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THE ROLE OF INCOME TAX SYSTEM STRUCTURE IN TAX NON-COMPLIANCE BEHAVIOUR AMONG SMEs IN YEMEN

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ABSTRACT

Tax is the main source of government revenue. However, a number of countries worldwide are increasingly besieged by challenges regarding compliance levels with the rules of tax systems. Thus, this paper aims to enhance an understanding of tax non-compliance behaviour by investigating the effect of the income tax system structure on Yemeni taxpayers' behaviour. The study focuses on income tax compliance behaviour of owner-managers of small and medium enterprises (SMEs), as the Yemeni economy relies heavily on this sector. The SME sector represents 99.6 percent of business in Yemen.

Based on a quantitative approach using a self-administered survey instrument, a total of 330 valid questionnaires were collected and the feedback provided analyzed. The results demonstrate that SME taxpayers exhibited a high level of tax non-compliance. Furthermore, the multiple regression analysis shows that the tax rate had a positive and significant influence on tax non-compliance behaviour, but the tax penalties rate did not. These results can be especially relevant to policymakers and practitioners of tax systems structures, particularly in a developing country such as Yemen.

Keywords: Tax non-compliance behaviour, tax system structure, SMEs, Yemen.

JEL Classification: M410.

INTRODUCTION

Tax non-compliance has become a serious impediment that affects the global economy and there has been widespread growing interest among tax researchers (Ross & McGee, 2012). All economies in the world, whether developed or developing economies were affected by this phenomenon (Hindriks et al., 2008). Mas'ud et al. (2014) argued that levels of tax non-compliance in developing communities were much greater than developed ones. Previous research has vigorously investigated the issue of tax non-compliance, covering various countries in Europe, Asia, North America, South America, New Zealand and Australia (Gaventa & McGee, 2010; McGee et al., 2009a; McGee et al., 2009b; McGee, 2007; McGee, 2006). Although the Middle East region was certainly not immune to such a perplexing challenge of tax non-compliance (Central Organization for Control and Audit COCA, 2018) – the Middle East has become a vital region that contributes significantly to the growth of the global economy (Carapico, 1998) – studies into this issue were very rare (Aljaaidi et al., 2011). Thus, the present research has sought to scrutinize tax non-compliance in Yemen, one of the struggling economies of the Middle East.

Yemen was considered as among the least developed countries that has long been plagued by high levels of administrative, economic and financial corruption. One of its most prominent financial and economic barriers was the issue of tax non-compliance. The country recorded heavy losses over the last few decades (COCA, 2018). Despite numerous attempts made by the tax authorities to reform the tax system and mitigate tax non-compliance levels, the puzzle of tax non-compliance remains unresolved. Over the 2004-2014 period, it has been observed that tax non-compliance had a steady increase, exceeding USD164 million in 2004, and increased to USD2 billion in 2009. In 2012, it reached USD2.5 billion, USD3 billion in 2013, and USD 4 billion in 2014 (MPIC, 2009; COCA, 2018). Al-Saadi, who was the Minister of Planning and International Cooperation of Yemen, (2014) stated that the issue of low collection of tax in Yemen led to a serious financial problem. Furthermore, in terms of the GDP, when comparing Yemen with other countries, it seems that the average tax revenue proportion of Yemen amounted to only 6.68 percent to GDP for the period between 2008 and 2013, compared to 14.3 percent and 16 percent of GDP in countries that have similar economic conditions, such as Egypt and Jordan respectively, and greater than 20 percent of their GDPs as tax in Morocco, Tunisia and Lebanon (World Bank, 2018). Overall, the low contribution of tax revenue in GDP might largely be due to the low tax compliance behaviour among Yemeni taxpayers. The low compliance was a result of the fact that tax authorities did not adequately investigate the determinants of taxpayer's non-compliance behaviours (Obaid et al., 2020).

From the 1960s until to date, small and medium enterprises (SMEs) have been recognized as playing a significant role in promoting rapid economic growth, development and stability for many economies (Pashev, 2008). In Yemen, the economy has been relying heavily on the SMEs sector; for the SMEs represented 99.6 percent of business in the country[1] (MPIC, 2009; Central Organization of Statistic COS, 2019). Furthermore, Hanefah et al. (2002) has pointed out that several governments see the SMEs as the vehicle for greater economic growth. Mwangi (2014) and Fararah (2014) suggested concentrating on SMEs because this sector often constituted a very large segment of the economy of countries.

In many developing countries, the phenomenon of tax non-compliance was attributed to many reasons, the most important of which was the tax system structure (Twum, 2014). Therefore, the present study was an attempt to explore tax non-compliance among SMEs in Yemen and the influence of the tax system structure on the behaviour of taxpayers. This study could contribute to the extant literature, particularly for the Middle East region as this issue has rarely been examined.

LITERATURE REVIEW

Tax Non-Compliance

Although tax revenue was deemed to be one of the main financial sources of Yemen's national economy, the reported problem of tax non-compliance has been very rarely investigated (Bin-Nashwan et al., 2020). The dearth of research has not helped to provide the possible explanations for why Yemenis did not comply with tax laws, as well as investigated the determinants shaping their tax-paying behaviour.

A descriptive study by al-Doais (2008) on the role of the Accounting Information System (AIS) in mitigating tax evasion has failed to provide a logical explanation for the real reasons behind tax non-compliance in Yemen. Aljaaidi et al. (2011) explored Yemenis' perceptions of tax evasion, specifically to determine whether they considered it a crime or not. The researchers revealed that the people perceived tax evasion as not a crime. Meanwhile, Gubran (2009) conducted an analytical research of tax non-compliance reality in Yemen. He suggested that the problem of the government being unfair was the key reason of non-compliance among taxpayers. This has recently been supported in studies by Helhel and Ahmed (2014) and Bin-Nashwan et al. (2020) who argued that tax non-compliance could be traced to a wide range of determinants, such as the structure of the tax system, efficiency of tax administration, economic and political situation, and individual characteristics of taxpayers. However, in the study by Helhel and Ahmed's (2014) the scope was very limited, as data was obtained only from one city of Yemen (Sana'a). Nevertheless the study argued that the general public's weak allegiance towards the Yemeni regime was somewhat similar nationwide, so was the prevalent negative attitude towards the government. While the problem of tax non-compliance has been an issue in the Middle East region, Al-Ttaffi and Abdul-Jabbar (2018) suggested that the problem of tax non-compliance has not been explored sufficiently. This was also despite the fact that the region was one of the fastest-growing markets and has a vital role to play in the global economy.

Tax System Structure

Several researchers, such as Richardson (2013), Borrego et al. (2013), Palil and Mustapha (2011), and Palil (2010), have indicated that the significance of Fischer et al.'s (1992) model in explaining compliance behaviour of taxpayers. Mas'ud et al. (2014) also contended that Fischer's model could provide a good insight into the role of penalties and tax rate in taxpayers' non-compliance decisions under the tax system structures. In developing countries, taxpayers might decide to evade tax after assessing two things: the tax rate offered and the level of tax penalties (Umar et al., 2012). Therefore, the present research sought to examine the effect of the tax rate and penalties on tax non-compliance in a developing country such as Yemen.

Tax Rate

The influence of the tax rate on tax non-compliance has attracted the attention of tax researchers. This has led to many studies conducted to discover any tangible evidence of the impact of tax rates on non-compliance. Many studies have found that tax non-compliance was positively related to the tax rate, whereas others did not find any relationship between the tax rate and tax non-compliance. In general, it could however, be assumed that the higher the tax rate, the more prevalent non-compliance behaviour among taxpayers (Mwangi, 2014).

Several researchers have argued that when tax rates were high, it might lead to many taxpayers evading taxes (Hai & See, 2011). Spicer and Becker (1980) indicated that the behaviour of non-compliance was reported to be at high levels among those taxpayers who became aware that the payable tax rates were greater than the average paid by others. Rationally, taxpayers might perceive that the tax rate that they had to pay had outweighed the expected overpayment through non-compliance. Recent studies had confirmed this association between the tax rate and tax non-compliance. For example, Nor Azrina et al. (2014) had found that the relationship was positively significant. However, other studies concluded that the high tax rate did not necessarily increase tax non-compliance (Porcano, 1988; Trivedi et al., 2004; McGee & An, 2007; Modugu et al., 2012).

In general, it seems from the literature review that some studies have claimed that the relationship between the tax rate and tax non-compliance was positive, while other studies argued that the relationship was negative. Furthermore, some others have suggested that the relationship was neither positive nor negative. One study has reinforced this conclusion of conflicting findings (Richardson, 2006). Serén and Panadés (2013) have recommended that since the literature on the effect of the tax rate and tax non-compliance was not definitive due to the mixed findings by various studies, the issue still requires further investigation. Thus, the present study was one such attempt to contribute to the growing body of knowledge in the issue at hand and has sough to investigate the relationship between the tax rate and tax non-compliance behaviour in a developing country.

Tax Penalties

According to the deterrence theory proposed by Becker (1968), because of the risk of being punished, people would not commit crimes. Therefore, to resolve the tax non-compliance issue, there must be put in place an effective punishment structure. Sanders et al. (2008) argued that deterrence theory has provided a logical explanation of the relationship between penalties and tax non-compliance. In the issue of tax non-compliance, when it is expected that taxpayers are able to evade tax, tax authorities must resort to stricter punishments to help ensure better levels of compliance with tax rules, as well as to mitigate non-compliance. Therefore, non-compliance behaviour has let to counter measures such as punishment, audit, and the probability of detection (Cherry, 2001). Blank's (2014) study indicated that tax penalties were basically a response to the different levels of tax non-compliance. He further provided explanations of tax penalties by indicating that penalties were divided into two types, namelymonetary tax penalties and collateral tax penalties. Monetary tax penalties were civil penalties, which required taxpayers to pay additional money to the tax authority. Governments also sometimes threatened taxpayers with criminal tax penalties, but they were rarely imposed. Generally, monetary tax penalties were either percentage tax penalties, which consisted of a portion of the taxpayers' underpayment of tax, or flat tax penalties, which consisted of a stated amount that taxpayers had to pay for every instance of a particular offence. The other type of penalty was collateral tax penalties, which was defined as additional penalties that occurred outside of the tax system. This penalty imposed on citizens who failed to pay tax, deprived them from enjoying any benefits provided by the government.

According to Witte and Woodbury (1985) and Twum (2014), penalties could play a negative and significant role in tax non-compliance behaviours. Sanders et al. (2008) examined the influence of sanctions on tax non-compliance and found it to be negative and significant. When there were stricter tax penalties imposed by tax authorities, taxpayers would be motivated to well comply with regulations and laws (Doran, 2009). However, some previous studies had documented a positive relationship between punishments and non-compliance (Crane & Nourzad, 1986). Azrina et al. (2014) argued that the risk of getting punished did not affect the behaviours of taxpayers to comply with paying a tax. In short, they might even decide to evade tax when there was the possibility of potential punishment. Other researches had reported no effect of penalties on non-compliance decisions of taxpayers (Kuria et al., 2013; Kamdar, 1997; Pommerehne & Weck-Hannemann, 1996). Blank (2014) described collateral tax sanctions as a choice that could foster voluntary compliance of taxpayers more effectively, rather than the risk of monetary sanctions. Added to the above studies, Morris (2010) argued that if penalties were not an effective way to deter non-compliance, then other option had to be proposed.

Research Model and Hypotheses

The present work was underpinned by the deterrence theory of Becker (1968). It was employed to explain the relationships between the constructs under study. Thus, the hypotheses in this studyhave been developed on the basis of Becker'smain theoretical framework, as well as the related literature reviewed earlier. Furthermore, previous studies have suggested that public governance, service quality, and system structure have much to offer in understanding taxpayers non-compliance behaviour, especially in developing communities such as those found in Yemen (Egwaikhide, 2010; Manaf et al., 2005; Al-

Ttaffi, 2009). Therefore, these variables have been incorporated in the model of the present study and is expressed in the equation below:

$$\text{Tax non-compliance behaviour} = \beta_0 - \beta_1 \text{Tax penalties} + \beta_2 \text{tax rate} - \beta_3 \text{tax service quality} - \beta_4 \text{public governance quality} + E$$

The present study is a pioneer one as it was aimed at studying the role of the tax system structure in taxpayers' decisions towards non-compliance behaviour. This is especially important in the context of the Middle East where empirical studies on such a focus are relatively scarce. Thus, in line with the literature reviewed earlier, it was assumed that taxpayers' non-compliance behaviour would be low when tax penalties were more strict, as well as when tax rates were favourable.The hypotheses in the study were as follows:

H_1: Tax non-compliance behaviour among SMEs is positively related to the tax rate.

H_2: Tax non-compliance behaviour among SMEs is negatively related to penalties.

METHODOLOGY

Data Collection Procedures

A survey questionnaire was employed in the present study because it was considered the most appropriate research design and method to collect primary data to obtain beliefs, personal and social facts, and attitude (Kerlinger & Lee, 2000). The population of the current study was the small and medium enterprises (SMEs) in Yemen. The most updated number of SMEs in Yemen was recorded as totalling 45,483 (National Information System NIS, 2018; Ministry of Industry & Trade MIT, 2018; COS, 2019). A minimum sample size of 381 was required for a population of 50,000, according Krejeie and Morgan (1970). However, Israel (2009) argued that in order to obtain adequate data, the researchers should increase the sample size to compensate for likely non-response. Particularly, Israel (2009) recommended that researchers ought to increase the sample size by at least 30 percent to compensate for likely non-response. Consequently, the sample size of the current study was increased to 500 to overcome the probable non-response rate.

For the purpose of representativeness, stratified sampling was utilised because a stratified sample was a more efficient sample that could be taken on the basis of simple random sampling. Another reason for taking a stratified sample was the assurance that the sample accurately reflected the population based on the criterion or criteria used for stratification (Zikmund, 2003). According to MIT (2018), 78.4 percent of SMEs in Yemen were located in seven cities, namely Sana'a, Aden, Taiz, Mukalla, Seiyun, Ibb and Hodeidah. Therefore, the data was collected only from these cities, while 20.6 percent of Yemeni SMEs were distributed among nearly 20 cities. Accordingly, the remaining cities were ignored as there was no detailed information available for each city.

The period of data collection for each single city was between two to three weeks. However, the overall period of collecting datwas two months Specificcaly April and May 2016. (April & May 2016). Efforts made by the research assistants to distribute 500 questionnaires yielded a total of 339 returned questionnaires, obtaining a response rate of 68 percent. Although the data of the current study were collected during the period of crisis in Yemen, the response rate was considered high compared to previous studies in Yemen (e.g., 57% in al-Ttaffi et al., 2011; 53% in Helhel & Ahmed, 2014). This high response rate may be attributed to the fact that the researcher had used seven assistants with at least two follow-ups, which could have motivated the respondents to complete and return the questionnaires.

A total of 11 questionnaires were discarded because they were not completed by the targeted owner or manager of SMEs; instead, they were completed by some of the employees or workers. In addition, two questionnaires had to be excluded because more than 50 percent of their questions had not been completed by the respondents (Hair et al., 2010). Besides, four questionnaires were discarded based on the outlier result. Thus, 330 questionnaires were considered usable for analysis at a response rate of 66 percent. According to Sekaran (2003), a response rate of 30 percent was sufficient for survey analysis. Thus, this study has met this criterion.

Measurement of Variables

For the purpose of this study, taxpayers' non-compliance was measured by an indirect hypothetical scenario (see appendix). This measurement was utilized in the studies of Falsetta, (2020), Pham et al. (2020), al-Ttaffi et al. (2020), al-Ttaffi and Abdul-Jabbar (2020) and al-Ttaffi and Abdul-Jabbar (2018). In this measurement, the participants were required to read the scenario, and then, answer four questions related to the components of tax non-compliance. These questions gave respondents the opportunity to express their view on (1) reporting non-compliance, which means not providing inaccurate information on the taxable income, (2) deduction non-compliance, which means claiming overstatement of deduction, (3) filing non-compliance, which means failure to submit a tax return on time voluntarily, and (4) payment non-compliance, which means non-compliance to pay taxes on time. The components of tax non-compliance were adopted from Long and Swingen (1991) and Brown and Mazur (2003). Three options were given initially to respondents for each scenario, interpreted as compliance (coded 1), partial non-compliance (coded 2) and fully non-compliance (coded 3). The value of 1 was interpreted as compliance, meanwhile, the values of 2 and 3 were transformed and interpreted as non-compliance, which meant that the final responses for each scenario was categorized into compliance and non-compliance. The overall tax non-compliance was calculated by the overall mean values for the combined four scenarios. If the mean was equal to 1, it was interpreted as fully compliant, whereas if the mean was equal to 2, it was interpreted as fully non-compliant, while if the mean was between 1 and 2 it was interpreted as partly compliant.

The tax rate and penalties are the variables under a tax system structure. The tax rate was measured with five items. Respondents were asked to identify the degree of agreement or disagreement with questions regarding the tax rate. The mean score was used for the analysis. A high score of “5” (strongly agree) suggested that the tax rate was perceived to be fair, while a low score of “1” (strongly disagree) meant that the tax was less fair. The measurements of the five items were combined to obtain a total scale of the tax rate. A mean score of 3 and higher showed a strong belief of tax rate fairness, while a mean score lower than 3 was a signal of low perception about the fairness of the tax rate. Penalties were measured with four items to show the level atd which taxpayers agreed or disagreed with the questions regarding penalties. A high score of “5” (strongly agree) was an indication that the penalties had a high impact on tax non-compliance, while a low score of “1” (strongly disagree) was described as a low level effect of tax penalties. The measurement of the four items were combined to obtain a total scale of the penalties. A mean score of 3 and higher indicated a high perception of penalty, and a mean score lower than 3 was a signal of low perception about penalties. Similarly, tax service quality and public governance quality were measured by the 5-point Likert scale as well. Tax service quality was measured using 18 items. Respondents were asked to indicate their disagreement or agreement to statements relating to the quality of tax service. Taken together, the instrument comprising the 18 items was a measure of the unit of analysis – the tax service quality. A high score indicated a high perception of the tax service quality, while a low score was an indication of the poor perception of the tax service quality. Public governance quality was measured with 17 items. The high score of "5" (strongly agree) indicated that the respondents believed that the quality of public governance was high, whereas a low score of "1" (strongly disagree) meant low quality.

RESEARCH FINDINGS

Respondent Profile

The descriptive analysis of the respondent s' profile showed that more than half (52%) of the sample was aged 30-50 years old, with 38 percent aged more than 50 years and the remaining 10 percent aged less than 30 years old. A large majority of the participants (94%) were male and married (85%). In terms of education, 44 percent of the SME owners and managers held a secondary school certificate and diploma, while 34 percent of the respondents were holders of a bachelor's degree, and the remaining 22 percent of them had up to primary school education only. Next, from the selected sample of SMEs, about 86 percent had a business experience of five or more years. As for the business sector, retail trade represented 42 percent of the sample, followed by 28 percent in wholesale trade, 16 percent in each of the following sectors in livestock, industry, farming and others, and service sector represented 13 percent.

Tax Non-Compliance Behaviour

Tax non-compliance was computed in four situations, as follows: reporting non-compliance, deduction non-compliance, filing non-compliance and payment non-compliance. Also, tax non-compliance was described through its overall value. Table 1 presents the level of the four situations of tax compliance and tax non-compliance of the respondents.

Table 1

Situations of Tax Compliance and Non-Compliance Behaviour

Tax non-compliance situations	Compliance		Non-compliance	
	N	%	N	%
Reporting non-compliance	175	53%	155	47%
Deduction non-compliance	175	53%	155	47%
Filing non-compliance	108	33%	222	67%
Payment non-compliance	108	33%	222	67%

Table 1 shows that 53 percent of the respondents complied by reporting their taxable income and in claiming the right deduction, while 47 percent of the sample of SMEs did not. Concerning the level of filing and payment compliance, it represented 33 percent of the respondents, whilst 67 percent of the respondents did not comply with filing and paying their due tax.

With regard to the general levels of tax non-compliance, three categories were employed to assess the perceptions of the participants: full compliance, partial compliance and full non-compliance. A respondent who can comply with the four components (see Table 1) was considered as a compliant respondent, while a fully non-compliant respondent was the one who could not fulfil all the required four components, and partly compliant taxpayers were those who complied with some components and failed to comply with others. The results of the overall levels of non-compliance and compliance are as shown in Table 2.

From Table 2, it can be seen that the three levels of compliance and non-compliance indicated that 47 percent of the SMEs were fully non-compliant, and 20 percent were partly compliant, while 33 percent were fully compliant. Thus, it can be concluded that the SMEs in

Yemen showed a high degree of tax non-compliance. Generally, the results of Table1 and Table 2 supported the findings in previous studies and suggested that the issue of tax non-compliance was still a critical problem in Yemen.

Table 2

Results of Overall Tax Compliance and Non-Compliance

	Compliance		Non-compliance			
			Partial compliance		Full non-compliance	
	N	%	N	%	N	%
Overall tax compliance and non-compliance	108	33%	67	20%	155	47%

From Table 2, it can be seen that the three levels of compliance and non-compliance indicated that 47 percent of the SMEs were fully non-compliant, and 20 percent were partly compliant, while 33 percent were fully compliant. Thus, it can be concluded that the SMEs in Yemen showed a high degree of tax non-compliance. Generally, the results of Table1 and Table 2 supported the findings in previous studies and suggested that the issue of tax non-compliance was still a critical problem in Yemen.

Tax System Structure

The tax system structure was explained in the current study through two variables, namely the tax rate and penalties. The next subsections will present the descriptive statistics of these two variables. The tax rate, as one of the variables of the tax system structure in Yemen, was measured through the use of five items (TSS1 to TSS5). Table 3 shows a summary of the mean values, standard deviation values, minimum values and maximum values of the five-Likert scale for the items.

Table 3 shows that the mean of the items was at 2.34 as minimum mean value, with a standard deviation of 1.031 and 2.59 as maximum value, with standard deviation 0.967. Regarding the overall value of the tax rate, the result was 2.44. As the values were interpreted as lower than 3.0, this indicated that the respondents believed that the tax rate structure was not fair.

Table 3

Descriptive Statistics of the Tax Rate

Codes	Items	Mean	StdD	Min.	Max.
TSS1	The tax rate on higher-income should be more than the tax rate on lower-income.	2.34	1.031	1	5
TSS2	The high-income taxpayer should pay proportionately more than a low-income tax.	2.39	1.041	1	5
TSS3	The tax rate should not be the same for all taxpayers.	2.41	1.169	1	5
TSS4	It is fair to be tax non- compliant if the tax rates are too high.	2.59	0.967	1	5
TSS5	It is unfair to be tax non- compliant if the tax rate is fair.	2.53	0.986	1	5
	Overall	2.44	0.951		

Penalties were the second dimension among the components of the tax system structure, which have been used in the current study. Data of this variable were collected through four items (TSS6 to TSS9). Table 4 shows a summary of the mean values, standard deviation values, minimum values and maximum values of the five-Likert scale for the items.

Table 4 reveals that the mean of the items was 2.41 as the minimum mean value, with a standard deviation of 1.124 and 2.60 as the maximum value, with standard deviation 1.006, and the overall value of the tax rate was 2.47. This result would seem to suggest that the respondents believed that penalties were less strict on tax non-compliance behaviour in Yemen because the mean values were lower than 3.0.

Table 4

Descriptive Statistics of Penalties

Codes	Items	Mean	StdD	Min.	Max.
TSS6	I think the person who is caught for tax non-compliance will be forced to pay the tax he owes with interest.	2.41	1.124	1	5
TSS7	I think that the taxpayer who is caught for tax non-compliance will be forced to pay a substantial fine and pay the tax he owes with interest.	2.49	1.095	1	5
TSS8	I think the person who is caught for tax non-compliance will be taken to court and pay the tax he owes with interest.	2.60	1.006	1	5
TSS9	I think the person who is caught for tax non-compliance will be taken to court, pay a substantial fine and pay the tax he owes with interest.	2.45	1.127	1	5
	Overall	2.47	1.011		

Multiple Regression Results

To test the hypothesized relationship between the tax system structure and taxpayers' non-compliance decision, a multiple regression test was performed. The results of the multiple regression analysis is as displayed in Table 5.

The analysis revealed that the model was statistically significant as explained by the F values of 5.981 (p=0.000). This result meant that the proposed model could provide an understanding of the important determinants influencing tax non-compliance among Yemeni SMEs. Moreover, the analysis revealed that the adjusted R^2 was 0.069, which meant that the tax system structure could explain on 6.9 percent of the

Table 5

Multiple Regression Results

	Dependent variable: Tax non-compliance	
Variables	Coefficients	Sig.
Tax rate	0.210***	0.009
Tax penalties	0.040	0.505
Tax service quality	0.009	0.906
Public governance quality	-0.150***	0.006
R^2	0.069	
F-value	5.981***	
Adjusted R^2	0.057	
No of observations	330	

Note. *** indicate significance at 1% confidence level.

tax compliance behaviour significantly. On the weight of the contribution of each independent variable, the regression pointed out that the tax rate (β = 0.210; P=0.009) was positively related to the tax non-compliance behaviour. Meanwhile, the relationship between penalties with tax non-compliance was not significant (β = 0.040; P=0.505). Also, the regression showed that public governance quality negatively affected the behaviour of taxpayers, whereas service quality had no significant influence on the behaviour of taxpayers among the SMEs in Yemen.

DISCUSSION OF THE RESULTS

The descriptive statistics of the current study revealed that taxpayers in Yemen believed that the tax rate structure was moderately not fair. The multiple regression results disclosed that the association between the tax rate and taxpayers' non-compliance was positively significant. This result could be seen as consistent with postulates of the theory of deterrence, and the hypothesis of the current study. Alm (1999) explained that it was natural human behavior to always act rationally by comparing the costs and benefits of any activity. Hamm (1995) suggested that according to the deterrence theory, a high tax rate could lead to a decrease in tax non-compliance. Mwangi (2014) described the puzzle of tax non-compliance could be linked to a high degree of the tax rate.

In the literature review carried out in this study, most of the earlier empirical studies were found to support the results of the present study, such as the studies by Clotfelter (1983), Feinstein (1991), Christian et al. (1993), Joulfaian and Rider (1998), Ali et al. (2001), Lin and Yang (2001), McGee and Ho (2006), McGee and Lingle (2006), and McGee and Rossi (2006). Hai and See (2011) found that the high tax rate led to high tax non-compliance, and Park and Hyun (2003) found that increasing tax rates encouraged non-compliance behaviour. Spicer and Becker (1980) explained that taxpayers, who were aware that their tax rate was higher than the average recorded a high level of tax non-compliance. From a multi-national perspective, Derwent (2000) examined behaviours of taxpayers from five countries, i.e., Gambia, Kenya, Nigeria, South Africa and USA, and found that the tax rate was a serious challenge facing tax authorities, in terms of its effect on tax compliance. Arguably, several recent studies have confirmed the positive association between the tax rate and tax non-compliance, such as those by Ser (2013), Nor Azrina et al. (2014) and Levin and Widell (2014). The current study has shown support for findings in previous literature and provided robust empirical evidence that the high tax rate significantly influenced the behaviour of taxpayers and could lead to an increased level of tax non-compliance.

In the context of the second independent variable of this study, the descriptive statistics on the data of the current study revealed that the respondents believed that penalties were moderately strict on tax non-compliance behaviour in Yemen. Although the deterrence theory of Becker (1968) has proposed that the fear of punishment would cause people not to commit crimes, the multiple regression results in the current study seemed to suggest that the relationship between tax penalties and tax non-compliance behaviour was not significant. This result might be explained by the ongoing war and the political instability in the country, which led to the weakness of governmental power and reduced accountability (al-Rabaee, 2014). As a result, the government was not in a position to enforce rules and as a consequence, the penalties did not affect the behaviour of taxpayers in such troubled times. More specifically, the literature review has shown that the results of the relationship between penalties and tax non-compliance were mixed, there were some studies which found that the relationship was negative (Witte & Woodbury, 1985; Cherry, 2001; Sanders et al., 2008; Doran, 2009; Twum, 2014), while other studies concluded that the relationship was positive (Crane & Nourzad, 1986; Morris, 2010 and Azrina et al., 2014). The results of the present study seemed to be more in line with the studies of Kamdar (1997), Pommerehne and Weck-Hannemann (1996), and Kuria et al. (2013), which concluded that the relationship was not significant. Rettig (2011) explained that the tax authorities should enhance voluntary compliance rather than force taxpayers to pay their tax. This suggestion has been proposed to the Yemeni tax authority as well, because the tax penalties seemed to have no significant effect on the behaviour of taxpayers.

CONCLUSION AND LIMITATIONS

In conclusion, the current study has presented a model of tax non-compliance behaviour that included two factors from an economic perspective. Specifically, the study investigated the relationship between the tax rate and tax penalties for non-compliant behaviour. The findings of the study revealed that the tax rate was significantly associated with tax non-compliance behaviour. However, tax penalties had no significant contribution to the model of tax non-compliance. It is worth highlighting that the current study was the first study that investigated the influence of tax system dimensions among SMEs in Yemen. Thus, the study has contributed to theory and practice in the field, as it has helped to explain how tax compliance could be enhanced. Specifically, the present study has incorporated the tax rate, tax penalties, tax service quality and public governance quality in one single model. As such the study could contribute to the tax compliance literature by incorporating these four variables in the model and test the influence of these variables in the behaviour of taxpayers. It is recommended that the Yemeni government deal with the tax non-compliance phenomenon in an effective manner by imposing a reasonable and fair tax rate. Also, while the penalties have not been relevant in reducing the level of tax non-compliance, the Yemeni tax authority must enhance voluntary compliance rather than continue to force taxpayers to pay their tax.

However, this study, like any other research work, has a number of limitations that must be recognized. Nevertheless, these limitations may present an opportunity for future studies to consider. The current study relied on the self-reporting of taxpayers, where tax non-compliance was measured by way of a hypothetical scenario. This method of measurement had depended on the judgement of respondents which might vary from one person to another. Thus, the general conclusion from the findings of the current study must be understood within the particular context of the present study, granted its share of limitations which require further study.

Another important limitation is the concern about the political situation of the country during the period in which the study was conducted.Yemen suffers from a crisis of violence under an unstable political situation, which could have had an effect on the psychological and behavioural state of the citizen taxpayers in the country. The respondents taking part in the study might have lost confidence in the government. Therefore, the answers probably did not reflect their actual behaviour accurately. In sum, further studies should be carried out when the country is in a better political situation.

Finally, the literature review has showed conflicting results in studies carried out thus far, especially about the relationship between the tax rate and penalties with tax non-compliance. In this regard, Kirchler et al. (2007) explained that the stark contrast in the research findings was an indication that the relationship might have been moderated by certain variables. Thus, further research is recommended to scrutinize the moderation effect between tax non-compliance and its determinants.

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END NOTES

[1] The Yemeni business law has defined the SME on the basis of two criteria; the first criterion is the number of employees and workers, and the second

criterion is the capital of the enterprise. An enterprise employing from 1 to 4 workers and has a capital of less than YR1.5 million [about 6,700 USD], is considered a small enterprise, meanwhile the medium enterprise is defined as the enterprise, which has from 5 to 10 employees and a capital between YR1.5 million to YR20 million [about USD93,000].

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APPENDIX

The hypothetical scenario form measuring Tax non-compliance

Read the following scenario and kindly indicate your opinion (by way of a circle):

Suppose that the annual sales income of Ahmed's enterprise amounted YR130.000, and the total operating expenses amounted YR30.000. The amount which has to be reported for tax purpose is YR100.000. However, Ahmed is almost certain that the tax office will not audit him and would not know if 40% of the taxable income was not reported.

Additionally, he paid YR10.000 to repair his personal car. In preparing the tax return, he is thinking about claiming the costs of repair as if the car was used in his business. Legally, such a claim is not allowable, but he is almost certain that he will not be audited and that the tax authority would not be able to detect the deduction.

The income Tax Law provides that tax return has to be filed with tax authority within 120 days from commencement of year (January) of assessment, and tax should be paid within 60 days from the date of assessment notice.

1) Indicate the taxable income that Ahmed should include in his report:

(a) YR100.000 (b) YR60.000
(c) Other amount, please specify __________________ **TNC1**

2) How much should Ahmed deduct as business expenditure?
(a) YR 30.000 (b) 40.000
(c) Other amount, please specify __________________ **TNC2**

3) Which of the dates below should Ahmed file his income tax?
(a) On 30th April or before (b) After 30th April
(c) Other date, please specify ________________ **TNC3**

4) How many days after receiving assessment notice should Ahmed pay his income tax:
(a) 60 days or less (b) More than 60 days
(c) Other, please specify __________________ **TNC4**