The Factors That Affect Revenue Generation of Taxpayers: The Case of Bahir Dar City Taxpayers

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Abstract
Revenue generation is one of the most useful activities to increase profitability and capital of taxpayers in business operation. Despite these, however, revenue generation in the study area is affected by different variables. Therefore, the study was focused on assessing the effect of taxation on revenue generation: the case of Bahir dar city taxpayers. The total population in the selected area was taxpayers in the city. Then simple random sampling was employed to select sample respondents. Results are based on data collected from respondents of 150 randomly selected taxpayers. Descriptive statistics and linear regression methods were employed. The result shows that progressive tax system, taxpayers' knowledge, tax administration and inflation rate are important components of taxation which affect revenue generation of taxpayers. The analysis further revealed that progressive tax system, taxpayers' knowledge, tax administration and inflation rate is significantly associated with revenue generation. Government and concerned parties should work the best on these important factors because the effect of these factors also affects tax revenue generation of tax authorities since government collect revenue from taxpayers.
Keywords: Revenue generation, taxation, linear regression, taxpayers

1. Introduction

Every country's economic development in the world can come through effective mobilization of resources, especially financial resource that a government used to finance its activity. Different scholars define tax in different ways, but all definitions forwards in the same concept. A précised definition of taxation by (Farayola, 1987), is that taxation is one of the sources of income for government; such income has used to finance or run public utilities and perform other social responsibilities. (Ochiogu, 1994), defines tax as a levy imposed by the government against the income, profit or wealth of the individuals and corporate organizations. According to definition of (Adams C. , 2001), taxation is the most important source of revenue for modern governments, typically accounting for ninety percent or more of their income. Taxation is seen by (Aguolu, 2004) as a compulsory levy by the government through its agencies on the income, consumption and capital of its subjects. Tax is one of the most financial sources of revenue for government in different countries. Tax is a payment extracted by government from the people and organizations to fund public expenditure without providing proportional benefit by the government. Currently tax is the most important that influence the rate of economic growth of one's country especially in developing countries like Ethiopia which plays a major role for economic development of One's country (Agbetude, 2004). According to Arnold (2002), tax is a compulsory levy on income, consumption and production of goods and services provided by the relevant government.

All definitions in the above support and encourage tax imposition either to redistribute wealth or to finance government project. Government often use different methods of raising resources like, borrowing, receipt of aid, printing of money and taxation to support government expenditure. But, taxation is undoubtedly the most important source of government revenue when the availability of economic resource to society is limited (Chaudhry, 2010). Therefore, an increase in government expenditure normally means a fall in private spending and hence raising tax revenue is one of means of transferring resource from the private to the public sector. Ansari (1982), develop efforts to increase the fiscal revenue by establishing an efficient tax system, developing countries, especially SSA (Sub-Sahara Africa) countries are greatly challenged by factors like; economic structure, institutional capacity, political setup, low economic development level. In addition, most African economies, including Ethiopia are characterized by large hard-to-tax sectors, such as small enterprises, small farms and a high level of informal sectors; as a result there is low level of revenue generation from tax, this is due to low revenue generation of taxpayers (Dioda, 2012).

According to the annual report of minister of finance and economic development (2011) with the issue of macro-economic performance on Ethiopia economy, in Ethiopia 36% of the economy is not reported and captured by the official statistics and at the same time, the amount of tax evasion also increased in the same period. The ratio of tax to GDP (Gross Domestic Product) is low and this is common feature of most SSA (Sub-Sahara Africa) countries because many countries fail to generate sufficient revenues to finance government deficit and to support the development needs of the country. As United Nation Development Program report (2013), stated half of SSA

(Sub-Sahara Africa) countries raise 16.8% of GDP from tax revenue which is below the UN (United Nation) standard, to achieve the millennium development goal. As empirical studies indicated, Ethiopia's tax to GDP ratio in 2010 was 12.2 percent. It was the lowest from other neighboring countries such as Kenya and Rwanda, which is 17.7% and 14.1% respectively (Tilahun, 2014). The lowest tax to GDP ratio is as a result of each regions ineffective contribution to tax revenue to the federal government and the region of Amhara is one participant.

2. Problem Statement

Most governments in developing countries are aiming at initiating and guiding their economic and social development by collecting revenue from taxpayers. As tax is the main source of revenue, it is better to implement effective tax policy which resources are better mobilized (Wawire, 2011). Taxation incorporates many issues like tax administration, tax knowledge, tax laws, nature of tax etc. Tax collection from taxpayers in developing countries is a critical issue and has attracted attention in the last two decades. This is due to the need for development of infrastructure facilities and capital projects. It is fact that taxpayers' revenue is the main source of revenue generation for the government however, during the current period, many problems observed like poor administration, failing to collect sufficient tax revenues, negative attitude of taxpayer towards the tax authorities, tax structures, lack of government and economic stability, tax evasion and lack of awareness about tax (Vadde, 2012). As stated by Vadde (2012), Ethiopia like any other developing countries, has faced difficulty in collecting sufficient revenue from taxpayers to the level required for the promotion of economic growth. Thus, the country has been experienced a consistent excess of expenditure over revenue for a long period of time.

Generated revenue from taxpayers has inadequate and no physical development actually took place with demotic revenue. Low revenue generation of taxpayers is one problem and tax evasion is another problem for insufficient tax revenue and according to the report of minister of finance and economic development tax evasion has reached 10% and decreases the total amount of domestic revenue collected from tax. Fraud activities of tax collector, lack of understanding the importance to pay tax by taxpayers, inadequate tax officer, inflation and tax administration are some of the factors which affect revenue generation in this study. (year of report, 2011). Therefore it is very crucial to study about the factors that affect revenue generation of taxpayers in order to increase taxpayers' revenue as well as government revenue and assure economic stability. Previous studies found out the effect of taxation on revenue generation and determinants of tax revenue by considering tax authorities only and these studies used time series and panel data. No more studies conducted in Ethiopia with the issue of effect of taxation on revenue generation by using cross sectional data. Moreover, it is not frequent to find studies on effect of taxation on revenue generation of taxpayers in Ethiopia which consider taxpayers as study population rather most empirical studies conducted on the determinants of value added tax revenue and the effect of tax administration. Therefore the main objective of this study was to examine the factors which influence revenue generation by using cross sectional data.

3. Literature Review

This chapter presented a broader context of the study subject by reviewing past researchers' works, related to factors that affect revenue generation of taxpayers, components of taxation, the methods to enhance tax revenue and finally empirical review.

According to definition of (Adams C. , 2001), taxation is the most important source of revenue for modern governments, typically accounting for ninety percent or more of their income. Taxation is seen by (Aguolu, 2004) as a compulsory levy by the government through its agencies on the income, consumption and capital of its subjects. These levies are made on personal income, such as salaries, business profits, interests, dividends and royalties. It is also levied against company's profits, capital gains and capital transfer. (Okon, 1997), states that income tax can be regarded as a tool of fiscal policy used by government all over the world to influence positively or negatively particular type of economic activities in order to achieve its objectives.

There are some studies conducted in Ethiopia in different topics with the issue of the effect of taxation on revenue generation.

According to Teera (2002) on the title factors affecting tax revenue in Uganda his results showed that population density, agriculture ratio and tax evasion affect all type of taxes. Tax evasion and openness showed significant negative impact and GDP per capital indicated that negative effect.

According to Anwar M.(2014) he identify six variables which are industry, GDP per capital income, agriculture, inflation, export and import and he concluded that structural factors such as exports of goods and services in percent of gross domestic product and import of goods and service in percent of gross domestic product significantly affect tax revenue performance of Ethiopia.

Tilahun A. (2014) conducted on determinants of tax compliance behavior in Ethiopia in case Bahir Dar City taxpayers and the objective of the study was identifying factors that determine tax compliance behavior.

The result revealed that perception on equity and fairness of the tax system; perception on government spending; penalties; changes on current government policies; personal financial constraint; and referral group are factors which significantly affect tax compliance behavior

According to Suresh V. & Srinivas G. on the title factors that influence rental tax payers' compliance with tax system: an empirical study of in Ethiopia in the case of Mekelle city.

The researcher concluded that rental tax payers lack knowledge of easily understanding the laws and regulations of the tax system and how their taxable income is computed.

According to Bahl (2003) on the title determinants of tax revenue and he used openness, the non-agricultural share of GDP and the rate of population growth all revealed the positive and statistically significant result. But, small correlation between the size of shadow economy and tax effort revealed the negative and statistically significant result.

Delessa D. (2014) conducted a study on the title of tax reforms and tax revenues performance in Ethiopia. The researcher is used descriptive analysis to compare different categories of tax performance of Ethiopian people's revolutionary democratic front and Derg regimes in terms of tax revenues mobilization of tax to GDP ratio. The analysis of the researcher revealed that tax reforms failed to enhance total tax revenues and to bring tax structure change from indirect tax to direct tax.

According to Dasalegn J. (2014) with the title of and the objective of the study was to analyze the role of VAT on economic growth of Ethiopia from 2003 to 2012 based on theoretical and empirical evidences. He employed descriptive statistics and multiple regressions to analyze the data. The researcher revealed that, as compared to sales tax, value added tax increases the general economic growth of Ethiopia.

The finding also revealed that, value added tax, total tax revenue and non-tax revenue except foreign revenue were significant with, but all of them positively contributed for economic growth during the periods under review

According to Alemayehu (2015) conducted a study on the title determinants of tax revenue in Ethiopia and the aim of the researcher was to identify determinants of tax revenue. The researcher used time series data from the period 1999 to 2013/14. The finding provided that, foreign direct investment to GDP percentage result shows negative but significant, Industry sector in percentage of GDP positive and significant, Inflation negative but not significant, Per capital income positive and significant, and the last saving interest rate positive insignificant effect on tax revenue

4. Research Methodology
4.1. Methodology and Data
There is no single best research design. Instead, different designs offer an array of choices, each with certain advantages and disadvantages. This study has used explanatory research design to gather data through questionnaires and to test the hypotheses. The research approach in this study was chosen based on the purpose and the research questions to be conducted. According to (Creswell, 2003) there are three basic types of research approaches, quantitative, qualitative, and mixed approach. This paper was interested in examining the associations between the dependent variable (that is revenue generation) and the independent variables Progressive nature of taxation, taxpayers' knowledge, tax administration and inflation rate. Therefore, quantitative approach is more appropriate to achieve the purpose of this study, since this paper was searching for what are the effects of taxation on revenue generation of taxpayers.

The researcher is employed random sampling techniques to select sample respondents. Sample respondents are selected from a total of 15,000 Bahir dar city taxpayers by providing equal chance to each member. The city has schedule A, B and C taxpayers

Table 1: Distribution of sampled respondent in the study area

Schedules	Total taxpayers	Sample	Returned questionnaires
Schedule A	1350	18	20
Schedule B	1550	21	21
Schedule C	12,100	165	109
Total	15, 000	204	150

Even though the researcher distributed 204 questionnaires to taxpayers, only 150 are returned and this is 73.5% of the total sample respondents. The researcher determined the sample size based on Yamane's (1967) formula. Thus by using Yamane's sample size formula the researcher calculates the sample volume with (e^2=0.07) as follow:

$$n = \frac{N}{1 + N(e)^2}$$

n= is the sample size
N= Target population
e^2= is the desired level of precision

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Primary data collection method through five point likert scale rank from strongly disagrees to strongly agree where**:** 1 = strongly disagree; 2 = disagree; 3 = not sure; 4= agree; and 5= strongly agree is used to collect data from sample respondents. And the collected data is analyzed by using both descriptive and multiple linear regression methods. But for the purpose of inferential analysis to explain the discreet effect of each explanatory variables on explained variable, the researcher make the five point likert scale into three point likert scale (strongly disagree and disagree used as disagree= 0, neutral=1, agree and strongly agree used as agree=2)

4.2. Econometric Model Specification

To conduct this study, the dependent variable which is revenue generation (RG) depending up on independent variables which are: progressive tax system, taxpayers' knowledge, tax administration and inflation rate. Based on the factors the model is formulated as follow;

RG = β0 + β1X1 + β2X2 + β3X3+ β4X4+ ε0 ………… (1)

Where, β_0, β_1, β_2, β_3 and β_4 are the regression co-efficient;

 X1- Progressive tax system

 X2- Taxpayers' knowledge

 X3- Tax administration

X4- Inflation rate

ε0- error term of the model.

RG-- Revenue Generation: is measured by collecting questionnaires.

ε0– Error term: will used in the model to control unobservable effect.

Regression analysis is performed to find out the significant effect of independent variables (X1, X2, X3, and X4) on dependent variables of revenue generation.

5.   Result and Discussion

This study employed descriptive and multiple linear regression model results to estimate and infer the parameters of the effects that influence revenue generation of taxpayers. The descriptive results and econometric model results are presented as follow.

5.1. Descriptive result and discussion
5.1.1.   Generated Revenue

Revenue generation is the dependent variable and reflected the total amount of money collected for the duration of a specified time or the amount of money that is generated during a specific time period. For Companies revenue generation is the income generated from sale of goods or services, or any other use of capital or assets, associated with the main operations of an organization before any costs or expenses are deducted. Sales revenue is the income that a firm realizes from selling its products or services to the public. **(https://www.reference.com)**

For government revenue generation refers to the amount of money collected from different sources mainly from tax to support public expenditure. Governments raise revenue mainly through taxation, in order to pay for government expenditure on capital and recurrent expenditures (Alabede, J.O. 2001). The regression result of generated revenue for this study shows only revenue of taxpayers generated from sale of goods or services, or any other use of capital or assets, associated with the main operations of an organization. The descriptive statistical presentation and the graph are as follow.

Table2: computed from SPSS

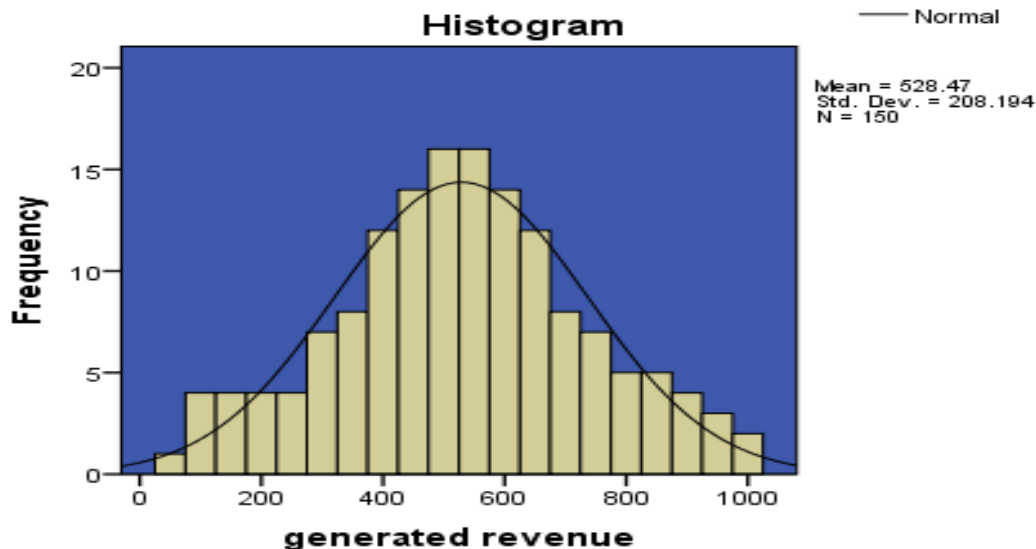|	N	Minimum	Maximum	Mean		Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
generated revenue	150	50	1000	528.47	16.999	208.194
Valid N (list wise)	150					

Fig1. Graphical presentation of distribution of sample respondents by revenue

5.1.2. Progressive nature of tax

Progressive tax system is elastic in nature and has the power to increase public expenditure. The government can easily increase its revenue by increasing the rates of taxes. In the case of progressive taxation, raising the rates for the higher status alone can raise more revenue (Parameswaran, 2005). Many tax systems in industrializing countries are substantially less progressive than those in industrialized countries implying that greater progressiveness could result in more revenue since a greater share of revenue would be borne by higher-income earners. (Schmitt, 2003). As rates of tax rises revenue of taxpayers' decreases. The regression result (p=0.002) revealed that there is significant relationship between progressive tax system and generated revenue of taxpayers at 1% level of significance (Annex.6)

Table 3.distribution of sample respondent's progressive tax system for taxpayers

Progressive tax system increases revenue of taxpayers	Sample respondents	
	number	percent
Strongly disagree	55	36.67
Disagree	68	45.33
Neutral	15	10
Agree	12	8
Strongly agree	-	-
Total	150	100

Source: computed from own survey data (2019)

From table 3 above, taxpayers disagreed that progressive tax system increases revenue of taxpayers. This is seen from the number of respondents that disagreed which are 68(45.33%) from the total sample respondents. This indicated that progressive tax system decreases revenue of taxpayers.

5.1.3. Knowledge of taxpayers

Increasing knowledge of tax regulation/ law among tax payers through formal and non-formal education will have a positive impact on taxpayer awareness to pay taxes. It has been demonstrated empirically that higher taxpayer's awareness will result higher level of tax compliance (Jatmiko, 2006). The chi square test (p=0.000) indicated that there is significant relationship between knowledge of taxpayers and revenue generation of taxpayers at 1% level of significance (Annex.6).

The descriptive result with related to knowledge of taxpayers increase revenue of taxpayers revealed that more than 60% of the sample respondents agreed.

Table4 distribution of sample respondent's by knowledge of taxpayers.

Knowledge of taxpayers increases revenue of taxpayers	Sample respondents	
	number	percent
Strongly disagree	3	2
disagree	9	6
Neutral	7	4.67
Agree	89	60
Strongly agree	41	27.33
Total	150	100

Source: computed from own survey data (2019)

From table 4 above, taxpayers agreed that knowledge of taxpayers increases revenue of customers. As seen from the number of respondents that agreed which are 89(60%) from the total sample respondents.

5.1.4. Tax administration

The function of a tax administrator also includes ensuring full compliance and effective enforcement of tax matters by tax payers. James & Mosses (2012), they used descriptive statistics to investigate the impact of tax administration on government revenue. They found that increasing tax revenue is a function of effective enforcement strategy. These enforcement strategies include; adequate manpower, computers, effective postal and communication system. The chi square test (p=0.000) indicated that there is significant relationship between tax administration and revenue generation of taxpayers at 1% level of significance (Annex.6) The descriptive statistics with related to tax administration revealed more than 60% from 150 of taxpayers sample respondents agreed that tax administration increase revenue of taxpayers

Table 5 distribution of sample respondent's tax administration for taxpayers

Tax administration system increases revenue of taxpayers	Sample respondents	
	number	percent
Strongly disagree	-	-
disagree	10	6.67
Neutral	4	2.67
Agree	58	38.66
Strongly agree	78	52
Total	150	100

Source: computed from own survey data (2019)

As seen from table 5 above, taxpayers strongly agreed that good tax administration increases revenue of taxpayers and the number of respondents that strongly agreed are 78(52%).

5.1.5. Inflation rate

There was a study conducted on the title determinants of tax revenue in Ethiopia and the aim of the researcher is to identify determinants of tax revenue. Inflation was one determinant has negative effect but not significant (Alemayehu D. 2015) .The other study conducted on the title the impact and consequences of tax revenues' components on economic indicators suggests that inflation rate have positive effect on tax revenue. The study based on Mahdavi (2008) that found increase in inflation rate will increase the tax revenue through the increase in sales tax and both results are statistically significant ((Taufik A., 2012))

In this study the regression result (p=0.000) for inflation rate indicated that there is significant relationship between inflation rate and revenue generation of taxpayers at 1% level of significance (Annex.6). The descriptive statistics with related to the effect of inflation rate on revenue generation of taxpayers is as follow.

Table 6.distribution of sample respondent by inflation rate

Inflation rate decreases revenue of taxpayers	Sample respondents	
	number	percent
Strongly disagree	16	10.67
disagree	9	6
Neutral	7	4.67
Agree	52	34.66
Strongly agree	66	44
Total	150	100

Source: computed from own survey data (2019)

From table 6 above, taxpayers are strongly agreed that inflation rate decreases revenue of tax taxpayers and the number of sample respondents that strongly agreed are 66(44%) from the total sample respondents of the study

5.1.6. Major factors

Table 7 distribution of sample respondent by major factor

From the above factors which are major factor?	Factors which affect revenue generation highly.			
	Progressive tax system	Taxpayers' knowledge	Tax administration	Inflation rate
Strongly disagree	10	17	2	1
Disagree	20	11	1	2
Neutral	12	5	5	3
Agree	58=4th	77=3rd	28	20
Strongly agree	50	40	114=2nd	124=1st
Total	150	150	150	150

Source: computed from own survey data (2019)

From the above table 7 sample respondents are selected major factors which have high influnce on their revenue generation. Sample respondents strongly agreed that inflation rate (124/150) is the first major factor and also strongly agreed that tax administration (114/150), taxpayers' knowledge(77/150) and progressive tax system(58/150) are the second, third and fourth major factor respectively.

5.2. Results and discussion of the econometric model

An econometric model, linear regression model was employed to identify the affects of revenue generation of Bahir dar city revenue office and taxpayers. Before the estimation of the parameters of the model, the data have been tested for goodness of fit, multicollinearity hetrosidastisty, normality and other statistical tests by using different commands of STATA software package. The goodness of a model is reflected in a significant p-value. The test of model adequacy was also carried out and has insignificant p-value 0.2285 which suggests that the model is adequate. Therefore, we can say that the variables are appropriate and sufficient to use the model and also the model is specified correctly. Both goodness of fit and model adequacy STATA result is presented in annex1 and annex 2 respectively.

In linear regression model normality and homoscedasticity of the error term should hold (Green, 2003). Since these assumptions required to be tested, I tested heteroscedasticity for outcome equation and normality of the error terms. I used Breusch-Pagan heteroscedasticity test to check existence of heteroscedasticity problem for errors. To check for normality of data, I have used the Shapiro-Wilk test. Based on this tests both results are presented in annex 4 and 5. This study employs linear regression model to estimate and infer the parameters of the factors of revenue generation and its effect on revenue generation in the study area. Out of the total four explanatory variables, for the result of regression equation shows that all variables were found to be significantly affect revenue generation of taxpayers in Bahir dar city. Variables found to be significant are progressive tax system, taxpayers' knowledge, tax administration and inflation rate.

5.2.1. Progressive tax system (prog)

In the case of progressive taxation, raising the rates for the higher status alone can raise more revenue for government. (Parameswaran, 2005) . Some forms of taxes are considered progressive. Progressive taxes take more from those able to pay more. Because this method is based on the ability to pay, it is considered the fairest means of taxation. People with higher incomes pay larger amounts of tax because their taxable income is larger. Thus, a greater portion of their income is paid to taxes; as a result their revenue is decreased. (https://www.treasury.gov.com). The rate of tax increases when revenue of taxpayers increases in case of progressive tax system and decreases their generated revenue. The study found that progressive tax system is an important variable in the regression analysis because it affects revenue generation of taxpayers negatively. The discrete effect of a change from disagree (0) to agree (2) in progressive tax system decreases the probability of revenue generation by birr 12,139. The study result revealed that progressive tax system is statistically significant at 1% level of significance. The negative association implies that when rate of taxes raises, revenue of taxpayers decreased.

5.2.2. Taxpayers' knowledge (know)

When taxpayers know more about tax laws, the importance of tax payment and how to operate their business, they can improve their revenue. The results of the model showed that knowledge of taxpayers' affect taxpayers generated revenue positively and it is statistically significant at 1% level of probability. On the other hand the discrete effect of a change from disagree (0) to agree (2) in taxpayers' knowledge increases the probability of revenue generation by birr 14,397.50. The positive association implies that for a taxpayer who knows more about taxation, his revenue increases.

5.2.3.   Tax administration (taxadm)

The function of a tax administrator also includes ensuring full compliance and effective enforcement of tax matters by tax payers. (James A., 2012), they used descriptive statistics to investigate the impact of tax administration on government revenue. They found that increasing tax revenue is a function of effective enforcement strategy. These enforcement strategies include; adequate manpower, computers, effective postal and communication system. It is fact that a good tax administration has positive effect on revenue of tax authorities and tax payers.

The study result indicates that tax administration is one of the key factor to increase revenue of the taxpayers and highly significant at 1% level of significance. The discrete effect of a change from 0 to 2 in tax administration increases revenue generation by birr 22,239.80. This might be due to the fact that good tax administration can raise revenue generation ability. The positive relationship implies that a good tax administration can increase revenue of taxpayers.

5.2.4.   Inflation rate (infla)

In most countries tax structure is progressive with increasing marginal rates attached to successive income brackets and taxpayers jump to higher brackets whenever their nominal income rise with inflation. Thus they are paying higher average rates than they would in the absence of inflation. Thus inflation reduces their income.(V. Tanzi, 1980) .Studies have shown that the tax liability of most firms would increase in the short run once depreciation, inventories and the monetary accounts are adjusted for inflation.(T. N. Tideman & D.Tucker, 1976). This study result also reveals that inflation rate is statistically significant and negative at 1% level of significance and the negative relationship implies that an increase in inflation rate decreases generated revenue of taxpayers. Keeping other variables constant a change from 0 to 2 in inflation rate decreases the probability of revenue generation by birr 29,156. The stated hypothesis is tested and inflation rate has association with taxpayers' revenue generation and the result shows p-value of 0.000 which is less than 0.05. Inflation rate is negatively associated with revenue generation of taxpayers' at statistical significance level of $(p<0.05)$. The magnitude (β) of the effect of inflation rate on taxpayers' revenue generation was -0.419 and the t-value of -7.32. All the above discussed values about significant relationship between dependent variable and independent variable as well as the regression outputs are as follow.

Table 8: relation between dependent and independent variable

Coefficients [a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	155512.267	8740.576		17.792	.000
progressive tax system	-12139.043	3833.407	-.175	-3.167	.002
taxpayers knowledge	14397.468	3670.393	.213	3.923	.000
tax administration	22239.783	3633.456	.325	6.121	.000
inflation rate	-29156.147	3984.930	-.419	-7.317	.000

a.   Dependent Variable: generated revenue

Table 9: The regression analysis for the output equation

Variables	Coefficients	Std.Err.	p>|z|
prog	-12139.04	3833.407	0.002***
know	14397.47	3670.393	0.000***
taxadm	22239.78	3633.456	0.000***
infla	-29156.15	3984.930	0.000***

R-Squared	0.6484
P	0.0000

Note *** represents significant at1% level of significance.

6.   Conclusion and Recommendation

6.1. Conclusion

The overall motive of this study was to examine factors affecting revenue generation of taxpayers in Bahir dar city. Data for the study were collected from randomly selected taxpayers' of the city using structured questioners. Quantitative data types related to factors that have effect on revenue generation were collected through primary sources from sample respondents. Linear regression model was employed to examine the factors of revenue generation of taxpayers. Descriptive and Inferential analysis were carried out to show important demographic

characteristics of sample respondents and the effect of explanatory variables on revenue generation.

Based on the descriptive statistics result inflation rate, tax administration, taxpayers' knowledge and progressive tax system are the major factors that affect taxpayers' revenue generation respectively. Based on the result of descriptive statistics, tax administration increases revenue of taxpayers'.

The regression result shows that tax administration (taxadm) is statistically and positively significant at 1% level of significant. Progressive tax system is another explanatory variable which affect revenue generation of taxpayers. The regression analysis for this variable shows that progressive tax system (prog) affect revenue of taxpayers' negatively and statistically significant at 1% level of significant. Based on the regression result taxpayers' knowledge (know) shows statistically and positively significant at 1% level of significance. This indicates that knowledge of taxpayers about tax and their business operation increases their revenue. The last explanatory variable which affects revenue generation of taxpayers' is inflation rate. The regression result shows that inflation rate (infla) is statistically significant at 1% level but negatively. As the regression analysis indicated that, all explanatory variables have relationship with revenue generation of taxpayers' with level of significance value less than 5% which shows independent variables can make contribution to the predicted value of dependent variable.

6.2. Recommendations

Based on the findings what I have got in the analysis part, in both descriptive and econometric analysis, the following recommendations can be drawn for further consideration and improvement of revenue generation. Since the study revealed that revenue generation is affected by tax administration, positively the tax authority should do discussion with taxpayers to identify the issues which distorts good tax administration. And the tax authority also train employees and update their knowledge. The study revealed that progressive tax system increase revenue of the tax authority thus the revenue office should create awareness to taxpayers about the productivity of progressive tax system to collect sufficient revenue and this improves infrastructure. The study result shows that knowledge of taxpayers increase revenue for both tax authority and taxpayers'. Thus the tax authority should have program to educate taxpayers about tax laws, principles, benefit of paying tax and penalties who do not pay tax. Even though inflation rate increase revenue of the tax authority but power of money become decreased, so the tax authority should work together with taxpayers to adjust high inflation rate and also protect taxpayers those who stored inventories to keep high price in the future.

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8. Appendix

Appendix 1: Test of model adequacy

```
. ovtest

Ramsey RESET test using powers of the fitted values of revenue
       Ho:  model has no omitted variables
                F(3, 142) =      1.46
                  Prob > F =      0.2285
```

Appendix 2: Test of goodness of fit

Source	SS	df	MS		
				Number of obs =	150
				F(4, 145) =	66.86
Model	3.7690e+11	4	9.4224e+10	Prob > F =	0.0000
Residual	2.0435e+11	145	1.4093e+09	R-squared =	0.6484
				Adj R-squared =	0.6387
Total	5.8125e+11	149	3.9010e+09	Root MSE =	37541

Appendix 3: Pearson's Contingency coefficient for dummy (discrete) variable

```
. cor gerevenue prog know taxadm infla
(obs=150)
```

	gereve~e	prog	know	taxadm	infla
gerevenue	1.0000				
prog	-0.4807	1.0000			
know	0.4995	-0.2930	1.0000		
taxadm	0.5538	-0.2049	0.2953	1.0000	
infla	-0.6645	0.4223	-0.3337	-0.3110	1.0000

Appendix 4**:** Test of Heteroscedasticity of the error term

```
. hettest

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

             chi2(1)      =      0.74
             Prob > chi2  =    0.3894
```

Appendix 5: Shapiro-Wilk tests for Normality

```
. swilk gerevenue prog know taxadm infla


             Shapiro-Wilk W test for normal data
```

Variable	Obs	W	V	z	Prob>z
gerevenue	150	0.99325	0.786	-0.546	0.70746
prog	150	0.99912	0.102	-5.170	1.00000
know	150	0.99800	0.233	-3.304	0.99952
taxadm	150	0.99692	0.358	-2.329	0.99008
infla	150	0.99902	0.114	-4.925	1.00000

Appendix 6: Stata output for linear regression model
```
. reg gerevenue infla taxadm know prog
```

Source	SS	df	MS		
Model	3.7690e+11	4	9.4224e+10		
Residual	2.0435e+11	145	1.4093e+09		
Total	5.8125e+11	149	3.9010e+09		

Number of obs = 150
F(4, 145) = 66.86
Prob > F = 0.0000
R-squared = 0.6484
Adj R-squared = 0.6387
Root MSE = 37541

gerevenue	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
infla	-29156.15	3984.93	-7.32	0.000	-37032.2	-21280.09
taxadm	22239.78	3633.456	6.12	0.000	15058.4	29421.16
know	14397.47	3670.393	3.92	0.000	7143.086	21651.85
prog	-12139.04	3833.407	-3.17	0.002	-19715.62	-4562.469
_cons	155512.3	8740.576	17.79	0.000	138236.9	172787.7

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10. Conflict of interest

The author declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

11. Funding statement

12. Author's Biography

This is Nesredin Mekonnen Tadesse I am a lecture in Woldia University in accounting and finance department. I hold my first degree in accounting from Mizan -Tepi University in 2012 and I hold Masters degree in accounting and finance from Bahir Dar University in January 2018.

This study is the first study to me next to my first-degree research. Thus, no research, article or book I have published before this time.