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Relationship between Income Size, Inspection and VAT Compliance: Evidence from Private Firms in Kenya

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Naibei, Isaac Kiprotich -School of Business & Economics, P.O. Box 333, Maseno, Kenya Maseno University, Kenya
E-mail: *naibei2008@yahoo.com**

Momanyi, Gideon - Head of Economics, department, School of Business and Economics, Maseno University, Kenya
E-mail: drmomanyi@gmail.com

Oginda, Moses Nyandusi - Department of Management Sciences, School of Business and Economics, Maseno university, Kenya.
E-mail:*moses_oginda@yahoo.com*

Abstract

Many developing nations in around the globe, Kenya included are struggling with the problem of tax non-compliance by the taxpayers. In Kenya, the problem of tax non compliance among business firms constrains the realization of revenue collection targets by Kenya Revenue Authority (KRA). This study aimed at investigating the relationship between the size of taxpayer's income, inspection by the tax authorities, use of tax registers and VAT compliance. A sample of 233 registered firms was selected and data collected using self administered questionnaires to personnel in finance *department of the selected firms. The data was analysed both descriptive and correlation analysis. The study revealed that VAT non compliance is high among the middle-income business firms and that Inspection of business firms by tax authorities had a slight positive relationship with VAT compliance ($r = 0.15$, $p<0.05$) The study revealed that effective and regular use of Tax Registers had a significant positive relationship with VAT compliance ($r = 0.622$, $p<0.05$). The study recommends that stringent compliance measures and close monitoring should be observed among the mid-sized private firms. Tax authorities should also encourage effective use of tax registers through regular but impromptu inspections.*

Key words; Tax compliance, Value Added Tax, Kenya

Introduction

Many studies on the subject of taxation point out to the fact that Taxation remains unresolved problem in many economies (Fiege 1979, Webley et al, 2002, Moyi and Ronge 2006, Frey and Feld 2008). In Kenya, taxation is the single largest source of government revenue. Between 1995 and 2004, on average, tax revenue constituted 80.4% of all government revenue (Moyi and Ronge, 2006). Kenya has over time moved from being a low tax burden to a high tax burden country. Despite this, Kenyans are yet to accept the taxpaying culture (Moyi and Ronge, 2006). Even from the global point of view, studies have demonstrated that nobody likes paying taxes, not least because it involves public good and there are incentives to free ride. Therefore the issue of non-compliance becomes a central problem as far as taxation is concerned (Frey and Feld, 2008).

Non-compliance is the intentional failure by citizens to declare their taxable activities. It takes several forms such as concealing taxable activities, filling false returns and generally failing to adhere to the laid regulations concerning declaration and submission of returns. Non-compliance is closely linked to tax evasion except that it incorporates, apart from evading taxes, the aspect of complying with other income tax rules and regulations such as deadlines for submission of tax returns. Therefore, in this study these aspects were not looked at in isolation. However tax evasion should be distinguished from tax avoidance, which is the reorganization of economic activities possibly at some cost to lower tax payment. Tax avoidance is legal while tax evasion is not. Although tax evasion and tax avoidance have similar effect on revenue collection, from the legal point of view tax avoidance doesn't amount to noncompliance (Myles, 1995).

Early studies revealed that 10% of USA economy involved hidden transactions. A similar study conducted in UK by Fiege (1979) showed that 7-9% of UK's GDP constituted unreported income. Even when possible degrees of error are taken into account, these estimates give impression that undeclared economic activity/income and hence non-compliance is a significant part of total economic activity in many western countries. Noncompliance is likely to account for greater percentages especially in developing countries where loopholes and incentives to free ride exist. This study was intended to investigate the compliance situation in developing countries by taking a closer look at Kenya.

VAT on consumer expenditure was introduced in Kenya in 1990 in order to replace sales tax, which had been in operation since 1973. It was introduced as a measure to increase government revenue through expansion of tax base, which hitherto was confined to income tax and sales tax. VAT is levied on consumption of taxable goods and services supplied in Kenya or imported in Kenya. Registered persons acting as agents who then submit to KRA collect VAT at designated points (Simiyu, 2003).

The commissioner of domestic taxes is mandated to assess, collect and account for taxes. The level of tax collection has risen over the recent years. It is not clear whether this increase can be ascribed to increased compliance among taxpayers or increased tax base or merely the improved economic activity. Kenya Revenue Authority (KRA) has since embarked on sensitization of Kenyans on tax compliance, organized awards for distinguished taxpayers and provision of tax amnesties for defaulters (KRA, 2004). The effectiveness of these aspects is yet to be established, and this study is geared towards that end. One of the measures adopted by the government to curb non-compliance is the introduction of electronic tax registers (ETRs).

Information available indicates that non compliance among business firms is critical and therefore the greatest challenge towards realization of revenue collection targets by tax authorities. It is difficult to get the actual picture, but it is clear from few studies that have been published that non compliance is widespread and involves large revenue loses, though the extent varies considerably across countries (Webley, Adams and Elffers, (2002). In Kenya, the tax authority, KRA has over time been reporting that it has surpassed its collection targets, for instance in 2006/2007 fiscal year, the road transport surpassed its target by Sh.0.5billion but for the same period, domestic income tax and VAT were short of target by Sh.1.5 billion. The rule requiring businessmen to be ETR compliant was implemented during that period in order to check noncompliance practices. However little is known about the implication of these gadgets on VAT compliance since their inception.

Literature Review

Income Tax compliance

The early researchers on the area of tax compliance and tax evasion used the economic approach of measuring the unobserved economy. They assert that the unobserved economy or hidden economy represents unreported income, which effectively constituted evaded tax. For example, Fiege (1979) working on a study on hidden economy developed a framework that total economic activity including both measured and unmeasured sectors both equal price level times transaction, therefore the unmeasured sector is given by the ratio of value measured income to that of transaction. The major difficulty in using this approach is the determination of transactions that actually occur. To counter this problem he used the lifespan in months of bank notes in circulation relative to number of times each note can be used. Using this approach he concluded that in 1978, approximately 33% of USA's economy constituted unreported income. This early study used an approach that is so expensive and with too large scope, nevertheless it gives a clear indication of how critical the problem of income tax noncompliance is.

Pissarides and Weber, (1989), carried the same study in UK but using a different approach: survey. They collected data from 1982 family expenditure survey. By assuming that employees report income and expenditures accurately when employees filed their income report, an estimate of expenditure function for the same households then gives the true relationship between incomes and expenditure. They found out that the final estimate of the unobserved economy was approximately 5.5% of GDP. Although the methods used are not perfect, they cannot be dismissed entirely. Such observation clearly justifies further studies on causes and measures of non compliance.

It is from overt various studies that VAT non-compliance is widespread and involves significant revenue losses, though the extent varies considerably across countries. Agha and Haughton (1996) summarized findings of studies from five countries in Europe and two in Asia: their figures suggest that revenue losses vary from a low of 3% (France, United Kingdom) to a high of 40% (Italy). Even the low figure represents a huge sum of money (three billion dollars for France) and a very high proportion of firms involved in some non-compliance. Duverne (1990), for instance, reports that 66% of French VAT taxpayers audited had understated the value of taxable sales (a quarter of them fraudulently) and 40% had overstated the value of taxable inputs. Similarly a study of Dutch businesses found that 34% of firms had evaded VAT (Cnossen, 1981).

More recent study addressing noncompliance was carried out by Webley et al (2002) who applied homogeneity analysis using HOMALS (Van de Geer, 1993). Homogeneity analysis is a form of non-metric multidimensional scaling and can be seen as a generalization of principal component analysis, allowing for non-interval variates that are non-linearly transformed during the process. The analysis revealed an interpretable first dimension of compliance-non-compliance. However, this analysis also showed that a number of variates did not co vary with others, and so they were removed from further analyses. Moreover, as homogeneity analysis is sensitive to variables with answer categories with few responses, some answer categories were subsequently grouped together. The study also revealed that non-compliance was much skewed, but could not be grouped further as it had only two categories. The second analysis showed the non-compliance-dimension again as first dimension, while a second dimension was uninterruptible. Using homogeneity analysis, Webley et al (2002) were able to identify several perceptual measures that could be used to measure compliance in a scale of five. Heavy weights in the non compliance direction were attached to respondents who admitted evasion and those who often entered into cash transactions for Vat minimization reasons. The heaviest weight in the compliance direction was associated with the answer that the respondent would not undertake Vat fraud even if there was no risk of being caught.

Determinants of VAT compliance

A considerable amount of research has been carried out on tax compliance (Andreoni, *et al*, 1998). Many new models of the compliance process have been devised and there has been a wide range of empirical studies. But the focus of nearly all of this research has been personal income tax compliance. Business tax compliance in general and Value Added Tax (VAT) compliance in particular have received very little attention, a worrying scenario given the economic and social importance of business taxation and the introduction of VAT in a large number of countries including Kenya. Cowell, 1992; Elffers, 1991; Lewis, 1982; Webley *et al*, 1991) identified five crucial likely determinants of VAT compliance: sanctions and punishments (deterrence), equity, personality, satisfaction with the tax authorities and mental accounting. Economic models clearly predict that higher penalties and audit probabilities should discourage non-compliance. Though both have some deterrence effect, higher audit probabilities probably have more impact than higher penalties (Andreoni et al, 1998; Hessing et al, 1992). Surveys have indicated that self-reported non-compliers are less likely than compliers to believe that such acts would result in apprehension and punishment. Nothing is known about people running small businesses. De Mello (2008) observes that deterrence is not solely a matter of legal sanctions, a belief that one's reputation may suffer as a result of being caught evading tax is also a deterrent and may be relevant in a business context.

The perceived fairness of a tax system is important both to its acceptability and smooth functioning. According to De Mello (2008) tax can be seen as unfair in a number of ways: If those of similar incomes are taxed differently, he found out that how a person perceives his own role in influencing the perceived inequity is of central importance and he argues that a taxpayer may withdraw from the exchange relationship by evading taxes in order to offset or reduce the disparity. Although his research looked almost exclusively at the private individual, recent work by Adams (1996) shows that perceived inequity in the taxation system was found to be the most important variable predicting non-compliance in those running small businesses in Holland.

Adams & Webbley, (2001) who conducted a qualitative study on VAT among small businessmen and women observed that the more egoistic an individual is, the less likely he or she will be to comply with rules and laws when compliance conflicts with his/ her interests. Dissatisfaction with the tax authorities has also been suggested by a number of investigators as motivators to avoid taxation. Elffers, (1991) found that believing the system to be inefficient correlates positively with propensity to evade tax. How business people think about the VAT money they collect may also influence their behaviour towards it (the notion of mental accounting). Mental accounting is often described as a psychological mechanism whereby income is framed in respect of personal finance, that people have a number of mental accounts that operate independently of one another. What is interesting in the current context is whether businessmen and women psychologically separate monies owed to the VAT into a separate mental account from that of business turnover. If they do not, then they may be more likely to evade VAT as a result of seeing it as 'their' money.

Feld and Frey (2002) analysed the impact of treatment of taxpayers on tax compliance by use of regression analysis. With a sample of 26 Swiss cantons in the years 1970-1995, they showed that the tax authorities in Switzerland do indeed behave *as if* they were aware of the reaction of taxpayers to being treated with respect or not. They revealed that tax evasion is lower, the more fully the tax office observes formal and informal procedural rules. In addition, tax authorities in more direct democratic cantons appeared to give taxpayers more frequently the benefit of a doubt. Feld and Frey (2002a) report evidence that tax authorities in more direct democratic cantons believe to a significantly lesser extent that mistakes in the tax declaration are in favour of taxpayers.

In an experimental study, Feld and Tyran (2002) found that tax compliance is higher on average in an endogenous fine treatment in which subjects are allowed to approve or reject the proposal of a fine as compared to an exogenous fine treatment where the fine is imposed by the experimenter. The main explanation why people show higher tax morale if they are allowed to vote on a fine is legitimacy. Compliance rates are higher if the fine is accepted than in the case the fine is rejected. Subjects who reject the proposal of the fine show a higher compliance rate than subjects in the exogenous fine treatment even if they know that the dominant strategy under the existence of the low fine is non-compliance.

Combining econometrics and surveys methods, Spicer and Lindsted (1976) sought to investigate impact of attitude and social norms in the evasion decision; the data were collected from a 1974 survey in USA. Econometric results revealed that the propensity to evade taxation was reduced by increased probability of detection. Surprisingly, an increase in income reduced the propensity to comply. With respect to attitude variables, an increase in both inequity of taxation and the number of taxpayers who evade taxes known to a taxpayer made evasion more likely. This study also revealed that the experience of taxpayer of previous audits by the income department influences the compliance rates.

Other researchers such as Becker et al, (1987); and Baldry (1986) used experiment approach to investigate the reasons for taxpayer non- compliance.

They used tax evasion game in which participants were given a monthly income and a set of tax and punishment parameters. Based on these, the participants were requested to make tax declaration. The major findings of their study were that tax evasion increased with tax rate and that keeping the net gain from evasion constant, evasion fell as the fine was increased. When endogenous transfers of tax revenue were returned back to the taxpayers in a similar experiment, Becker et al (1987) discovered that a high transfer had a negative effect as did the probability of detection and surprisingly, a perceived level of income had a positive effect hence raised the propensity to evade. Only the audit probability had a significant effect on the level of compliance. Baldry (1986) contrasted the findings of the two sets of experiments. The first was framed as a tax evasion decision and this determined that some participants never evaded tax and that the decision to evade was influenced by the tax schedule. This experiment was then repeated with a simple gamble with tax pay offs. This showed that all the participants betted and each made maximum bet. From, these contrasting findings, he concluded that, there is more to tax evasion than a mere gamble and the moral and social dimensions are important.

A fundamental result of the tax evasion literature is that the problem of non-compliance and tax evasion is not fully resolved. Most of the literature reviewed has addressed the issue of non-compliance in general. The foregoing study is a departure of this trend because it seeks to assess a specific tax: VAT. This is based on the premise that the reasons for low compliance in one type of tax is different from those of other taxes and accordingly, the measures to solve the problem differ too.

Methodology

The study was conducted in Kisumu City, Kenya in the period April-September, 2010. Kisumu city is the third largest town in Kenya located in the Western shores of Lake Victoria. The population of the study consisted of 590 private business firms registered by the city council as at 31st December, 2008. These businesses are categorized according to size. Out of a total of 590 firms, a simple random sample of 233 firms was selected. This included 146 medium scale traders and 87 large scale traders. Determination of the sample size was based on a 95% level of confidence and a margin of error of 5%. According to Kothari (2008), for most business and management researches, a margin of error of 3-5% is sufficient to estimate the population characteristics. The units of analysis for the study consisted of the proprietors, managers or employees with information about the VAT matters of the participating firms. During the surveys, the questionnaires were pretested in order to determine how long it would take to complete each questionnaire as well as helping in identifying and correcting ineffectiveness that might have come up during formulation of the questions. They were also aimed at understanding the respondent's ability and willingness to answer questions and hence its effects on the response rate. The questionnaires were self administered so as to avoid misinterpretation of questions by the respondents and to enhance their content validity.

Both quantitative and qualitative techniques were used to analyze the data. A combination of the techniques was used because descriptive methods tend to be strong in validity but weak in reliability while quantitative methods are strong in reliability but weak in validity. The use of both methods possibly balances the effects of each of them and helps in achieving a higher degree of reliability and validity. The relationships among the key variables of the study were analysed by correlation analysis Compliance was measured using a five-point scale consistent with the dimensions suggested by Adams and Webley (2001).

Results and Discussion

Profile of the respondents

The majority of the responses (66%) were received from medium scale traders and 34% were large scale traders. Of the final responses received, the majority (61.5%) of these businesses were classified as private limited, companies 27% were classified as sole proprietors' owned. The remaining 11.5% were partnerships.

The number of years registered for VAT ranged from one to twenty-five with an average of 12.5 years. 35.2% of the respondents had been registered within the last five years, about 35% were registered between 5 and 15 years ago, while an overwhelming 30% had been in existence over the past 15 years. Most (46%) of the businesses that participated in the study were in the retail sector whereas 19.2% were involved in wholesale activities. Twenty one (21%) of the respondents were in the service industry, 7.2% manufacturing industry, while 6.4% were classified as others. These are respondents who did not fit into any of the above categories distinctively.

Table 1 below summarizes the characteristics of the respondents' businesses by type of business, form of ownership and length of operation of the business since their inception.

Income and VAT compliance

Figure 1 shows that the businesses which reported low sales per year (below 25 million shillings) had high VAT compliance compared to businesses reporting average sales of 25-100 million shillings per year. The figure also indicates that businesses reporting turnover above 100 million shillings had the highest VAT compliance levels (average of 4.33 on compliance scale). Figure 1 also indicates that VAT compliance is lowest (average 3.13 on scale among businesses reporting medium scale sales (between 25 million and 50 million shillings per annum). Within this sales range, the figure indicates a negative relationship between sales and VAT compliance.

The impact of sales volume on VAT compliance was also investigated by perceptual questions aiming at eliciting respondents views on the role of volume of sales on VAT compliance. These responses are summarized in table 2 below.

Table 2 indicates that on average, increase in the taxpayers income leads to low compliance by the respondents. The majority of respondents (104 respondents representing 83.2% of all respondents) agreed (score 4 and 5 on the scale) that increase in sales volume leads to poor tax compliance. Thirteen respondents (10.4%) were unsure whether changes in income had any effect on their compliance decision. Only 6.4% of the respondents disagreed (score 1 and 2 on the scale) that increase in sales would reduce tax compliance. Increase in sales implies increase in VAT payable by the businessmen. Therefore the second perceptual question which required the respondents to state whether the amount of VAT payable would influence their compliance decision was meant to support the first question. Majority of the respondents (52.2%) agreed that increase in VAT payable would reduce their tendency to comply. When asked whether, size of business would affect their compliance decision, the majority of the respondents disagreed. 16.8% of the respondents disagreed that increase in size of business would reduce tax compliance while 27.2% agreed while 35.2% were unsure as they took the middle ground score. Only 20.05% agreed (score 4 and 5 on the scale). When the respondents were asked whether they thought small businesses making little sales could easily comply, the average compliance score was 3.04. This means that on average, the respondents were just slightly in agreement with the statement.

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Inspection and VAT compliance

Figure 2 shows the findings of frequencies of inspection by tax authorities of the respondent's businesses in the last five years and the average compliance levels.

The study established that businesses which were most frequently inspected had high VAT compliance (monthly inspection, average compliance 4.50, compared to average compliance of 2.90 for businesses inspected less than once per annum). Respondents from large businesses generally consented that frequency of inspection have little impact on VAT compliance. Further analysis of the responses of this perceptual question revealed that a substantial number of respondents (58% businessmen) agree that inspection acts as deterrent on non compliance (score 4-5) on the scale. While some (22%) believed that frequent inspection will motivate them not to comply (score 1-2). The remaining 20% took the middle ground. There was a strong consensus that inspectors are good at detecting errors in the VAT returns 79% agreeing.

In order to address the specific objectives correlation analysis was run for the model. The correlation results are shown in table 3 below.

Table 3 shows no significant relationship between VAT compliance and sales ($R=-0.077$, $p>0.05$). On the other hand, the results on relationship between inspection by tax authorities and VAT compliance indicated a small but significant positive relationship.

Summary, conclusions and recommendations

Summary

The main objective of the study was to establish the relationship between the size of income of taxpayers, inspection by tax authorities and VAT compliance among private firms. Findings revealed that there is no significant relationship between the size of the taxpayer's income and VAT compliance. However, the study revealed that VAT non-compliance is high among mid-income sized private firms with turnover ranging five million-hundred million shillings per annum. In this class of businesses, it was further established that as sales level increases compliance falls. This was due to the feeling of the respondents as if it was their money, as they surrendered the VAT returns. The study furthers a significant positive relationship between inspections by tax authorities on VAT compliance.

Following the findings of this study, it is recommended that tax authorities in Kenya and other developing countries should lay more emphasis on the mid-sized private firms as far as tax compliance measures is concerned. Furthermore, since it was established that within this class of business firms compliance rates falls with increase in income levels, a closer monitoring of fast growing businesses is necessary. Previous studies (Adams 1996 and Van Giels and Elffers, 1998) have shown that probability of detection and degree of punishment improves compliance. Therefore, one of the probable measures to ensure businessmen would be to step up ways of detecting those who fail to use the ETR as required and punishing the offenders to serve as a deterrent to others.

Inspection of businesses registered for VAT by tax authorities had but a slight impact on VAT compliance. It may be uneconomical in terms of administrative costs to recommend continued inspection when it has a meager impact on compliance. Inspection as a tool of VAT compliance should be directed on specific business clientele with high non-compliance prevalence and whose revenue loss as a result of non-compliance is substantial enough. According to Naibei et al, (2011), use of electronic tax registers has a significant positive relationship with VAT compliance. The tax payer has great incentive to evade tax especially when opportunity to do so is available (Myles, 1995). Therefore, as a check to enhance the use of ETR, tax authorities should continue inspecting businessmen on regular but impromptu basis. Such inspections should also emphasize on the need to have the businesses adopt the culture of regular use of ETR as far as possible.

Implications and direction for further research

The issue of tax compliance still remains the greatest challenge to most economies. Taxation being a wide concept requires extensive but specialized research to help in coining reforms to reduce tax gap among the tax payers. The following recommendations and direction for future research on tax compliance is suggested:

First, there is need to carry out detailed survey on the determinants of compliance of other forms of taxes such as income tax, excise duty and import duties. Since the income tax department of Kenya introduced electronic online submission of tax returns, a similar study on its impact on revenue collection should be carried out.

There is need for longitudinal studies on the same area using by use of secondary data. Further studies in future seeking to explore the impact of size of income of businesses should use a larger number range of income classifications.

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Table 1: Summery of the Profile of the Respondents

Type of business	**Frequency(N)**	**Percentage (%)**
Whole sale	24	19.2
Retail	58	46.4
Service	26	21
Manufacturing	9	7.2
Other	8	6.4
Ownership of business		
Sole proprietor	34	27
Partnership	14	11.5
Private limited company	26	61.5
Ages of the respondents' businesses.		
Less than one year		
Less than 5 years	44	35.2
5-10 years	13	10
10-15 years	31	24.8
Over 15 years	37	30

Source: Authors' computations, 2010

Figure 1 below shows the results of VAT compliance at different sales/turnover levels of the participating firms.

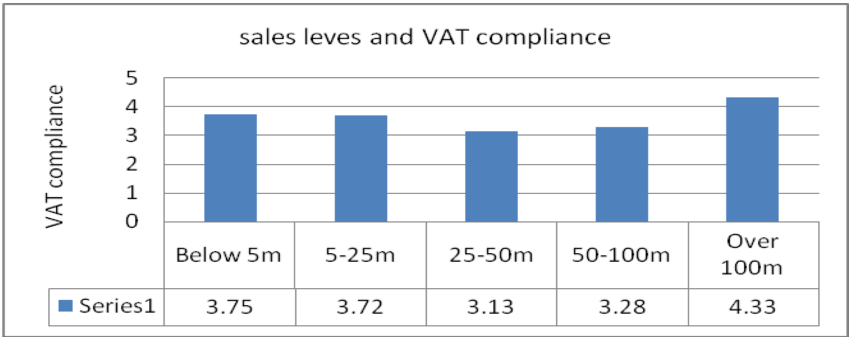

Fig. 1 Sales level and VAT compliance (series 1)

Table 2 Respondents' perception on the impact of sales level of their businesses on their compliance decision

Statement		***1***	***2***	***3***	***4***	***5***	***N***	**Mean**
Increase in sales volume leads to poor compliance to VAT	N	2	6	13	82	22	125	3.94
	%	(1.6%)	(4.8%)	(10.4%)	(65.6%)	(17.6%)		
The more the VAT payable the lesser the tendency to comply	N	3	13	45	54	10	125	3.44
	%	(2.4%)	(10.4%)	(36%)	(43.2%	(8%)		
Increase in size of business leads to poor compliance to VAT.	N	2	34	44	18	7	124	2.625
	%	1(16.8%)	(27.2%)	(35.2%)	(14.45)	(5.6%)		
Small businesses with small sales find it easy to comply to VAT.	N	23	25	18	42	17	125	3.04
	%	(18.4%)	(20%)	(14.4%)	(33.6%)	(13.6%)		

Note: 1=strongly disagree, 5=strongly agree. Figures in brackets indicate the percentage of respondents for each score

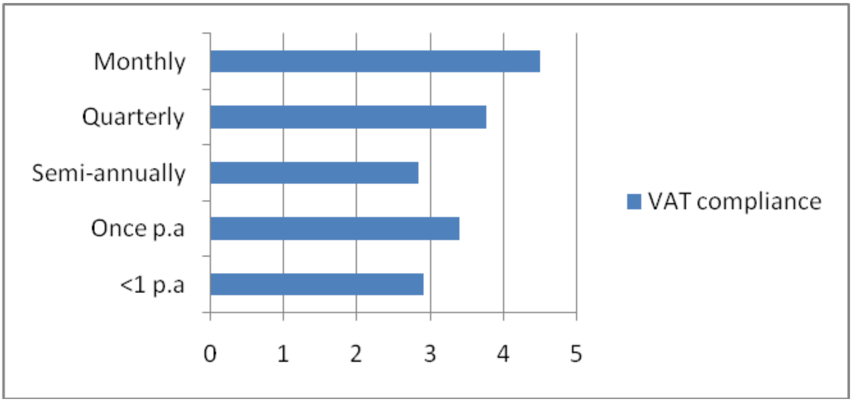

Fig 2: Frequency of inspection and VAT compliance

Table 3: Correlation results (95% significance level).

Variable	***1***		***2***		***3***	
1.VAT compliance*	1.000	*(.000)*				
2.Sales level	-0.077	*(.351)*	1.000	*(.000)*		
3.Inspection	0.15	*(0.003)*	-0.197	*(.247)*	1.000	*(.000)*

*Dependent variable: VAT compliance (figures in parenthesis indicate the p-values)