Analysis of Procedural and Retributive Justice in Tax Compliance

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Abstract

To date, tax research has tended to focus on tax penalties rather than their retributive justices and procedural justices of systems imposing tax penalties. This article focuses on retributive justices and procedural justice in tax compliance literature.

The article examines whether or not charging corporate income tax penalties, which are perceived retributively justice encourage tax compliance. Also it investigates whether or not implementing procedural justice in imposing corporate income tax penalties increases compliance and moderates the relationship between tax compliance and retributive justice.

Data were collected using survey method to solicit responses from 257 Small and Medium Enterprises [SMEs] taxpayers in Tanzania about their perceptions over retributive justice of corporate income tax penalties for not keeping complete records as well as paying taxes on time, and likely impacts of the penalties on tax compliance. Also the survey collected data on respondents' perception on procedural justice in the process of imposing tax penalties.

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Results from the study revealed that both perception on retributive and procedural justices are significanly positively correlated with tax compliance. Also the perception on procedural justice might moderate the association between retributive justice and tax compliance.

The retributive and procedural justices fared significant better in increasing tax compliance and the procedural justices have a moderation effect on the relationship between tax compliance and retributive justice. Therefore, it is recommended that tax authorities should strive to improve retributive justice perception on their tax penalties and procedural justice of systems involved in delivering tax penalties.

Keywords: Procedural justice, Retributive justice, SMEs Tax avoidance, Tax compliance and Tax evasion.

Introduction

High tax compliance level is desirable. Tax compliance occurs when taxpayers abide by tax laws (Kirchler, 2007). However ensuring high tax compliance levels is difficult. So governments impose tax penalties to tax non-compliant taxpayers in order to encourage tax compliance. But research has shown that tax penalties alone may not explain reasons taxpayers comply with tax laws (Alm and Torgler, 2011; Ariel, 2012). Other factors such as social justices consideration and social psychological factors play a major party in increasing or decreasing tax compliance levels (Alm and Torgler, 2011; Cullis, Jones and Savoia, 2012; Hasseldine *et. al.*, 2007; Kirchler, 2007). Nevertheless, tax researchers have been more concerned with explaining how tax penalties impact on tax compliance behaviour (Kube and Traxler, 2011; Kleven *et. al.*, 2011; Ariel, 2012; Allingham and Sandmo,

1972) than with exploring retributive justices of tax penalties and procedural justices of imposing those penalties. Penalties are retributively justified when they fit committed crimes (Wenzel *et. al*., 2008; Vidmar and Miller, 1979; Wenzel and Thielmann, 2006). Procedural justice is concerned with consistent application of rules, ensuring unbiased and high accurate decision-making processes, clear appeal processes and participatory as well as ethical consideration in decision-making (Leventhal, 1980; Stalans and Lind, 1997).

Retributive justice is important to all taxpayers. According to Wenzel (2002), it is unfair to compliant taxpayers when noncompliant ones are not punished, but both non-compliant taxpayers and compliant taxpayers expect fair tax penalties. Nevertheless, Stella (1991) as well as Verboon and Van Dijke (2011) argued that it is hard to set appropriate tax penalties because mild tax penalties may be fair but may not deter tax non-compliance and yet, severe tax penalties may deter tax non-compliance but may be unfair. Additionally, severe tax penalties may not deter tax non-compliance when they are deemed unfair by court of laws (Slemrod, 2007). But severe tax penalties may increase tax compliance with authorities' demands when adherents trust authorities' processes of imposing the tax penalties (Mulder, Verboon and De Cremer, 2009; Verboon and Van Dijke, 2011).

Despite roles of retributive and procedural justice in tax compliance, the relationship between tax compliance, on one hand, and retributive and procedural justice, on the other hand, is yet incomprehensible. The aim of this study was to address this gap in the tax compliance literature by examining whether or not charging corporate income tax penalties, which fit committed crimes, retributive justice, encourage tax compliance. Besides, sought to investigate the relationship between tax compliance and retributive justice with SMEs' survey data. Corporate income tax penalties are taken from Tanzania Income Tax Act of 2004 Sections 98 and 100 for failure to keep complete records in scenario one and pay corporate taxes on time in

scenario two, respectively. Using actual tax laws for penalties in the study may increase transferability of results beyond the sampled population. As long as many SMEs do not keep proper records (Esselaar *et. al.*, 2006), they may be subjected to penalties for failure to keep such records and for not paying taxes on time. The results imply that taxpayers might increase their compliance levels when they perceive tax penalties fit their crimes, and when procedures for imposing the tax penalties are fair. Also procedural justice might moderate the relationship between tax compliance and retributive justices.

The present study has four contributions to the tax literature. First, it adds to the limited retributive and procedural justice in the tax area. Second, it contributes contextually because even those limited research results on procedural and retributive justice are mainly from developed countries. Third, many tax compliance literature concentrate on individual tax compliance rather than corporate tax compliance. Thus, this research adds to the rare corporate tax literature. Finally, results have policy implications on tax penalties that can be used in conjunction with procedural justice to increase tax compliance.

The reminder of the paper is presented in the following order. The second section reviews literature on the relationship between tax compliance and justice consideration. It also develops hypotheses. Section 3 provides an explanation of methodology, particularly data collection methods, participants and sampling procedures. Section 4 present results and the discussion is presented in the final section.

Literature Review

There are three main categories of tax social justices: distributive, procedural and retributive justice. According to Kirchler (2007), fair allocation of costs or tax burdens, and benefits or public goods and services is referred to as distributive justice. Distributive justice has three sub-groups: horizontal,

vertical and exchange fairness. When the allocation of costs and benefits is done within a homogeneous group of taxpayers, the allocation is referred to as horizontal fairness and conversely, when heterogeneous group of taxpayers are involved in the allocation, the justice is known as vertical fairness (Adams, 1965; Kinsey and Grasmick, 1993). Characteristics of the groups may be measured using income, ability to pay or individual financial needs (Alm, Jackson and Mckee, 1993; Kinsey and Grasmick, 1993). Yet, considering taxpayers' individual financial needs may complicate the tax system because it is difficult to quantify them. Lastly, the relationship between tax financed government public goods and tax revenues from taxpayers determines fiscal exchange fairness (Kirchler, 2007; Wenzel, 2002).

Many researchers have argued that horizontal and vertical fairness perception is correlated to tax compliance level (Kinsey and Grasmick, 1993; Cowell, 1992; Spicer and Becker, 1980). For example, Cowell (1992) incorporated the perceived income inequity in an individual utility model and revealed that inequity of income if not taken into account in the tax system might lead to high tax non-compliance. Similarly, Spicer and Becker (1980) found that tax compliance rates of participants differed significantly, depending of their perceived vertical or horizontal justice. In fact, those who perceived to be charged at the highest rate had the least compliance level, while those who perceived their tax rates were moderate had moderate compliance rates and those who perceived that their tax rates were the lowest had the highest compliance level, despite all three groups faced an identical tax rate.

Likewise, fair fiscal exchange is paramount in increasing tax compliance. It was shown that perceived fiscal exchanges may affect the level of income declared to tax authorities and more incomes were declared when participants received government services in exchange for their taxes (Kim, 2002; Kim, Evans Iii and Moser, 2005; Spicer and Becker, 1980; Alm, Jackson and Mckee, 1993; Alm, Jackson and Mckee, 1992; Alm, Mcclelland and Schulze, 1992; Murphy and Tyler, 2008). It is claimed

that fiscal exchange justice establishes a psychological tax contract between governments and taxpayers (Feld and Frey, 2007). Subsequently, when governments fulfil their contractual obligations, taxpayers' inclination to comply increases (Feld and Frey, 2007). Conversely, when there is fiscal exchange injustice, taxpayers might indemnify themselves by not paying taxes wherever possible for loss suffered from unfair exchange (Bordignon, 1993; Falkinger, 1988).

Unlike other types of fairness, procedural and retributive justice has got less attention from tax researchers. Yet, it has been found that procedural justice and tax compliance are positively related (Alm, Jackson and Mckee, 1993; Murphy, 2003; Feld and Tyran, 2002). Alm, Jackson and Mckee (1993) found that democratic process of deciding what to do with tax revenue might increase individual tax compliance level, especially when majority favour the decision taken. Actually and colleagues (1993) found low tax compliance rate when uses of tax money were not decided by majority of participants. Correspondingly, Murphy (2003) discovered that Australian Taxation Organisation successfully recovered tax debts from suspected tax avoiders after improving its process of collecting the taxes. Initially, the authority failed to collect tax debts from the suspected taxpayer evaders by threat from tax penalties without negotiations. Murphy (2003) claimed that legitimacy of a tax authority improves when taxpayers are treated fairly and with respects and thus, tax penalties should not be the first choice. Procedural fairness increases tax compliance by enhancing positive emotions of taxpayers about the tax authority (Murphy and Tyler, 2008). However, while these studies demonstrate that procedural justice may increase tax compliance with authorities, it is unclear the manner perceived procedural justice in imposing tax penalties relates to tax compliance. In due regard, it is hypothesised that:

H_1: Perception of procedural justice of imposing tax penalties is positively related to tax compliance.

Research on retributive justice on tax compliance has centred on how severe tax non-compliance crime compared to other crimes. Consistently, other crimes have been perceived to be severer than tax non-compliance crime (Vogel, 1974; Song and Yarbrough, 1978; Burton *et. al*., 2005; Evans and Kelley, 2001). For instance, Vogel (1974) compared taxpayers' attitudes in Sweden on tax evaders and other criminals. Vogel (1974) asked participants to select the most suitable penalties for various crimes including tax non-compliance. Surprisingly, lighter penalties were recommended toward tax evaders than other criminals. Indeed, for a similar monetary penalty [$200], 53.9 percent of participants suggested a prison sentence to housebreakers compared to only 11.7 percent recommended a similar penalty for tax evaders. The penalty level was used as a measure of how serious the crime was seen in Swedish society. So tax non-compliance was not seen as serious as other offenders probably because tax non-compliant acts do not directly affect individuals like housebreaking. Likewise, Song and Yarbrough (1978) who requested participants to measure severity of several offences found out that tax evaders were seen as violators likely to be punished by fines not criminals who got prison sentences.

However, other researchers have investigated tax retributive justice in terms of tax amnesty (Stella, 1991; Andreoni, 1991; Hasseldine, 1998; Rechberger *et. al*., 2010; De Koker, 2007). Offering tax amnesty to non-compliant taxpayers may facilitate to collect tax revenue, which otherwise would not have been collected (Andreoni, 1991). Subsequently, allowing taxpayers to pay their tax debts and adding them in tax bases might make the tax system fairer (Andreoni, 1991). Nonetheless, non-compliant taxpayers may increase their cheating in anticipation of tax amnesty or when tax amnesties are not accompanied with increase in tax audits and penalties (Stella, 1991; Andreoni, 1991; De Koker, 2007). Furthermore, forgiving non-compliant taxpayers might reduce willingness to comply by compliant taxpayers (Hasseldine, 1998; Andreoni, 1991). Summarily, previous tax research has indicated how tax non-compliance crime is

perceived in relation to other crimes, and appropriate tax amnesties are, but the link between the perceived retributive justice and tax compliance remains unknown. Based on the previous discussion, it hypothesised that:

H_2: There is a positive relationship between perception on retributive justice of tax penalties and tax compliance level.

Retributive and procedural justice might be related. It was shown that procedural fairness increases compliance and taxpayers to examination authority and tax authority, respectively, when penalties are high (Verboon and Van Dijke, 2011). It was argued that procedural fairness improves authorities' legitimacy, while severe penalties increase moral disapproval of the sanctioned acts, which together increase compliance to authorities' order (Verboon and Van Dijke, 2011). Additionally, Wenzel (2002) suggested that non-compliant taxpayers expect tax audit process to be fair, considerate to them and their businesses otherwise, the process will be deemed unfair and unfairness may discourage future tax compliance. Therefore, it is also hypothesised that:

H_3: Procedural justice moderates the relationship between perception of retributive justice and tax compliance: (i) when the perception of procedural justice is high, the perception of retributive justice will have a positive impact on tax compliance and (ii) yet, a negative relationship between the perception of retributive justice and tax compliance will exist when procedural justices is low.

Methodology

Data Collection Method

The study utilized survey method to solicit responses from Small and Medium Enterprises [SMEs] taxpayers about retributive justice of the selected corporate income tax penalties, procedure justice of tax appeal machineries

and their impact on tax compliance. Previous research has shown that a survey method is useful in studying taxpayers' attitudes and perception (Alm and Torgler 2011; Mcgee, Ho and Li, 2008; Torgler and Schneider, 2007) and provides rich demographic as well as socio-economic data of taxpayers (Alm and Torgler 2011). Studying about SMEs' corporate income tax compliance is important because of their potential to provide public revenue from value added tax and income tax due to high turnover and employment (Bennett, 2008; Arachi and Santoro, 2007). Likewise, tax evasion is common among SME taxpayers (Arachi and Santoro, 2007). Therefore, they are likely to be disciplined by tax penalties (Fjeldstad, 2001; Fjeldstad and Semboja, 2001; Luoga, 2002) and face the appellate machineries' procedures. In Tanzania, a small enterprise has 5 to 49 employees or capital investments exceeding Tanzanian shillings (Tshs) 5,000,000 to 200 million, while if it has 50 to 99 employees and investment capital above Tshs 200,000,000 to Tshs 800,000,000 it is known as medium enterprise (URT, 2002).

The Sample and Sampling Procedures

The participants were SMEs taxpayers who were sampled conveniently. It is impossible to use probability sampling procedures because of absence of SMEs database and restricted access to Tanzania Revenue Authority's data. Additionally, questionnaires were both self – administered and investigator administered to increase response rates as the survey of retributive and procedural justice is not so sensivite an issue. Particularly, this study surveyed 300 small and medium entrepreneurs in Tanzania. However, 39 (13%) of the responses were dropped because they showed flat responses. Bainbridge (2009) suggested that flat responses might indicate that respondents were either in hurry or did not read questions carefully and therefore, flat responses are useless data. Furthermore, 1.33 percent responses were dropped during missing data analyses because they had missing data over 50 percent (Hair *et. al.*, 2010). Consequently, the final

sample size dropped to 257 (41%) of respondents aged between 18 and 30 years, while the rest of respondents aged above 30 years old involved 59.1 percent male respondents and 38.1 percent female respondents. However, 2.7 percent did not indicate their gender. On the other hand, 35 percent had primary education, 62.7 percent had above primary education levels and 1.6 percent did not indicate their education levels.

Treatment of Missing Values

The remaining data had missing values. The diagnostic test for level of randomness showed that data were missing at random. In due regard, Little MCAR test indicated a significant level of .003 for scenario 1 and .000 for scenario 2. According to Little and Rubin (2002), only equation modelling (EM) based methods can impute missing data in this situation. Consequently, EM method in Statistical Package for Social Sciences (SPSS) Version 20 was used to estimate the missing data. However, non-metric missing data were not imputed as proposed by Hair and colleagues (2010).

Questionnaire

This study was concerned with the role of perception of retributive justice of corporate income tax penalty for failure to maintain documents as well as to pay taxes on due dates, and procedural justices of processes of imposing those penalties on tax compliance. So, three constructs were involved in the survey: retributive justices, procedural justices and tax compliance. Retributive justice of the two corporate income tax penalties and their impact on tax compliance were separately denoted. The section of procedural justice of the systems imposing tax penalties was applicable to both scenarios because all suspected tax non-compliant taxpayers follow the same justice systems.

The said theoretical constructs were tested in Principle Component Analysis (PCA). However, as it can be seen in the preceding sections,

there were items with significance cross loadings, scores above .30 (Hair *et. al.*, 2010). Therefore, they became candidates for deletion, but the items were kept because they are theoretically important in retributive and procedural justice systems. In addition, demographic variables were collected and saved as control variables. Briefly, the questionnaire had mainly three identifiable parts explained in detail in the next sub-sections (see Appendix 1).

Scenario 1: Failure to Keep Complete Records
Retributive justices. Seven items were used to gather information about retributive justice brought by corporate income tax penalty for failure to keep proper records (1 = definitely yes to 5 = definitely not but items were reversed for analysis). *The items are: "*I believe that the monthly penalty of Tshs 425,000 charge is appropriate," "I believe that the monthly penalty charge is appropriate regardless of the type of documents failed to be kept (e.g., Sales ledger, Invoices, Receipts, Final accounts, etc)," "I believe that the penalty imposed is fair relative to the crime committed," "Do you think taxpayers who fail to keep records are held accountable by the current tax system?" "I believe that the penalty paid by taxpayers who fail to keep records restores benefits of the common citizen," " I believe that the estimated tax liability imposed on the taxpayer who failed to keep records is appropriate" and "I believe that amounts paid by the taxpayer (estimated tax amount and penalties) are equivalent to amounts that would have been paid had reliable documents been kept."

The principal components analysis with varimax rotation with 57.009 of explained variance confirmed two constructs, retributive justices 1 and 2 (see Table 1 factors 2 and 3). Results impliy that adequacy of tax penalties and their appropriateness may be different parts of retributive justice concept. Conversely, two items " I believe that the penalty imposed is fair relative to the crime committed" and " I believe that the estimated tax liability imposed on the above taxpayer who failed to keep records is appropriate" significantly loaded to procedural justice 1 as shown below.

Probably because all these concepts are related to fairness of tax system so, it is easy to be mixed by respondents. These items were left where they were strongly loaded to avoid losing data. Consequently, one needs considering these parts while interpreting the results.

Procedural justices. To determine how procedures of imposing tax penalties are perceived by respondents, nine items were included (1 = definitely yes to 5 = definitely not but items were reversed for analysis) from classification by Stalans and Lind (1997) and Murphy and Tyler (2008). These items are: "I think the suspects of failure to keep documents are treated fairly by the tax appeal systems," "I think the offenders are treated fairly by the tax appeal tribunal," "I think the offenders are treated fairly by the legal proceedings, court systems," "I believe that the operation of the tax system maintains presumption of innocence until taxpayers who fail to keep records are convicted," "I believe that the appeal procedures are clear," "I believe that the rights of suspects to be heard are clear," "I believe that the rights of suspected taxpayers who fail to keep records to be heard are clear," "I believe that the appeal procedures are transparent," "I believe that the rights of suspects to be heard are transparent" and "I believe that the appeal procedures are actually followed in practice." Likewise, two factor constructs were identified by the principle-component factor analysis with varimax rotation with 57.009 explained variance (see Table 1 factors 1 and 3). The first factor is named procedural justice 1: transparency of appeals procedures and rights, while the second is called procedure justice 2: actual implementation of those appeals procedures and rights. This discovery affirms that presence of clear and understandable appeals procedures and rights might differ from actual procedures in appellant machineries. This difference must be considered when decoding results.

Analysis of Procedural and Retributive Justice in Tax Compliance

Table 1: *Principal component analysis measure of retributive and procedures of penalty for failure to keep complete records*

Items	Factors				M	SD
	1	2	3	4		
1 Procedural justice 1						
I believe that the appeal procedures are transparent	.741	.090	.189	.156	3.1	1.35
I believe that the rights of suspects to be heard are transparent	.722	.133	-.006	.180	3.25	1.27
I believe that the rights of suspects to be heard are clear	.685	.014	.187	.311	3.21	1.32
I believe that the appeal procedures are actually followed in practice.	.658	.134	.014	.073	3.24	1.28
I believe that the appeal procedures are clear	.602	.048	.456	.152	3.28	1.35
I believe that the penalty imposed is fair relative to the crime committed	.555	.328	.247	.140	3.31	1.38
I believe that the estimated tax liability imposed on the above taxpayer who failed to keep records is appropriate	.548	.481	.217	-.111	3.13	1.35
I believe that the operation of the tax system maintains presumption of innocence until taxpayers are convicted.	.471	.043	.316	.366	3.32	1.20
2 Retributive justice 1						
I believe that the penalty paid by taxpayers who fail to records restores the benefits of the common citizen.	-.008	.692	.218	.035	3.42	1.39
I believe that the amounts paid by the above taxpayer (estimated tax amount and penalties) are equivalent to the amounts that would have been paid had reliable documents been kept.	.410	.581	.344	-.347	3.25	1.42
Do you think taxpayers who fail to keep records are held accountable by the current tax system?	.080	.578	-.126	.206	3.27	1.16
3 Retributive justice 2						
I believe that the monthly penalty charge is appropriate regardless of the type of documents failed to be kept (e.g. Sales ledger, Invoices, Receipts, Final accounts, etc)	.005	.206	.802	.286	3.67	1.33
I believe that the monthly penalty Tshs 425,000 charge is appropriate.	.410	.012	.736	-.015	3.82	1.34
4 Procedural justice 2						
I think the offenders are treated fairly by the legal proceedings i.e. court systems	.227	.032	.218	.701	3.44	1.16
I think suspects of failure to keep documents is treated fairly by the tax appeal systems	.249	.493	.062	.507	3.32	1.18
I think the offenders are treated fairly by the tax appeal tribunal.	.319	.380	-.003	.430	3.22	1.30
Eigenvalue (before rotation)	5.621	1.301	1.1401	1.059		
Explained Variance after rotation (%)	23.259	12.304	11.905	9.540		

Note: A principal-component analysis with varimax rotation was employed basing sample 257 sample size, Bartlett's test of sphericity sig < .001 and Kaiser-Myer-Olkin (KMO) sig = .855.

Tax compliance. To determine the impact of corporate income tax penalty for failure to keep records, five items were included in the questionnaire (1 = definitely yes to 5 = definitely not but items were reversed for analysis). These items are: "I believe that appropriate punishment of taxpayers who fail to keep records will increase my compliance level," "I believe that the penalty is capable of deterring future similar failure," "I believe that the penalized offender will not fail to keep records again," " I believe that the penalty encourages future compliance from compliant taxpayers" and "I believe that when possibility of being audited by tax authority is high, the penalty is capable of deterring future similar failure." Two constructs named tax compliance 1, changing tax compliance behaviour and tax compliance 2, keeping tax compliant behaviour were identified by the principle-component factor analysis with varimax rotation with 63.89 percent of explained variance (see Table 2). It seems taxpayers might react differently from unpenalized ones and such difference might be taken into account when results are interpreted.

Table 2: *Principal component analysis measures of tax compliance for failure to keep complete records*

Item	Factor		M	SD
	1	2		
Tax compliance 1				
I believe that the penalty is capable of deterring future similar failure.	.828	-.069	3.51	1.33
I believe that the penalized offender above will not fail to keep records again.	.743	.255	3.43	1.23
I believe that when possibility of being audited by tax authority is high, the penalty is capable of deterring future similar failure	.634	.343	3.80	1.21
Tax compliance 2				
I believe that appropriate punishment of taxpayers who fail to keep records will increase my compliance level.	.011	.875	3.61	1.23
I believe that the penalty encourages future compliance from compliant taxpayers	.302	.714	3.70	1.26
Eigen value (before rotation)	2.188	1.007		
Explained Variance after rotation (%)	34.63	29.257		

Note: A principal-component analysis with varimax rotation was employed basing sample 257 sample size,
Bartlett's test of sphericity sig < .001 and Kaiser-Myer-Olkin (KMO) sig = .721

Scenario 2: Failure to Pay Corporate Income Tax on Time

Retributive justices. Six items were used to gather information about retributive justice of corporate income tax penalty for failure to pay tax on time (1 = definitely yes to 5 = definitely not but the items were reversed for analysis). These items are *"I believe that the monthly interest charge of Tshs 280,000 is appropriate,"* "I believe that charging a full month's interest even when tax is paid late for only part of the month (e.g., 2 days) is appropriate," "I believe that the interest imposed is fair relative to the crime committed," "Do you think taxpayer who fail to pay taxes on due dates are held accountable by the current tax system?" Then "I believe that the interest paid by taxpayer who fails to pay taxes on due dates in general restores the benefits of the common citizen" and "I believe that the amounts paid by the above taxpayer (tax and interest) are equivalent to the benefits that would have been obtained had the taxes been paid on the due date." The principal components analysis with varimax rotation with 59.098 of explained variance confirmed two constructs (see Table 3 factors 2 and 4). Again, appropriateness and adequacy of tax penalties might represent different concepts of retributive justices and one needs to consider these parts while interpreting the results.

Procedural justices. To determine how the procedure of imposing penalty was perceived by respondents, eight items were included in the questionnaire. These items are: "I think the offenders are treated fairly by the tax appeal tribunal," "I think the offenders are treated fairly by the legal proceedings i.e. court systems," "I believe that the operation of the tax system maintains presumption of innocence until taxpayers are convicted," "I believe that the appeal procedures are clear," "I believe that the rights of suspects to be heard are clear," "I believe that the rights of suspected taxpayers who fail to keep records to be heard are clear," "I believe that the appeal procedures are transparent," "I believe that the rights of suspects

Table 3: *Principal component analysis measure of procedural and retributive justice for penalty for failure to pay tax on time*

Items	Factor				M	SD
	1	2	3	4		
1 Procedural Justice 1						
I believe that the appeal procedures are transparent.	.743	.077	.143	.164	3.11	1.36
I believe that the rights of suspects to be heard are clear.	.718	-.001	.191	.217	3.21	1.32
I believe that the appeal procedures are clear.	.674	.176	.100	.300	3.28	1.35
I believe that the operation of the tax system maintains presumption of innocence until taxpayers are convicted.	.669	.282	.164	-.127	3.32	1.20
I believe that the rights of suspects to be heard are transparent	.640	-.042	.234	.329	3.25	1.27
I believe that the appeal procedures are actually followed in practice.	.632	.110	.083	-.005	3.24	1.28
2 Retributive justice 1						

					Mean	SD
I believe that the amounts paid by the above taxpayer (tax and interest) are equivalent to the benefits that would have been obtained had the taxes been paid on the due date	-.006	.799	.050	.145	3.41	1.43
I believe that the interest paid by taxpayers who fail to pay taxes on due dates in general offenders restore the benefits of the common citizen.	-.006	.794	.136	.194	3.37	1.40
Do you think taxpayer who fail to pay taxes on due dates are held accountable by the current tax system?	.170	.650	.228	-.176	3.24	1.20
I believe that the interest imposed is fair relative to the crime committed.	.346	.572	-.042	.075	3.49	1.19
Procedural justice 2						
I think the offenders are treated fairly by the tax appeal tribunal.	.141	.081	.831	.133	3.22	1.30
I think suspects of failure to keep documents is treated fairly by the tax appeal systems	.213	.265	.676	.124	3.31	1.17
I think the offenders are treated fairly by the legal proceedings i.e. court systems	.449	.000	.484	-.077	3.44	1.16

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4 Retributive justice 2						
I believe that charging a full month's interest even when tax is paid late for only part of the month (e.g 2 days) is appropriate.	.101	.069	.138	.869	3.62	1.35
I believe that the monthly interest charge of Tshs 280,000 is appropriate.	.432	.215	.028	.623	3.30	1.32
Eigenvalue (before rotation)	4.866	1.804	1.176	1.019		
Explained Variance after rotation (%)	22.60	15.18	10.87	10.44		

Note: Note: A principal-component analysis with varimax rotation was employed basing sample 257

sample size, Bartlett's test of sphericity sig < .001 and Kaiser-Myer-Olkin (KMO) sig = .831

to be heard are transparent" and "I believe that the appeal procedures are actually followed in practice." Likewise, two factor constructs were identified by the principle-component factor analysis with varimax rotation of 59.098 variance explained (see Table 3 factors 1 and 3). As previously, the first factor is named procedure justice 1, transparency of appeal procedures and rights, while the second is called procedure justice 2m actual implementation of those rights and procedures. The resulting regression scores were used as measures of procedure justices. Like in previous scenario, a concept of rights to appeals might differ from actual procedures in appellant machineries.

Tax compliance. To determine the impact of corporate income tax penalty for failure to keep records, five items were included in the questionnaire. These items are: "I believe that the interest is capable of deterring future similar failure," "I believe that the penalized offender above will not fail to pay tax on due date in the future," "I believe that when the possibility of being audited by tax authority is high the interest is capable of deterring failure to pay tax on due date," "I believe that the interest encourages future compliance from compliant taxpayers" and "I believe that in general appropriate punishment of taxpayer who fail to pay taxes on due dates will increase my compliance level." All items were identified by the principle-component factor analysis with varimax rotation with 46.170 explained factors (see Table 4).

Table 4: *Principal component analysis measure of tax compliance for failure to pay tax on time (Cronbach's alpha= .70 adjusted α = .70)*

Item	Factor 1	M	SD
I believe that the interest encourages future compliance from compliant taxpayers	.572	3.53	1.29
I believe that in general appropriate punishment of taxpayer who fail to pay taxes on due dates will increase my compliance level.	.616	3.65	1.25
I believe that the interest is capable of deterring future similar failure.	.756	3.87	1.25
I believe that when the possibility of being audited by tax authority is high the interest is capable of deterring failure to pay tax on due date	.676	3.68	1.82
I believe that the penalized offender above will not fail to pay tax on due date in the future.	.757	3.62	1.24
Eigenvalue (before rotation)	2.308		
Explained Variance after rotation (%)	46.170		

Note: A principal-component analysis with varimax rotation was employed basing sample 257 sample size, Bartlett's test of sphericity sig < .001 and Kaiser-Myer-Olkin (KMO) sig = .729

Demographic Variables

As the sample was heterogeneous, respondents' background information was collected. Information pertaining to that aspect include: age (1= not above 30, 2=above 30 years), gender (1 = male, 2 = female), industries as trading, agriculture or similar businesses, manufacturing, management or consultancy services and construction, duration in business, and education levels (1 = primary school, 2 = above primary education). Additionally, respondents were asked to indicate their positions in their organizations, annual turnover and capital investment to determine inclusion of the questionnaire because only SMEs were targeted and responses had to be received from owners, accountants and managers.

Results

Failure to Keep Complete Records: Scenario 1

Tax Compliance 1 and Procedural and Retributive Justice

The correlation table of the first scenario when dependent variable is tax compliance 1 are presented in Table 5. As envisaged, tax compliance 1 was correlated with many independent variables. The dummy variable of manufacturing was excluded in the analysis after reaching the variance inflation factors threshold 10 (O'brien, 2007). To assess the variable that might explain the dummy variable of manufacturing, the variable was regressed and results indicated that there was negative dependency relationship between manufacturing and trade dummy (B=-1). Actually, all of the resulting variance inflation factors were below 10, which may indicate lack of multicollinearity problem (O'brien, 2007; Hair *et. al.*, 2010).

Table 5: *Pearson Correlations between Variables Used in Scenario 1: Corporate Income Tax Penalties for Failure to Keep Proper Records*

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1.Length in business	1																		
2. Primary education	.00	1																	
3.Trade	.05	.06	1																
4.Agriculture	.05	.08	.27**	1															
5.Manufacturing	-.08	-.02	-.15*	-.07	1														
6.Management	-.01	-.08	.62**	.30**	.17**	1													
7.Construction	-.06	-.04	.23**	-.11	-.06	.24**	1												
8.Procedural justice1	-.03	-.14*	.03	-.05	.14*	-.12	.13*	1											
9.Retributive justice1	-.03	-.02	-.05	.00	.12	-.02	.04	.19**	1										
10.Retributive justice 2	-.06	-.04	-.07	.06	.02	.00	.05	.00	.00	1									
11.Procedural justice2	-.12	-.05	-.01	.00	.08	-.07	.08	.00	.00	.00	1								
12.Tax compliance1	.13*	-.08	-.06	.03	.15*	-.05	.06	.36**	.15*	.30**	.34**	1							
13.Tax compliance2	.03	.00	.08	-.10	.03	-.09	.12	.19**	.15*	-.07	.19**	0	1						
14.Male	-.02	.03	.08	.01	-.04	-.03	-.07	-.08	-.04	-.09	.00	.03	-.09	1					
15.Age 18-30	.03	.11	.14*	.01	.03	-.11	-.08	.01	.12	-.05	-.02	.04	.07	.05	1				
16.Proced 1*Retrib 1	-.11	.20**	.00	-.05	.15*	-.06	.07	.16*	.27**	.12	.02	.04	-.01	.02	.00	1			
17.Proced1*Retrib 2	-.02	.08	.05	-.08	.03	.01	-.03	.20**	.12	-.05	.03	.01	.19**	.11	-.03	.10	1		
18.Proced2*Retrib 1	.06	-.02	.12	-.05	.03	-.12*	.05	.02	.22**	.06	.21**	.03	.15*	.06	.03	.10	.10	1	
19.Proced2*Retrib 2	-.03	-.03	-.01	.00	-.01	.04	-.04	.03	.08	.23**	-.07	.2	.00	.03	.12*	.13*	.05	.04	1

*. Correlation is significant at the 0.05 level (2-tailed). **. Correlation is significant at the 0.01 level (2-tailed).

Note: Proced = procedural justice, Retrib = Retributive justice

Furthermore, heteroscedasticity tests showed that variance of errors of independent variables were not heterogeneous with Breusch-Pagan/Cook-Weisberg test for heteroscedasticity chi2 (12), Prob> chi2=0.002. Presence of heteroscedasticity breaches the assumption of classical linear regression model about constant of error terms, which may result into incorrect acceptance or rejection of hypotheses (Engle, 2002; Andrews, 1991). Therefore, the regression was re-run with a robust option in StataSE12 to correct the heteroscedasticity problem (Stock and Watson, 2008; Davidson, Mackinnon and Davidson, 1985). The robust command produces variables estimates after adjusting for heteroscedasticity and thus, producing highly dependable results to test hypotheses. Likewise, all data in the study were not normally distributed, but when number of cases exceed 30, data were approximately normal (Mitchell and M.Jolley, 2013). However, there was no autocorrelation of error terms in data, for Dubin-Watson was 2.057 (Kim, Mattila and Gu, 2002).

The hypotheses were tested using hierarchical regression analyses as Table 6 shows. The first step of hierarchical regression tested how demographic variables, namely, duration in business, dummy variables for gender (male) and agriculture, manufacturing and construction sector explained the variance in tax compliance. In totality, their accounted variance (R^2) on tax compliance 1 was 4.94 percent, which was significantly different from zero ($F_{(8, 248)}$=2.27, p=.024). Then, entry of procedural justice 1, procedural justice 2, retributive justice 1 and retributive justice 2 in the hierarchical regression produced a change in variance accounted for ("R^2) of 32.25 percent, which was statistically significant and different from zero over the demographic variables' effect in step one ("$F_{(4, 244)}$=32.19, p < .001).

Table 6: *Summary of Hierarchical Regression Analysis for Variables Predicting Tax compliance 1 (N =257)*

Variable	Model 1			Model 2			Model 3		
	B	$SE B^+$	β	B	$SE B^+$	β	B	$SE B^+$	β
Length in business	-.11	.07	-.11	-.05	.05	-.05	-.07	.05	-.07
Primary education	-.07	.06	.07	.01	.06	.01	-.02	.06	-.02
Trade	-.37	.12	.37**	-.14	.11	-.14	-.16	.12	-.16
Agriculture	-.19	.09	-.19	-.05	.08	-.05	-.05	.08	-.05
Management	-.38	.12	-.38**	-.10	.11	-.10	-.11	.12	-.11
Construction	-.15	.08	-.15	-.10	.08	-.10	-.11	.08	-.11
Age 18-30	-.03	.06	-.03	-.04	.05	-.04	-.02	.05	-.02
Male	.03	.06	.03	.08	.05	.08	.09	.05	.09
Procedural justice 1				.37	.05	.37***	.40	.05	.40***
Retributive justice 1				.15	.05	.15**	.16	.06	.16**
Retributive justice 2				.30	.06	.30***	.28	.06	.28***
Procedural justice 2				.34	.06	.34***	.34	.06	.34***
Procedural justice 1 x Retributive justice 1							-.12	.06	-.12*
Procedural justice 1 x Retributive justice 2							.08	.05	.08
Procedural justice 2 x Retributive justice 1							.05	.05	.06
Procedural justice 2 x Retributive justice 2							-.13	.07	-.12
Constant	0	.06		0	.05		0	.05	
R^2		.05			.37			.41	
Adjusted R^2		.02			.13			.15	
$?R^2$		.05			32			.04	
$?F$		2.27			32.19			3.63	
Df		248			244			240	

* p < 0.05, ** p < 0.01, *** p < 0.001, + Robust standard error

In step three, entry of product terms: procedural justice 1 x retributive justice 1, procedural justice 1 x retributive justice 2, procedural justice 2 x retributive justice 1 and procedural justice 2 x retributive justice 2 in the model showed a 3.53 percent change in variance accounted for ("R^2"), which was statistically significant and different from zero over the impact of factors in the previous step ("$F_{(4, 240)} = 3.63$, p = .007). Consequently, the analysis of how independent variables influenced on tax compliance 1 focused on the complete model in step 3.

Starting with the impact of the tested demographic variables on tax

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compliance, the impact of duration in business on tax compliance 1 was insignificant (â = -.07, ns) as it was for dummies for management (â = -.11, ns), construction (â = -.11, ns), trade (â = -.16, ns), primary education (â = -.02, ns), agriculture (â = -.05, ns), age 18-30 (â = -.02, ns), and male (â =.09, ns). Conversely, as expected in hypothesis 2, the retributive justice 1 had a significant positive impact on tax compliance (â = .16, p = .003). This means that adequacy tax penalties might increase subsequent tax compliance level of penalized offenders. Also, the impact of retributive justice 2 on tax compliance was significantly positive (â = .28, p < 0.001) as it was expected in hypothesis 2. It might mean that tax penalties, which are perceived to be appropriate might also induce subsequent tax compliance of penalized non- compliant taxpayers.

Likewise, as it was expected in hypothesis 1, procedural justice 1 had a significant positive impact on tax compliance (â = .40, p < 0.001), meaning that increasing awareness of appeal procedures and rights might later increase tax compliance level of non-compliant taxpayers. Also procedural justice 2 had a significant positive impact on tax compliance (â = .34, p < 0.001), meaning that fair implementation of appeal procedures by appellant machineries could increase tax compliance level of penalized taxpayers too.

Additionally, an interaction effect between retributive justice 1 and procedural justice 1 on tax compliance 1 was also significant (â = -.12, p = .026). Implying that procedural justice 1 might moderate the relationship between retributive justice 1 and tax compliance 1 as expected in hypothesis 3. Slopes of the association at high (+1 SD above the mean), moderate (mean) and lower (+1 SD above the mean) level of the procedure justice 1 were analysed using simple slope analysis (Aiken and West, 1991; Rogosa, 1980). As it can be seen in Figure 1, all of the simple slopes indicated positive associations between tax compliance 1 and retributive justice 1, but more so the association was very strong when the procedural

justice 1 was low. However, only simple slopes of the association at low and moderate values of procedural justices 1 were significantly positive (b = .29, SE_b =.09, â = .28, p = .001) and b = .16, SE_b = .05, â= .16, p =.003), respectively. Bu the simple slope of high value of procedural justice 1 was not statistically significant (b = .04, SE_b =.06, â = .04, ns). Specifically, at low level of retributive justice 1, taxpayer with high perception of procedural justice 1 had the highest of level of tax compliance 1, followed by those with moderate level and those with low level of perception of procedural justice 1 had the lowest level of tax compliance 1. Then, at high level (+1SD above the mean) of retributive justice tax compliance 1 of taxpayers with high procedural remained the highest but did not change significantly from the previous point, but tax compliance 1 levels of taxpayers with moderate (mean) changed significantly when retributive justice 1 moved from low (-1SD above the mean) to high (+1SD above the mean) retributive justice 1. These results imply that when the perception of retributive justice 2 is high, it might increase tax compliance levels for taxpayers who had low or moderate perception of procedural justice 1 and thus, inconsistent with hypothesis 3 (ii).

Figure 1: *Moderating effect of perception of procedure justice 1 and relationship between perception retributive justice 1 and tax compliance 1 using a simple slopes analysis.*
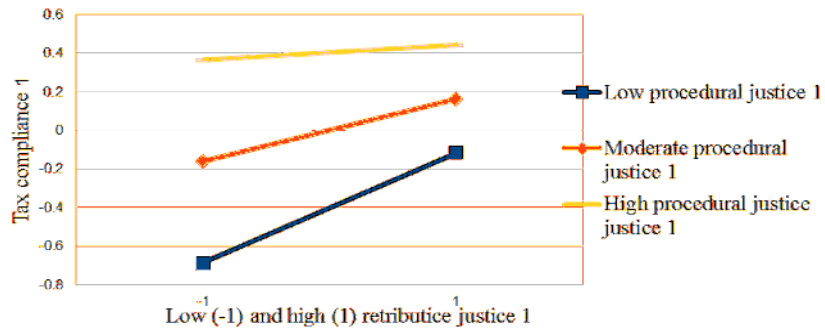
Note, Low (-1) means -1SD below the mean and high (1) means 1D above the mean.

But the product term of procedural justice 1 x retributive justice 2 was insignificant (â=.08, ns), the product term of procedural justice 2 x retributive justice1 (â=.06, ns) and the product term of product term of procedural justice 2 x retributive justice 2 (â=-.12, ns).

Tax Compliance 2 and Procedural and Retributive Justice
Table 5 presents correlation matrix for the first scenario when dependent variable is tax compliance 2. As expected, some of the independent variables had a positive significant association with tax compliance 2. As noted previously, manufacturing dummy was excluded from analysis and the variance of error terms of independent variables were heteroscedasticity because Breusch-Pagan/Cook-Weisberg test for heteroscedasticity showed chi2 (12) = 27.11, Prob> chi2=0.01. Similarly, the robust

command was used to rectify the heteroscedasticity problem. Finally, Durbin-Watson test was 1.845, indicating that residuals were independent in the data (O'brien, 2007).

Next, a hierarchical regression analysis was conducted to test the manner independent variables related to tax compliance 2 as indicated in Table 7. Demographic variables (duration in business, dummy variables for agriculture, trade, primary education, management, age between 18 and 30, construction sector and male were entered in the first step). The step produced an insignificant variance accounted in tax compliance 2 (R^2 = 4.29%, $F_{(8, 248)}$=1.52, ns). Afterwards, procedural justice 1, retributive justice 1, procedural justice 2 and retributive 2 were entered in the hierarchical regression analysis that produced a significant variance that accounted for ("R^2) of 8.62 percent, which was statistically significant different from zero over the impacts of demographic variables ("$F_{(4, 244)}$ =5.93, p <.001). Finally, there was a 6.26 percent change in variance accounted for ("R^2) when the interaction effects of procedural justice1 x retributive justice 1, procedural justice 1 x retributive justice 2, procedural justice 2 x retributive justice 1 and procedural justice 2 x retributive justice 2 were introduced in step three. The change was statistically significant, different from zero over the impact of previous factors in step two ("$F_{(4, 240)}$ =4.58, p = .001).

Subsequently, the analysis focuses on the complete model in step three. Firstly, the influences of all demography variables on tax compliance 2 were all insignificant. Specifically, duration in business had insignificant impact on tax compliance 2 (â =.05, ns) as it was for dummies of trade (â =.08, ns), construction (â =.10, ns), agriculture (â = -.03, ns), primary education (â =.00, ns), management (â =.04, ns), age between 18 and 30 (â =.05, ns) and male (â =-.06, ns). Furthermore, the main effects of both retributive justice 1 and retributive justice 2 on tax compliance were insignificant (â = .12, ns; â =-06, ns), respectively, thereby inconsistent with hypothesis 2.

However, consistence with hypothesis 1, the effect of procedural justice 1 on tax compliance 2 was significant (â = .23, p =.004), meaning the more compliant taxpayers become aware on their appeal rights and procedures, the more tax compliant they may become. Also procedural justice 2 had a significant positive impact on tax compliance 2 (â = .22, p =0.001), meaning that fair implementation of appeal procedures by appellant machineries could too increase compliance level of compliant taxpayers.

Table 7: *Summary of Hierarchical Regression Analysis for Variables Predicting Tax compliance 2 (N =257)*

Variable	Model 1			Model 2			Model 3		
	B	$SE\,B^+$	B	B	$SE\,B^+$	β	B	$SE\,B^+$	β
Length in business	.04	.05	.04	.06	.06	.06	.05	.06	.05
Primary education	0	.07	.0	.03	.06	.03	0	.06	0
Trade	-.03	.15	-.03	.10	.13	.10	.08	.12	.08
Agriculture	-.14	.11	-.14	-.05	.10	-.05	-.03	.10	-.03
Management	-.13	.11	-.13	.02	.13	.02	.04	.13	.04
Construction	.06	.09	.06	.10	.08	.10	.10	.07	.10
Age 18-30	.06	.06	.06	.04	.06	.04	.05	.06	.05
Male	-.08	.06	-.08	-.07	.06	-.07	-.06	.06	-.06
Procedural justice 1				.17	.08	.17*	.23	.08	.23**
Retributive justice 1				.15	.06	.15*	.12	.08	.12
Retributive justice 2				.19	.06	.19**	.22	.06	.22**
Procedural justice 2				-.06	.06	-.06	-.06	.06	-.06
Procedural justice 1 x Retributive justice 1							-.11	.08	-.11
Procedural justice 1 x Retributive justice 2							.19	.06	.20**
Procedural justice 2 x Retributive justice 1							.13	.06	.14*
Procedural justice 2 x Retributive justice 2							-.02	.07	-.02
Constant	0	.06		0	.06		0	.06	
R^2		.04			.13			.19	
Adjusted R^2		.01			.09			.14	
$?R^2$		.04			.09			.06	
?F		1.52			5.93			4.58	
Df		248			244			240	

* p < 0.05, ** p < 0.01, *** p < 0.001, + Robust standard error

Likewise, as expected in hypothesis 3, the interaction between procedural justice 1 and retributive 2 was significant (â = .20, p =.002). Simple slopes for the association between retributive 2 and tax compliance 2 were calculated for low (-1 SD below the mean), moderate (mean), and high (+1 SD above the mean) levels of procedural justice 1. As Figure 2 shows, the simple slope of the association at low value (-1SD below the mean) of procedural justice 1 indicated a significant negative relationship between retributive justice 2 and tax compliance 2 (b = -.25, SE_b =.09, â = -.26, p = .004). Conversely, simple slope of the association at moderate value of procedure justice 1 indicated an insignificant relationship between tax compliance 2 and retributive justice 2 (b = -.06, SE_b =.06, â = -.06, ns), as the simple slope at high value of procedural justice 1 (b = .14, SE_b =.09, â = .14, ns). These results mean that taxpayers who have low perception of procedural justice 1 are less likely to keep complying when perception of retributive justice 2 increases.

Figure 2: *Moderating effect of perception of procedural justice 1 on the association between perception of retributive justice 2 and tax compliance 2 using a simple slopes analysis.*
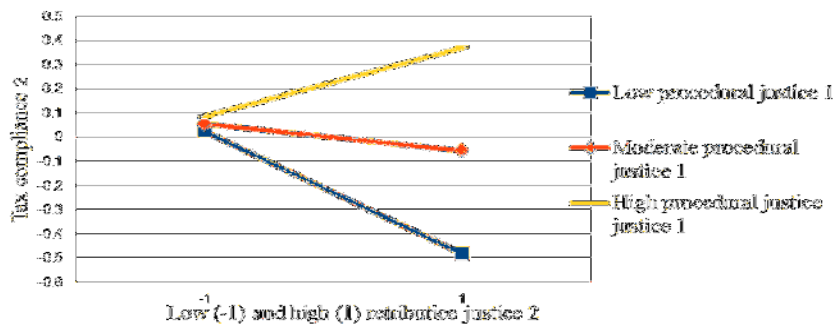
Note, Low (-1) means -1SD below the mean and high (1) means 1SD above the mean.

Similarly, there was a significant interaction between procedural justice 2 and retributive justice 1 ($\hat{a}$ = .14, p =.024) consistent with hypotheses 3. So analysis of simple slopes for the association between tax compliance 2 and retributive justice 1 were done for low (-1 SD below the mean), moderate (mean), and high (+1 SD above the mean) levels of procedural justice 2. As indicated in Figure 3, the simple slope of the association at high value (+1 SD above the mean) of procedural justice 2 indicated a significant positive relationship between tax compliance 2 and retributive justice 2 (b = .25, SE_b =.08, $\hat{a}$ = .26, p= .003). While, simple slopes of the association both at low (-1 SD above the mean) and moderate (mean) value of procedural justice 2 were both insignificant (b = -.01, SE_b =.10, $\hat{a}$ = -.02, ns and b = .12, SE_b =.08, $\hat{a}$ = .12, ns), respectively. The relationship implies that taxpayers who have high perceptions of procedural justices 2 were more likely to keep complying when their perceptions of retributive justice 1 surge. Yet, the interaction between procedural justice 2 and retributive 2 did not support hypothesis 3 ($\hat{a}$ = -.02, ns) as it was the interaction between procedural justice 1 and retributive justice 1 ($\hat{a}$ = -.10, ns).

Figure 3: *Moderating effect of perception of procedural justice 2 on the relationship perception of retributive justice 1 and tax compliance 2 using a simple slopes analysis.*
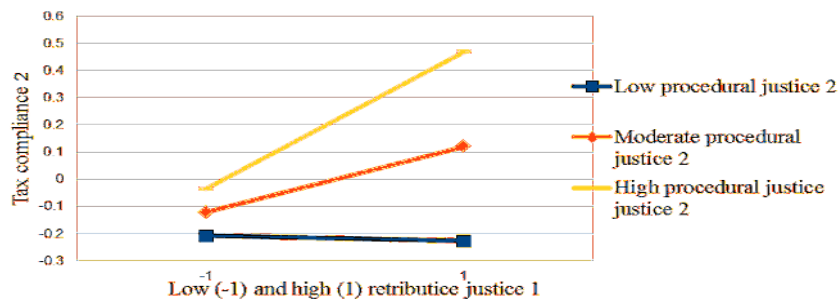
Note, Low (-1) means -1SD below the mean and high (1) means 1SD above the mean.

Failure to Pay Corporate Income Tax on Time: Scenario 2

The descriptive statistics of the second scenario are presented in Table 8. There was a significant positive association between tax compliance, on one side, and retributive justice 1, retributive justice 2, procedural justice 1, procedural justice 2 and procedural justice 2 x retributive justice 1, on the other side. Also, residuals of variables were independent (Dubin-Watson, 1.87) and all values of variance inflation factor were all below 10, suggesting absence of multicollinearity. Still, variance of error terms of independent variables were not homogenous as Breusch-Pagan/Cook-Weisberg test for heteroscedasticity indicated chi2 (12) = 16.4, Prob> chi2=.032.

Afterwards, another hierarchical regression analysis was run to test the hypotheses alongside the robust command to correct the heteroscedasticity problem (see Table 9). First, the demography variables (duration in business, dummy variables for age between 18 and 30 years, primary education, agriculture, trade, agriculture, male and construction sector) were first entered in the hierarchical regression analysis. These variables had variance that accounted for (R^2) on tax compliance of 14.39 percent, which was significantly different from zero ($F_{(8, 248)}$=6.46, $p < .001$.

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Table 8: *Pearson Correlations between Variables Used in Scenario Two:*
Corporate Income Tax Penalty for Failure to Pay Taxes on Time

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1.Length in business	1															
2.Primary education	-.0	1														
3.Trade	.05	.06	1													
4.Agriculture	.05	.08	-.27**	1												
5.Manufacturing	-.08	-.02	-.15*	-.07	1											
6.Management	-.02	-.08	-.62**	-.30**	-.17**	1										
7.Construction	-.06	-.05	-.23**	-.11	-.06	-.24**	1									
8.Procedural 1	-.07	-.04	-.03	-.09	-.07	.11	.01	1								
9.Retributive 1	-.06	.04	.03	-.08	-.18**	.22**	-.22**	.0	1							
10.Retributive2	.05	.03	-.17**	.02	.09	.12	.0	.0	.0	1						
11.Procedural 2	-.05	.20**	-.10	-.01	-.08	.15*	-.02	.0	.0	.0	1					
12.Tax compliance	-.09	-.16*	.07	-.14*	-.16*	.19**	-.18**	.27*	.38**	.10	-.02	1				
13. Age 18-30	.03	.11	.14*	.01	.03	-.11	-.08	.06	-.10	.0	-.02	.04	1			
14.Male	-.03	.03	.08	.01	-.04	-.03	-.07	-.02	.06	.04	-.07	-.09	-.05	1		
15. Proced 1*Retrib 1	.06	-.04	-.28**	.01	.04	.28**	-.05	.09	.07	.02	.26**	-.03	.0	-.07	1	
16.Proced1*Retrib2	.07	-.04	-.10	-.02	.03	.06	.08	-.08	.02	.26**	.02	-.03	.02	.03	.09	1
17.Proced2*Retrib1	-.01	-.03	-.22**	.05	.14*	.09	.07	.23**	-.23**	.10	.02	-.19**	-.02	-.04	.13*	.08
18.Proced2*Retrib2	-.01	-.03	-.04	-.03	-.03	.11	-.06	.02	.12*	.10	-.11	-.0	.09	-.02	.10	-.16*

* Correlation is significant at the 0.05 level (2-tailed)
** Correlation is significant at the 0.01 level (2-tailed)

Note: Proced = procedural justice, Retrib = Retributive justice

Analysis of Procedural and Retributive Justice in Tax Compliance

In the second step, procedural justice 1, retributive justice 1, procedural justice 2 and retributive justice 2 were entered in the hierarchical regression analysis. It showed a change in variance that accounted for ("R^2) of 16.44 percent, which was statistically significant, different from zero over the demographic variables' effect in step one ("$F_{(4, 244)}$ =16.06, p <.001). Finally, addition of interaction variables: retributive justice 1 x procedural justice 1, retributive justice1 x procedural justice 2, retributive justice 2 x procedural justice 1 and retributive justice 2 x procedural justice 2 in step three brought a change in variance that accounted for ("R^2) of 4.56 percent, which was statistically significant, different from zero over the effect of factors in the second step ("$F_{(4, 240)}$ =5.55, p < 0.001). Also model three was the centre of analysis

Table 9: *Summary of Hierarchical Regression Analysis for Variables Predicting Tax compliance (N =257)*

Variable	Model 1 B	Model 1 SE B+	Model 1 B	Model 2 B	Model 2 SE B+	Model 2 B	Model 3 B	Model 3 SE B+	Model 3 β
Length in business	-.12	.07	-.12	-.09	.06	-.09	-.08	.05	-.08
Primary education	-.16	.06	-.16**	-.17	.5	-.17**	-.18	.05	-.18**
Trade	.47	.14	.47**	.33	.13	.33*	23	.14	.23
Agriculture	.17	.10	.17	.10	.09	.10	.07	.09	.07
Management	.53	.14	.53***	.30	.13	.30*	.27	.14	.27*
Construction	.06	.10	.06	.04	.09	.04	.01	.09	.01
Age 18-30	.06	.06	.06	.07	.05	.07	.08	.05	.08
Male	-.11	.06	-.11	-.12	.05	-.12*	-.13	.06	-.13*
Procedural justice 1				.23	.06	.23***	.28	.06	.28***
Retributive justice 1				.34	.06	.34***	.32	.05	.32***
Retributive justice 2				.13	.06	.13*	.16	.06	.16**
Procedure justice 2				-.01	.06	-.01	0	.05	0
Procedural justice 1 x Retributive 1							-.06	.06	-.07
Procedural justice 1 x Retributive 2							-.04	.05	-.04
Procedural justice 2 x Retributive 1							-.15	.05	-.19**
Procedural justice 2 x Retributive 2							-.11	.06	-.11
Constant	0			0	0		0	0	
R^2		.14			.31			.35	
Adjusted R^2		.12			.27			.31	
? R^2		.14			.16			.05	
? F		6.46***			16.06***			5.55***	
Df		248			244			240	

* p < 0.05, ** p < 0.01, *** p < 0.001, + robust standard errors.

Among tested demographic variables, only the dummy variables for male, primary education and management had significant impact on tax compliance. Exactly, the dummy for male had a significant negative impact on tax compliance (â = -.13, p =.017), meaning that male taxpayers are more likely to evade taxes than female taxpayers. Moreover, there was a significant negative impact of the dummy variable of primary education (â = -.18, p = .001), implying that respondents with primary education may be lesser compliant than those with higher education. Additionally, the dummy variable for management industry was positive and significant (â = .27, p = .046), reflecting that respondents in management sector are likely to comply more than other industries. However, the dummy variable for agriculture indicated an insignificant positive relationship with tax compliance (â = .07, ns). Likewise, the impact of duration in business, the dummy variables for construction, trade, duration in business and age between 18 and 30 years were all insignificant (â = .01, ns; â = .23, ns; â = -.08, ns; â = .08, ns), respectively.

Nonetheless, as it was expected in hypothesis 1, the effect of procedural justice 1 on tax compliance was significantly positive (â = .28, p < 0.001). These results suggest that increasing awareness of appeal procedures and rights might increase tax compliance level. However, procedural justice 2 had no any impact on tax compliance and it was insignificant (â = 0, ns). Conversely, as it was expected in hypothesis 2, the effect of retributive justice1 on tax compliance was significantly positive (â = .32, p < .001), hinting that imposing adequate tax penalties might increase tax compliance level too. Likewise, the impact of retributive 2 on tax compliance supports hypotheses two (â = .16, p = .001). These result might mean that imposing tax penalties perceived to be appropriate may increase tax compliance level.

Comparatively, the interaction between procedural justice 1 and retributive justice 1 was insignificant (â = -.07, ns), and the interaction

between procedural justice 1 and retributive justice 2 was insignificant ($\hat{a}$ = -.04, ns) as the interaction between procedural justice 2 and retributive justice 2 ($\hat{a}$ = -.11, ns) against hypothesis 3. But the interaction between procedural justice 2 and retributive justice 1 was significant ($\hat{a}$ = -.19, p = .002) as expected in hypothesis 3. Furthermore, to determine the nature of association between tax compliance and retributive justice 1, simple slopes analysis for low (-1 SD below the mean), moderate (mean), and high (+1 SD above the mean) levels of procedural justice 1 was conducted. Examination of the interaction plot Figure 4 showed an improving effect that as perception of retributive justice 1 increased tax compliance level intentions increased too. Specifically, the simple slope of the relationship at low value of procedural justice 2 was b = .46, SE_b =.05, $\hat{a}$ = .51, p < .001, larger than at moderate value of procedural justice 2 (b = .32, SE_b =.05, $\hat{a}$ = .32, p < .001), and the slope of the association at the moderate value of procedural justice 2 was larger than the slope at high value of procedural justice 2 (b = .17, SE_b =.08, $\hat{a}$ = .13, p = .044. Mostly, at low level of retributive justice 1, tax compliance level of taxpayers with high perception of procedural justice 2 was slightly higher than others against hypothesis 3 (ii). But at high level of procedural justice 1, tax compliance for taxpayers with low perception of procedural 2 were slightly higher than others. So when retributive justice 1 is high, taxpayers with low perception of procedural justice2 had the highest tax compliance level. These results mean that taxpayers who have low perception of procedural justice 2 are more likely to increase their compliance when perception of retributive 1 increases than other taxpayers.

Figure 4: *Moderating effect of perception of procedure justice 2 on the relationship between perception of retributive justice 1 and tax compliance using a simple slopes analysis.*
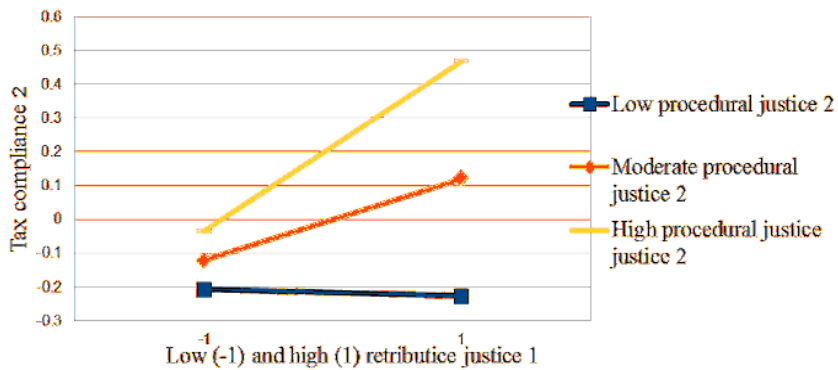
Note, Low (-1) means -1SD below the mean and high (1) means 1SD above the mean.

Discussion and Conclusion

This paper aimed at presenting results on the manner perception on retributive justice of corporate income tax penalties and procedural justice of system imposing them affected tax compliance. Also it presents results on the manner procedural justice moderates the relationship between tax compliance and perception of retributive justice. The study used two scenarios based on Tanzania Income Tax Act of 2004 to test the said relationships. As noted before, this study differs significantly from previous literature both in retributive and procedural justice areas. Previous studies in the retributive justice mainly compared severity of tax non-compliance crime to other crimes (Burton, Karlinsky, Blanthorne and Law, 2005; Evans and Kelley, 2001; Song and Yarbrough, 1978). Thus, they failed short to study how retributive justice might affect tax compliance. This study

demonstrated that the perception of retributive justice might positively impact on ability of penalties imposed to encourage tax compliance level. The results are consistent with results from others studies, which found that perceptions on justice are positively related to tax compliance (Wenzel, 2003; Rechberger *et. al.*, 2010; Verboon and Goslinga, 2009).

Yet, previous literature on procedural justices have linked how procedural justice in distributing tax burdens and tax funded public goods affect tax compliance (Alm, Jackson and Mckee, 1993). This research is one of the few who studied how perception of procedural justices on imposing tax penalties encourage tax compliance (Murphy and Tyler, 2008; Murphy, 2003; Verboon and Van Dijke, 2011). The results indicated that the perceived fairness in penalties imposition may have a strong positive impact on tax compliance. These results are similar to those from studies by Murphy and Tyler (2008) as well as Murphy (2003) but contrary to Verboon and Van Dijke (2011) who found procedural justice has an insignificant impact on tax compliance. The contradictory results might may because of different tax compliance measurements, while Verboon and Van Dijke (2011) asked whether respondents have actually cheated or not. This study measured their intentions to comply in corporate income tax penalties scenarios. Respondents might not provide correct responses about their actual tax compliance behaviour by fearing from tax penalties (Alm and Torgler 2011) and social stigma.

Besides, the research provided empirical findings on the interaction between procedural and retributive justice advocated by Verboon and Van Dijke (2011). The results signify that abilities of retributive justice to increase tax compliance might depend on taxpayers' perception on procedural justice of tax appeal systems. Specifically, charging tax penalties perceived highly adequate are like to increase tax compliance of taxpayers with low and moderate perception on understanding tax appeal procedures and rights. Probably, their lack of understanding of their appeals rights

makes them more susceptible to more adequate tax penalties. Nonetheless, imposing tax penalties perceived highly appropriate are likely not to keep compliant behaviour of taxpayers with low perception on transparent of appeal procedures and rights. May be those taxpayers might find more appropriate tax penalties unfair without clear ways of appealing against them. Finally, taxpayers with high trust in systems implementing appeal rights and procedures are likely to keep complying when their perceptions on adequacy of tax penalties increase. Probably, an increase in fairness of the system reduces chances of circumventing the system problem by bribe or otherwise or it increases legitimacy of the system, which consequently, the system attracts compliance from its followers (Verboon and Van Dijke, 2011). The results are consistent with findings by Verboon and Van Dijke (2011) who revealed that severe penalties increase compliance with law when the procedure of imposing them is fair. However, it should be noted that Verboon and Van Dijke (2011) considered general tax compliance of respondents in a survey where general procedures on fairness of a tax authority and severity of the tax authority's penalties as well as perception on audit rates were included. Also in their second study, the tested students' compliance to hypothetical plagiarism rules where severity of penalties and procedural justice were manipulated.

Therefore, this study extends previous literature in four ways. First, it suggests that the impact of penalties for tax non-compliance on compliance behaviour may depend on whether or not the penalties fit the crime both in term of adequacy and appropriateness, when tax penalties are viewed retributively fairly, might increase tax compliance. Second, it also suggests that tax compliance level might relate to how a tax authority advocates tax appeals rights and processes, and implements tax disputes solving procedures such that an unbiased and transparent system attracts high tax compliance level. Third, it suggests that the impact of penalty on tax compliance can also be divided into changing tax non-compliance behaviour

and keeping tax compliance behaviour, a classification not done in previous literature. Finally, it suggests that retributive justice can be classified into adequacy of tax penalties and their appropriateness relative to crimes committed.

Taken together, these findings have clear implications to tax authorities. The results denote that tax compliance level can increase with increase in perception on retributive justice and procedural justice of an imposing system. Therefore, tax authorities who rely more on imposing tax penalties to prevent and deter tax non-tax compliance can, indeed do so when these penalties are actually imposed and considered fair 'let the punishment fit the crime.' Furthermore, tax compliance can come from improving procedural justices of systems imposing these penalties. However, to a large extent, penalties are imposed mainly by appellate machineries, which might be independent from the tax authorities. Taking Tanzania as an example, the appellate machineries are Tax Revenue Appeals Board, Revenue Appeals Tribunal and Court of Appeal in addition to the Tanzania Revenue Authority which changes penalties and interest for tax non-compliance. Tanzanian taxpayers can appeal to the appellate machineries when they disagree with the Tanzania Revenue Authority (URT, 2006). In this hierarchical process, it is a responsibility of the tax authorities that want to increase tax compliance levels to work closely with other appellate machineries so as to ensure that procedures of solving tax disputes and imposing tax penalties are fair. As the perceived procedural justice of a system not only has its own effect on tax compliance but also it has moderation effect on how tax compliance relates to retributive justices of the imposed tax penalties. Summarily, tax penalties alone may work but works much better with conjunction a fair system of imposing them. So, retributive and procedural justice might be used in conjunction with tax compliance strategies to increase tax compliance. Additionally, future research should consider how tax authorities should work with appellate machinery to improve the perceived procedural justices.

However, the study has a number of limitations. First, it used tax scenarios from Tanzania Income Tax Act of 2014, which may not be transferrable to other areas of tax penalties as demonstrated in the study or country with different cultures. Therefore, similar studies in other countries or other tax laws are encouraged. Second, the small sample size used in the study may also limit generalizability of results as a convenient sampling approach. Third, as it is to all cross-section survey studies, presence of correlation between independent variables and dependent variable may not indicate causal and effect relationship. Also self-report data may differ from actual behaviour of respondents. Subsequently, the findings should be interpreted with caution.

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