

ASSESSMENT OF TAX PAYMENT AND COLLECTION PROBLEMS IN JIMMA ZONE, ETHIOPIA

Mengistu Deyassa DADI,

Jimma University, Ethiopia

Sintayehu Tulu WONDIMU,

Jimma University, Ethiopia

Mathewos Woldemariam BIRRU

Jimma University, Ethiopia

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Abstract

The study was attempted to assess problems associated with taxpayers and the revenue authority of Ethiopia case of Jimma Zone, Oromiya regional state. To address research objectives, the researchers were used survey data collected through questionnaires, and the collected data were analyzed with the aid of statistical software, ordered logistic regression model. The study used tax collection as dependent variable, and those taxpayers delay declaration, tax fairness and equity, corruption and political instability, organizational strength of the tax authority, tax payer's awareness, mode of tax collection, and starting a business without a license as independent variables. The findings of the study revealed that independent variables corruption, political instability, organizational strength of the tax authority, tax fairness, and modes of tax collection has a significant relationship with tax collection. It indicates that these variables have an impact on the collection of taxes. On the other hand, other variables, taxpayers' delay on the declaration, taxpayers' awareness, and starting a business without license shows no significant relationship. Researchers recommended that to improve tax collection the tax authority should develop strategies to aware tax payers in the community.

Keywords: Taxpayers, Tax authority, Taxation, Tax collection

JEL Classification: H7, H25, H26 & H27

1. Introduction

Governments, all over the world have started several public projects, such as social security, Protection and other services of public utilities like electricity, water supply, railways, heavy electricity, atomic energy, and so on. To provide social amenities in the form of education, health and sanitation facilities and public utilities, the government requires adequate revenue. Tax is one of the most important sources of revenue for every government. Taxes are compulsory contributions imposed by the government on its citizens to meet its general expenses incurred for the common good, without any corresponding benefits to the taxpayer. (Elke S. , 2010)

As cited by (Tamunonimim N and A.Masa, 2012) Tax is a compulsory payment made on different basis and rates by citizens (corporate bodies and individuals) to government, non - negotiable but obligatorily. This payment is not based on direct exchange for the payment for goods and services. It is non - negotiable because none of the citizens has any direct contribution to the composition of the basis and rates of payment. Government only classifies the items on which the tax is to be paid, and the category of citizens that should be subjected to the payment (Ariwodola, 2005). The decision is however, based on the cost of the projects or programs government intends to execute, which is the principal determinant of the budget - size. Government also judges the basis, rates, category of citizens, and the time period to pay the tax, on the direction of the economy desired and government's perception of the standard of living of the citizens. This is why tax is defined as a tool for government revenue and fiscal policy tool for directing the economy. Taxes are not paid directly based on exchange contract like any other

payments except subsidies paid by government. Any citizen pays it whether or not the citizen benefits from the government projects and programs financed by the taxes (Rosen, 2004).

Taxation is a universal concept to forms the central pillars around the civilization has been built; plays a critical role in society and has the capacity to affect the lives of everyone. Tax is a payment required by a government that is unrelated to any specific benefit or service received from the government. The general purpose of a tax is to fund the operations of the government it means to raise revenues for the government expenditures. Taxes differ from fines and penalties in those taxes are not intended to punish or prevent illegal behavior. Most of the authors' in their definition as a key components of taxes they incorporates a payment is required involuntary, imposed with a government agency likes federal, state, or local governments and taxpayer not tied to receive of any benefits due to paying taxes. So, primarily the meaning of "taxation" is raising money for the purposes of government by means of contributions from the individual persons (Brian C. S. , 2018)

Taxation is the backbone for the developed and developing countries to generate revenue for government even though the revenue mobilization made in developed and developing countries in some extent may have the difference and their differences is probably feasible. Overall, the revenue obtained probably taken as a sources for financing public projects or goods. (Timothy B & Torsten P, 2013)

Taxes are necessary to overcome the free riding inherent in the financing of public goods, to control market imperfections, and to achieve social justice through redistribution. Economic growth (efficiency) is promoted by the first set of goals, whereas social justice (equity) is promoted by redistribution and the provision of public and merit goods. Goals of promoting economic growth and social justice are shared by developed and developing countries even though a number of differences between developed and developing countries; one of the difference may be on tax designs. These differences include variations in industry and size of administrative and compliance costs, in the levels of corruption, in the levels of monetization in the economy, in political constraints, and in the relative size of the informal economy (Avi-Yonah, & Reuven S., 2007)

According to (Elke S. , 2010) tax systems in many developing countries are characterized by tax structures being not in line with international standards, by lack of tax policy management, low compliance levels and inappropriate capacities in tax administration that make the government to collect tax below the planned. When we compared the developed and developing countries taxation, most of the developed countries are characterized with a broad base for the direct and indirect taxes with tax liability covering the vast majority of citizens and firms; where as in developing countries were confronted with social, political and administrative difficulties in establishing a sound public finance system. As a result, developing countries are vulnerable to tax evasion and avoidance activities of individual taxpayers and corporations. This may be considered as a reasons for large differences in the ability to mobilize own resources between developed and developing countries (GIZ, 2010)

As to (Pius V. C. Okoye and Raymond E, 2014) developing countries receive a very low amount of revenue from taxation because these countries face a number of institutional problems in the process of revenue generation like tax evasion and corruption of public officials in tax administration that can significantly reduce tax revenue and seriously hurts economic growth and economic development and unstable and shifting behaviors of government, which hinders the process of long-term reforms in the system.

1.1 Problem Statement

The government expenditure on the gross domestic product (GDP) is higher in developed than developing countries. Comparatively the developing countries typically collect taxes of between 10 to 20 percent of GDP, while the developed countries are more like 40 percent. Even though; the costs of corruption, administration, and compliance are much greater in developing countries (Timothy & Torsten, 2014). In recent years, domestic revenue mobilization in developing countries has gained increasing prominence in the policy debate. Currently in international, level the priority issue given for taxation. As a policy, there is debate to taxation after decades of living in a shadow economy at least for five reasons. These are state building, long term independence from foreign assistance and the shifting aid paradigm, the fiscal effects of trade liberalization, the increased prominence of fiscal issues in the "West" due to the financial and debt crisis, and the continuing acute financial needs of developing countries (Giulia & Mick, 2014).

Taxation is the earliest and most prevalent form of government interference with the economic life of individuals and business enterprises. It is a process whereby charges are imposed on individuals or property by the legislative branch of the federal government and by many state governments to raise funds for public purposes. The government has the right to impose tax on the operating business and collect the tax return from the business. The

tax collected from operating business has importance in the raising of revenue for federal government and providing incentives type of economic areas (Yohannes M & Sisay B, 2009).

The right of the chief authority to collect taxes, and the general policy which determines who is to be taxed, how much the tax shall be, and for what purposes it shall be levied has always been a controversial issue. Since it is a burden no one wants to take it, Government in a given country should design appropriate tax system to allocate tax burden between different sections of the society. A good tax system should not affect the ability and willingness of the people to work, save and invest. If not, it would affect the development of trade and industry and the economy as a whole (Ramaswami P, 2005).

According to the current amended federal income tax proclamation no.-979/2016 taxpayers are categorized into three categories, namely category “A”, “B”, and “C” based on their volume of sales and form of business. Category “A” includes any company incorporated under the tax law of Ethiopia or foreign country and any other person having an annual gross income of Birr 1,000,000 or more. Category “A” taxpayers are required to submit to tax authority at the end of fiscal year a financial position statement and a profit and loss statement. Category ‘B’ taxpayer being a person, other than a Company, having an annual gross income of Birr 500,000 or more but less than 1,000,000. These categories of taxpayers must submit profit and loss statement at the end of the year. The law requires all entries in the records and accounts to be supported by appropriate vouchers (Council of Ministers Regulation no. 78/2002: Article 18, Sub Article 2). Category ‘C’ unless already classified in categories ‘A’ and ‘B’ include those taxpayers being a person other than a Company, having an annual gross income of less than Birr 500,000. Unlike the case for category “A” and “B” tax payers, the income tax liability of Category ‘C’ taxpayers is determined using standard assessment. This type of assessment is a fixed amount of tax determined in accordance with the Council of Ministers Regulation established Schedules. In this regard, this category of taxpayers is the most problematic category of taxpayers and it is considered as hard to tax. This is because these taxpayers pay taxes at fixed rate on the income estimated by the income tax authority rather than declaring their income by themselves. Assessment committee estimates their daily income and the taxpayers have little room to address their view so that frequent friction is observed in this area (Lemessa, 2007). Taken in to considerations the above issues this research intends to assess problems related to taxpayers and tax authority regarding payment and appropriate collection.

1.2. Objectives of the Study

The main objective of the study was to assess problems related to taxpayers and tax authority. Specifically, aims to investigate the relationship of taxpayers’ delay of declaration, corruption and political instability, organizational strength of the tax authority, taxpayers’ awareness, starting business without license, tax fairness and modes of tax collection and tax collection.

1.3. Research Hypotheses

The following research hypothesis were driven by the researchers for the study on assessment of problems associated with taxpayers and revenue authority

- H1. There is significant relationship between tax payers’ delay of declaration and tax collection.
- H2. There is significant relationship between corruption and political instability and tax collection.
- H3. There is significant relationship between organizational strength of the tax authority and tax collection.
- H4. There is significant relationship between taxpayers’ awareness and tax collection.
- H5. There is significant relationship between starting business without license and tax collection
- H6. There is significant relationship between tax fairness and tax collection.
- H7. There is significant relationship between modes of tax collection and collection of tax

2. Data and Methods

2.1. Research Design

Research design provides the glue that holds the research project together. A design would be used to structure the research, to show how all of the major parts of the research project - the samples or groups, measures, treatments or programs, and methods of assignment - work together to try to address the central research questions (Wouldiam, 2006). This study focus on assessing the problems associated with taxpayers and revenue authority. To this effect,

descriptive survey method was employed with the assumption that it can help to describe the tax system practice in Ethiopia.

2.2 Sources of Data and Methods of Data Collection

The study was used primary data. The primary data sources were collected by using self-administered questionnaires. The questionnaires were comprised of both closed and open-ended questions. Open-ended questions were used to allow the respondents to write their opinions without restrictions and to include ideas that might not been indicated in the questionnaires. In addition to open-ended questions, the researchers would also use closed-ended questions, which are designed as scale measurement base using five-point Likert-type Scaling. The scaling was (1) represent strongly disagree, (2) disagree, (3) neutral, (4) agree, and (5) strongly agree. Thus, the variables can be scaled to measure the degree of their agreement or the disagreement of the respondents, which the variables can be elicited. Close-ended questions are included in the questionnaire in order to obtain a high response rate. Further, close-ended questions are quicker and easier both for respondents and for researcher. Indeed, in the engagement of the researches' mainly primary data, collection methods would be used and this is because the study needs the respondents' opinion or response regarding the issue to be investigated.

2.3. Target Population, Sample Size and Sampling Technique

The target population of these studies would be different groups of taxpayers of the Jimma Zone, Currently in Jimma Zone 22 District are available includes the Jimma City administration. According to the information of the Zone revenue office in total 30,783 taxpayers presently available i.e., Group A taxpayers' are equal to1, 606 ,Group B taxpayers' are equal to 1,424 and Group C taxpayers' are equal to 27,753.

In determination of sample size the researchers could taken into an account of the three criteria, usually would be need to be specified to determine the appropriate sample size: level of precision, level of confidence or risk, and degree of variability in the attributes being measured (Miaoulis and Michener, 1976) and also for populations that are large, Cochran (1963:75) developed the equation to yield a representative sample for proportions.

$$n_0 = \frac{Z^2 pq}{e^2}$$

Where: sample size Z2 abscissa of normal an area α at the tails ($1-\alpha$ equals the desired confidence level 95%), e is desired level of precision, p estimated proportion of an attribute i.e., presented in target population, and q is 1-p.

The above sample size equation provides somehow large sample size to our studies even though to minimize the sample size and to access proportionately more information from small sample we have adjust the sample size with as followed equation.

$$n = \frac{n_0}{1 + \frac{(n_0 - 1)}{N}}$$

Where: n sample size, N target population

In sample section from selected District we have, used multi-stage sampling technique would be used to select sample size of each study. Then, a proportional random sampling method was employed to select the sample taxpayers from each stratum.

Sample size determination for the study would be as followed;

$$n_0 = \frac{Z^2 pq}{e^2}$$

$$n_0 = \frac{(1.96)^2 (0.5)(0.5)}{(0.05)^2} = 385$$

Then sample size of the would be adjusted as follows

$$n = \frac{n_0}{1 + \frac{(n_0-1)}{N}}$$

$$n = \frac{385}{1 + \frac{(385-1)}{30,783}} = 380$$

From 22 Districts' of Jimma Zone the researchers would select 10 Districts' whom pays large tax in relative to other unselected District from each category A, B and C purposively. According to the data of taxpayers of each District, the researcher takes in to account for those who have 1000 and above taxpayers. The sample size selection of each category would be made proportionally with the determined sample size.

Table 1 Sample Size of the Study

| S. No. | Selected District | Target Population | | | | Sample Size | | |
|--------|-------------------|-------------------|-----|------|------------------|-------------|----|-----|
| | | A | B | C | Total target pop | A | B | C |
| 1. | GOMMAA | 38 | 34 | 1684 | 1756 | 1 | 1 | 29 |
| 2. | B/M/AGGAAROO | 196 | 161 | 1493 | 1850 | 3 | 3 | 25 |
| 3. | LIMMUU KOSAA | 158 | 51 | 1925 | 2134 | 3 | 3 | 33 |
| 4. | LIMMUU SEQAA | 36 | 20 | 1300 | 1356 | 1 | 1 | 22 |
| 5. | MAANNAA | 56 | 25 | 1057 | 1138 | 1 | 1 | 18 |
| 6. | OMOO NADDAA | 19 | 54 | 1291 | 1364 | 1 | 1 | 22 |
| 7. | S/COQORSAA | 31 | 31 | 1160 | 1222 | 1 | 1 | 20 |
| 8. | SH/SOMBOO | 42 | 23 | 1021 | 1225 | 1 | 1 | 17 |
| 9. | SOKKORUU | 30 | 61 | 1432 | 1523 | 1 | 1 | 24 |
| 10. | JIMMA CITY | 861 | 772 | 6915 | 8548 | 14 | 13 | 119 |
| | Total | 380 | | | | | | |

Source: Jimma Zone revenue office

2.4. Methods of Data Analysis

Researchers were used descriptive statistics to analyze the collected data with the aid of Statistical software. Accordingly, frequencies, percentages, mean and standard deviation was used to analyze the quantitative data. In addition to the descriptive statistics, the econometric analysis tool that is ordered logistic models would be employed.

2.5. Model Specification: Ordered Logistic Regression Model (Ologit)

When the outcome variable is ordinal and the relative ordering of response values is known and have the exact distance between them then the most popular method is the ordered logistic regression model, which is also known as the proportional odds model(Williams, 2016). Unfortunately, experience suggests that the assumptions of the ordered logistic model are frequently violated indicated the situations most of experts studies as (Long &Freese, 2014), cited in (Williams, 2016).

The ordered logistic model is a regression model for ordinal response variables. The model is based on the cumulative probabilities of the response variable: in particular, the logistic of each cumulative probability is assumed

to be a linear function of the covariates with regression coefficients constant across response categories (Michaels, 1989). It is tempting to analyze ordinal outcomes with the linear regression model, assuming equal distances between categories. However, this approach has several drawbacks which are well known in literature as (McKelvey and Zavoina, 1975; Winship and Mare, 1984; Lu, 1999), cited in (Michaels, 1989). When the response variable of interest is ordinal, it is advisable to use a specific model known as the *ordered logit model*.

Questions relating to the assessment of problems related to taxpayers and tax authority are usually ordinal in nature. Under this study, the ordered logistic model would be used to estimate the relationships between ordinal responses on the assessment of problems related to taxpayers and tax authority and selected exogenous variables of the study. The collected responses are categorical as well as ordered them sequential from the small magnitude to the large magnitude with setting an equal distance between each other's, the responses expressed as strongly disagree [1], disagree [2], agree [3] and strongly agree [4].

Let Y_i be an ordinal response variable with C categories for the i -th subject, alongside with a vector of covariates X_i . A regression model establishes a relationship between the covariates and the set of probabilities of the categories $p_{ci} = \Pr(Y_i = y_c | X_i)$, $c = 1, \dots, C$. Usually, regression models for ordinal responses are not expressed in terms of probabilities of the categories, but they refer to convenient one-to-one transformations, such as the cumulative probabilities of $g_{ci} = \Pr(Y_i \leq y_c | X_i)$, $c = 1, \dots, C$. Note that the last cumulative probability is necessarily equal to 1, so the model specifies only $C - 1$ cumulative probabilities.

An ordered logistic model for an ordinal response Y_i with C categories is defined by a set of $C - 1$ equations where the cumulative probabilities $g_{ci} = \Pr(Y_i \leq y_c | X_i)$ are related to a linear predictor $\beta'X_i = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \dots$ through the logit function:

$$\text{logit}(g_{ci}) = \log\left(\frac{g_{ci}}{1-g_{ci}}\right) = \alpha_c - \beta'X_i, c = 1, 2, \dots, C - 1. \quad (1)$$

The parameters α_c , called *thresholds* or *cut-points*, are in increasing order ($\alpha_1 < \alpha_2 < \dots < \alpha_{C-1}$). It is not possible to simultaneously estimate the overall intercept β_0 and all the $C - 1$ thresholds: in fact, adding an arbitrary constant to the overall intercept β_0 can be counteracted by adding the same constant to each threshold α_c . This identification problem is usually solved by either omitting the overall constant from the linear predictor (i.e. $\beta_0 = 0$) or fixing the first threshold to zero (i.e. $\alpha_1 = 0$).

The vector of the slopes β is not indexed by the category index C , thus, the effects of the covariates are constant across response categories. This feature is called the *parallel regression assumption*: indeed, plotting $\text{logit}(g_{ci})$ against a covariate yields $C - 1$ parallel lines or parallel curves in case of a non-linear specification. In model (1) the minus before β implies that increasing a covariate with a positive slope is associated with a shift towards the right-end of the response scale, namely a rise of the probabilities of the higher categories. Some authors write the model with a plus before β : in that case, the interpretation of the effects of the covariates is reversed.

From equation (1), the cumulative probability for category c is

$$g_{ci} = \frac{\exp(\alpha_c - \beta'X_i)}{1 + [\exp(\alpha_c - \beta'X_i)]} = 1 / (1 + \exp(-\alpha_c + \beta'X_i))$$

The ordered logistic model is also known as the *proportional odds model* because the parallel regression assumption implies the proportionality of the odds of not exceeding the c -th category $\text{odds}_{ci} = g_{ci} / (1 - g_{ci})$: in fact, the ratio of these odds for two units, say i and j , is $\frac{\text{odds}_{ci}}{\text{odds}_{cj}} = \exp[\beta'(X_j - X_i)]$, which does not depend on c and thus it is constant across response categories.

3. Results and Discussion

This part of the paper presents results and discussions. It is structured as follows: First, analysis of the descriptive statistics of the variables. Second, tests of the model, third, interpretation of the model and finally tests of hypothesis.

3.1. Description of Categories of Taxpayers

Table 2 Category of Respondents

| Category of taxpayers | Freq. | Percent | Cum. |
|-----------------------|-------|---------|-------|
| Category A | 28 | 7.37 | 7.37 |
| Category B | 26 | 6.84 | 14.21 |
| Category C | 326 | 85.79 | 100 |
| Total | 380 | 100 | |

Source: Survey collected data in 2019

As shown on the above table, the total numbers of the respondents are 380 from ten woredas in Jimma zone. Namely, Gomma, Agaro, Limu Kosa, Manna, Omo Nada, Seka chekorsa, Shabe Sombo, Sokoru and Jimma town. Category “A” taxpayers are those taxpayers whose annual turnover is greater than birr 1,000,000 (one million birr) the number of the respondents selected from the above mentioned woredas for this category was 28 which means 7.37 percent, category “B” taxpayers are those taxpayers whose annual turnover is in between birr 500,000 (five hundred thousands) up to birr 1,000,000 (one million) the number of respondents from this category is 26 which means 6.84 percent. And category “C” taxpayers are those whose annual turnover is below birr 500,000 (five hundred thousands) the number of respondents from this category was 326 which means 85.79 percent. This number is large when compared with category A and B, because most of the taxpayers in the zone are from this category.

3.2. Descriptive Statistics Analysis of Dependent and Independent Variables of the Study

The dependent and independent variables would be described their statistical natures expressed with the support of statistical software as follows. To undertake the analysis the researchers concentrated on the frequency distributions, percentage, mean and its standard deviations.

Table 3 Summary of Dependent Variable Responses

| Tax collection | Frequency | Percent | Cum. |
|----------------|-----------|---------|-------|
| 1 | 24 | 6.32 | 6.32 |
| 2 | 59 | 15.53 | 21.84 |
| 3 | 101 | 26.58 | 48.42 |
| 4 | 196 | 51.58 | 100 |
| Total | 380 | 100 | |

Source: Survey collected data in 2019

Table 3 indicates that the dependent variable responses from the sampled respondents of the study. According to the above stated table, respondents that respond strongly disagree which is represented by number 1 would be equal to 24(i.e., 6.32%), those who respond disagree which is represented by number 2 were 59(i.e., 15.53%), agree which is represented by number 3 were 101(i.e., 26.58%) and also strongly agree which is represented by number 4 were 196(i.e., 51.58%). This statistic results implied that most of the respondents would be responded agrees and strongly agree on tax collection.

Table 4 Summary of Variables of the Study (Dependent and Independent)

| Variables | Obs. | Mean | Std.Dev | Min | Max |
|--------------------------------|------|----------|-----------|-----------|----------|
| Tax collection | 380 | 3.234211 | 0.9333392 | 1 | 4 |
| Taxpayers delay | 380 | 3.322556 | 0.3388831 | 2.4248571 | 3.857143 |
| Corruption | 380 | 3.256842 | 0.4889605 | 2.2 | 4.2 |
| Organizational strength | 380 | 3.076316 | 0.4763693 | 2 | 3.875 |
| Awareness of taxpayers | 380 | 3.128947 | 0.5082533 | 1.833333 | 4.333333 |
| Tax fairness | 380 | 3.334211 | 0.5050674 | 2 | 4.75 |
| Start business without license | 380 | 3.101974 | 0.7128874 | 2 | 4.5 |
| Modes of tax collection | 380 | 3.275439 | 0.7216826 | 1.666667 | 5 |

Source: Survey collected data in 2019

Table 4, shows that the dependent and independent variables of the study. The dependent variable that is, tax collection would be categorical in nature. The independent variables would be expected an influence on tax collection. The survey data collected from the sample of 380 respondents were ranged with the likerted scales, which means from strongly disagrees to strongly agree categories. In this basis, the maximum and minimum values stated for each of the dependent and independent variables were expressed. In addition to these the above table also indicates that the mean and standard deviations of each dependent and independent variables of the study.

The expected value of the dependent variable, known as tax collection is closed to 3.234 and its standard deviation closed to 0.933. This figure implies that the sample respondents were gave the responses in between agree and strongly agree categorical scales. Even though some of the respondents out of the sample respondents would be give, the responses below agree categories probably strongly disagree and disagree due to that we have observed the deviation of 0.933 from the expected values.

The expected values of the independent variables namely, taxpayers delay on declaration, corruption and political instability, organizational strength of the authority, taxpayer's awareness, starting business without license, tax fairness and modes of tax collection would be stated in the above table for all of them. The expected value of taxpayers would be equal to 3.322 from the given responses of the sample respondents and the standard deviation equal to 0.338. The expected value of the corruption and political instability would be equal to 3.25 from the given responses of the sample respondents whereas the standard deviation equal to 0.488. The expected value of organizational strength of the authority would be equal to 3.07 and the standard deviation would be equal to 0.476. The expected values of taxpayers' awareness, tax fairness, starting business without having license and modes of tax collection would be 3.12, 3.334, 3.101 and 3.275 respectively. In addition, their standard deviations would be 0.508, 0.505, 0.7128 and 0.721. The selected independent variables such as taxpayers delay on declaration, corruption and political instability, organizational strength of the authority, tax payer's awareness, starting business without license, tax fairness and modes of tax collection would be ready to undertaken the data analysis with the support of the econometrics model. According to the measures of the central tendency, especially the mean values and standard deviations indicate that the distributions of the data would be concentrated to the center and their standard deviation indicates that the data distributions closed to the center.

3.3. The Econometrics Model Tests (Ologit)

Chi-square tests help to know the associations between the dependent variable and independent variables.

1. The chi-square tests show that between tax collection and taxpayers delay is resulted in the Pearson chi-square would be 276.5757 and its Probability would be equal to 0.000. This result indicates that there is an association between the outcome and independent variables.
2. The chi-square tests show that between the tax collection and corruption and political instability is resulted in the Pearson chi-square would be equal to 535.9315 and its Probability would be equal to 0.000. According to this test, there is an association between the outcome and independent variables.
3. The chi-square tests show that between tax collection and organizational strength of the authority the Pearson chi-square would be equal to 555.9802 and its Probability would be equal to 0.000. This result shows the association between the variables.
4. The chi-square tests show that between tax collection and awareness of taxpayers is resulted as the Pearson chi-square would be equal to 425.0605 and its Probability 0.000. This result indicates that there is an association between the outcome and independent variables.
5. The chi-square tests show that between tax collection and tax fairness is resulted as the Pearson chi-square would be equal to 168.4779 and its Probability would be equal to 0.000. This result indicates that there is an association between the outcome and independent variables.
6. The chi-square tests show that between tax collection and starting business without license is resulted as the Pearson chi-square would be equal to 258.2292 and its Probability would be equal to 0.000. This result indicates that there is an association between the outcome and independent variables.
7. The chi-square tests show that between tax collection and modes of tax collection is resulted as the Pearson chi-square would be equal to 250.1718 and its Probability would be equal to 0.000. This result indicates that there is an association between the outcome and independent variables.

According to the chi-squares tests of each independent variables with the dependent variable we have observed the presence of an associations between the studied variables, that is, the outcome variable and independent variables. The p-values from each dependent and independent variables chi-square tests would be less than 0.05 or the value of alpha. These situations would be suggested that an accepting of the research hypothesis and in another direction it required to rejects the null hypothesis.

| | | | | |
|-----------------------------|-----|------------|---|---------------------|
| Iteration 0: | log | likelihood | = | -439.77943 |
| Iteration 1: | log | likelihood | = | -296.90378 |
| Iteration 2: | log | likelihood | = | -272.20569 |
| Iteration 3: | log | likelihood | = | -271.41132 |
| Iteration 4: | log | likelihood | = | -271.40802 |
| Iteration 5: | log | likelihood | = | -271.40802 |
| Ordered logistic regression | | | | Number of obs = 380 |
| | | | | LR chi2(7) = 336.74 |
| | | | | Prob> chi2 = 0.0000 |
| Log likelihood = -271.73718 | | | | Pseudo R2 = 0.3829 |

Table 5 Ordered Logit Model Out put

| Tax collection | Coef. | Std.Err. | Z | P> z | [95% Conf. | Interval] |
|--|-----------|-----------|-------|-------|------------|-----------|
| Taxpayers delay | 0.5673717 | 0.4378049 | 1.30 | 0.195 | -0.2907101 | 1.425454 |
| Corruption | 4.108721 | 0.4454913 | 9.22 | 0.000 | 3.235575 | 4.981868 |
| Organizational strength of the authority | 1.930508 | 0.5322645 | 3.63 | 0.000 | 0.8872885 | 2.973727 |
| Awareness of taxpayers | 0.1095662 | 0.3158881 | 0.35 | 0.729 | -0.5095631 | 0.7286956 |
| Tax fairness | -3.01705 | 0.5591336 | -5.40 | 0.000 | -4.112932 | -1.921168 |

| | | | | | | |
|--------------------------------|------------|-----------|-------|-------|-----------|-----------|
| Start business without license | -0.2540865 | 0.4030733 | -0.63 | 0.528 | -1.044096 | 0.5359227 |
| Modes of tax collection | 3.493214 | 0.3671363 | 9.51 | 0.000 | 2.77364 | 4.212788 |
| Cut1 | 16.76613 | 2.459107 | | | 11.94637 | 21.58589 |
| Cut2 | 19.53605 | 2.519167 | | | 14.59857 | 24.47352 |
| Cut3 | 22.13057 | 2.612337 | | | 17.01049 | 27.25066 |

Source; STATA output, 2019

3.4. Interpretations of Econometrics Model Output

Ordered logistic Model interpretations with the Coefficients

Iteration Log: This is a listing of the log likelihoods at each iteration. Remember that ordered logistic regression, like binary and multinomial logistic regression, uses maximum likelihood estimation, which is an iterative procedure. The first iteration (called iteration 0) is the log likelihood of the “null” or “empty” model; that is, a model with no predictors. At the next iteration, the predictor(s) are included in the model. At each iteration, the log likelihood increases because the goal is to maximize the log likelihood. When the difference between successive iterations is very small, the model is said to have “converged”, the iterating stops, and the results are displayed, that is converged to -271.40802.

Table 6 Model Summary

| | |
|-----------------------------|---------------------|
| Ordered logistic regression | Number of obs = 380 |
| | LR Chi2(7) = 336.74 |
| | Prob> chi2 = 0.0000 |
| Log likelihood = -271.73718 | Pseudo R2 = 0.3829 |

Source; STATA Output, 2019

Number of obs: As shown on table 4.5, the number of observations was used in the ordered logistic regression. The number of observation was 380. It may be less than the number of cases in the data set if there are missing values for some variables in the equation. By default, Stata does a list wise deletion of incomplete cases.

LR Chi2(7): This is the Likelihood Ratio(LR) Chi-Square test that at least one of the predictors’ regression coefficient is not equal to zero in the model. The number in the parenthesis indicates the degree of freedom of the Chi-square distribution used to test the LR Chi-Square statistics and defined by the number of predictors in the model. The LR Chi-square statistics can be calculated by $-2(L(\text{null model}) - L(\text{fitted model})) = -2[(-439.77943) - (-271.40802)] = 336.74$. Where L (null model) is from the log likelihood with just the response variable in the model (Iteration 0) and L (fitted model) is the log likelihood from the final iteration (assuming the model converged) with all the parameters. In general speaking the LR Chi2 (7) shows that models fits the data well as compared to the null hypothesis

Pro > Chi2: This is the probability of getting a LR test statistics as extreme as, or more so, than the observed under the null hypothesis is that all of the regression coefficients in the model are equal to zero. In other words, this is the probability of obtaining this Chi-square statistics (336.74) if there is in fact no effect of the predictor variables. This p-value is compared to a specified alpha level, thus to accept type I error, which is typically set at 0.05 or 0.01. The small p-value from the LR test, <0.0001, would lead us to conclude that a least one of the regression coefficients in the model is not equal to zero. The parameter of the Chi-square distribution used to test the null hypothesis is defined by the degree of freedom in the prior line, chi2 (7). The p-value indicates there is a highly significant, and tells us that taxpayers delay of declaration, corruption and political instability, strength of the tax authority, awareness of the taxpayers, tax fairness, start business without trade license and modes of tax collection would have a significant effect on tax collection.

Pseudo R²: This is McFadden’s Pseudo R-squared Logistic regression does not have an equivalent to the R-square that is found in OLS regression. Then the value of McFadden R² (aka pseudo R²) would be computed as follows; McFadden R² (aka pseudo R²) is

$$Pseudo R^2 = \frac{Model LR Chi2}{DEV_0} = \frac{336.74}{879.55886} = 0.3828$$

(Remember, $DEV_0 = -2 * LL_0 = -2 * -439.77943 = 879.55886$)

According to the above expressions the Pseudo R² of the model output as well as the computed values of Pseudo R² with an equations we would obtain the identical values.

Table 7 Summary of Parameter Estimates

| Tax collection | Coef. | Std.Err. | Z | P> z | [95% Conf. Interval] |
|--|------------|-----------|-------|-------|----------------------|
| Taxpayers delay | 0.5673717 | 0.4378049 | 1.30 | 0.195 | -0.2907101 1.425454 |
| Corruption | 4.108721 | 0.4454913 | 9.22 | 0.000 | 3.235575 4.981868 |
| Organizational strength of the authority | 1.930508 | 0.5322645 | 3.63 | 0.000 | 0.8872885 2.973727 |
| Awareness of taxpayers | 0.1095662 | 0.3158881 | 0.35 | 0.729 | -0.5095631 0.7286956 |
| Tax fairness | -3.01705 | 0.5591336 | -5.40 | 0.000 | -4.112932 -1.921168 |
| Start business without license | -0.2540865 | 0.4030733 | -0.63 | 0.528 | -1.044096 0.5359227 |
| Modes of tax collection | 3.493214 | 0.3671363 | 9.51 | 0.000 | 2.77364 4.212788 |
| Cut1 | 16.76613 | 2.459107 | | | 11.94637 21.58589 |
| Cut2 | 19.53605 | 2.519167 | | | 14.59857 24.47352 |
| Cut3 | 22.13057 | 2.612337 | | | 17.01049 27.25066 |

Coefficients’ of the variables: In the above table 4.6, the ordered log-odds (logistic) regression coefficients of the exogenous variables of the study were shown. To conduct the interpretation of the coefficients of the variables we would be taken into account of the standard interpretation of the ordered logistic coefficient as “for a one unit increase in the predictor, the response variable level is expected to change by its respective regression coefficient in the ordered log-odds scale while the other variables in the model are held constant.” Interpretation of the ordered logistic estimates is not dependent on the ancillary parameters; the ancillary parameters are used to differentiate the adjacent levels of the response variable. However, since the ordered logistic model estimates one equation over all levels of the dependent variable, a concern is whether our one-equation model is valid or a more flexible model is required.

According to the ordered logistic model most of the exogenous variables of the study would be statistically significant except taxpayers delay in declaration, awareness of taxpayers and start business without license, that is, insignificant (p-value=0.195,0.729 and 0.528) respectively. The obtained results of the ordered logistic model would be interprets their coefficients of the exogenous variables as per the standards of the ordered logistic model interpretations as follows. The positive coefficient of the exogenous variables would be taxpayers’ delay on

declaration, corruption and political instability, organizational strength of the authority, awareness of taxpayers and mode of tax collection. This implies that the likelihood of tax collection would be supported.

Std. Err.: These are the standard errors of the individual regression coefficients. They are used in both the calculation of the z test statistic, superscript j , and the confidence interval of the regression coefficient, superscript k .

Z and $P > |z|$: These are the test statistics and p-value, respectively, for the null hypothesis that an individual predictor's regression coefficient is zero given that the rest of the predictors are in the model. The test statistic z is the ratio of the **Coefficient** to the **Standard Error** of the respective predictor. The z value follows a standard normal distribution, which is used to test against a two-sided alternative hypothesis that the **Coefficient** is not equal to zero. The probability that a particular z test statistic is as extreme as, or more so, than what has been observed under the null hypothesis is defined by $P > |z|$.

[95% Conf. Interval]: This is the Confidence Interval (CI) for an individual regression coefficient given the other predictors is in the model. For a given predictor with a level of 95% confidence, we would say that we are 95% confident that the "true" population regression coefficient lies in between the lower and upper limit of the interval. It is calculated as the **Coef.** $\pm (z_{\alpha/2}) * (\text{Std.Err.})$, where $z_{\alpha/2}$ is a critical value on the standard normal distribution. The CI is equivalent to the z test statistic: if the CI includes zero, we would fail to reject the null hypothesis that a particular regression coefficient is zero given the other predictors are in the model. An advantage of a CI is that it is illustrative; it provides a range where the "true" parameter may lie.

3.5. Hypotheses Testing

Based on the above regression result the researchers tested the hypotheses as follows.

H1. There is significant relationship between taxpayers' delay on tax declaration and tax collection.

The coefficient of taxpayer's delay of tax declaration is .5674 at p-value of 0.195 it indicates that there is no significant relationship between taxpayers delays on tax declaration and tax collection at 1% significant level. Therefore, the null hypothesis is accepted.

H2. There is significant relationship between corruption and political instability and tax collection

The coefficient of corruption and political instability is 4.1088 at p-value of 0 indicates that there is significant relationship between corruption and political instability and tax collection at 1% significant level. Therefore, the null hypothesis is rejected. This means corruption and political instability has its own impact on tax collection.

H3. There is significant relationship between organizational strength of the tax authority and tax collection

The coefficient of organizational strength is 1.930 at p-value of 0 indicates that there is significant relationship between organizational strength and tax collection at 1% significant level. Therefore, the null hypothesis is rejected. This means organizational strength of the tax authority has its own impact on tax collection.

H4. There is significant relationship between taxpayers' awareness and tax collection

The coefficient of awareness of taxpayers is .10956 at p-value of 0.729 indicates that there is no significant relationship between taxpayer's awareness and tax collection at 1% significant level. Therefore, the null hypothesis is accepted.

H5. There is no significant relationship between tax fairness and tax collection

The coefficient of tax fairness is -3.017 at p-value of 0 indicate that there is significant relationship between tax fairness and tax collection at 1% significant level. Therefore, the null hypothesis is rejected. This means tax fairness has its own impact on tax collection.

H6. There is no significant relationship between starting business without license and tax collection

The coefficient of starting business without having license is -2540 at p-value of 0.528 indicates that there is no significant relationship between starting business without license and tax collection at 1% significant level. Therefore, the null hypothesis is accepted

H7. There is significant relationship between modes of tax collection and collection of tax

The coefficient of modes of tax collection is 3.493 at p-value of 0 indicates that there is significant relationship between modes of tax collection and tax collection at 1% significant level. Therefore, the null hypothesis is rejected. This means modes of tax collection have its own impact on tax collection.

4. Conclusion and Recommendation

From the result of the regression the following results were reviewed, The independent variable , corruption and political instability, organizational strength of the tax authority, tax fairness and modes of tax collection have significant relationship with tax collection this indicates that those variables have their own impact on collection of taxes. On the other hand others variables, taxpayers delay on declaration, taxpayers awareness and starting business without license shows no significant relationship. As we have seen from the respondents response most of category “A” and “B” taxpayers are conceived to the fairness of tax assessment in Jimma zone, however, some of the above group taxpayers and almost all category “C” taxpayers do not agree with the fairness tax assessment in Jimma zone. This might be because of some of category A and B taxpayers lack to prepare acceptable and accurate financial statements and necessary supportive documents for their transactions; as a result, the tax authority assessed their tax liability by estimation. Regarding category C taxpayers, since they are not obliged by tax law to prepare financial statements for their transactions, such problem might be occurred due to lack of impartiality or independence by the tax authority employee or due to lack of taxpayers experience in payment of tax to the government.

Based on the results from discussion, the researchers provided the following possible recommendations: As it can be clearly seen from the analysis, corruption and political instability has significant effect on collection of taxes hence it is advisable to the concerned body, specially government is expected to teach citizens to struggle on corruption through different techniques, such as using mass medias, including in curriculum of education, promote cultures which increase the norms of the society etc, for political instability expected to give attentions on good governance by identifying the causes of the problems to reduces conflicts and maximizing love and respect. The tax authority is expected to focus on modes of tax collection by developing different payment mechanisms or systems. Most of the transaction evolved still is only through cash or hand in hand, collection thus it is advisable to the authority to employ different modes of cash collections such as mobile banking, promoting technologies that facilitate the payment and collection simple.

The authority must involve the taxpayers or their representatives while estimating the daily sales or revenue of taxpayers to address the question of fairness and equity and the authority has to try its level best in ensuring tax fairness and equity so that voluntary compliance behavior can be developed. Tax fairness and equity is mainly a big problem especially for category C taxpayers because their sales volume is estimated in committee which is highly exposed for biasness. In addition, it is advisable to the tax authority to focus on strengthen its organizations because it has significant effect on tax collection thus the authority is expected to develop strategies which helps to bring changes on the mind of human beings. Especially that promotes knowledge, skills and attitude. These three issues are a pillar for everything.

References

- Ariwodola, J. T. (2005) *Personal Taxation in Nigeria Including Capital Gains Tax and Capital Transfer Tax*. Lagos: Jaja Publishing Ltd.
- Avi-Yonah, & Reuven S. (2007). *Taxation in Developing Countries: Some Recent Support and Challenges to the Conventional View*. Y.Margalioth, co-author, Va. *Tax Rev.* 27, no. 1.
- Brian C., S. (2018). *McGRAW-HILL’S Taxation of Individuals and Business Entities*. New York: McGraw-Hill Education.
- Elke , S. (2010). *Addressing tax evasion and tax avoidance in developing countries*. Dag-Hammarskjold-Weg 1-5: Deutsche Gesellschaft fur.
- Giulia, M., & Mick, M. (2014). *Tax Revenue Mobilization in Developing Countries: Issues and challenges*. Directorate _General for external policies of the Union.
- GIZ Sector Programme Public Finance, A. R. (2010). *Addressing tax evasion and tax avoidance in developing countries*. Eschborn: Deutsche Gesellschaft fur.

- Lemessa T., 2007. A Research Project on Determinants of Taxpayers' Voluntary Compliance with Taxation: The Case Study of Dire Dawa City. August, 2007 Addis Ababa
- Phillips and Sandall, 2008. Tax revenue in Sub Saharan African: Effects of Economic Polices and Corruption, IMF Working Paper 08/185.
- Pius V. C. Okoye and Raymond E, (2014).The impact of e-taxation on revenue generation in enugu, Nigeria. International Journal of Advanced Research
- RamaswamiParameswaran, 2005, publicfinance and taxation. Addis Ababa
- Tamunonimim A. Ngrerebo and A. Masa, Appraisal of Tax System in Nigeria (A Case Study of Value Added Tax), Research Journal on Organizational Psychology & Educational Studies, (2012)
- Timothy , B., & Torsten , P. (2013). Taxation and Development. ournal of Modern African Studies.
- Timothy, B., & Torsten, P. (2014). Why Do Developing Countries Tax So Little? Journal of Economic Perspectives, Volume 28, 99–120.
- UN, (2007), Benchmarking e-government: A Global Perspective, retrieved from <http://www.unpal.un.org/intradoc/groups/public/documents/april> 2013
- World Bank group (2016), Tax compliance cost burden and tax perceptions survey in Ethiopia
- Williams, R. (2016) 'Understanding and interpreting generalized ordered logit models', Journal of Mathematical Sociology, 40(1), pp. 7–20. doi: 10.1080/0022250X.2015.1112384.
- YohanesMesfin and SisayBogale,2009. Tax law.Prepared under the sponsorship of the Justice and Legal system Research Institute.
- Yohannes Mengesha & Zerihun Ashebir (2013). Assessing the gaps and problems that exist between the business community and tax authorities of Dire Dawa administration.