CHALLENGES AND PROSPECTS OF TAXING INFORMAL ECONOMY AT JIMMA ZONE, OROMIA NATIONAL REGIONAL STATE, ETHIOPIA

Sıntayehu Tulu WONDIMU

Jimma University, Ethiopia

Mengistu Deyassa DADI

Jimma University, Ethiopia

Abstract

This study explored the challenges and prospects of taxing an informal economy in the developing country conducted with survey data in an ordered logistic regression model. The variables of the study like sizes of the informal economy, institutional quality, growth, presumption taxes, governance, and revenue have statistically significant and also they are related to the taxing of an informal economy withholding positive and negative signs. The sign directions of the variables show that the supporting of taxing of an informal economy and also the consequences impacted on informal economy tax practices and approaches. Taxing of an informal economy would be recommendable and mandatory for mobilizing the domestic revenues in the developing countries, for required tax compliances and improve the bargaining powers of the society of taxpayers; even though as constraints would be the limited revenue, high cost, and weakened governances and reduces the institutional quality. Availing of tax for an informal economy required to supports with technology and skilled human resources to improve the tax systems and to manage costs and meet the expected domestic revenue mobilizations for the expected amounts of government expenditure in each fiscal period.

Keywords: Taxes Informal economy, tax compliance, presumption tax, Jimma, Ethiopia

JEL Classification: H20, H23 & H26

1. Introduction

Tax is an involuntary levy and a policy tool that helps to mobilize revenue to provide public goods and services of the government expenditures. Tax is a tool to perform the redistributions of income and wealth. In addition to that, also encourages economic activities with creating work opportunities, investment, equity and supporting economic advancements of the developing as well as developed countries. In real practice, the good tax system meets to overcome the principles of efficiency, fairness and easy to administer, and facilitates the operations of taxations with minimum costs. As the goals of the good tax systems address how much the appropriate tax revenues generated for the government expenditures in each fiscal period. In most cases, the determinants of tax revenue of countries would be measured with the ratio of tax to GDP; this situation would be subjected to many types of researches and researchable areas of taxes. The findings of different scholars supported the traditional factors, conventional kinds of literature to indicate the country's economic structure and institutional sophistication levels on the variations of tax revenue (UNDP, 2004).

The taxation would be emphasized in the definition as a financial charges or other levy imposed upon a taxpayer by the appropriate body of the state or federal governments to do such function given by the law of a given country (Granger, 2013). In this perspective categorized taxes as direct taxes on income and wealth, and indirect taxes on the consumption. Nowadays, seen an observable growing interest of the donors to improve a good tax system of the developing countries to come up with the principles of taxation in parallel to the developed countries' tax system. The purpose to be reflected on the concerns on domestic revenue mobilization to finance the public goods and services with owning the generated amounts of revenue from the internal sources rather than the aids of the dependence of the foreign donations; additionally, domestic revenue mobilization forwarded the recognition of the centrality of taxation for growth and redistribution. An effective tax system is considered central for sustainable

development because it can mobilize the domestic revenue base as a key mechanism for developing countries to escape from the aid of western countries. The developed countries shifted the aid after the global financial crisis and give attention to the extent and effectiveness of the aid they provide, and to ensure that they support rather than discourage the latter's revenue-raising efforts (Nickson and Iwanami, 2008).

In the real practices, the growing recognition of taxation and state-building would be a great link to justify in the present conditions for the modern state-buildings of every nation (Braütigam et al., 2008), as cited in(Nickson and Iwanami, 2008). Even different kinds of literature provide a strong argument to gain from mobilizing domestic financial resources through the tax system. Under Mascagni, Moore, & McCluskey(2014) study explanations the tax system may contribute to improves governance through three main dimensions in their statements. Firstly, fiscal bargaining and negotiation between the state and citizens over taxes are central to the development of social fiscal contracts. This implies that the taxpayers have a legitimate right to expect a return for the relative amounts of taxes paid and this may suggest for the government how much underperformed or not impacts on the requests of taxpayers. Secondly, governments have stronger incentives to promote the economic growth of the taxpayers and to meet the prosperity of taxpayers. Lastly, dependence on taxes requires states to develop a bureaucratic apparatus to tax the collection. This is maybe the expected to lead to broader improvements in public administration for countries undertaken such consideration on the domestic revenue mobilization as the primary issue.

Overall the domestic revenue mobilizations in developing countries obtained an increasing prominence in the policy debate of the most developing nations(Mascagni, Moore and McCluskey, 2014). In this perspective, the domestic revenue mobilization brings the potential benefits of taxation for the state-building; independence from foreign aid; the fiscal effects of trade liberalization; the financial and debt crisis of the western countries; and the acute financial needs of developing countries(Mascagni, Moore and McCluskey, 2014). In actual practice to mobilize the domestic revenues in developing countries the governments faces great challenges, which results in a gap between what they could collect and what they collect. The challenges impacted on the tax gaps include tax evasion and avoidance, tax exemptions, and inequitable rent-sharing in the extractive sector. Most of the studies recommends to minimizes for the tax gaps of the developing countries needed to supports and push forward in existed international initiatives to reform the global tax system; providing increased financial and technical assistance to support local capacity in tax administrations and supported the existing regional organizations like the African Tax Administration Forum in developing shared principles on issues such as tax exemptions, and tax regimes for natural resource contracts(Mascagni, Moore and McCluskey, 2014). Also the developing countries and development partners alike increasingly realize the importance of mobilizing domestic financial resources for development, such as the Doha Declaration on Financing for Development (2008) and the Busan Partnership for Effective Development Cooperation (2011) both encourage a greater role for domestic resources, taxation in particular, in funding development(OECD, 2013).

Nowadays most of the studies state the comparisons of the governments of the developing countries collect much lower proportions of their GDPs in tax revenue than do the governments of the Organization for Economic Co-operation and Development (OECD) countries. Their tax effort indices, revenue collections relative to estimated revenue potentials, are also lower than those of the OECD countries. However, the scholars agreed on the potential to increase tax revenue in developing countries contrary to the developed countries. But, the developing countries face extensive political, economic and administrative challenges in closing up the tax gaps. Even to do the tax reform is difficult in the developing countries with the interest groups dominance in the initially designed system of the countries. Presently the tax authorities of the developing countries suffer from the weak capacity of shortages of skilled staff and lack of modern infrastructures like information technology (IT) systems and property registers. In contrary, the developing country economies face the challenging to tax the given large size of their agriculture sectors, small tax bases, and their high degree of informality(Mascagni, Moore and McCluskey, 2014).

Some of the figures expressed the comparisons of the developing and developed countries collected from taxes as stated in their study as the developing countries typically collected from taxes in between 10 to 20 percent of their GDP, whereas the average for developed countries is more than 40percent(Besley and Persson, 2014). This evidence shows that the amount of tax to GDP ratio would be low in the developing countries relative to the developed countries. The consequence that contributes to such a discrepancy between them is the nature of the business of the developing countries. The statistical results show that the developing countries have an informal sector representing an average of around 40%, perhaps up to 60% in some countries. The developing countries informal sectors are characterized as mass small informal traders that may not be efficient to bring them into the tax net, incurred high

cost of collection and limited revenue potentials, although they required a broader governance benefit from the governments. Additionally, they have an issue of non-compliant entities this may hard to tax them, companies do evasion of taxes and difficult to put into the tax net(Granger, 2013).

The nature of the informal business sector would be the direct impact on the tax revenues of the developing countries' expected to be collected. Under the International Labor Organization (ILO) mission statement to Africa in the early 1970s, characterized the informal sectors as street vendors, garbage collectors, home-based garment workers, and home-based electronic workers. In general speaking about the informal sectors, they operate their business on the streets or in the open air; would be the most visible informal workers business operation areas for the sectors (Chen and Alter, 2012). Some observers feel the sector is simply too varied or heterogeneous to be meaningful as a concept (Peattie, 1987), as cited in (Chen, 2001). However, in the early 1970s and again in the late 1990s, several independent schools of thought converged on the fact that the informal sector as a whole accounts for a significant share of employment and output; even though cannot be dismissed or disregarded the sector(Chen, 2001).

In the contextual meanings in this study used terms such as the informal economy, informal work, informal sector, and informal economic activity would be used interchangeably, even though their activities do not cover the illegal operations to perform business in an informal economy. Most of the scholars expresses the informal economy with the terms as the irregular economy (Ferman & Ferman, 1973), the subterranean economy (Gutmann, 1977), the underground economy (Simon & Witte, 1982; Houston, 1987), the black economy (Dilnot & Morris, 1981), the shadow economy (Frey, Weck, & Pommerehne, 1982; Cassel & Cichy, 1986), and the informal economy (McCrohan & Smith, 1986), as cited in(Losby, Else, Kingslow, Edgcomb, Malm & Kao, 2002). Also the most popular media uses terms for the informal economy with a words of invisible, hidden, submerged, shadow, irregular, non-official, unrecorded, or clandestine (U.S. Department of Labor, 1992), as cited in(Losby et al, 2002). In common senses the activities of an informal economy would not be recorded or imperfectly reflected in the national official economy and may not meet the nations GDP records. In the application of an informal economy would be issues of equity, economic opportunity, and social development, the term informal economy first came into widespread use as a means of describing a dualistic economic structure found in developing countries.

Per the Smith (1987) study as cited in Sookram & Watson (2008) defined the informal economy as a non-formal once that does not consider in the national official accounts. This definition implies that the informal economy activities may not be recorded in the official GDP accounts of the nation. Ogunc, Fethi, Yilmaz, and Gokhan (2000) research, as cited in Boitano & Franco Abanto(2019) mentioned that the informal economy as a parallel or shadow economy terms uses to refer the informal economy, although no formally agreed definitions of an informal economy. Schneider & Hofreither(1986) defined the informal economy as the set of activities that add value and could be accounted for the national income but are not registered. Rosca (2019) expresses the production of goods and services of an informal economy that is not included in the official GDP of the nations. Juhdi, Wan, Othman, & Moksin (2010) in their research point out the informal economy with dividing into three categories as the informal sector, parallel markets, and black markets. Eilat and Zinnes (2000), as cited Boitano and Franco Abanto(2019) mentioned that the term informal has been mainly used to refer to small and artisan activities usually carried out in developing countries. Other terms recognized by Eilat and Zinnes (2000), as cited Boitano and Franco Abanto(2019) are the hidden and underground economy, used to refer to them as tax avoidance; the parallel and black economy, refer to illicit activities; the unofficial and unrecorded economy refer to non-recorded activities in the national statistics and the shadow economy (Tanzi, 1982), as cited in (Boitano and Franco Abanto, 2019).

2. Literature Review

Most of the research scholars highlighted in their studies on the taxation of the informal economy in the developing and transition countries taken as a priority attention in the current periods. Even though whether taxing or not on the informal economy they give justifications with subjecting into the longstanding controversy issues of an informal economy business situation and natures. In critics of taxing an informal economy stands with the potential revenue yields are low, administrative costs are high, tax incidence is likely to be regressive, and tax enforcement risks

exposing vulnerable firms to harassment (Keen, 2012), as cited in(Joshi, Prichard, & Heady, 2014). However, recent interest forces the taxation of an informal economy to promote the growing attention of the potential benefits from the informal sector taxation in terms of revenue, growth, and governance. Inline to the three benefits of informal economy taxation the scholars indicated in their studies independently with respect to revenue, the informal sector forms a large and, in many countries, the growing share of GDP, and thus represents a potentially significant source of tax revenue for the cash-strapped governments (Schneider, Buehn, & Montenegro, 2010; Schneider & Klinglmair, 2004), as cited in (Joshi et al., 2014). This taxing of the informal economy may be essential to sustain the tax morale and tax compliance for the larger firms of the nations (Alm, Martinez-Vazquez, & Schneider, 2003; Terkper, 2003; Torgler, 2003), cited in (Joshi et al., 2014). In respect to growth, evidence shows that the taxation of an informal economy contributes for formalization, accelerates the growth rates of informal sector firms, and may also the broader benefits for the existing formal sector firms (de Mel, McKenzie, & Woodruff, 2012; Fajnzylber, Maloney, & Montes Rojas, 2009a, 2009b; Loeprick, 2009; McCulloch, Schulze, & Voss, 2010; Perry et al., 2007), as cited in (Joshi et al., 2014). Finally, in the respect of governance, taxing an informal economy as an argument creates the senses of ownerships of the taxpayers and may be taken as a method of engaging firms with the state, and thus promoting legitimacy, good governance, and political accountability of the taxpayer societies(Joshi et al., 2014).

This study addresses the challenges and prospects of taxing of an informal economy on the basis prior studies and adopting variables the study such as the sizes of an informal economy, revenue, growth, governance, corruptions or institutional quality and presumptions on the taxing of informal sectors and, the final purposes of the study draws the alternative strategies and promotes for the taxing of informal economy in the developing countries. Additionally, explore the technical and political economy barriers to the relevant reform on the taxation of an informal economy (Joshi et al., 2014). Per the pieces of evidence of the scholars, the growth and governance of an informal economy benefits would be improved in the informal sector taxation for large potential under specific contexts even though with an uncertainty. By contrast, the costs to small producers are evident and potentially significant in the contexts of widespread corruption and abuse(Joshi et al., 2014).

Understandably the taxation of the informal economy in the present times obtained greater economic attention and occupies an important domain of revenue to the basis of domestic resources generating from internal sources for the developing countries' economies. Although the informal economy is part of an economic unit which is not officially registered and monitored under the government regulations (Calbreath, 2010), as cited in(Udoh, 2015). The informal economy functioned for self-employed persons, small and microenterprises and other forms of economic activities. Incomes generated with such operators of the informal sector, would not be officially captured into the tax net systems of the state or federal governments for most of the countries. In the common practices of an informal sector usually exists a greater percentage of tax defaulters, most of the tax evasions leading to discharges for the government revenue expectations. Per different scholars' statements the attention of taxation of the informal economy grounded in its potential importance of revenue, growth, and governance. The arguments give the weight for taxation of an informal economy based on the indirect benefits, particularly the prospect of accelerated growth and the potential for governance gains(Joshi et al., 2014). Understandably know that the informal economy describes as the set of productive activities would be subject to tax and social contributions, intentionally hidden from the tax authorities' with the in frustration of the tax burdens. The purposes of reducing the numbers of informal economy in practices not only for tax collection may undertake to increases the tax base and to reduces, but the tax evasion even these practices also observed in the last periods of an Ethiopia's economic growth. However, focusing only on tax purposes, the tax structure in Ethiopia and Sub-Saharan Africa is dominated by indirect taxes, which results in low redistributive capacity and higher inequality. On the contrary, in developed countries, the system is progressive meaning concentrated on the direct taxes. Concentrating on direct taxes improves welfare and equality but is only possible by absorbing the informal economy and reducing informal employment(OECD, ECLAC, CIAT & IDB, 2016), as cited in (Boitano and Franco Abanto, 2019).

Under the scholars and corresponded studies results they suggest that the structure of an economy would be the determinant for the tax revenue, although in the informal economy their economic structure contributes the difficulty to the expected tax revenues from the sectors (UNDP, 2004). Mukherjee (2016) study, as cited in (Boitano & Franco Abanto, 2019) indicated that the informal economy is huge in numbers and will continue in time. A large informal sector is found to be a persistent phenomenon in low-income and emerging economies. Taxation is often seen as a key ingredient for formalization, and developing countries might benefit from increases in revenues, growth effects from improved productivity, and a more vital relationship between taxpayers and the state authorities. Even

though may be difficult to draw the general conclusions whether the informal sector taxation lead to improvements or any other impacts on the economy of the developing country(Kundt, 2017).

The size of an informal economy in a developing country would be large and impacted on the expected taxation of an informal economy. In comparison, the taxation of the OECD countries has direct taxation, efficient, transparent, and highly related to tax to GDP ratio and adopted technology whereas the developing countries taxation mostly indirect taxes, high costs, mismatch the collected revenue and costs incurred for taxes. The developing countries face challenges in increasing their revenue from domestic sources. The challenges of the developing countries would be characterized with a small tax base, a large sizes of informal sector, weak governance and administrative capacity, low levels of per capita income, domestic savings and investment and possibly tax avoidance by elites(OECD, 2013). The most common method of taxing small informal firms in the developing countries would be through presumptive taxes. Taxing small informal sector firms is hindered by two factors: high compliance costs for small taxpayers and high costs of collection for tax administrations (Loeprick, 2009), as cited in (Joshi et al., 2014). Presumptive taxes resolve these problems by using a simplified indicator of the tax base to simplify recordkeeping for firms and estimation of tax liabilities by tax collectors.

3. Research Design and Methodology

The concepts of research design and research methodology presented with a compound words and also the concepts design and methodology attached to the noun research(Van Zyl, 2012). Research design is a plan for a study, providing the overall framework for collecting data as Leedy (1997:195), cited in (Van Zyl, 2012). It is also a plan for selecting subjects, research sites, and data collection procedures to answer the research question(s) as (MacMillan and Schumacher, 2001:166), cited in (Van Zyl, 2012). Whereas the research methodology as a theory of how an inquiry should proceed as (Schwardt, 2007:195), cited in (van Zyl, 2012). It involves analysis of the assumptions, principles and procedures in a particular approach to inquiry. According to Schwardt (2007), Creswell and Tashakkori (2007), and Teddlie and Tashakkori (2007), as cited in Van Zyl(2012), methodologies explicate and define the kinds of problems that are worth investigating; what constitutes a researchable problem; testable hypotheses; how to frame a problem in such a way that it can be investigated using particular designs and procedures; and how to select and develop appropriate means of collecting data.

In line with the general perspectives of the research design and methodology, this study used the mixed research design to undertaken the challenges and prospects of taxing an informal economy in the developing country at Jimma Zone. To be effective in this study the descriptive survey method would be employed for the study.

3.1. Sources of Data, Types of Data and Methods of Data Collection

The study would be used in both primary and secondary sources of data. The primary data sources would be collected by using the self-administered questionnaires' and semi-structured interviews. The questionnaires would be comprised of both open and closed-ended questions. Open-ended questions would be used to allow the respondents to write their own opinions without the restrictions of ideas and to include ideas that might not be incorporated in the questionnaires. In addition to the open-ended questions also used the closed-ended questions, which is designed with the measurement of the five points Likert scale. The scaling was developed in (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 the agreement or the disagreement of the respondents in which the variables can be elicited. The purpose of using the close-ended questions and incorporating in the questionnaires would be to access a high response rate from the respondents within a short period, and this may save the respondents' time and expected to increases the response rates. The researcher also integrates the secondary data to support the primary data and collected from official documents and records relating to the particular study.

3.2. Target Population, Sample Size and Sampling Techniques

The target population of the study would be the informal business sectors of the Jimma city and selected Jimma Zone districts. In Jimma Zone presently around 22 districts including the Jimma city administration. Per the information of the revenue office of the Jimma Zone recently 6520 informal business sectors would be functioned in the business operations of the fiscal year even though the numbers would vary from time to time.

In the determination of the sample size purposes taken into an account of the three criteria, it aid to determine the appropriate sample size of the study such as level of precision, level of confidence or risk, and degree of variability in the attributes being measured(Morse, 2000) and also for populations that are large, as Cochran (1963:75), cited in (Morse, 2000) developed the equation to yield a representative sample for proportions.

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

Where: n_0 sample size Z2 abscissa of normal an area α at the tails (1_α 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 a somehow large sample size to the study even though to minimize the sample size and to access proportionately more information from a small sample adjusts the sample size with an equation as followed.

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

Where: n sample size, N target population

In accordance to the above equations would be determined the sample size of the study as follows;

$$n = \frac{384}{1 + \frac{(384 - 1)}{6520}} = 363$$

This study selected some districts and used a multi-stage sampling technique to determine the sample size of the study. Then, a proportional random sampling method was employed to select the sample business operators from each stratum.

3.3. Methods of Data Analysis

After accomplishing data collection from the expected sample respondents, would be conducted data analysis operations. The research would be used descriptive statistics to analyze the collected data with the aid of statistical software. In addition to the descriptive statistics, the econometric model known as the ordered logistic model would be employed for the study.

3.3.1. 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 challenges and prospects of taxing an informal economy are usually ordinal in nature. Under this study the ordered logistic model would be uses to estimate the relationships between ordinal responses

on the challenges and prospects of taxing an informal economy 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 distances 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 $g_{ci} = \Pr(Y_i \le y_c|X_i) \ c = 1, \dots, C$. 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 $g_{ci} = \Pr(Y_i \le y_c|X_i)$ are related to a linear predictor $\beta'X_i = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \cdots$ through the logit function:

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

The parameters α_c, called *thresholds* or *cut-points*, are in increasing order $(\alpha_1 < \alpha_2 < \cdots \alpha_{c-1})$. 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 $logit(g_{ci})$ 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 $odds_{ci} = g_{ci}/(1 - g_{ci})$: in fact, the ratio of these odds for two units, say i and j, is $\frac{odds_{ci}}{odds_{cj}} = \exp[\beta'(X_j - X_i)]]$, which does not depend on c and thus it is constant across response categories.

4. Result and Discussions

4.1. *Descriptive Statistics of the Study*

Table 1: Summary of the endogenous variable responses in their categories

Taxing informal economy	Freq.	percent	Cum.
Strongly Disagree	15	4.13	4.13
Disagree	20	5.51	9.64
Agree	10	2.75	12.40

Strongly Agree	318	87.60	100.00
Total	363	100.00	

Source: Author's survey data, 2019

The above table indicates that the endogenous variable responses from the sampled respondents of the study. Per the respondents' responses, the respondents for the strongly disagree would be equal to 4.13 %(15), disagree 5.51 %(20), agree 2.75 %(10) and also strongly agree 87.60%(318). This statistical result implies that most of the respondents respond as strongly agree on the taxations of an informal economy. On average most of the sample respondents agreed for the taxation of an informal economy.

Table 2: Descriptive Statistics for the endogeneous and exogeneous variables of the study

Variables	Obs.	Mean	Std. Dev.	Min	Max
Taxing informal economy	363	3.738292	.7435501	1	4
Size of informal economy	363	3.338154	.8349522	1	4.625
Corruptions	363	3.432163	.5002627	1.25	5
Governance	363	3.254545	.8404156	1	4.4
Growth	363	3.758953	.7103388	1	4.5
Revenue	363	2.738598	.4332092	1.222222	4.111111
Presumptive tax	363	3.035601	.3986034	1.461539	3.769231

Source: Author's survey data, 2019

Table 2 presents the summaries of the endogenous and exogenous of the ordered logistic model variables. In the above table listed the numbers of sampled respondents of the study mean or average values, standard deviations, minimum and maximum values of the categorical variables of the study given the responses from the selected respondents of the study. The expected value of the dependent variable, known as the taxing of an informal economy is closed to 3.738 and its standard deviation also closed to 0.744. This value implies that the sample respondents' responses would deviate in between agree and strongly agree on the scales.

The expected values of the independent variables namely, the size of the informal economy, corruption, governance, growth, revenue, and presumptive tax would be stated in the above table. The expected value of the size of the informal economy would be equal to 3.338 from the given responses of the sample respondents and the standard deviation also equal to 0.835. The expected value of the corruption of tax officials would be equal to 3.432 from the given responses of the sample respondents whereas the standard deviation equal to 0.500. The expected value of the governances of the sectors would be equal to 3.255 and also the standard deviation would be equal to 0.8403. The expected values of growth of an informal economy, contributions of revenues from an informal economy and presumptive tax from an informal economy would be 3.759, 2.739 and 3.035 respectively. Also, their standard deviations would be 0.710, 0.433 and 0.399. The expected values imply that the respondents' responses agree on the situations specified variables of the study, which are the average responses above 2.5.

The selected variables such as the size of the informal economy, corruption, governance, growth, revenue, and presumptive tax would be ready to undertake the data analysis with the specified 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 also their standard deviation indicates that the data distributions closed to the center.

4.2. Ordered Logistic Model Estimation Results
4.2.1. Evaluating Ordered Logistic Model Fit

Table 3: The Pearson Chi-square tests for the model fit

Dependent variable	Independent variables	df	Pearson Chi-square	p-values
Taxing informal eco.	Size of informal eco	36	339.8960	0.000
Taxing informal eco.	Corruptions of officials	39	826.3703	0.000

Taxing informal eco.	Governance of info.	45	672.5306	0.000
Taxing informal eco.	Growth of info.	18	638.3129	0.000
Taxing informal eco.	Revenue from info.	45	996.2524	0.000
Taxing informal eco.	Presumptive tax of inf.	39	737.1297	0.000

Source: Author's survey data, 2019

Table 3 presented the Pearson chi-square tests, which would be addressed the null hypothesis tests for the fit of the model conducted to know the associations of the studied variables, that is, between the dependent variable and independent variables. Under the Pearson chi-squares tests for each of the independent variables with the dependent variable observed that from the above-given table there would be an association between the studied variables, which the outcome variable with an endogenous variable. In addition to that, the p-values from each dependent and independent variables would be less than 0.05 or the value of alpha. These situations would be suggested that acceptance of the research hypothesis and in another direction would be required to reject the null hypothesis of this study.

4.3. Discussion
4.3.1. Ordered Logistic Model Interpretations with the Coefficients

Iteration Log: This is a listing of the log-likelihoods for each of the iteration. The ordered logistic regression uses the maximum likelihood estimation, which is an iterative procedure. The first iteration for the iteration of zero is the log-likelihood of the null or empty model; that is, a model with no predictors. Next to the zero iteration, the predictors are included in the model. The iteration of 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, finally the iterating stops, and the results are displayed, under these expressions, the model iteration would be converged to -101.6979 contextual in this model.

Model summary

Ordered logistic regression

Log likelihood = -101.6979

Number of obs.   =   363
LR chi2 (6)   =   164.15
Prob. > chi2   =   0.0000
Pseudo R2   =   0.4466

Number of observations: This shows that the number of observations used in the ordered logistic regression model. The number of observation would be 363 and there is no missing value from the data sets.

LR Chi2 (6): This is the Likelihood Ratio (LR) Chi-Square test that at least one of the predictors' regression coefficients is not equal to zero in the model. The number in the parenthesis indicates that 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 would be calculated as; $-2(L \text{ (null model) - L (fitted model)}) = -2[(-183.77464)-(-101.6979)] = 164.15$. 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 Chi-square (6) shows that the model fits the data well as compared to the null hypothesis.

Pro > Chi2: This is the probability of getting an 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 these Chi-square statistics (164.15) if there is, in fact, no effect of the predictor variables. This p-value is compared to a specified alpha level, this is the willingness 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 (6). In this study, the p-value shows

that a highly significant for the exogenous variables of the study, and this implies that the size of an informal economy, corruption, governances, growths, revenues, and presumptive taxes would be the statistically significant effects on the taxing of an informal economy.

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 $Pseudo\ R^2 = \frac{Model\ LR\ Chi2}{DEV_0} = \frac{164.15}{367.54928} = 0.4466$

(Remember, DEV_0 =-2*LL_0 = -2*-183.77464 = 367.54928)

According to the above expressions the Pseudo R^2 of the model output as well as the computed values of Pseudo R^2 with an equation obtained an identical value.

Table 4: Parameter Estimates

Taxing informal eco.	Coef.	Std. Err.	z	P>z[a]	[95% Conf. Interval][b]	
Size of informal	.8083195	.2715137	2.98	0.003	.2761623	1.340477
Corruptions	1.079828	.3424071	3.15	0.002	.4087224	1.750934
Governance	-1.178154	.4796327	-2.46	0.014	-2.118217	-.2380908
Growth	2.694581	.4522616	5.96	0.000	1.808164	3.580997
Revenue	-3.895929	.6288067	-6.20	0.000	-5.128368	-2.663491
Presumptive tax	3.422215	.6758621	5.06	0.000	2.097549	4.74688
/cut1	6.681841	1.248791			4.234256	9.129427
/cut2	8.715686	1.404165			5.963573	11.4678
/cut3	9.376016	1.445678			6.54254	12.20949

Source: Author's Survey data, 2019

Coefficients' of the variables: In the above table indicated that the ordered log-odds (logistic) regression coefficients of the exogenous variables of the study. To conduct the interpretation of the coefficients of the variables would be taken into accounts of the standard of the interpretation of the ordered logistic coefficient taken 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, the ordered logistic model estimates one equation overall the levels of the dependent variable, a concern is whether one-equation of the model is valid or a more flexible model is required.

Per the ordered logistic model, all of the exogenous variables of the study would be statistically significant. The obtained results of the ordered logistic model would interpret with their coefficients of the exogenous variables as per the standard of the ordered logistic model interpretations as follows. The positive coefficient of the exogenous variables would be the sizes of an informal economy, corruption or institutional quality, growth and presumptive tax; this implies that the likelihood of the taxing of an informal economy would be supported by the taxations of an informal economy. Whereas the negative coefficient of the exogenous variables would be the governance and revenue; this implies that the likelihood of taxing an informal economy would not be supported in an informal economy rather undertake the taxing on an informal economy may increase the challenges of the governances and significantly may increase the cost of administrations of an informal economy. Following the standards of the logistic interpretations the coefficients of the variables interpreted independently as follows;

Size of an informal economy: When increases one unit to taxing an informal economy, then the sizes of an informal economy expect to 0.80 increases in the log-odds of being the taxing of an informal economy, given all of the other variables in the model are held constant. This implies that the size of an informal economy would be a matter for the taxation of an informal economy.

Corruption or institutional quality: When increasing one unit to taxing of an informal economy, then the corruption expects to 1.08 increases in the log-odds of being the taxing of an informal economy, given all of the other variables in the model are held constant. This implies that the quality of public institutions would be a significant contribution as well as a key factor for the expansions of an informal economy and have the potential values for the taxation of an informal economy.

Governances: when increases one unit to taxing of an informal economy, then the challenges of administering or governing the informal economy increases with the expected values of 1.18 in the log-odds of being the taxing of an informal economy, given all of the other variables in the model are held constant. This implies that the governances of an informal economy bring the disadvantages to the state to mobilize the taxing of an informal economy unless the tax infrastructures aided with technology and skilled human resources' otherwise may increases costs and reduces the quality of the services of the administrations.

Growth: For one unit increase in the growth of an informal economy, would expect a 2.69 increase in the log-odds of being in a higher level of taxing an informal economy, given all of the other variables in the model are held constant. This implies that the growth rate of an informal economy is beyond the expectation in the developing countries to observe the unemployed people even though immediate to tax them may discourage their growth.

Revenue: when increases one unit to taxing of an informal economy, then the costs of taxing the informal economy increases with the expected values of 3.90 in the log-odds of being the taxing of an informal economy, given all of the other variables in the model are held constant. This implies that costs and benefits of taxing the informal economy have focused on the direct revenue and equity implications of the taxes even though taxing of the informal economy needed to support technology and skilled human resources to minimize the extravagant costs.

Presumptive taxes: For one unit increase in the presumptive taxes of an informal economy, would expect 3.42 increases in the log-odds of being in a higher level of taxing an informal economy, given all of the other variables in the model are held constant. This implies that the presumptive taxing practices of an informal economy bring advantages to the developing countries as an argument the direct taxing of an informal economy faces the difficulties for the costs of compliances and administrative and insignificant collection of revenues.

Ancillary parameters: These refer to the cut-points (a.k.a. thresholds) used to differentiate the adjacent levels of the response variable. In this study the threshold points for the endogenous variable would be discrete and easily observable to distinguish them; this may result in the different observed values on the proxy variable.

_cut1: This is the estimated cut-point on the endogenous variable used to differentiate strongly disagree of taxing of an informal economy from disagree, agree and strongly agree taxing of an informal economy when values of the predictor variables are evaluated at zero. Subjects that had a value of 6.68 or less on the underlying endogenous variable that gave rise to the taxing of an informal economy variable would be classified as strongly disagree of taxing of an informal economy.

_cut2: This is the estimated cut-point on the endogenous variable used to differentiate strongly disagree and disagree taxing of an informal economy from agree and strongly agree of taxing of an informal economy when values of the predictor variables are evaluated at zero. Subjects that had a value of 8.72 or less on the underlying endogenous variable that gave rise to the taxing of an informal economy variable would be classified as strongly disagree and disagree of taxing of an informal economy.

_cut3: This is the estimated cut-point on the endogenous variable used to differentiate strongly disagree, disagree and agree taxing of an informal economy from strongly agree of taxing of an informal economy when values of the predictor variables are evaluated at zero. Subjects that had a value of 9.38 or less on the underlying endogenous variable that gave rise to the taxing of an informal economy variable would be classified as strongly disagree, disagree and agree of taxing of an informal economy.

In general speaking the marginal effects of the outcome variable the probabilities of the categories to be becoming of the strongly disagree(1), disagree(2), agree(3) and strongly agree(4) would be indicated as 0.00144887, 0.01438601, 0.02071824 and 0.96344688 respectively. This implies that the respondents of the sampled study would be responded to for the taxing of an informal economy as strongly agreed. While, the post estimations of the marginal effects would be run after the running of the ordered logistic regression, would have obtained the probabilities of the

given categories. This implies that in the future the taxing of an informal economy brings an advantage to the GDPs of the country.

Std. Err.: This shows that the standard errors of the individual regression coefficients of the ordered logistic model. They are used in the calculation of the z test statistic, the superscript a in the model output, and the confidence interval of the regression coefficient, superscript b in the model output.

z and P>|z|: This shows that the test statistics and p-value, respectively, for the null hypothesis of 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|.

In accordance to the z test statistic for each predictor's such as the size of an informal economy, corruption, governance, growth, revenue and presumptive taxes of an informal economy would be 3.98; 3.15; -2.46; 5.96; -6.20 and 5.06 with an associated p-value approximately for all exogenous variables less than 0.05. If we set our alpha level to 0.05, we would reject the null hypothesis and conclude that the regression coefficient for the size of an informal economy, corruption, governance, growth, revenue and presumptive taxes of an informal economy is statistically different from zero in in estimating taxing of an informal economy.

[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. $\pm$ $(z\alpha/2)$*(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.

5. Conclusion and Recommendation

The study would be conducted on the challenges and prospects of taxing of an informal economy by taking survey data from Jimma Zone selected districts. Taxing of an informal economy brings advantages to the governments and also one step to startup for the formalization processes of an informal economy to formal business structures. Taxing of an informal economy faces different controversial issues even though the relative advantages would be better than the non-taxing practices of the informal economy. Per the output of the model, the variables of the study like sizes of an informal economy, corruption or institutional quality, governance, growth, revenue and presumptive of tax as a whole show a significant withholding the positive and negative signs and statistically significant for the taxing of an informal economy. Under this study, the results concluded as taxing of an informal economy would be mandatory to maximize the revenue as well as a precondition for the mobilization of the domestic revenues. In addition to that, the results show also to avail the taxation of an informal economy it may require to support the technology and skilled human resources to improve the tax systems and to reduce the costs of taxations and to generate the expected domestic revenue mobilizations.

Actually in the present literature and different studies proposes the taxation of an informal economy with the expectations of the future significant benefits from the informal economy and to hold the growing of the GDP of each fiscal period. This may be emphasized in terms of the long-term revenue collection, economic growth, quality of governance, and quality of institutions. Even though constraints state that the limited revenue and significant costs to avail the taxation of an informal economy and additional may weaken the administration and also the obstacle for the institutional quality and good governances. Per this study, results recommended the taxation of an informal economy with the expectations of the futures benefits and also to qualify the tax compliance through time, so improve the tax bargaining powers, as well as overcome tax compliance takes time. Overall tax for such sectors required to improve the human resources skills and also supports with technology.

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Appendix: Ordered Logistic Model Output

```
Iteration 0:   log likelihood = -183.77464
Iteration 1:   log likelihood = -171.25846
Iteration 2:   log likelihood = -166.96007
Iteration 3:   log likelihood = -141.74762
Iteration 4:   log likelihood = -114.64964
Iteration 5:   log likelihood = -102.12446
Iteration 6:   log likelihood = -101.69876
Iteration 7:   log likelihood =  -101.6979
Iteration 8:   log likelihood =  -101.6979
```

```
Ordered logistic regression              Number of obs   =        363
                                         LR chi2(6)      =     164.15
                                         Prob > chi2     =     0.0000
Log likelihood = -101.6979               Pseudo R2       =     0.4466
```

TRMAY	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
SIEconomy	.8083195	.2715137	2.98	0.003	.2761623	1.340477
Corruptions	1.079828	.3424071	3.15	0.002	.4087224	1.750934
Governance	-1.178154	.4796327	-2.46	0.014	-2.118217	-.2380908
Growth	2.694581	.4522616	5.96	0.000	1.808164	3.580997
Revenue	-3.895929	.6288067	-6.20	0.000	-5.128368	-2.663491
Presumptivetax	3.422215	.6758621	5.06	0.000	2.097549	4.74688
/cut1	6.681841	1.248791			4.234256	9.129427
/cut2	8.715686	1.404165			5.963573	11.4678
/cut3	9.376016	1.445678			6.54254	12.20949