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FACTORS AFFECTING TURNOVER TAX COLLECTION OF CATEGORY "B" TAXPAYERS" IN ETHIOPIA, SOUTH GONDER ZONE

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ABSTRACT

No one escapes from tax and death. Tax is the only tool for the government's fiscal policy; The investigation aims to identify the factors affecting the turnover tax collection of category "B" taxpayers and specifically examine the relationship between taxpayer registration and collection of tax, knowledge of taxpayer and collection, and examine the attitude of a taxpayer to the collection of tax.. An exploratory research design strategy with a mixed approach is applied. There are 797 registered category "B" taxpayers in the zone; from this, 266 taxpayers are selected using the probability simple random, and from 18 Woreda office employees, 36 are determined using the non-probability purposive sampling method, 19 managers also taken for interview as a total 321 samples are selected. Data was composed from primary and secondary sources. Questionnaires and interviews were taken as the primary and both published and unpublished as secondary. The collected data was analyzed using descriptive and inferential statistics. The findings of the study show that customer knowledge, the convenience of the payment, the Attitude of taxpayers, and penalties and fines were strong significant relationships and substantial negative correlations between taxpayer registrations and corruption with TOT collection; it is recommended that the government must aggressively work on ICT infrastructure development, training, awareness creation, and zero level of corruption as a first remedial. The Practical applicability of the findings: provide valuable insights for policymakers in Ethiopia's tax administration to help identify gaps in registration and collection processes, make informed decisions on targeted registration campaigns, streamline tax collection processes, and develop strategies to enhance tax compliance. The absence of prior research, the fact that only the south Gonder zone was studied, the small sample size, and the design the researcher chose limit the study.

Keywords: JEL classification H2, h5, H7, M21, H25
Turnover tax, factors affecting tax collection, Ethiopian tax system, indirect tax, category "B" taxpayer

1. INTRODUCTION

Turnover tax, or sales tax, differs from value-added tax (VAT) and plays a significant role in generating revenue for governments worldwide (Tiyagi). In Ethiopia, turnover tax collection is a crucial aspect of the country's fiscal policy, contributing to its sustainable development and economic growth and withdrawing the nation's budget deficit. However, the effective collection of turnover tax revenue is subject to various factors that can significantly influence its outcomes. This article aims to identify the "Factors Affecting Turnover Tax Collection of Category "B" Taxpayers" In Ethiopia, South Gonder Zone. According to Income Tax Proclamation No 979/2016, category "B" taxpayers are business persons whose annual turnover is between 500,000 and 1,000,000 Ethiopian Birr (ETB). One of the primary factors affecting turnover tax collection is the level of compliance among taxpayers. Compliance behavior is affected by several sub-factors, such as tax awareness, education, and the perception of fairness in the tax system. The administrative capacity and efficiency of the tax authorities are vital factors. An efficient tax administration system with well-trained personnel, streamlined processes, and robust enforcement mechanisms can enhance tax compliance and improve turnover tax collection effectiveness. Conversely, administrative inefficiencies, corruption, and inadequate resources can hamper the collection process and result in revenue leakage (Baharu Sisay Negatu, D. N. W. (2023). Broader macroeconomic environments, such as economic growth, inflation rates, and business cycles, can significantly impact turnover tax collection. Therefore, understanding macroeconomic dynamics is crucial for formulating effective tax policies and forecasting revenue collections Batrancea, et al. (2019). The structure and design of the turnover tax system can either facilitate or impede its collection. Tax rates, exemptions, thresholds, and compliance requirements can influence taxpayer behavior and affect the overall revenue generated Torgler, et al. (2008).

Additionally, the prevalence of informal economic activities poses a challenge to turnover tax collection in Ethiopia. The informal sector, characterized by unregistered businesses and cash-based transactions, often escapes authorities' radars. The enormous scope of the informal economy limits the tax base and reduces potential revenue from the turnover tax. Implementing measures to formalize the informal sector and encourage voluntary compliance can help broaden the tax base and increase turnover tax collection Moore, M. (2023).

In conclusion, the effective collection of turnover tax in Ethiopia is influenced by multiple factors, including taxpayer compliance, administrative capacity, macroeconomic conditions, tax system design, and the prevalence of informal economic activities Baharu Sisay Negatu,

D. N. W. (2023). Understanding these factors and their interplay is crucial for policymakers and tax authorities to devise strategies that promote tax compliance, enhance revenue collection, and maintain justifiable economic growth in Ethiopia. This study provides a detailed analysis of these issues, providing valuable insights and recommendations for policymakers and practitioners in the field of tax administration.

2. LITERATURE REVIEW:

Countries cannot close their tax deficit due to several obstacles. They range from inadequate tax administration to weak and understaffed legal frameworks. By overcoming these obstacles, the world country may be able to increase tax collection and close their tax gaps, such as lack of reform momentum, regulatory and policy restrictions, decent information, communication technology support, limited financing and investment in revenue administrations (customs and tax) by governments, and the lack of critical mass in tax administrations is also highlighted by the examination of the tax system. Other administrative restrictions include errors in tax registries, shortcomings in the administration of unfiled tax returns, and unpaid tax arrears. When considered holistically, the three aspects of tax systems that are confusing when examined separately make sense. The ongoing push to improve the number of taxpayers registered suggests that policy and management are excessively increasing revenue collection. By placing the seeming source of revenue shortage in the purported taxation of small businesses and the impoverished, the informal sector narrative deflects criticism away from the inadequate taxation of larger companies and more affluent Africans Moore, (2023). Tiv (2023) clarifies how important education is for paying taxes and demonstrates that the community's reaction to tax evaders has a more significant influence on raising tax law compliance than the fear of sentence in and of itself. Wen, J. (2023) et.al. First, the empirical results show a long-term positive correlation between tax revenue and distance aid and governance. However, after overseas aid and governance interacted, a downward trend in tax collection was observed. Foreign aid deteriorates the governance environment, which has a detrimental knock-on effect on tax income.

Mardhiah, et al. (2023) indicated that variables have a substantial impact on power and trust, while audit probabilities, tax penalties, attitudes, norms, and retributive fairness have significant and positive connections with collection. Negui (2016) studied aspects of upsetting optimal revenue collection in Kiambu and found that public participation legislation, staff competency, and technology influence optimal revenue collection in Kenya. Birhan (2018) studied the "determinants of the effectiveness of turnover tax collection." The

study identified factors such as the taxpayer's ignorance of their obligation, corruption, and collusion, taxpayer's audit and verification, taxpayer's participation in government policy formulation, continence of payment, penalty, and fines imposed on taxpayers, and tax evasion as the reasons for the poor collection of TOT. Dejen Debeb & Teshome Dula (2020) studied "factors affecting turnover tax collection performance." This study identified the following factors: staff qualification and human resources, higher officials' commitment, taxpayer record-keeping, technological and evidence systems, compliance cost, tax knowledge, and tax fairness. In 2020, Mathewos Woldemariyam showed a substantial association between tax collection and the independent variables of bribery, party-political uncertainty, and the structural forte of the tax authority, tax justice, and forms of collection. However, other factors, including taxpayers' awareness, delay in making the statement, and starting a commercial activity without a license, do not appear to be significantly related.

Abate, A. A. (2019). Factors affecting presumptive tax collection in Ethiopia: Evidence from category "C" taxpayers in Bahir Dar City. *Journal of Tax Administration*, *5*(2), 74-96. The study used time series data from 1996 to 2020 and found that agricultural GDP, party-political steadiness, service-to-GDP ratio, and inflation have an optimistic long-run impact on tax collection, while corruption has an adverse effect. The study also finds that the short-run effect of agricultural GDP on tax revenue is negative. (Abate A. 2020) The category "C" income tax collection in Ethiopia is significantly influenced by the system's equity and fairness, tax officials' corrupt practices, the ability of tax administrators, awareness of tax laws and conventions, and taxpayers' assertiveness. Ataro, P. O., Muturi, W., & Wandera, R. W. (2016). According to the study, staff training increases revenue collection efficiency because professionally trained employees are better equipped to carry out their duties. Mansur, Hernando, and Prasetyo (2023) demonstrate that accounting knowledge has little bearing on MSME taxpayer compliance in Jambi City's food industry. Meanwhile, taxpayer compliance in MSMEs in the culinary industry in Jambi may be directly or indirectly impacted by an awareness of tax laws and penalties.

3. RESEARCH HYPOTHESIS

$H0_1$ There is no relationship between taxpayer registration and the collection of turnover tax.

A reliable tax administration system should identify all taxpayers, which should also generate individual ID numbers that are inputted into a controlling folder that can be updated and retrieved from (Palil and Mustafa, 2011).

$H0_2$: There is a significant relationship between the Attitude of the taxpayer and the collection of turnover tax.

(Smith et al., 2018) taxpayer attitude and tax obedience: found consistent optimistic association amid taxpayer's Attitude and compliance behavior.

$H0_3$: There is no relationship between taxpayer knowledge and the collection of turnover tax.

Joseph Ishola, 2020 The examination showed a constructive bond between tax knowledge and compliance. Asrinanda (2018) provides evidence that tax knowledge influences insights into the justice of the tax system.

$H0_4$ There is a negative relationship between corruption and the collection of turnover tax.

Amanu (2020) determined that the impact of corruption on revenue was a negative collection in any city administration worldwide.

$H0_5$ There is no statistically significant relationship between the convenience of payment and the collection of turnover tax

The convenience of payment advises against causing the taxpayer an undue bother; otherwise, many adverse effects may occur. From the taxpayer's perspective, a good tax should be simple. Even tax experts are frequently worried about how the law should apply to a specific transaction because income tax regulations are so complicated and change often (Sally M. Jones, Shelley C. Rhoades-Catanach, and Sandra R. Callaghan 2020).

$H0_6$: There is a significant relationship between penalties and fines imposed on taxpayers and the collection of turnover tax.

(Sapiei & Kasipillai 2013; Walsh 2012), penalties have a more substantial effect on amenability than the likelihood of an audit, and a more remarkable agreement implies that taxpayers report their total tax due and make their payments on time out of fear of penalties and fines.

5. RESEARCH MODEL

TOT performance

$$\boldsymbol{Y = B_o + B_1X_1 + B_2X_2 + B_3X_3 + B_4X_4 + B_5X_5 + B_6X_6} + \text{e}$$

$$\boldsymbol{Y = B_o + B_1NOTP_1 + B_2ATT_2 + B_3TKN_3 + B_4CORR_4 + B_5CONP_5 + B_6PEFI_6 + e}$$

The research model utilized in this study includes six independent variables and one dependent variable. The independent variables represent the factors or variables hypothesized to impact the dependent variable. These variables were selected based on their theoretical relevance and potential influence on the outcome of interest. By examining the associations flanked by the independent and dependent variables, this study aims to uncover any significant associations or effects. Including multiple independent variables allows for a comprehensive analysis of the various factors that may contribute to the outcome. The dependent variable, on the other hand, is the variable predicted or explained by the independent variables. By examining the relationship between independent and dependent variables, this study seeks to gain insights into the factors influencing the outcome of interest.

6. SUMMARY OF THE LITERATURE (GAP)

Unlike direct taxes, indirect taxes are more challenging to cheat because they are part of the cost of products and services (Carl, S. Shop). Again, Ethiopian TOT Proclamation No 308/2006 argues that TOT is necessary primarily for these two reasons: firstly, it bridges and fills the gap between VATs registered payers and non-VAT registered payers so that it must be levied in the country; secondly, others argue that this tax is not necessary because it distorts the small and medium-sized businesses and its cascading effect. In addition, Prof. Carl S. Shop argues that there is no distinction between the general sales and turnover taxes. Thus, he said, "General sales taxes include the manufacturer's sales tax, entire sales tax, retail sales tax, and turnover tax. Dejen Debeb's (2016) finding shows a significant link between the number of taxpayer registrations and the collection of TOT. Therefore, the current researcher conducted a study to fill these gaps.

Method and Methodology

Creswell, 2010). Exploratory design is available when a problem is not well defined, little is known, and when there is a lack of previous studies in the area, the method is the best fit. Based on this, the investigator selects the research design to achieve the stated objective. Essentially, there are two sources of data, primary and secondary (Uma Sekaran and Roger Bougie, 2016); data from the selected representatives are collected quantitatively (numerically) and qualitatively (from open-ended interviews and other published and unpublished documents); a mixed research approach is applied. The total population of the study from the taxpayer's side is 797 category "B" registered taxpayers; out of them, 16 are female and 250 male respondents are selected using Yemane's formula, and since the

population is homogeneous, a simple random probability sampling method is employed. Again, 36 office employees from 18 Woreda revenue offices, two from each office, and 19 managers for interviews were booked using the non-probability purposive sampling method. A total of 321 representatives participated in the study. The data were collected from two sources. Interviews and questionnaires were employed as primary and secondary sources, from published and unpublished sources. Bluman (2014) analyzed the collected data using descriptive statistics tools (tables and charts). Figures, mean, median, mode, and standard deviation) and the inferential statistics method using ANOVA, correlation, regression, and r^2 using the SPSS software. Models are depicted; the study's liner equation is turnover tax collection as a dependent variable and the (number of taxpayers, Attitude of taxpayer, taxpayer's knowledge, corruption, the convenience of payment, and penalty and fines) as the model-independent variable: TOT performance $Y = B_o + B_1X_1 + B_2X_2 + B_3X_3 + B_4X_4 + B_5X_5 + B_6X_6$ The model represents the impact or effect of each predictor variable on the dependent variable Y, and it determines the magnitude and direction of the relationship between each predictor variable and the dependent variable. The taxpayers of South Gonder Zone, managers, and employees of the zone customs and revenue office are the informed consent of participants in the study.

$$Y = B_o + B_1NOTP_1 + B_2ATT_2 + B_3TKN_3 + B_4CORR_4 + B_5CONP_5 + B_6PEFI_6 \quad + e$$

Table 2: Summary of samples researcher's computation

Summary of samples

Representative samples were taken for the study									
	Zone			Woreda			Total		
	M	F	T	M	F	T	M	F	T
Managers	1	0	1	17	1	18	18	1	19
Employees	0	0	0	19	17	36	19	17	36
Taxpayer	0	0	0	250	16	266	250	16	266
Total	1	0	1	286	34	320	287	34	321

Table 2 presents the summary of the total samples (321) selected for the study from different groups, and it is the researcher's computation.

1. ANALYSIS OF DATA:

Table 3 presents the respondent's responses. Three hundred twenty-one respondents were selected. Among them majority, 287 (89.4%) were male, and the rest, 34 (10.6%) were female; from the total 321 respondents, taxpayers shared 82.8%, managers 6%, and employees 11.2%. Generally, the participation of females is low because almost all trade

licenses are issued for males rather than females; actually, most of the activities in the country are dominated by males.

Table 3 respondent's gender:

Gender	Taxpayers	Managers	Employee	Total	Percentage %
Male	250	18	19	287	287/321= 89.4%
Female	16	1	17	34	34/321= 10.6%
Total	266	19	36	321	100%

Table 2 presents the selected respondents for the study, which are managers, category "B" taxpayers, and employees of the office; for the data collection, the researcher forwarded the questionnaire and conducted a face-to-face interview. The descriptive statistics finding of this study show that the factors that affect turnover tax collection in the South Gonder zone are the fair-mindedness of the tax system, the outbreak of COVID-19, war, corruption, and collusion, the more significant number of taxpayers found in informal businesses, employee problems (knowledge, experience, motivation, technical skill, poor quality service, equity problem, technology, and poor administration), from tax payers' side: (lack of knowledge, awareness, avoidance, cheating, fording, reduce their income and increasing their expense or manipulate the income and expense, delinquency (delay of paying on timely manner).

Table 4 Taxpayer in years

Years	No taxpayer registered	Actual
2017	1021	11,264,604
2018	801	19,607,103
2019	578	18,126,253
2020	421	18,721,642
2021	797	17,199,377

Table 4 present the number of registered taxpayers in years and the collection of revenue for the successive years of 2017-2021; based on the data, it is clear that there is no relationship between TOT collection and taxpayer registrations.

1.1.REGRESSION ANALYSIS:

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.8347[a]	.6968	.713	.14453	2.45
a. Predictors: (Constant), number of taxpayers, the attitude of the taxpayer, taxpayer knowledge, penalty and fines, corruption, convenience of payment					
b. Dependent Variable: factors affecting TOT collection					

If the value of the Durbin-Watson is between (1.5 and 2.5), there is no relationship between the residual and independent variables. So here, the assumption is satisfied because the value is 2.45 and based on the result the researcher fails to reject the null. Again, based on the table below, the value of Analysis Of the Variance (ANOVA) is significant (000), so the model fits well.

Table 1 Regression Analysis

ANOVA[a]						
Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Regression	12.870	6	2.312	110.662	.000[b]
	Residual	5.6	259	.021		
	Total	18.470	265			
a. Dependent Variable: factors affecting TOT collection						
b. Predictors: (Constant), number of taxpayers, the attitude of the taxpayer, taxpayer knowledge, penalty and fines, corruption, convenience of payment						

So, based on the test, there is no problem with multicollinearity since the value of the Variance Inflation factor value is less than 10%

Table: 6 Collinearity statistics

Model	Collinearity statistics		
		Tolerance	VIF
	(constant)		
	Taxpayer knowledge	.546	1.83
	Corruption	.625	1.598
	Penalty and fines	.741	1.349
	Attitude of taxpayer	.694	1.44
	Convenience of payment	.595	1.68
	Number of taxpayers	.552	1.811

All the VIF column values are less than 10, and tolerance values are greater than 10%, respectively, indicating no multi-co linearity influence between the explanatory variables. As a result, the researcher rejects the Null hypothesis. There is a linear relationship between the dependent and independent variables. The SPSS result shows there is no problem of linearity.

Table 7 coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	2.437	.229		10.645	.000	1.986	2.888
	Taxpayer knowledge	.333	.028	.694	11.890	.000	.388	278
	Convenience of payment	214	.036	.371	5.896	.000	.285	.142
	Attitude of taxpayer	.515	.064	.381	8.018	.000	.389	.642
	Corruption	-.092	.027	-.198	-3.376	.001	-.038	-.146
	Penalty and fines	.220	.047	.241	4.679	.000	.127	.312
	Number of taxpayers	-.157	.027	-.223	-5.748	.000	-.211	-.103

a. Dependent Variable: factors affecting TOT collection

Constant: The constant coefficient is 2.437 represents the estimated value of the dependent variable when all independent variables are set to zero with a standard error of 0.229. The t-value of 10.645 indicates that the constant term is statistically significant ($p < 0.001$). The 95% confidence interval for the constant is between 1.986 and 2.888.

Taxpayer knowledge: The coefficient for taxpayer knowledge is 0.333 with a standard error of 0.028. The standardized coefficient (beta) is 0.694. The positive beta value suggests that an increase in taxpayer knowledge is associated with an increase in TOT collection. The t-value of 11.890 indicates that the coefficient is statistically significant ($p < 0.001$). The 95% confidence interval for the coefficient ranges from 0.388 to 0.278.

Convenience of payment: The coefficient for convenience of payment is 214 with a standard error of 0.036. The standardized coefficient (beta) is 0.371. The positive beta value suggests that an increase in the convenience of payment is associated with an increase in TOT collection. The t-value of 5.896 indicates that the coefficient is statistically significant ($p < 0.001$). The 95% confidence interval for the coefficient ranges from 0.285 to 0.142.

The attitude of the taxpayer: The coefficient for the attitude of the taxpayer is 0.515 with a standard error of 0.064. The standardized coefficient (beta) is 0.381. The positive beta value suggests that an increase in the attitude of taxpayers is associated with an increase in TOT collection. The t-value of 8.018 indicates that the coefficient is statistically significant ($p < 0.001$). The 95% confidence interval for the coefficient ranges from 0.389 to 0.642.

Corruption: The coefficient for corruption is -0.092 with a standard error of 0.027. The standardized coefficient (beta) is -0.198. The negative beta value suggests that an increase in corruption is associated with a decrease in TOT collection. The t-value of 3.376 indicates that the coefficient is statistically significant (p = 0.001). The 95% confidence interval for the coefficient ranges from -0.038 to -0.146.

Penalty and fines: The coefficient for penalty and fines is 0.220 with a standard error of 0.047. The standardized coefficient (beta) is 0.241. The positive beta value suggests that an increase in penalties and fines is associated with an increase in TOT collection. The t-value of 4.679 indicates that the coefficient is statistically significant (p < 0.001). The 95% confidence interval for the coefficient ranges from 0.127 to 0.312.

Number of taxpayers: The coefficient for the number of taxpayers is -0.157 with a standard error of 0.027. The standardized coefficient (beta) is -0.223. The negative beta value suggests that an increase in the number of taxpayers is associated with a decrease in TOT collection. The t-value of -5.748 indicates that the coefficient is statistically significant (p < 0.001). The 95% confidence interval for the coefficient ranges from -0.211 to -0.103. These results suggest that taxpayer knowledge, the attitude of taxpayers, convenience of payment, and penalties and fines have positive effects on TOT collection, while, corruption and the number of taxpayers have negative effects on TOT collection. The regression function can be written as follows:

$$\boldsymbol{Y = B_o + B_1X_1 + B_2X_2 + B_3X_3 + B_4X_4 + B_5X_5 + B_6X_6 + \varepsilon}$$

$$\boldsymbol{Y = B_o + B_1NOTP_1 + B_2ATP_2 + B_3TPK_3 + B_4COR_4 + B_5COP_5 + B_6PAF_6 \ +\varepsilon}$$

$$\mathrm{Y}= \boldsymbol{2.437 + 0.515 + 0.333 - 0.92 + 0.214 + 0.22 - 0.157 + \varepsilon}$$

Where:

x1----- Number of Taxpayers, x2 ------ Attitude of Taxpayer, x3 ------- Taxpayers Knowledge, x4 ------ Corruption, x5 ------- Convenience of Payment, and x6 ……Penalty and Fines, ε……. Error, β_0……Constant term

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.870	6	2.312	110.662	.000[b]
	Residual	5.6	259	.021		
	Total	18.470	265			

a. Dependent Variable: factors affecting TOT collection
b. Predictors: (Constant), number of taxpayers, the attitude of the taxpayer, taxpayer knowledge, penalty and fines, corruption, the convenience of payment

The analysis shows that the factors create statistically significant values (high t-values, P 0.05) at a 95% confidence level, and variables have a reported favorable impact. (Attitude of taxpayers, convenience of payment, knowledge, and penalty and fines) A negative value is noted for the number of taxpayer registrations and corruption variables; a positive value of the variables means both the dependent and independent variables are increase or decrease at the same time; by improving the attitude of taxpayers, the government can collect the higher TOT, again by improving the taxpayer's knowledge or awareness regarding the existing turnover tax rules, regulations, proclamations and other circulars by using different media tools like (Radio, Television, News Paper, Brochure, and other means of communication) government can improve the collection rate of turnover tax, at the same time penalty. Fines have an encouraging relationship with the turnover tax collection. The positive reports of this mean that by amending and increasing the fines and penalty amount both in Birr and years of jail or arresting time, then, by fear of this taxpayer's meet their obligation and government can collect the turnover tax. The negative report of the variable corruption is that, as we know, the negative relationship between variables means that the increase in one variable led to a decrease in another variable and vice versa. In this case, due to the increment of the corruption practice, the government did not collect the planned amount of revenue and even went below the minimum expected amounts. In reverse, the government can collect the planned revenue due to the firm establishment of good governance.

The ANOVA table presents the F-value of 110.662 with a corresponding p-value of .000, meaning that the likelihood of observing such a large F-value under the null hypothesis is extremely low (less than .05). Therefore, we end by disproving the predetermined proposition that the variances of the two populations are not alike. The phrase "At the .05 level of significance" means that the researcher has set the level of significance (also known as alpha) at .05, a standard threshold in hypothesis testing if the p-value is lesser than.05 rubbishes the null hypothesis and concludes that there is an essential difference concerning the populations. So, in summary, the statement "At the .05 level of significance, the F value of 110.662 and its corresponding p-value .000 indicates the relationship is significant" means that there is a significant change between the variances of the two populations, with a very low probability of observing such a large F-value by chance. Accordingly, the researcher concludes that there

is a substantial correlation between the turnover tax collection and the six predictor variables (taxpayer knowledge, attitude of taxpayers, convenience of payment, penalty and fines, corruption, and number of taxpayers)—a residual plot results from plotting these values along with the x values.

$$\boldsymbol{Y = \beta_0 X + e}$$

The determinant coefficient (r^2) is a metric for the proportion of a dependent variable's change that the regression line and the explanatory variable can account for. Squaring r and translating the result to a percent value makes calculating the coefficient of determination reasonably simple:

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.8347[a]	.6968	.713	.14453	2.45
a. Predictors: (Constant), number of taxpayers, the attitude of the taxpayer, taxpayer knowledge, penalty and fines, corruption, convenience of payment					
b. Dependent Variable: factors affecting TOT collection					

Therefore, r=0.8347 then

$r^2 = 0.8347^2$

$r^2 = \underline{0.6967 = 69.67\%}$

The coefficient of determination, often known as r^2, is a statistical metric castoff to conclude the grade to which one or supplementary independent variables can describe the change in a regressed variable. The dependent variable's variance may be characterized by the independent variable(s) to a degree of 69.67%, according to an r-squared value of 0.6967. These demonstrate that the model's independent variable(s) cannot explain the remaining 30.33% variation in the defined variable. It's crucial to remember that the context of the issue and the precise factors being examined affect how the r-squared value should be interpreted.

According to this finding, variation in the independent variable accounts for 69.67% of changes in the dependent variable. By deducting the coefficient of determination from 1, one can calculate the coefficient of non-determination, which accounts for the remaining variation of 0.3033= (1-0.6967. The typical mistake alternative statistic used in correlation and regression is the expected error of the estimate, which estimates the standard deviation of the actual "y" values concerning the predicted y values. Specifically, for a given value of x, for a provided point estimate of y of the mean of the y values, a prediction interval can be created

using the estimate's standard error. The standard error of the forecast, as shown in the Model Summary table, is a measure of the average distance between the observed values of the dependent variable and the predicted values from the regression model. In this specific case, the standard error of the estimate is 0.14453. A lower value of the standard error of the estimate indicates that the predicted values of the dependent variable are closer to the actual observed values, suggesting that the regression model has a better fit to the data.

Conversely, a higher value indicates that the predicted values are more dispersed and less accurate. It's important to note that the standard error of the estimate is influenced by the variability in the dependent variable and the quality of the regression model. It can also be used to calculate confidence intervals around the predicted values and assess the precision of the regression model's predictions. In the context of the given information, the standard error of the estimate (0.14453) suggests that, on average, the predicted values of the factors affecting TOT collection may deviate from the actual observed values by approximately 0.14453 units. Where *a is* the *y_* intercept and *b* is the slope of the regression line. Multiple regressions use one dependent variable and many independent variables, and the equations are

$$Y= a +b_1x_1 + b_2X_2+b_3X_3+b_4X_4+b_5X_5+b_6X_6 \bullet \bullet \bullet \_ bkxk$$

$$Y = B_o + B_1X_1 + B_2X_2 + B_3X_3 + B_4X_4 + B_5X_5 + B_6X_6 + \varepsilon$$

$$Y = B_o + B_1NOTP_1 + B_2ATP_2 + B_3TPK_3 + B_4COR_4 + B_5COP_5 + B_6PAF_6 \ +\varepsilon$$

Where *X1, X2, X3…* Hk is the independent variable.

TOT collection = f(X1+X2+X3+x4+X5+X6)

Multiple relationships are also possible. In other words, there could be two or more independent variables and one dependent variable. A correlation coefficient and a regression equation can be found for many relationships, just like for straightforward relationships. Multiple regression analysis is used when a researcher thinks several independent variables impact the dependent variable's variance. Thus, this methodology can increase the precision of forecasts for the dependent variable over one independent variable.

2. CONCLUSION

The primary source of revenue for both developed and developing nations depends mainly on taxes. Therefore, for collecting the optimum amount of tax administration, well-updated policy, aggressive work on taxpayer registrations, and the creation of awareness are crucial.

Unfortunately, the collection of optimum revenue is affected by various obstacles. This research aimed to identify the "Factors Affecting Turnover Tax Collection of Category "B" Taxpayers" In Ethiopia, South Gonder Zone. This study identifies COVID-19, war, especially in the northern part of Ethiopia, poor morale of employees, and other factors such as internal from (employees sides such as inadequate knowledge, poor assessment, awareness, experience, corruption, level of education, technical issues, and from the manager's side, poor administration, lack of office supplies, poor ICT and the like and external (from taxpayers sides like knowledge, awareness, informal business, level of education, age, marital status, fairness and others) as the main problems that make the poor collection. The regression results revealed that the independent variables (taxpayer knowledge, Attitude, convenience of payment, and fines and penalties) have a statistically positive correlation, and corruption and the number of taxpayer registrations negatively correlated with TOT collection.

8.2. FINDINGS OF THE STUDY:

The findings of the investigation are that corruption and the registrations of taxpayers establish that there is a substantial negative correspondence with the predicted variable, which is the TOT collection and Attitude of the taxpayer, payment convenience, penalty and fines, and taxpayers' knowledge was positively associated with the explained variable. Other factors affect the collection rate, such as the fairness of the tax scheme, the outbreak of COVID-19, war, corruption, and collusion, and the more significant number of taxpayers found in informal businesses also affect collection.

8.3. PRACTICAL IMPLICATION

These findings have important implications for policymakers and tax authorities in Ethiopia, as they highlight the need to re-evaluate strategies to improve the collection of turnover tax. It is crucial to consider additional factors that might impact tax compliance and revenue generation, such as taxpayer behavior, economic conditions, enforcement mechanisms, and the effectiveness of tax administration systems.

8.4. FOR FURTHER STUDIES

Furthermore, this research underscores the importance of conducting further studies to identify the underlying factors that affect the collection of turnover taxes in the South Gonder Zone. By gaining a deeper understanding of these factors, future researchers will conduct a study on the following suggested areas to study on macro and regional levels by including samples, policy frameworks, and other external factors so that policymakers and tax

authorities can develop targeted interventions and strategies to enhance tax compliance and increase revenue collection.

8.5. ACKNOWLEDGEMENT:

We want to express our sincere gratitude to all the participants of this study, including the taxpayers, employees, and managers of the South Gonder Zone revenue office, who generously contributed their time, facilitated the data collection process, provided us with the necessary support, information, and guidance throughout the study, shared their experiences and provided us with the essential and valuable insights to identify factors affecting the collection of TOT. Your willingness to participate in this research project is instrumental in obtaining accurate and meaningful data.

8.6. LIMITATION OF THE STUDY:

The research may have limited the sample size and the research design itself; the study may focus on a specific jurisdiction or region, the South Gonder zone only, limiting its applicability to other locations with different regulatory frameworks or taxpayer demographics. These findings may not be generalizable to other contexts or regions with different characteristics.

8.7. POLICY RECOMMENDATION

For the effective and efficient collection of TOT, policymakers must work on zero corruption levels to simplify and streamline the taxpayer registration process for a turnover tax to encourage more businesses to register. It could involve reducing paperwork, providing online registration options, and minimizing bureaucratic hurdles. A simplified registration process would make it easier for companies to comply with tax obligations. Enhancing taxpayer education and awareness, providing incentives for timely registration, strengthening enforcement measures, collaborating with relevant stakeholders, and monitoring and evaluating the effectiveness of registration efforts are essential.

Declaration:

All the available documents are in the researcher's hand.

Competing interest: There is No competing interest in the study.

Funding: This study was conducted with the researcher's funds, so there is no funder.

Author's contribution:

All stages and procedures taken, including collection, entering data into SPSS, analysis of the data, and interpretation of the data, were performed by the investigator.

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EXAMINING THE INTERPLAY OF DIRECT TAXATION AND MACROECONOMIC FACTORS IN INDIAN ECONOMY

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ABSTRACT:

This study aims to explore the nexus between taxation and macroeconomic variables, specifically focusing on their impact on India's GDP from the fiscal year 2004-05 to 2022-23. The methodology involves descriptive analysis to assess data normality, correlation analysis to examine relationships between dependent and independent variables, and linear regression to evaluate the outcomes and validate hypotheses. The findings reveal significant influences of two independent variables on GDP: fiscal deficit exhibits a Positive relationship, while personal tax demonstrates a strong positive correlation. Both hypotheses are rejected due to the substantial effects on GDP. The study recommends policy measures to broaden the tax base, suggesting avenues for tax base expansion to enhance revenue generation, and advocates for increased emphasis on personal tax revenue to mitigate fiscal deficit.

Keywords: Taxation, Direct tax, GDP, Fiscal deficit, Macro-economic, Personal tax, corporate tax, other direct tax.

1. INTRODUCTION:

In India, Income Tax administration falls under Entry 82 of the Union List of the Seventh Schedule to the Constitution of India, granting authority to Parliament to levy and collect taxes as per legislation. The primary legislation governing Income Tax is the Income-tax Act of 1961, effective since April 1, 1962, covering Sections 1 to 298 and Schedules I to XIV. This Act undergoes annual amendments through the Finance Act passed by Parliament and other relevant legislations such as the Taxation Laws (Amendment) Act. Additionally, the Central Board of Direct Taxes (CBDT) issues circulars and notifications to address specific issues and provide clarity. Income Tax is levied on individuals' (non-corporate) and businesses' (corporate) income generated within the country. The income earned by various entities specified under section 2(31) during the previous year is taxable in the assessment

year, in accordance with the provisions of the Act. Personal income tax applies to individuals' salaries, wages, and other sources of income, while corporate tax is applicable to partnerships, small businesses, corporations, and self-employed individuals. These incomes fall under five heads for tax assessment: Salaries, House Property, Profession and Business, Capital Gains, and Other Sources Income.

2. PURPOSE OF THE STUDY:

The aim of this study is to explore the relationship between taxation and various macroeconomic factors, particularly focusing on the significant role of income tax in revenue generation and its impact on India's GDP. The study seeks to analyse the influence of direct taxes, including personal tax, corporate tax, and other direct taxes, on GDP, alongside considering the effect of fiscal deficit. A review by Kumar Dey Asst. (2014) titled "Income Tax Department of India: A Summary Assessment" underscores the importance of enhancing income tax revenue through measures such as expanding the tax base and simplifying tax filing procedures to address the disparity between income tax and corporate tax. Additionally, the study suggests improving tax collection efficiency through proactive measures like utilizing scientific methods to minimize delays, monitoring Tax Deducted at Source (TDS), Tax Collected at Source (TCS), and advance taxes. Furthermore, addressing tax evasion and corruption is crucial for enhancing tax compliance.

Neog & Gaur, (2020), The study suggests that policymakers should prioritize property taxes while also considering reductions in income tax to stimulate economic growth. It highlights a U-shaped relationship between tax structure and economic performance.

Sharma & Singh, (2018) The authors highlight significant implications for enhancing the responsiveness of income tax revenue performance within the dynamic and fluctuating Indian economy. The study explores the relationship between income tax revenue and various macroeconomic and governance factors, focusing on analysing income tax revenue performance in the post-liberalization (1991) era.

Shrivastava et al., (2016) In this study, the authors observed that despite numerous amendments in provisions and efforts to enhance compliance in both direct and indirect taxation, India's GDP and tax revenue collection consistently increased. They revealed that even during economic recessions, both direct and indirect tax revenues continued to rise. Specifically, they noted that the centre’s tax GDP percentage surged from a low of 6.5% in the financial year 2002-03 to 46% during the financial year 2008-09.

R.V. Deshpande, (2012) As indicated in the study, there exists significant potential for enhancing revenue generation through specific direct taxes, such as agricultural income tax and land revenue. The author highlighted that the implementation of a broader tax base, anti-tax evasion measures, improved tax administration, and enhanced tax compliance have substantially contributed to increased revenue generation from both individual and corporate taxes.

3. OBJECTIVES OF THE STUDY:

1) To investigate the correlation between India's GDP and its fiscal deficit.
2) To assess the influence of direct tax collection on India's GDP.
3) To analyse the fluctuations in the relationship between GDP and fiscal deficit, and direct tax factors in conjunction with the number of taxpayers, return filers, and filed Income Tax Returns (ITRs), including revised filings, to identify trends.

1.1.HYPOTHESIS:

For predicting the relationship between each independent and dependent variable individually, we are proposing the proposed outcomes as follows:

H_0: Independent variable does not significantly affect the GDP.

H_1: Fiscal deficit significantly affects the GDP.

H_2: Personal Taxes significantly affect the GDP.

H_3: Corporate Taxes significantly affect the GDP.

H4: Other Direct Taxes significantly affect the GDP.

2. RESEARCH METHODOLOGY

The study utilizes secondary data spanning a period of 19 years, starting from the financial year 2004-05 to 2022-23. This data encompasses multiple table sheets detailing aspects such as fiscal deficit, direct tax collection, contribution of direct tax collection to total tax revenue, direct tax GDP ratio, personal tax collection, corporate tax collection, other direct tax collection, number of income tax returns filed (including revised returns), number of individuals filing income tax returns (return filers), and the total number of taxpayers. The data compilation process involved gathering information from various official websites and portals associated with the Government of India.

3. METHODOLOGY

We are using three types of analysis for this study.

1. **Descriptive Statistics:** Descriptive Statistics are numbers which are used to summarise and describe the data in a meaningful way. In general, there are two ways which are used to describe the data. First is measure of central tendency which describes the central position using number of statistics including mean, median and mode and second is measure of spread which helps us to summarise how spread out these scores are, which includes range, standard deviation, variance and so on.

2. **Correlation:** It describes the association of two variables. It shows the degree to which two variables move in coordination with one another. If the two variables are moving in the same direction, they are said to have a positive correlation and if they are moving in opposite direction then they are said to have negative correlation.

3. **Ordinary Least Squares (OLS) Regression Analysis:** Linear regression is the next step after correlation. It indicates the degree for forecasting, time series modelling and finding the cause-and-effect relationship between the variables. The linear regression equation is as follows:

Y = a +bx Where,

Y = Dependent variable a,

b =Constant parameters

x= Independent variable

GDP = a +b1FiscalDeficit + b2Personaltax +b3Corporatetax + b4Otherdirecttax

4. DATA ANALYSIS:

Table 1: Descriptive Statistics

	LOG__FISC...	LOG_COR...	LOG_GDP	LOG_OTHE...	LOG_PERS...
Mean	2.654743	5.523578	1.908303	3.069147	5.343181
Median	2.645422	5.596243	1.953270	3.012837	5.385406
Maximum	2.940018	5.916893	2.306838	4.184294	5.920805
Minimum	2.383815	4.917400	1.448324	2.380211	4.692565
Std. Dev.	0.133854	0.280806	0.247014	0.500981	0.356668
Skewness	0.198484	-0.710985	-0.343380	0.793525	-0.171952
Kurtosis	2.703615	2.641196	2.165121	3.051885	1.999365
Jarque-Bera	0.194297	1.702667	0.925191	1.996124	0.886303
Probability	0.907421	0.426845	0.629647	0.368593	0.642010
Sum	50.44012	104.9480	36.25775	58.31379	101.5204
Sum Sq. Dev.	0.322502	1.419339	1.098282	4.517670	2.289818
Observations	19	19	19	19	19

Source: complied from using E- views application

The descriptive statistics offer a detailed portrayal of the dataset's variables. The log of fiscal deficit shows a mean and median close to 2.654 and 2.645 respectively, with values ranging from 2.383 to 2.940. Its standard deviation of 0.133 indicates relatively low dispersion around the mean. The skewness value of 0.198 suggests a slight right skew, while the kurtosis value of 2.703 indicates a relatively peaked distribution. The Jarque-Bera test, with a p-value of 0.907, implies normality. On the other hand, for the log of corporate tax, both the mean and median hover around 5.523 and 5.596 respectively, with values ranging from 4.917 to 5.917. Its standard deviation of 0.280 suggests moderate variability. The skewness value of -0.710 indicates a left skew, while the kurtosis value of 2.641 suggests a peaked distribution. The Jarque-Bera test yields a p-value of 0.426, implying normality. For log GDP, the mean and median are approximately 1.908 and 1.953 respectively, with values ranging from 1.144 to 2.306. Its standard deviation of 0.247 suggests moderate dispersion. The skewness value of -0.343 suggests a slight left skew, while the kurtosis value of 2.165 indicates a relatively peaked distribution. The Jarque-Bera test yields a p-value of 0.629, implying normality. For log other direct taxes, the mean and median are both around 3.069, with values ranging from 2.380 to 4.184. Its standard deviation of 0.500 suggests relatively high variability. The skewness value of 0.793 suggests a right skew, while the kurtosis value of 3.051 indicates a relatively peaked distribution. The Jarque-Bera test yields a p-value of 0.368, implying normality. Lastly, for log personal tax, both the mean and median are approximately 5.353 and 5.385 respectively, with values ranging from 4.682 to 5.921. Its standard deviation of 0.356 suggests moderate variability. The skewness value of -0.171 suggests a slight left skew, while the kurtosis value of 1.999 indicates a relatively peaked distribution. The Jarque-Bera test yields a p-value of 0.642, implying normality. These statistics collectively provide valuable insights into the distributional characteristics of each variable, essential for understanding their behaviour and potential relationships in the regression analysis.

Table 2: correlation analysis

	LOG_FISC...	LOG_COR...	LOG_GDP	LOG_OTHE...	LOG_PERS...
LOG_...	1	0.25938482...	0.41462559...	0.10286981...	0.34677711...
LOG_...	0.25938482...	1	0.96871506...	0.69318830...	0.97134392...
LOG_...	0.41462559...	0.96871506...	1	0.68302634...	0.98288885...
LOG_...	0.10286981...	0.69318830...	0.68302634...	1	0.71935929...
LOG_...	0.34677711...	0.97134392...	0.98288885...	0.71935929...	1

Source: compiled from using E- views application

Correlation shows the association of variable and in which direction their movement is. In this study, there is Positive correlation between fiscal deficit and GDP i.e.0.141, which means the lower the fiscal deficit, the higher will be the GDP and vice versa. The GDP and Corporate tax have strong positive correlation i.e. 0.968, which means the corporate tax has very high impact on increasing the GDP. The GDP and personal tax also have strong positive correlation, which is even better than the correlation of GDP corporate tax i.e. 0.982 that shows that the higher collection of personal tax has huge positive impact on GDP. Lastly, the GDP and other direct taxes also have positive correlation i.e. 0.683 which infers that other direct taxes are also one of the factors which positively affect the GDP

The correlation matrix presents a comprehensive overview of the relationships between the variables in the dataset. Starting with log fiscal deficit, it shows moderate positive correlations with log GDP (0.414) and log personal tax (0.346), indicating that as log fiscal deficit increases, there tends to be a tendency for both log GDP and log personal tax to increase as well, although these relationships are not exceedingly strong. The correlation with log other direct taxes is notably weaker (0.102), suggesting a less pronounced association between these variables.

Table 3: Regression analysis

Dependent Variable: LOG GDP
Method: Least Squares
Date: 02/22/24 Time: 12:56
Sample: 1 19
Included observations: 19

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG__FISCAL_DEFICIT	-0.216126	0.139168	-1.552986	0.1413
LOG_CORPORATE_TAX	-0.593080	0.207599	-2.856855	0.0120
LOG_PERSONAL_TAX	1.081480	0.214834	5.034022	0.0001
LOG_OTHER_DIRECT_TAXES	-0.006059	0.062975	-0.096209	0.9246

R-squared	0.889580	Mean dependent var	1.908303
Adjusted R-squared	0.867496	S.D. dependent var	0.247014
S.E. of regression	0.089916	Akaike info criterion	-1.795229
Sum squared resid	0.121272	Schwarz criterion	-1.596400
Log likelihood	21.05467	Hannan-Quinn criter.	-1.761579
Durbin-Watson stat	0.304456		

Source: compiled from using E- views application

R-squared or coefficient of determination is a statistical measure which determines the proportion of variance in the dependent variable that can be explained by the independent variable. R-square shows how well the data fits into regression model. In this study R-square

is 0.88958 which is considered very high and falls under acceptable range. So, we can accept this model as the model is valid.

Then we come to interpretation of coefficient and p-value. In regression with multiple independent variables, the coefficient tells us how much the dependent variable is expected to increase when the independent variable increases by one, holding all other independent variables constant.

As there is negative correlation between fiscal deficit, corporate tax, other direct tax and GDP, the coefficient value is 0.21612, 0.59308 and 0.0060 respectively, which mean that if the fiscal deficit increases by one then the GDP will decrease by 2%. The other independent variables personal tax has positive & strong correlation with GDP.

Whereas when we talk about p-value, it is said that when the p-value is below the threshold significance level (typically < 0.05), it indicates strong evidence against the null hypothesis, as there is less than a 5% probability that the null hypothesis is correct. Therefore, we reject the null hypothesis and accept the alternative hypothesis. But that does not mean that there is a 95% probability that the alternative hypothesis is true.

Whereas, when the p-value is above 0.05, it shows that it is not statistically significant and indicates strong evidence for the null hypothesis. So, we retain the null hypothesis. This is important to note here that we can never accept the null hypothesis. Either we say we reject the null hypothesis or we failed to reject the null hypothesis.

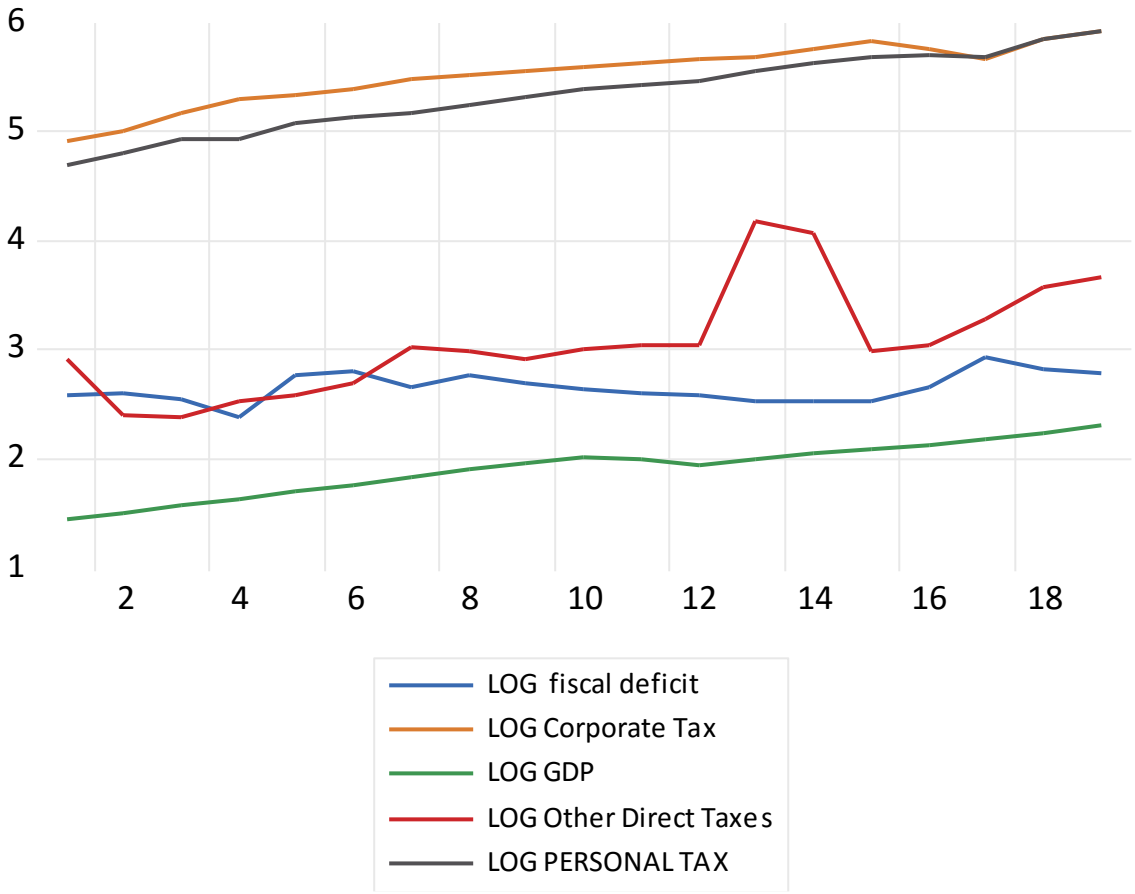
We have taken H0 as common null hypothesis for all the alternative hypothesis i.e. H1, H2, H3 and H4 respectively for fiscal deficit, personal tax, corporate tax and other direct taxes.

P-value of fiscal deficit is 0.1413 i.e. more than 0.05, which means the null hypothesis (H0) is accepted here and there is enough evidence, which means there is no significant relationship between fiscal deficit and GDP.

P-value of personal tax is 0.0001 which shows that we are rejecting null hypothesis (H0), there is enough evidence to support the alternate hypothesis (H2) which means there is significant relationship between personal tax and GDP.

P-value of corporate tax is 0.0120 which shows that we are rejecting the null hypothesis (H0) in this case and there is enough evidence to support the alternate hypothesis (H3) which means there is a significant relationship between corporate tax and GDP.

P-value of other direct tax is 0.9246 which shows that we are accepting the null hypothesis (H0), means and there is no significant relationship between other direct tax and GDP.



5. CONCLUSION:

The study concludes that out of four independent variables taken in this study namely, fiscal deficit, personal tax, corporate tax and other direct taxes, two variables i.e. fiscal deficit and personal tax are strongly impacting the GDP of India. The fiscal deficit needs to be lessened as this will improve the GDP and measures for the same have been provided in the discussion. On the other hand, the contribution of personal tax is quite a significant one in generation of revenue to government in Indian economy and that needs to be taken care of as tax evasion and avoidance has become a bad habit of taxpayers in India. During Times now summit 2022, Prime Minister of India has expressed his concern on the topic of taxation, by providing the complete data about tax payers in the country of 130 crore people only 1.50 crore individuals are filing the income tax return, out of which only 3 lakh individuals have filed their income above rupees fifty lakh and only 2200 individuals has declared their income over one crore rupees. This shows that there is ample scope of expansion in tax base but due to lack of being a responsible citizen, either the taxpayers or the concerned officials have not taken enough care due to which the tax revenue generation is low. In my opinion, the proper education and awakening thought that what a responsible nationalist being a man of ordinary prudence is ought to do, will do favour in inculcating the habit of being honest

taxpayer. The other aspect to encourage the people to treat the nation like their home, in order to come forward to pay the taxes voluntarily and the government as well is required to provide a trustworthy environment in which government and its official, should give the guarantee to the people of India that "the genuine work will be done and taken into consideration without any delay".

6. LIMITATIONS:

There are many factors which affect GDP but as income tax relates to my area of interest and it has huge portion of making overall revenue generation of our country so researcher conducted study on the basis of this only. So, study has certain limitations which are as follows:

The other factors which affect GDP like indirect taxes, imports, exports, financial inclusion, other non-tax revenue generating factors like tolls, octroi, etc are not taken into consideration for this study. ii. The time frame for which study has been done includes financial year 2004-05 to 2022-23 only, as the official data is available for this period only.

The further analysis of data is not taking place in this study as these tests comply with the requirements this study was done with the aim of.

7. FUTURE SCOPE OF RESEARCH:

This article was mainly focused on the impact which is posed by Income Tax on GDP. As we all know that Indirect taxes also plays vital role in the economy and Goods and Service Tax (GST) is a game changer and it is creating huge amount of revenue having better and efficient procedure as well as the outcome in the form of transparency, accountability, tax revenues and other relevant factors relating to it. So, the authors are planning to go for further study in the area, taking Goods and Service Tax (GST) as a factor which affects GDP to find out the relationship between these two factors, how GST is affecting GDP, if the changes are positive or negative and how much it is impacting. The future scope of study will be focused to be done from the date when GST came into effect in India. The study will also show the qualitative changes in the system apart from quantitative so it will be a mixed method analysis study.

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