impact of a unit change in the explanatory variables on the probability of reporting higher tax morale (Table IV).

Here, our emphasis is on the variables that significantly influence tax morale. Starting with the demographic drivers (Model 1), the coefficient of age is negative and less significant in Model 1 but turns significant when other factors are accounted for, and in essence, tax morale decreases between 1.12 to 1.16 per cent in response to a unit-percentage rise in age (Models 2 to 4). The coefficient of age square is 0.00016 and significant (at 5 per cent level), implying that, after reaching the age threshold, a further increase in age by a year increases the probability of reporting higher tax morale by 0.016 per cent. Thus, the aged have higher motivation to pay tax when compared to the young. Except in terms of magnitude, this effect is not different even after controlling for economic, employment and institutional factors.

Housewives are intrinsically unwilling to comply with their tax responsibility. Specifically, a unit-percentage increase in housewives significantly reduces tax morale between 29.2 and 33.4 per cent (Models 2 to 4). Satisfaction with one's financial situation as the only significant economic driver positively impacts on tax morale. In both Models 3 and 4, a 1 per cent rise in people's satisfaction with their current financial situation significantly increases the probability of reporting higher tax morale by 11 per cent. With regard to institutional factors, it is clear that satisfaction with democracy and national pride are not significant drivers of tax morale. Only trust in the government and confidence in the parliament positively affect tax morale, where a unit-percentage rise in these, respectively, increases tax morale by 6.26 and 6.04 per cent (Model 4).

Conclusion and policy implication

Traditionally, raising tax morale to ensure compliance is often tied to the level of prevailing enforcement. This paper investigates the determinants of tax morale in Ghana relying on the sixth wave data from the WVS. Although there is a body of empirical studies on the drivers of tax morale, majority pertain to the developed economies and results are often mixed and inconclusive. In this paper, we estimate the effect of demographic, employment status, economic and institutional factors on the probability of reporting higher tax morale by using the probit model where the explanatory variables are introduced in turns to check the robustness of the determinants.

Our results suggest that among the demographic factors, only the effect of age and its square are significant. In particular, age negatively affects tax morale. However, the coefficient of the quadratic term is positive, suggesting the existence of a U-shaped relationship between age and tax morale. Thus, the probability of never justifying cheating on tax reduces in response to increase in age but starts to rise only after reaching a threshold. This implies that individuals in Ghana would cheat on tax when given the chance, but on turning older, one becomes a conformist and conscious of the need to pay tax. It is imperative to note that, the economic class of a person *per se* is not a determinant of tax morale. In other words, in the case of Ghana, both the rich and the poor have lower tax morale and will always cheat on tax when given the chance. It is only when one becomes satisfied with the financial situation that he or she would frown on evading tax. However, satisfaction in democracy and national pride do not matter in tax morale. Trust in the government has also proven crucial in driving tax morale, as

Variable	Model 1	Model 2	Model 3	Model 4
<i>Demographic</i>				
Gender	0.01905 (0.02415)	0.02473 (0.02469)	0.02530 (0.02472)	0.02978 (0.02476)
Age	−0.00921 (0.00567)	−0.01163 (0.00637)***	−0.01120 (0.0064)***	−0.01125 (0.00641)***
Age square	0.00016 (0.00007)**	0.00019 (0.00008)**	0.00019 (0.00008)**	0.00018 (0.00008)**
Religiosity	−0.08270 (0.06648)	−0.08332 (0.06651)	−0.07801 (0.06731)	−0.08541 (0.06626)
Marital status	0.04389 (0.02918)	0.04513 (0.02949)	0.04532 (0.02948)	0.04684 (0.0295)
Number of children	−0.00096 (0.00939)	−0.00952 (0.00947)	−0.01070 (0.00955)	−0.01093 (0.00957)
Educational attainment	0.00561 (0.04651)	0.00594 (0.04656)	0.00486 (0.04674)	0.00541 (0.04678)
<i>Employment status vis-à-vis full-time</i>				
Part-time	—	0.00041 (0.06021)	−0.00026 (0.06032)	−0.00136 (0.06025)
Self-employed	—	0.00171 (0.03363)	−0.00215 (0.03395)	−0.00573 (0.03406)
Retired	—	−0.06067 (0.12797)	−0.06098 (0.12806)	−0.04736 (0.12744)
Housewives	—	−0.29224 (0.13777)**	−0.31156 (0.13760)**	−0.33410 (0.13383)**
Unemployed	—	−0.03087 (0.04327)	−0.03839 (0.04444)	−0.04165 (0.04463)
Students	—	−0.01467 (0.0436)	−0.01182 (0.04363)	−0.01956 (0.04396)
Sector of employment	—	0.00904 (0.03073)	0.00858 (0.03078)	0.01003 (0.03081)
<i>Economic status vis-à-vis first quintile</i>				
Second quintile	—	—	−0.01361 (0.03545)	−0.00692 (0.03545)
Third quintile	—	—	−0.01136 (0.03516)	−0.00382 (0.03512)
Fourth quintile	—	—	−0.04272 (0.04019)	−0.04000 (0.04021)
Fifth quintile	—	—	−0.08431 (0.06732)	−0.08001 (0.06747)
Satisfaction with financial situation	—	—	0.11205 (0.05223)**	0.10945 (0.05281)**
<i>Institutional</i>				
National pride	—	—	—	−0.02971 (0.05334)
Trust in government	—	—	—	0.06257 (0.03033)**
Confidence in parliament	—	—	—	0.06042 (0.03615)***
Satisfaction in democracy	—	—	—	0.02799 (0.03154)
Notes: ** and *** denote $p < 0.005$; $p < 0.10$, respectively				

individuals with great deal of trust in the government are more likely to pay tax than those with no trust in the government.

Findings from the current study reveal that motivation to pay tax is largely idiosyncratic, and creation of economic value is intrinsically subjective. Beyond enforcement, mobilizing domestic tax revenues hinges on a dynamic incentive to pay tax. In the informal sector, for instance, where it is often difficult to track and tax on account of the remoteness of economic agents, tax payments may not entirely be motivated by the punitive tax enforcement measures but by the values underlying tax payments incentive. This in essence inextricably links tax revenues to GDP ratio and economic value, where the latter is measured by the benefits that accrue to tax payers resulting from the provision of quality public good and service provided with the tax revenues. To the extent that tax is viewed as the price of public goods and services reflects a *quid pro quo* phenomenon where compliance to tax obligation is contingent on the *ex ante* or *ex post* benefit. This clearly demonstrates an inherent inter-causality between tax morale and economic value.

Deriving some recommendations from our study suggests the need to move away from the mechanistic approach of tight enforcement and widening tax net in an attempt to raising domestic tax revenues. People's motivation to pay tax is largely individualistic. Apart from one's satisfaction with the financial situation, trust in government as well as confidence in the parliament have the greatest impact on tax morale. Building trust and confidence among taxpayers entails effective management of public purse, good governance and transparency, fighting against corruption, upholding to rule of law and provision of quality public goods and services in an economic, effective, equitable and efficient manner.

Notes

1. Now, Ghana Youth Employment and Entrepreneurial Development Agency (GYEEDA).
2. For an extensive information and methodology of the WVS, see [Inglehart \(2000\)](#).

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Further reading

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