Innovations

Analyzing the Detrminants of Tax Compliance: Evidence from Ethiopia

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Abstract: The purpose of this study was to identify and analyze the critical determinants of tax compliance based on the evidence collected from taxpayers in 2024. Empirical data was collected from 255 taxpayers from six federal tax office branches in Addis Ababa using structured questioner. Descriptive and explanatory research design was employed for this particular research. The data collected was analyzed using mean, standard deviation, and multiple regression methods. The finding of the study revealed that personal tax knowledge and social factor are positive significantly influencing taxpayers' tax compliance in Ethiopia, economic factor influence tax compliance negative significantly. Personal tax knowledge was found to be the most critical factor in affecting tax compliance behavior as supported by (B=0.846, p-value=0.000). Thus, from the regression analysis, it can be implied that equipping tax payers with necessary knowledge of Ethiopian tax system, types of core taxes of Ethiopian tax system, tax laws and procedures in the country and civic responsibility in paying tax were critically important to enhance tax compliance among taxpayers and consequently minimize tax avoidance and evasion. The second key determining factor in tax compliance is social factor with a moderate and significant effect on taxpayers' compliance behavior (B= 0.5660, P-value= 0.030).This implied that positive social attitude and social norm towards taxation plays significant role to enhance compliance among tax payers and general public at large. Contrary to the personal tax knowledge and social factor, the economic factor had negative but significant effect on tax compliance. This is because of the fact that marginal tax rate as one of economic factor is a cause for under-reporting and leading to significant tax evasion. Such higher tax rates are very likely to erode tax bases contributing to higher revenue leakage.

Keywords: Economic factor, personal tax knowledge, Social factor, tax knowledge, tax compliance

1. Introduction

The problem of tax compliance is as old as taxes themselves. Understanding the patterns of tax noncompliance, and identifying means to reduce it, is critical to

countries around the world. The issue of tax compliance can be considered from several perspectives such as viewed as a gap of public finance, organizational design, law enforcement, ethics and labor provision, or a combination of all of these (Andreoni, Erard, & Feinstein, 1998). There are many factors affecting the taxpayers' attitude on tax compliance, which ultimately influence taxpayers' behavior. Factors affecting the tax compliance and/or noncompliance behavior are vary from country to country and also among individual (Kirchler, 2007).

In Ethiopian context until the early twentieth century, taxes used to be paid mainly in kind-or labor services, rather than in cash (Alemayehu, & Abebe, 2005). However, during the Minilik II fixed agricultural income tax was introduced and substituted the older ones (Lemessa, 2007). It appears that traditional tax system during Minilik II was significantly changed to better tax administration system during Emeror Hailesilasie though not fully modernized (Workneh, (2016).

In 1944,various taxes were imposed and collected from various sources such as income from employment, businesses, (personal and business following tax proclamation 60/1944), rental of land and buildings, vocational occupation, agricultural income, interest, and exploitation of wood and forest used for lumbering purposes(Dejene M.,et al.2014). The Derg regime tried to enlarge the tax base, increasing the tax rate, and replacing taxes on agricultural income and rural land with a rural land-use fee majorly to support war, to finance the ever growing government sector and the needs of the society . Derg regime was also known by its proclamation of rural Land Use Fee and Agricultural Activities (Income Tax Proclamation No.77/76, 1976). Ruling party during Derg regime was said to partially solve tax collection challenges that existed during the imperial period through the delegation of tax collection responsibility. After the overthrown of Derg regime , EPRDF came to power , and declared new tax provision of proclamation No.33/92 with the sharing of tax revenues between central and regional governments (1992).

The current government, pursuant to the 1995 approval of the Ethiopian constitution, gave power to the federal and regional governments to levy and collect taxes. As a result, a number of changes have been made in the tax policy of the country as a result of the structural changes. Most significant changes were made in the tax laws bringing about reduction in the rate of income tax from 40% to 30% (Income Tax Proclamation No.286/02, 2002), equalization of tax rates for small and large scale mining activities (Amended Mining Proclamation No. 23/96, 1996), exemption of houses used for residence from paying capital gains tax. Because of a policy to encourage new investments, tax relief provisions were brought in (Investment Proclamation No.280/2002, 2002).

Amendments in the laws were followed by other measures such as introduction of Taxpayer Identification Number (TIN), introduction of tax withholding system and replacement of sales tax by VAT, which has become the main source of revenue for

the government. During the time turnover tax was also introduced , emphasis on tax payers' education, strong enforcement mechanisms, substantial reforms and amendments in the tax laws to keep pace with time and the changing economic environment. Later , based on proclamation No. 587/2008 the former Federal Inland Revenue Authority (FIRA), Customs Authority, and Ministry of Revenue all joined and formed the now Ethiopian Revenue and Customs Authority (ERCA) (Dejene M.,et al.2014)..

In Ethiopia it is observed that there is low capacity of tax administration to monitor compliance among taxpayers and the potential amount of tax revenue has not been collected in an efficient and equitable manner. Exploiting loopholes in current tax laws still most business men enter into an illegal practice of not paying taxes, by not reporting income, reporting expenses not legally allowed, delaying taxes owed with the intention of paying nothing or something lesser than one"s tax liability.

As a result, malpractices of tax evasion and avoidance are posing serious challenge on the country's economic development. Moreover, noncompliance to tax in Ethiopa has resulted in limited government capacity particularly on the amount of resources available for the government and undermines economic efficiency, income distribution, and the government's legitimacy. On top of these serious challenges, amendments to the existing tax laws and new proclamations were made to solve those serious challenges related to tax compliance and brought improvement in revenue collection during the period (Alemayehu, & Abebe, 2005)..

In Ethiopia, though tax potential is promising, improvement on tax administration and efficiency following the amendments and new proclamations made were not as expected. Studies conducted by Lemessa, (2007) and Workneh, (2016). in Ethiopia related with tax consistently argue that, still there is big challenge on tax administration efficiency. Moreover, problems related with fraud and smuggling are among the deep rooted challenges the country is suffering.. Thus, study is intended to investigate the basic determinants of tax compliance behavior among business firms in Ethiopian context as tax evasion and avoidance is a national threat that affects integrity of every tax system.

2. Literature Review

Studies conducted by various scholars reveal taxation as one of the critical issue that regulates the overall national income, (Alm, J. 1991)..In most literature tax is defined as 'a compulsory levy, imposed by government or other tax raising body, on income, expenditure, or capital assets (Baldry, J. (1999a). Studies reveal that earlier taxes were looked upon as the wages paid to government for its services, the chief among them being security. In modern government a tax is a financial charge or some other type of levy imposed upon a taxpayer (an individual or other legal entity

by governmental organization in order to fund varies public expenditure. (Christian, C. W. 1994).

In this connection Alm, J. (1991)..also argue that mainly imposing certain taxes on the public is to generate revenues for the government for public expenditure . On top of this , there are other functions of taxes as suggested by researchers including to reduce inequalities through a policy of redistribution of income and wealth so that income gap between the rich and the poor is not as significant. Tax systems are also designed for social purposes, such as discouraging certain activities which are considered undesirable and protecting the environment. For instance, the

excise taxes on alcohol and tobacco are (at least partly) exercised to decrease consumption and thus encourage a healthier lifestyle. Taxes are also expected to ensure economic goals through the ability of the taxation system to influence the allocation of resources including transferring resources from the private sector to the government to finance the public investment programme, the direction of private investment into desired channels through such measures as regulation of tax rates and the granting of tax incentives. In addition, import duties could be used to protect local industries from foreign competition. This has the effect of transferring a certain amount of demand from imported goods to domestically produced goods (Mohd R.,2014)..

Given all the purposes of taxation ,there is an agreement among scholars that effective taxation and collection depends on the basic requirements that tax system should satisfy. The first is personal tax knowledge, which is defined as a taxpayer knowing his or her tax liability and when and where to pay the tax. The second factor is institutional factor which relates to the simplicity of the tax systems so that the taxpayers are easily understood and capable of calculating their tax liability. Institutional factor also refers to convenience as a basic requirement on how people pay their taxes or engage with the tax system. For example, people more conveniently pay tax by it being deducted at source rather than paying a large amount of tax annually The third condition is related social factor in that taxation has to be equitable and fair among individuals and it should be levied based on taxpayers' capacity. Equitable tax system comprises both horizontal and vertical dimensions .Horizontal equity means that taxpayers with the same income or wealth should pay the same amount of tax (tax burden) while vertical equity means that taxpayers with high income (capacity) should pay higher tax (tax burden). At last efficiency which most of the case indicates how the tax authority collects the tax revenues and can be divided into two subsections: administrative efficiency and economic efficiency. Administrative efficiency refers to the costs involved when collecting tax revenues. The more a tax costs to administer, the less of the money raised is available to the government to spend. The administrative cost should be as small as possible to achieve desirable economic efficiency (Alm, J. 1991). Economic

efficiency referring to tax should not interfere with the working of the markets. For example, the introduction of a new tax or increase on the tax rates should not distort or affect taxpayers' behavior (i.e. from compliant to less compliant).

According to the study conducted by (Cobham, A. 2005), showed that, all over the world the notion of taxation and tax collection reveals large cross-country differences, especially between developed and developing countries. Most research data shows that developed countries actually collect much higher tax revenue than developing countries despite comparable statutory taxation rates, even after controlling for underlying differences in economic activity (Doran, M. 2009). In other hand, taxation in developing countries is a basic challenging topic and has attracted increasing attention to the researchers. Many problems observed like poor tax administration, failing to collect sufficient tax revenues. In many developing countries, it is observed that there is low capacity of tax administration to monitor compliance among taxpayers and the potential amount of tax revenue has not been collected in an efficient and equitable manner (Alemayehu, G., & Abebe, S. (2005). Moreover, studies also reveal that poor tax administration is a principal cause for tax evasion and avoidance. Accordingly, scholars defined tax evasion as an illegal practice of not paying taxes, by not reporting income, reporting expenses not legally allowed, delaying taxes owed with the intention at paying nothing or something lesser than one's tax liability(Baldry, J. 1999a). And In this regard the study conducted by Christian, C. W. (1994) explained the conceptual distinction between tax evasion and tax avoidance hinges on the legality of the taxpayer's actions. Tax evasion is a violation of the law: When the taxpayer refrains from reporting income from labor or capital which is in principle taxable, he engages in an illegal activity that makes him liable to administrative or legal action from the authorities. In evading taxes, he worries about the possibility of his actions being detected (Mohd R., 2014). Tax avoidance, on the other hand, is within the legal framework of the tax law. It consists in exploiting loopholes in the tax law in order to reduce one's tax liability; converting labor income into capital income that is taxed at a lower rate provides one class of examples of tax avoidance. In engaging in tax avoidance, the taxpayer has no reason to worry about possible detection; quite the contrary, it is often imperative that he makes a detailed statement about his transactions in order to ensure that he gets the tax reduction that he desires.(Mohd R.,2014).

Tax evasion and avoidance drastically reduces the amount of state budgets every year all around countries globally and it denies every government tax revenue due to the system, which results in a gap between the potential and actual tax collection Doran, M. (2009) even it's a global phenomenon that has been practiced globally(Cobham, A. 2005)). And, it takes place in developed as well as developing countries, in virtually all societies and cultures (Franzoni, L. ,2000)

As a result, issue of tax evasion and avoidance attend to get attention among scholars and policy makers especially during the financial crisis of 2008, the Great Recession, and the large deficits. More over the need to understand basic determinants of tax evasion remains as important as ever with tax evasion being globally spread disease that threatens the integrity of every tax system particularly of those that are more fragile. More importantly tax evasion and its impact on the overall economic system in a given country , received critical attention in the eyes of researchers in 1970s yet it's a long-standing, universal problem which transcends national boundaries. Consequently , various researchers produced a large body of theoretical and empirical research, especially following the publication of the Sandmo (A-S) model in 1972 which is sound under the assumption that an individual pays taxes only because of the economic consequences of the evasion gamble and because they fear detection and punishment. But once this idealized world is left and we turn to tax payers subjected to various factors such as government policies and performance factors, attitude and knowledge factors (Hasseldine, J. 1993).

Although the issue of tax evasion seems studied by various researchers across the globe, it come up with inconclusive and contradictory judgments on the actual determinants of tax evasion notwithstanding countless researches have been conducted.

Globally, tax evasion is being one of the major problems facing every (Hasseldine, J. 1993). In developing countries seems obvious because tax administration there is often staffed with poorly trained and poorly paid officials (Kim, S. 2008).. And they may have rigid structures that do not encourage an integrated approach to different tax categories and the unsatisfied tax officer may not have willingness to support the taxpayers" and will not give sufficient services as required (Lemessa, T. 2007. As a result, most developing countries have not been able to raise sufficient revenues for essential public infrastructure and human development services (Kim, S. 2008).

Thus developing countries, including those in Africa, tax evasion related challenges are the major challenges of tax revenue to finance major development initiatives such as the Millennium Development Goals (MDGs) targets, infrastructure, and climate change adaptation programs.

Thus, the problem of tax evasion is a major concern for developing countries like Ethiopia; as economic development can be significantly hampered by poor tax revenues because of the problem of tax evasion (Guttman, G. 1994) .Based on the trend analysis, Lemessa, T. (2007)found Ethiopia having lowest tax to GDP ratio (10.7%) far below the average for Sub Saharan African and low income countries in general, and tax evasion contributes a lot to this poor performance (Tilahun, A. 2014).

Moreover ,throughout the world and mostly in African countries including Ethiopia tax evasion and avoidance ,are due to ,low standard of education of taxpayers,

negative attitude of taxpayers toward the government and the Revenue department, ambiguity of the Revenue Code, and inefficiency in tax administration of the Revenue Department In this aspect (Lemessa, T. 2007),consistently argue that lack awareness on tax rules and regulations and this has an impact on the practicability of the tax compliance of most firms in Ethiopia. Accordingly, this thesis is mainly aimed at analyzing the key determinants of tax compliance behavior among firms in Ethiopian context.

Figure 1 : Conceptual framework
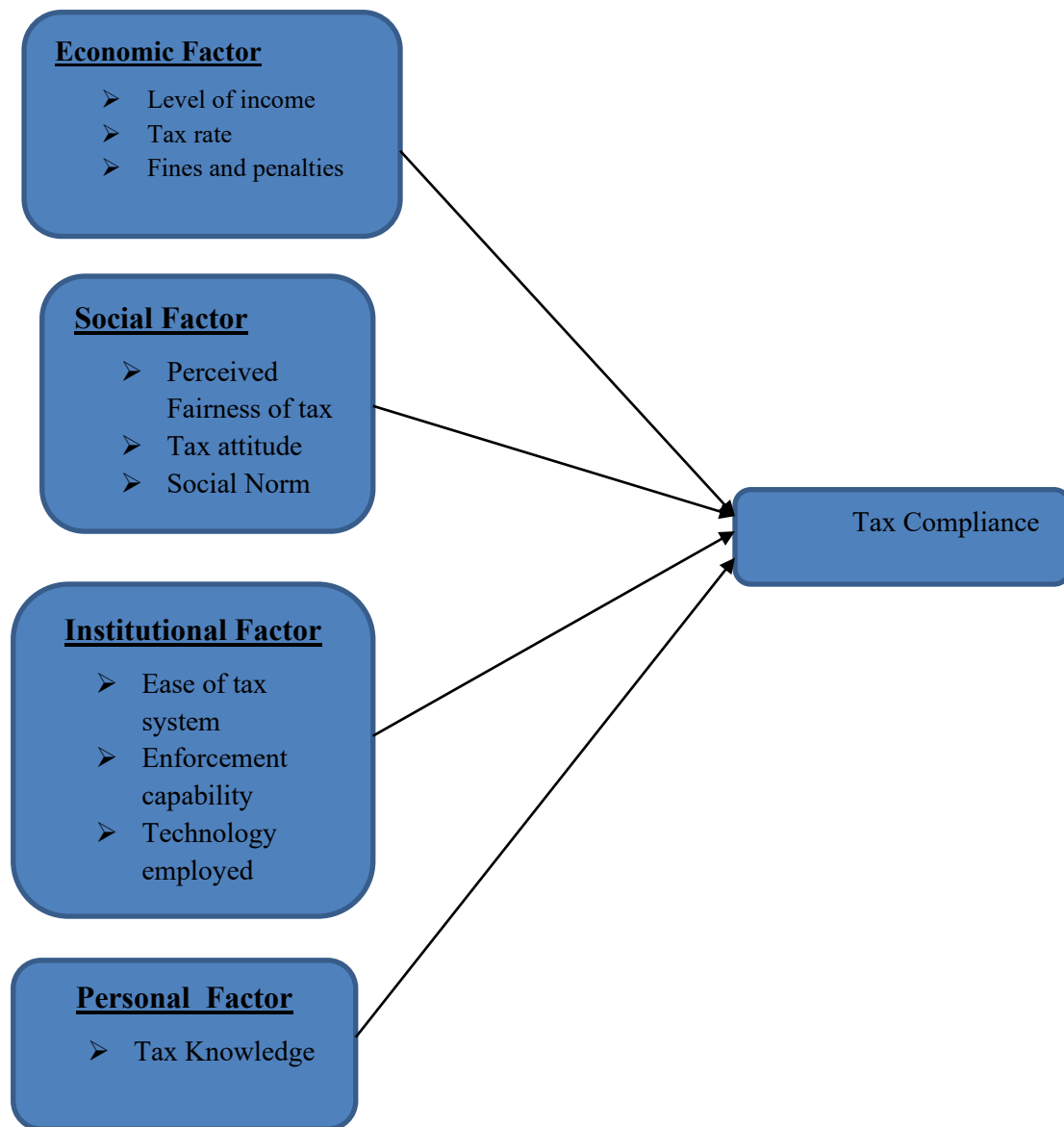
Source: Developed based on literature survey (2024)

3. Methodology

This study was conducted using explanatory and descriptive research design Specifically deceptive research design was employed to describe key determinants of tax compliance and the nature or characteristics of compliance behavior of Federal tax payers in the six tax branch offices in Addis Ababa whereas explanatory design was employed in order to analyze the association between determinants and tax compliance behavior. Structured questioner was prepared based on five point likert scale format. 270 questioners were conveniently distributed to tax payers of the six office branches and 255 were collected and used for analysis. SPSS and STATA application soft wares were used in order to compute descriptive mean, conduct correlation and regression analysis.

4. Result and discussion

4.1. Introduction

This section of the research incorporates analysis and discussion of the data collected through questionnaires. The study briefly examines key determinants of tax compliance among Federal Tax payers in Ethiopia. A total of 270 questioners were distributed and 255 were returned and used for analysis purpose.

4.2 Descriptive Statistics result and discussion

4.2.1. Descriptive statistics of Determinants of Tax compliance

4.2.1.1. Personal Tax Knowledge

In order to assess the determinants of tax compliance among tax payers in Ministry of Revenues taxpayers were asked structured questions designed in a likert scale form that require them reflect their agreement and disagreement (see Table 4.2). The first category of questions is related to tax payer's personal tax knowledge which is whether the tax payer has knowledge of the general Ethiopia's tax system, types of taxes in Ethiopia, understanding that paying taxes is a civic duty ,and tax laws and guidelines pertaining to the taxation of business income. Various studies conducted in the areas of tax administration revealed that decisions to comply to evade tax obligation are most likely dependent on taxpayer's personal tax knowledge. Generally, the result indicated the following table shows that tax payers general tax knowledge is relatively high given the descriptive mean value of 4.14 (SD of 0.85). Since, tax payers' general understanding on basic tax knowledge is critical precondition for the improvement of tax compliance and minimize tax evasion, tax payers education and special trainings on the core tax types like (VAT, CIT, excise tax .PAYE and others),tax laws and guidelines referring to taxation of businesses In Ethiopia and civil responsibility towards tax obligation are all believed to enable enhance the overall tax compliance among tax payers . The implication one can refer here at this particular point is that , when tax payers have

good understanding on bsic tax knowledge there will be high probability for the tax administrators to enhance tax compliance behaviors among their tax payers which will in turn help improve domestic revenue mobilization capacity.

Table 4.1. Determinants of tax compliance   (N =255)

Items	Mean	Std. Dev.
Personal Tax Knowledge		
I have knowledge of the general Ethiopia's tax system	4.04	0.93
I am aware of types of taxes in Ethiopia	4.17	0.88
I have clear understanding that paying taxes is a civic duty	4.21	0.82
I have good knowledge of most tax laws and guidelines pertaining to the taxation of business income	4.14	0.77
Aggregate mean	**4.14**	**0.85**
Social Factor		
Majority of the people believe that the government's tax policy is fair , equitable and appropriate.	4.47	0.85
I as one of the citizen in Ethiopia do understand that Paying tax is a social norm in Ethiopia	4.46	0.91
Every citizen in Ethiopia believes that paying tax is their social responsibility	4.87	0.98
I as a citizen understand the tax collected is utilized for the investment in different infrastructure and development projects..	4.58	0.89
Aggregate mean	**4.60**	**0.91**
Institutional Factor		
The general tax administration system of Ethiopia is so easy and efficient	4.21	0.86
E-filling and e-payment system of Ministry of revenue is reliable and efficient	4.26	0.84
Employee capability coupled with the technology has made service delivery of Ministry of revenue so efficient	4.31	0.91
Enforcement capability of ministry of revenue is strong enough to enhance tax compliance	4.01	0.90
Aggregate mean	**4.20**	**0.88**
Economic factor		
Tax rate levied by tax authority in Ethiopia is high	4.33	0.89
I (as a tax payer) am highly discouraged by tax rate in	4.01	0.78

Ethiopia		
Higher tax rate eroded my hard earned income and affect accuracy of financial report	4.21	0.81
Fines/penalty for noncompliance is so high in Ethiopian context	4.35	0.79
I pay my tax obligation on time as the penalty for non compliance is extremely high	4.89	0.88
Aggregate mean	**4.36**	**0.83**
Tax compliance		
I feel responsible in recording financial transactions regularly and correctly.	3.46	0.81
I am usually committed to filing and reporting my tax obligation timely honestly, completely, and correctly in accordance with applicable rules	3.42	0.89
I pay my taxes voluntarily according to the rules and on time.	3.48	0.91
Aggregate Mean	**1.2861**	**0.1721**

Source: SPSS computation from survey data (2024)

4.2.1.2. Social Factor

Recent researches in tax administration support that social norms and citizens attitude towards tax obligation are among the important factors affecting tax compliance behavior in Ethiopia. In this regard Lemessa (2005) argued that tax compliance among tax payers is highly reliant on societal attitude towards the state which is the believed to be the result of citizen and state relationship. Scholars like Alemayehu G. & Abebe S. (2005) also support the fact that strong link between society and the state is supposed to have significant influence on society in complying with tax law. In this regard, basic social issues like tax payers perception on fairness, equitable and appropriateness of the tax levied on the citizens ; social norms on tax obligation , social responsibility toward tax obligation and finally social perception towards re-investment of tax collected ; were among social dimensions addressed during the survey. Accordingly, descriptive analysis result supported by higher mean vale of 4.60(SD of 0.91) showed that, the general social attitude attributed to the social issues significantly influence tax compliance behavior in Ethiopian context. With regard to equitable and fair tax assessment it is rational that people with the same level of income reoffered as the same wealth brackets are required to pay the same amount of taxes. Moreover, tax to be paid will again rationally increase with increase in tax base or taxable income.

4.2.1.3. Institutional Factor

Most research results also reveal that institutional factors or features inherent to the tax administration systems are among the critical factors that either positively or negatively affects tax payers' compliance behavior. In this regard Federal tax office branches under Ministry of Revenue was assessed in terms of ease of the overall tax administration system and its efficiency ;utilization of electronic tax administration system like ,e-filling of tax obligation ,e-payment of taxes obligations);employee technology capability for efficient service delivery and probability of being detected were assessed and found to play critical role in tax payers compliance decision(supported by descriptive mean value of 4.20(SD=0.88). Enabling institutional situations are critically important in minimizing tax evasion among tax payers. In line with the role of institutional factors Tesfaye, A. (2014) explain tax administrators are required to establish a simple tax return and system from the taxpayers' point of view encourages the taxpayers to comply with tax law.

4.2.1.4. Economic Factor

As per the findings of various studies conducted in the areas of tax compliance important economic factors such as actual income level of the tax payer , tax rate levied ,fines and penalties are among the factors affecting tax compliance behavior among tax payers in most countries .In this regard Lemesa T. (2007) explain that self-employed or business men who have different source s of income through high and hard effort to earn income are very reluctant to lose their hard earned money by gambling with the tax commissions. Thus, understanding the practical relation between income and tax compliance is so crucial in order to devise audit strategies and tax ethics scholars who did experiment on the association between income and tax compliance boldly explain the negative relation between income and compliance.

The other important dimension of economic factor is the tax rate levied by tax authorities. In this regard researches forward mixed result in that authors like (Allingham and Sandmo, 1972) who conducted study on the association between marginal tax rate and tax compliance indicated the higher the tax rate the better is tax compliance decision among tax payers .On the contrary to this , laboratory experiment conducted by Workneh A (2016) showed marginal tax rate is a cause for under-reporting and leading to significant tax evasion This is because of the fact that tax payers are highly discouraged by higher tax rate which takes larger portion of their hard earned income that in turn lead to underreporting and lower compliance among tax payers . Such higher tax rates are very likely to erode tax bases contributing to higher revenue leakage. Thus it is recommended that tax authorities are required to set fair and balanced level of tax rate in order to motivate tax payers make accurate reporting enhance their compliance . On top of the above

controversial arguments in the association between tax rate and compliance Mclarne, J. (2008) argue that moderating effect of the level of trust between tax authorities and tax payers so critical to shape the degree and direction of the relation between the two variables . Thus research found that better communication, and interaction between tax payers and tax authorities will lead to productive relation which in turn lead to high trust between themselves . Thus higher trust built between tax payers and tax authorities is a ground for the positive relation between marginal tax rate and tax compliance as tax payers consider it as a contribution to the community .On the other hand low trust and negative attitude of tax payers coupled with marginal tax rate will negatively affect tax compliance. In a nut shell most scholars in this sphere agree on the fact that higher tax rate is one of the cause for tax evasion

4.3. Correlation Analysis

In order to analyze the relationship between each of the determinants tax compliance and tax payers' compliance behavior. Correlation analysis was conducted and the results are indicated in Table 4.2.below. Accordingly, the Pearson correlation test results showed that all factors related to tax compliance were positively correlated . As presented in the table, personal tax knowledge has statistically significant and very high positive relationship with the tax payers' compliance behavior (r = 0.8354, $p < 0.05$); where as social factor has moderate and significant association with tax compliance behaviour (r=0.6382, $p<0.05$). However, institutional factor(IF) and tax compliance behavior have weak and insignificant relation which is indicated by r= 0.0887). Moreover ,the result in the correlation matrix revealed that ,tax compliance has high and significant association with economic factor(EF) (r=0.8047).The implication of this correlation analysis s is that tax compliance among tax payers is very high when personal tax knowledge among tax payers is high followed by social norms and tax positive payer's attitude.

Table 4.2. Pearson correlation matrix (N=255)

Variables	1	2	3	4	5
1.PTKs	**1.0000**				
2.SF	0.3816*	1.0000			
3.IF	0.2470	0.5680*	1,0000		
4.EF	0.5153*	0.5141*	0.5910*	1.0000	
5.TC	0.8354*	0.6382*	0.0887	0.8047*	1.0000

Source: SPSS computation from survey data (2024)

4.4. Regression results and Analysis

4.4.1. ANOVA Table

Correlation analysis addressed above is a statistical analysis that can only depict the extent to which the variables are associated. However it does not indicate the causing and the effect. Thus ,in order to understand cause and effect relationship determinants and of tax compliance and tax payers' compliance behavior ,and also the extent to which tax personal tax knowledge affects compliance behavior ,the degree to which social factors like attitude, norms of the society influences compliance behavior and also to clearly understand how far institutional and economic factors influence tax compliance ,multiple linear regression was employed ., whereby all the independent or causing (Predicators) variables are entered in to the model at a time and regressed against the effect/dependent variable ,

Table 4.3. ANOVA Table for MLR (N=255)

ANOVA[a]						
MLR		**Sum of square**	**df.**	**Mean Square**	**F**	**Sig.**
1	**Regression/model**	22.8526	7	5.4785	25.84	0.0000[b]
	Residual	8.6800	51	0.1881		
	Total	31.5326	58	0.5810		
a. Dependent Variable: Tax compliance						
b. Predictors: (Constant), PTK,SF,IF,EF						

Source: Computed from survey questioner using STATA version 14 (2024)

As the result of ANOVA indicated in Table 4.3, the probability or F-statistic value of (F=29.13, that is computed as the ratio of 5.4785/0.1881) of the model is lower than that of the chosen level of significance , the regression model is statistically significant and acceptable. In other words, the F-statistical value of the model is 2.13 (p-value=0.0000 is less < 0.05), which indicates the four independent variables; personal tax knowledge, social factor, institutional factor and economic factor are jointly significant in explaining tax compliance behavior (the dependent variable).

4.4.2. Result of Regression analysis and discussion

Table 4.4 below depicts the independent variables in the multiple regression model which are the predictors of the dependent variable. Accordingly the results showed that, first the coefficients of the three independent variables are positive .However coefficient of one the independent variable economic factor was negative. Moreover among the four explanatory variables for their T-test p-value of the two variables namely , personal tax knowledge and social factors are lower than 0.05. This indicates there is statistically significant and positive relation between these two variables and the tax compliance behavior.

In regression model summary the beta coefficient also showed that among the four independent variables personal tax knowledge and social factors haves relatively the highest effect (B=0.846, p-value=0.000) on tax pair's tax compliance behaviors .. In addition,, with beta coefficient of B=0.5360 (p=0.033) institutional factor had moderate and significant effect on tax payer's compliance behavior . From the model summary it can also be observed that economic factor(higher marginal tax ratea0 had negative relation with tax payer' compliance behavior. This is because of the fact that marginal tax rate is a cause for under-reporting and leading to significant tax evasion . Thus it cab implied from the regression analysis that the higher marginal tax rate (one of the economic factor), the lover is tax compliance behavior.

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Table 4.4. Multiple Linear regression (MLR) model results for Tax compliance Behaviour (TCB)

1	Independent variables	Beta Coefficients	Std. error	t-statistics	P-value
	PTK	0.8581***	0.9882	8.68	0.000
	SF	0.5660**	0.3876	2.20	0.003
	IF	0.4676	0.2676	0.92	0.361
	EF	-0.6865*	0.3575	-2.01	0.041
2	Model Summary: R^2 =0.7375 $Adjusted \overline{R^2}$ = 0.7089 MSE= 0.4125				

Constant: tax compliance behavior

Source: Own computation from survey data (2024)

*Note: ***, **, and * refer to significance at 1%, 5%, and 10%, respectively*

5. Conclusions and Recommendations

The main objective of this study was to analyze determinants of tax compliance behavior in Ethiopian . Data was collected from 255 tax payers of six federal tax office branches in Addis Ababa. Descriptive, correlation and regression analysis were made using SPSS and STATA in order to analyze and reach at fair conclusion. Four key determinants and their effect on tax compliance behavior ; individual factor (tax payer's personal tax knowledge) , social factors (fairness of tax ,equitability of tax ,social norm and attitude towards taxation) ; institutional factors(ease of service ,and technology employed) and finally economic factor(tax rate ,fines and penalty rate) were addressed in the study.

Among the four determinants personal tax knowledge was found to be most critical factor in affecting tax compliance behavior as supported by (B=0.846, p-value=0.000). Thus ,from the regression analysis ,it can be implied that equipping tax payers with necessary knowledge of Ethiopian tax system ,types of core taxes of Ethiopian tax system ,tax laws and procedures in the country and civic responsibility in paying tax were critically important to enhance tax compliance among tax payers and consequently minimize tax avoidance and evasion. On top of this , designing appropriate strategy and investment on educating tax payers would support compliance and help the country to collect sufficient domestic revenue as much as revenue potential in the economy. The second key determining factor in tax compliance is social factor with a moderate and significant effect on tax payers' compliance behavior (B= 0.5660, P-value= 0.030).From this result it can be concluded that positive social attitude and social norm towards taxation and the role of domestic revenue in social and economic development plays significant role to enhance compliance among tax payers and general public at large .Regarding institutional factor(ease of service delivery and technology employed in the overall tax administration) the result showed lower but significant effect on tax compliance . Thus it can be implied from the finding that tax authorities could enhance tax compliance through modernization of their tax administration system and easy and efficient service delivery to the tax payers. At last regression analysis result showed economic factors (higher marginal tax rate , fines and penalties) have negative but significant effect on tax compliance .This is because of the fact that marginal tax rate is a cause for under-reporting and leading to significant tax evasion . Thus it can be implied from the regression analysis that the higher marginal tax rate (one of the economic factor),the lover is tax compliance behavior. In fact that tax payers are highly discouraged by higher tax rate which takes larger portion of their hard earned income which in turn lead to underreporting and lower compliance among tax payers . Such higher tax rates are very likely to erode tax bases contributing to higher revenue leakage. Thus, it

is recommended that tax authorities are required to set fair and balanced level of tax rate in order to motivate tax payers make accurate reporting enhance their compliance

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