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FACTORS THAT INFLUENCING TAXPAYERS' COMPLIANCE BEHAVIOR CATEGORY "C" TAXPAYERS IN EASTERN ZONE OF TIGRAY, ETHIOPIA

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ABSTRACT

The study was focused on the investigation of the factors that influencing taxpayer's compliance behavior in Eastern Zone of Tigray in Category "C" taxpayers. In order to gain an in depth understanding of the phenomenon, the study expands the basic tax payers' compliance variable to incorporate tax service quality, tax system/structure, attitude towards tax evasion, type of occupation, income level and financial condition. In order to achieve the desired objectives of the study, primary data were collected through self-administered questionnaires from 380 sampled respondents, which is a cross sectional type. The collected data were treated and analyzed statistically using ordered logistic regressions analysis with the help of STATA version 11. Moreover, descriptive statistics was also used for both questionnaire and interview via content analysis. The findings of the study revealed that the descriptive statistics on the surveyed sample perceived the tax service quality and tax system structure were ineffective and business profit taxpayers shown unfavorable attitude towards tax evasion based up on the interview as well. The findings also indicated that, based on ordered logistic regression, all variables found to have a positive effect on tax payers' compliance behavior. Particularly tax service quality, occupation and financial condition significantly affect the tax payers 'compliance behavior at 95 % confidence interval.

Keywords: financial condition, tax compliance, tax service quality, occupation and taxpayer's level income.

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1. INTRODUCTION

The significance of the equality principle in tax is quite critical; the Ethiopian government has continuously given attention to the issues of tax policy of the country pursuant to the structural changes. For instance, the tax authority has reduced the top employment income tax rate and business marginal income tax rate for encouraging individuals to work more and to address the issue of vertical equity and dividend tax rate reduced to encourage private sectors to participate in share companies. Moreover, this helps in reducing the burden of tax to feel confer while taxpayers are paying their obligation to be committed to pay within the stated time and amount.

A number of factors may determine the tax compliance behavior negatively or positively so understanding these factors with related to taxpayers particularly; for example the cultural background of tax payers, their awareness level, compliance behavior and its determinants when designing a given tax system. Likewise, determinants of tax compliance especially financial constraints of taxpayers are not taking into account for their compliance behavior (Eckstein, 1979).

During the five year Ethiopia Growth and transformation plan (GTP) two period, domestic revenue (tax and non-tax revenue), including grant , is expected to reach ETB 310 bln by the end of the plan period, out of this, ETB 261.636 bln will be mobilized from tax revenue that is including all Ethiopian regions. In order to achieve the GTP two, it is necessary to take a in to consideration the study on the factors influencing taxpayer's compliance behavior in Eastern Zone of Tigray for those business profit taxpayers particularly category "C" who are not classified under the other two categories ("A" and "B"), which has an annual turnover is estimated by the Tax Authority as being up to Birr 100,000 (One hundred thousand Birr) (Ministry of Finance and Economic Development Ethiopia Nov., 2010).

To the best knowledge of the investigators, there is no research conducted on the factors that influencing taxpayer's compliance behavior so far in Eastern Zone of Tigray business income taxpayer's category 'C" and other related types of taxes. And the investigators observe, some of taxpayers are not eager to pay their obligations at specified time with stated amounts by the authority, so that this study hopes to answer the deemed perceptions of taxpayers.

The main objective of this study is to investigate the factors that influencing taxpayer's compliance behavior in Eastern Zone of Tigray Category "C" taxpayers.

The specific objectives of this study are follows:

i. To assess tax system structures with taxpayer's compliance behavior.
ii. To find out attitudes toward tax evasion with taxpayer's compliance behavior.
iii. To examine taxpayer's income level that effect on taxpayer's compliance behavior.
iv. To ascertain the influence of financial condition on taxpayer's compliance behavior.

v. To assess taxpayer's type of business occupation that has an effect on taxpayer's compliance behavior.
vi. To assess the effect of tax service quality on taxpayer's compliance behavior.

2. MATERIALS AND METHODS

2.1 Research Design

In order to achieve the objectives of the study, a descriptive research design with qualitative and quantitative approaches were used.

2.2 Data Sources, Type and Collection Methods

The study used both primary and secondary sources so as to obtain the primary and secondary data types respectively. Structured questionnaires and semi-structured interviews were used to collect the primary data from category "C" taxpayers' of each sampled woredas.

2.3 Sampling Design and Sample Size Determination

There are nine (09) towns in the eastern zone of the regional state of Tigray. In selecting towns to be included in this study, purposive sampling design was used. Towns had to have 1,000 or above registered category 'C' tax payers as of the end of year 2007 E.C. Hence, four (04) towns, namely, Adigrat, Wukro, Freweyni and Atsbi wenberta were selected and included in the study.

Moreover, as per the information obtained from National Regional State of Tigray Revenue Development Authority, there were 13,213 individual business profit category 'C' taxpayers in Eastern Zone of Tigray , from this 8,391 in Adigrat, Wukro, Freweyni and Atsbi wenberta towns as of the year 2007 E.C.

Thus, the sample size was determined according to the formula given by Yamane's (1967:886) as follows:

$$n = \frac{N}{1+N\,(e)\,2} \qquad \text{----Equ.1}$$

$$n = \frac{8{,}391}{1+8{,}391\,(0.05)\,2}$$

$$= \mathbf{380}$$

Where, 'N' indicates the population size, 'n' indicates the sample size and 'e' indicates the margin of error. In this study, a 5% margin of error was used. Accordingly, the sample size was determined to be approximately 380 shown in Table 1.

Table 1. Determination of sample size

Town	Population	Sample size
Adigrat	3,873	175
Wukro	1,848	84
Freweyni	1,500	68
Atsbi Wenberta	1,170	54
Total	**8,391**	**380**

2.4 Methods of Data Analysis and presentation

Ordered logistic regression models were run so as to test the hypotheses on the relationships between and among variables. In running the ordered logistic regression models, STAT SE 11 software was employed.

2.5 Research Hypotheses

H_O1: Tax payers' financial condition has no significant effect on tax compliance behavior.
$H_1$1: Tax payers' financial condition has significant effect on tax compliance behavior.
$H_0$2: Tax system/structure has no significant effect on tax compliance behavior.
$H_1$2: Tax system/structure has significant effect on tax compliance behavior.
$H_0$3: Tax payers' attitude has no significant effect on tax compliance behavior.
$H_1$3: Tax payers' attitude has significant effect on tax compliance behavior.
$H_0$4: Tax payers' income level has no significant effect on tax compliance behavior.
$H_1$4: Tax payers' income level has significant effect on tax compliance behavior.
$H_0$5: Tax payers' occupation type has no significant effect on tax compliance behavior.
$H_1$5: Tax payers' occupation type has significant effect on tax compliance behavior.
$H_0$6: Tax service quality has no significant effect on tax compliance behavior.
$H_1$6: Tax service quality has significant effect on tax compliance behavior.

2.6 Model Specification

To examine the factors that influencing tax payers' compliance behavior, the researchers had formulated the following general model:

$$Y_i = \beta_0 + \Sigma \beta_i X_i + \varepsilon_i$$

----Equ.2

Where: Yi are the ith observation of dependent variable (TC)
β0 is the intercept of the equation
βi are coefficients of Xi variables
Xi are the different independent variables
εi is the error term

Specifically, when the above general model is converted into the specified Variables of this study the following regression equations were run to measure the factors that influencing tax payers' compliance behavior.

$$TC\ i = \beta 0 + \beta 1(FC\ i) + \beta 2(TS\ i) + \beta 3(ATTE\ i) + \beta 4(IL\ i) + \beta 5(TO\ i) + \beta 6(TSQ\ i) + \varepsilon$$

----Equ.3

Where:
TC i = Tax compliance of observation i
FC i = Tax payers' financial condition of observation i
TS i = Tax system/structure of observation i
IL= Tax payers' income level of observation i
TO = Tax payers' type of occupation of observation i
TSQ= Tax service Quality of observation i

3. RESULTS AND DISCUSSION

3.1 Econometrics Analysis and Discussions

In addition to the descriptive analysis, this section of the study presents the results and discussions of the regression /econometrics analysis. So far the study had established a framework of literature and data analysis including descriptive statistics in order to investigate the factors that influencing tax payers' compliance behavior. In order to shed more light on the factors that influencing tax payers' compliance behavior, multiple regression models have been run, such as p-value, R-squares (R^2), adjusted R-square, significance test, beta coefficients using State version 11. In this study, the conceptual framework discussed in the earlier chapter guided the selection of the explanatory variables. The explanatory variables include in the first model i.e. main effect of tax service quality, attitude towards tax evasion, tax system structure, types of occupation, financial condition and noncompliance opportunities.

Thus, the data collected from 352-business profit taxpayers in category C taxpayers in Easter Zone of Tigray had been examined using a multiple regressions, simply a multiple regression which includes interaction terms as well as main effects. It fits tests, the estimates and tests of the interaction term are unaffected. There are three types of multiple regressions; each of them has motives to answer a different question: Standard multiple regressions utilize to evaluate the relationships between a set of independent variables and a dependent variable. Hierarchical regression employ to examine the relationships between a set of independent variables and a dependent variable, after controlling for the effects of some other independent variables on the dependent variable. In addition, Stepwise, or statistical, regression is used to identify the subset of independent variables that has the strongest relationship to a dependent variable. On this study, the researchers used hierarchical multiple regression since the purpose is to investigate the factors that influence tax compliance behavior in Easter Zone of Tigray.

The researchers used ordered Logistic regression analysis specifically; to analyze the relationship between dependent and independent variables. Since the dependent variable is Dummy, the appropriate econometric model for such variables is ordered Logistic regression model. The primary objectives in regression analysis are to find out how the average value of the dependent variable (or regressed) varies with the given value of the explanatory variable (or repressor). Before the regression analysis carried out, the assumptions of Spearman correlation matrix and in order to reduce the effect of multicollinearity, the variables has centered as suggested by Aiken and West (1991) as cited by Haile H.

To make the data ready for analysis and to get reliable output from the research different tests were run. In this study as mentioned in chapter three diagnostic tests were carried out to ensure that the data fits the basic assumptions of classical linear regression model. , i.e. the OLS assumptions, are fulfilled when the explanatory variables are regressed against the dependent variables.

Test results for the linear regression model assumptions applied properly. The Pearson correlation matrix shows that the correlation between and among each independent and dependent variable is not strong, suggesting multi-colinearity problems are either not severe or non-existent. Since as a general rule of thumb multi-collinearity is a problem when the correlation result is above 0.80 and below -0.80, but in this case, it is under 0.3229 and over -0.2545 as it can be seen in Table 2.

Variance inflating factor (VIF) was used to check for multi-colinearity problem among and between variables. VIF result shows that there is no perfect collinearity among and between variables because the VIF value is below 2.11, multi-collinearity can be a problem if and only if VIF value exceeds 10 as it can be seen below. The hettest was used to check whether there is hetroscedasticity problem or not and the ovtest was carried out to check whether there is any mistreated non-linearity in the data or not. As a result, the robust regression used to avoid the aforementioned problem in the data. The various goodness-of-fit measures validate that the model fits the data well. All are available also at the Appendix part.

Table 2. Shows that result of: ***Spearman, vif, Ramesy RESET test and Hereroskedasticity***

```
. *(7 variables, 352 observations pasted into data editor)

. spearman tcomp occupation income financial_condn tax_system attitude tax_servicequality
(obs=352)
```

	tcomp	occupa~n	income	financ~n	tax_sy~m	attitude	tax_se~y
tcomp	1.0000						
occupation	0.0768	1.0000					
income	0.0934	-0.0438	1.0000				
financial_~n	0.1143	-0.0213	0.2950	1.0000			
tax_system	0.0960	-0.0659	-0.2792	-0.0579	1.0000		
attitude	-0.0075	0.0155	-0.0277	0.1424	0.2206	1.0000	
tax_servic~y	0.0610	-0.0101	-0.0537	0.0917	0.1494	0.2383	1.0000

```
. estat vif
```

Variable	VIF	1/VIF
attitude	1.24	0.804443
tax_system	1.18	0.846085
income	1.18	0.850493
financial_~n	1.14	0.875200
tax_servic~y	1.12	0.891051
occupation	1.01	0.989496
Mean VIF	1.15	

```
. estat hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
        Ho: Constant variance
        Variables: fitted values of tcomp

        chi2(1)      =    0.28
        Prob > chi2  =   0.5981
```

```
. estat ovtest

Ramsey RESET test using powers of the fitted values of tcomp
      Ho:  model has no omitted variables
               F(3, 342) =      2.95
                Prob > F =      0.0328
```

3.1.1. Factors Influencing Tax payers' Compliance Behavior Using Multiple Regression

The factors that significantly contribute to influence go beyond the descriptive analysis and require employing econometric analysis. Multivariate econometric analysis helps us to identify factors that significantly influence the tax compliance behavior. As it discussed in the methodology parts of this study, a multiple regression model was used to identify the major factors influencing taxpayer's compliance behavior on the main effect by keeping interaction variable. The variables described in the descriptive analysis were used as explanatory variables in moderate multiple regression.

The researchers used tax compliance behavior as a dependent variable where by a value of 1 is given to somewhat compliance, 2 for moderate compliance and 3 fully compliance. The following table 3 shows that types, codes and values attached to each variable.

Table 3. Names, types, codes and values of the variables

Names	Types	Codes	Values
		Model 1	
Tax compliance	Dummy	TC2	If taxpayers somewhat1, moderate 2 and fully compliance 3: Here the researcher Decided to be 0 as of 1 and 2 which is non-compliant: and 1 as of 3 which is compliant.
Tax service quality	Scale	TSQ	Based on 1-5 likert scale strongly agree up to strongly disagree
Attitude towards tax evasion	Scale	ATTE	Based on 1-5 likert scale strongly agree up to strongly disagree
Tax system structure	Scale	TS	Based on 1-5 likert scale strongly agree up to strongly disagree
Types of Occupation	Categorical	TO	1,manufacturing 2, merchandise and trade 3,services
Income level	Categorical	IL	1,low level income 2, medium 3, Highe level of income
Financial Condition	Dummy	FC	Satisfaction on generating income for fulfillment their needs

Interaction in sign as well as R^2, adjusted R^2, p value and T values for comparison. Below table 4.9 shows the result of multiple regressions on the relationship between dependent and explanatory variables. Some explanatory variables in the model have the signs that conform to the researcher's prior expectations except a few variables especially in the model. The results of the multiple regressions presented in table 4.10 below. However, before the regressions, the study followed the suggestion of Aiken &West (1991) to center the continuous variables in order to reduce the effect of multicollinearity as cited by Haile H.(2013).

Table 3.2: Result of ordered logistic Regressions for the factors that influence tax compliance behavior

```
. ologit tcomp occupation income financial_condn tax_system attitude tax_servicequality

Iteration 0:   log likelihood = -331.11939
Iteration 1:   log likelihood = -322.11812
Iteration 2:   log likelihood = -322.02571
Iteration 3:   log likelihood = -322.02566
Iteration 4:   log likelihood = -322.02566

Ordered logistic regression                     Number of obs   =        352
                                                LR chi2(6)      =      18.19
                                                Prob > chi2     =     0.0058
Log likelihood = -322.02566                     Pseudo R2       =     0.0275

------------------------------------------------------------------------------
       tcomp |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
  occupation |   .2793588   .1368572     2.04   0.041     .0111235    .5475941
      income |   .5084052   .2700437     1.88   0.060    -.0208708    1.037681
financial_~n |   .3849183   .2323747     1.66   0.098    -.0705277    .8403643
  tax_system |   .3350911   .1313841     2.55   0.011     .0775831    .5925992
    attitude |  -.124842    .1434156    -0.87   0.384    -.4059314    .1562474
tax_servic~y |   .3386714   .2249988     1.51   0.132     -.102318    .7796609
-------------+----------------------------------------------------------------
       /cut1 |   1.089645   .9837897                     -.8385478    3.017837
       /cut2 |   4.019197    1.01058                      2.038497    5.999897
------------------------------------------------------------------------------
```

The above regression analysis result revealed that **tax system/structure** affects the tax payers' compliance behavior positively and significantly at 1 percent significance level, indicating a positive relationship between compliance behavior and tax system/structure. Bearing in mind of the report, the null hypothesis was that tax system/structure has no significant effect on tax compliance behavior. Since the (P-value) of the fitted value of tax system/structure is (.000) less than (.05), the null hypothesis is rejected. Thus, tax system/structure has a positive and significant effect on tax compliance behavior. Hence, the positive and significant coefficient of the tax system/structure gives support to the previous studies.

Turning to the other explanatory variables, the coefficient of the **tax payers' financial condition** is positive and significant at 10 percent significance level. This significant positive coefficient of tax payers' financial condition shows that, as the level of financial condition of the tax payers increases, the compliance behavior will also tend to increase.

The null hypothesis with this regard was that Tax payers' financial condition has no significant effect on tax compliance behavior. Since the (P-value) of the fitted value of financial condition is (.098) less than (.1), the null hypothesis is rejected. Thus, tax payers' financial condition has significant effect on tax compliance behavior. This result conforms to the previous findings which states that personal financial constraints are believed to have an impact on tax evasion as financial distress faced by an individual may encourage him to prioritize what has to be paid first as basic survival needs (foods, clothing, housing etc.) or where immediate demand on limited income is enforced (i.e. perceived threat of action from money lenders etc.) rather than tax liabilities.

In relation to ***the income***, it more related to financial condition and type of business occupation and it is positive and significant at 10 percent significance level. This significant positive coefficient of tax payers' income shows that, as the level of income of the tax payers increases, the compliance behavior will also tend to increase.

The null hypothesis with this regard was that Tax payers' income has no significant effect on tax compliance behavior. Since the (P-value) of the fitted value of income is (.06) less than (.1), the null hypothesis is rejected. Thus, tax payers' income has significant effect on tax compliance behavior.

Looking at the **type of occupation**, this explanatory variable affects the tax payers' compliance behavior positively and significantly at 5 percent significance level, indicating a positive relationship between compliance behavior and type of occupation. In relation with this variable, the null hypothesis was that tax payers' occupation type has no significant effect on tax compliance behavior. Since the (P-value) of the fitted value of type of occupation (.041) less than (.05), the null hypothesis is rejected. Thus, tax payers' occupation type has a positive and significant effect on tax compliance behavior. With regard to the other three explanatory variables (tax system/structure, tax payers' attitude and income level), the regression analysis result revealed that all the variables have a positive effect but not significantly. Hence, the null hypotheses are accepted.

3.2 Semi- structured Interview

Even though open-ended interview questions are difficult to data analysis, under this study the researcher used content analysis as data reduction techniques that have used extensively to pick out patterns like analysis of key words and phrases. The researcher, after all reading the comments that respondents have provides, and then gets feelings for what people are saying, and offer the following results.

The first question forwarded for respondents, was concerning their perception towards tax evasion, majority of the interviewee 75% responds as they have knowledge while understating income as well overstating income is violating the rules and regulations of tax authority and in case it would have enforcement to pay with punishments. Whereas, 25 percent of the respondents respond if they had get the way as they do it. Having knowledge of the benefits of levying tax-to-tax authority, more than half of the interviewee expresses their perception negatively towards tax evasion. With questions

regarding whether those taxpayers defend other people who evade taxes because of different reasons they respond as they do as well for reasonable aspects since it hinders the government's proper functioning.

The respondents selected via random sampling for the purpose was six from category "C" and the remaining three and one from category "B" and "A" correspondingly. As a result, the former categories respond even if they have positive thinking on timely payment and following the rule and regulations, sometimes intentionally they made defaults that makes them to delay to pay the required amount as a reason due to high burden of tax. As they responded, lastly they lead them to appeal. Furthermore, on the other side under "B" and "A" as they have a reservation on tax system and they believed as they were paying taxes more than others compare to informal business. Except in this case, in other way they described as they governed by the tax authorities rules and regulations like reporting actual income, claiming real deductions, fill return and timely payments with the exception of time limitation to submit the report.

Concerning perceptions of tax system structure, that interviewee replied on the key elements like on tax return forms difficulty to understand, complexity of tax system, bulkiness of tax rules, a need of assistance due to unfair and unclear treatment of tax system, not legitimate way to collect revenue and manage an economy and lastly heaviness of tax burden. More than half 50% of the interviewee responds on the above point that all exits in the current tax system structure except tax system provides a legitimate way to collect revenue and manage an economy. Whereas 40% all items exist in the business profit tax system.

Besides the above-mentioned ideas, survey respondents were also given the opportunity to comment on the tax knowledge and training regarding issue of tax. Accordingly, the respondents replied different responses. Moreover, this summarized as, 40 percent of the respondents have a knowledge how to compute, why and when business tax profit are paying and have get a chance of training in 2007 E.C two wise a year. While 60 percent, of the respondents were respond half of them have knowledge on the above stated and the remaining have no knowledge and did not get training on the tax issues.

Concerning financial constraints, business profit taxpayers respond 25 percent of the interviewee was satisfied with their financial condition after covering personal expenditure and liabilities that were not permitted for deduction by the tax authority and the other 75 percent reveals have financial constraints. Lastly questions forwarded on income level, sources of income and types of occupation they involved. Moreover, 25% of the respondents incorporated in middle-income level and the remaining lower income level and all were self-employed. In addition, all interviewee participates in non-professional occupation.

4. CONCLUSION AND RECOMMENDATION

The relationship between the dependent and independent variable that found in descriptive statistics properly tested using an extended econometric model that includes; tax service quality, tax system structure; attitude towards tax evasion; financial condition, occupation, and non-compliance opportunity/income factors. The substantiation from the study shows that all of them positively affect the tax compliance except attitude. The evidence from the study shows that taxpayers' tax service quality, financial condition, tax system/structure and occupation had a strongly (positive and significant) effect on tax compliance behavior.

As the analysis shown, particularly interview and observation most of them know benefits of paying tax, as a result they have negative attitude towards tax evasion. More of them they don't satisfied as they expected in the overall service quality that are provided by tax officials.

The findings of this study have some interested implications, this study demonstrates the importance of the factors that influence tax compliance behavior, that is the effect cannot be undervalue theoretically and the findings have provided proof in support of the suggestion from the literature.

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