Determinants of Tax Productivity Performance in Tanzania: A Time Series Analysis

Mohamed Awadh[1*], Nicholaus Ngowi [1] and Anicet Rwezaula[2]

[1]Department of Regional Development Planning, Institute of Rural Development Planning, Lake Zone Centre, P.O. Box 11957, Mwanza, Tanzania.

[2]Department of Population Studies, Institute of Rural Development Planning, P.O. Box 138, Dodoma, Tanzania

Corresponding Author: mawadh@irdp.ac.tz

Abstract

The study was focused on assessing the determinants of tax productivity performance in Tanzania adopting a time series analysis based on data spanning from the year 1996 to 2020. A time series using the multivariate regression model of the Ordinary Least Square Method (OLSM) was employed to analyze the data. The findings of the study show that GDP as a proxy of economic factors, the share of agriculture in GDP as a proxy of structural factors and regulatory quality as a proxy of institutional factors have a positive significant relationship with the dependent variable (i.e., total tax as a percent of GDP). On the other hand, the industrial sector, trade volume (i.e., export and import), and control of corruption were insignificant factors influencing the dependent variable (i.e., total tax as a percent of GDP). As part of the policy implication, we recommend that there should be sustainable initiatives to formalize the agricultural sector. Improve the industrial sector, trade volume and institutional environment to widen the tax base and increase tax revenue to align with the country's economic development.

Keywords: Tax Productivity performance, Tax to GDP ratio, Institutions, Time series analysis

1.0 . Introduction

Tax Productivity Performance is regarded as a gauge of the revenues of the nation originating from taxes on the size of the economy of the country that can be obtained by considering Gross Domestic Product (GDP) (Piancastelli and Thirlwall, 2021). Tax productivity performance considers the positive outcome of tax revenue on economic growth resulting from discretionary changes in tax rules and rates but also from various economic activities (Tefere and Teera, 2018). Income elasticity of tax and tax buoyancy are other measures of tax productivity that measure changes in tax revenue attributed to changes not only in income but also other changes in tax revenue emanating from changes in tax policy (Olaoye *et al.*, 2018). Tax productivity performance can be used interchangeably with the tax-to-GDP ratio. Terefe and Teera (2018) argue that the tax-to-GDP ratio is the amount of tax

that the government has collected in relation to the GDP of the country. The tax collected within a country is expected to change as the GDP of the country changes. The ratio provides a useful look at a country's tax revenue as it reveals potential taxation relative to the economy. It is useful in determining where the national tax policy is heading as well as comparing the policy to international standards.

Tax is a major source of revenue for any government worldwide, and it is imposed to accumulate resources to finance different government expenditures and to regulate the economy (Piancastelli and Thirlwall, 2021; Sonia and Suparmu, 2019; Eilu, 2018; Minh Ha *et al.,* 2022; Nguyen-Phuong *et al.,* 2022). In this view, the ability of the country to mobilize domestic resources largely depends on tax revenue collected from the country's citizens through different tax administration systems, which in turn determines the strength to execute various government expenditures (Terefe and Teera, 2018). Without effective tax collection systems developing and developed countries will have to use an alternative source of funding for government expenses through borrowing, which in turn increases public debts and increases over-reliance on foreign aid (Piancastelli and Thirlwall, 2021). Conversely, effective tax revenue collection systems enhance domestic resource mobilization, reduce over-reliance on external finance such as loans and foreign aid, accelerate sustainable economic development, empower countries to fulfill their social obligations, improve the living standard and welfare of the public at large

(Piancastelli and Thirlwall, 2021; Terefe and Teera, 2018; Eilu, 2018). Effective tax revenue collection systems can be established by identifying key factors influencing tax productivity performance which is a key theme in this study.

Considering the inadequate financial resources that could have been collected domestically and externally to reduce the financial gap in the country's budget, the governments have the duty of coming up with measures to increase tax revenues for it to be able to fulfill its social-economic obligations (Ali, *et al*., 2014). Measures can be taken to impose tax reforms or improve the economic environment that fosters an increase in tax revenue collection (Ng'eni, 2016). To realize Tanzania's Development Vision 2025, which aims at transforming Tanzania into a middle-income economy country, these demands have compelled the government to continue pursuing the agenda of tax reforms (Kinyondo and Byaro, 2019). In doing so, Tanzania has adopted several reforms in tax collection, which among them include the implementation of Value Added Tax (VAT) in place of sales tax, the establishment of Information and Communication Technology (ICT) tax collection systems as part of the effort to modernize the tax system, and the implementation of the customs processing system, the Tax Revenue and Appeal Act of 2015, the establishment of a common national wide Tax Identification Number (TIN), and the establishment of a large taxpayer's department. The government of Tanzania has undertaken these reforms in tax to design a system that will be viable and productive in financing and sustaining the government's

expenditures without recourse to deficit financing (Ng'eni, 2016). Nevertheless, the amount of tax revenue collected after reforms were inconsistent with the changes in the economic growth of a country as measured by the tax-to-GDP ratio (Terefe and Teera, 2018).

Theoretically, according to Myles (2000), taxation seemed not to have any impact on the growth of a country until recent growth models were based on exogenous changes and steady-state processes (Neog and Gaur, 2020). Endogenous growth models, as pioneered by Barro (1990), King and Rebelo (1990) and Jones *et al.,* (1993) create room for the inclusion of fiscal policies, i.e., tax policies' in determining growth performance. This is because the saving behaviors of individuals and investment in human capital are largely affected by tax structure and levels. From firms' perspectives, innovations and investment decisions change as tax policy changes (Johansson *et al.*, 2008). The accumulation of human and physical capital with changes in incentives and investment decisions is what creates disparities in growth among states. The problem of a lower tax ratio was first explained by Lotz and Morss (1967) by estimating the tax revenue equation among countries, where the tax to GDP ratio, is made as a function of various tax bases depending on structural characteristics of a country such as industries and services in GDP, the share of the agricultural sector, the share of trade in GDP including exports and imports, and per capita income (Piancastelli and Thirlwall, 2021).

Considering the importance of tax revenue in the social-economic development of countries globally several studies have been conducted by different scholars. Castro and Camarillo (2014) used GDP per capita as a proxy for economic factors, and it was found that GDP per capita had a positive and significant effect on tax revenue productivity performance. Also, Zarra-Nezhad and Moradi (2016), who used other indicators of economic factors apart from GDP and GDP per capita concluded that urbanization and the official exchange rate as economic factors boost tax revenue of developing and emerging countries. In the same vein, Anware (2014) concluded that GDP and per capita income were found to have a positive and statistically significant effect on tax revenue performance. Despite different indicators used by Terefe and Teera (2018); Castro and Camarillo (2014); Zarra-Nezhad and Moradi (2016) and Anware (2014) economic factors are essential in affecting tax revenue. On the other hand, Zarra-Nezhad and Moradi (2016) using the Generalized Method of Moment (GMM) method to analyze 83 countries from 1990 to 2012 found that trade liberalization had a significant positive influence on tax revenue, implying that continuous improvement in trade liberalization boosts tax revenue of developing and emerging countries. Findings by Obachew *et al.* (2018) concur with Anware (2014) results, who concluded that the agriculture sector's share of GDP has a significant negative effect on tax revenue while the industry sector's share of GDP and trade openness have a significant positive effect on tax revenue. Anware (2014) using the Ethiopian Revenues and Customs Authority as a case study in determining the factors of tax revenue performance in Ethiopia, revealed that trade volume, i.e., export and import of goods and

services (% GDP), industry sector share to GDP and per capita income had a positive and statistically significant effect on tax revenue performance.

The evidence from all the empirical and theoretical literature reviews tendered including Castro and Camarillo (2014), Chilima (2016), Anware (2014), Zarra-Nezhad and Moradi (2016), Obachew *et al*. (2018) Terefe and Teera (2018), Binh and Lien (2019), Piancastelli and Thirlwall (2021), Minh Ha *et al* (2022), it is shown that most of the studies are concentrated on assessing the determining factors of tax productivity performance in various regional blocks. Surprisingly, the investigations' findings are contradictory and inconsistent due to differences in indicators and the methodology employed. Considering other factors apart from tax reforms that might contribute to an increase in tax productivity performance, this study considered three main factors, namely, economic, institutional, and productive specialization or structural factors as determining factors for the productivity of tax revenue measured by the tax to GDP ratio as used by Chilima (2016), Zarra-Nezhad and Moradi (2016), Obachew *et al.* (2018), Binh and Lien (2019) and Piancastelli and Thirlwall (2021).

The motivation for conducting this study is based on two perspectives. First, despite the reforms being made to increase the tax-to-GDP ratio there are still some challenges in tax administration as collections of tax revenue are still low in developing countries including Tanzania despite a growing economy (Terefe and Teera, 2018). According to Moore *et al.* (2018), the average tax to GDP in Africa over the past few years has been 18%, however,

Tanzania's performance trend in terms of revenue collected is not outstanding because the tax revenue to GDP ratio is still low. During the year 1990, the Tanzanian tax to GDP ratio was 8.9 percent increased to 11.5 percent in 2008/9 but has kept on fluctuating within the range of 10.6 percent to 12.5 percent from 2008/9 to 2020/21, which is below the threshold required of at least 14.3 percent tax-GDP ratio for the East African Community and an average of 19.8 percent for sub-Saharan countries (Semboja and Msafiri, 2022). Secondly, it is noteworthy to consider the determinants of tax revenue to help developing countries establish suitable and effective tax policy measures that will boost tax revenue collections and reduce the financing gap. This qualifies Tanzania as an interesting case to assess the determinants of tax productivity performance by considering economic, structural, and institutional factors. The findings of the study are expected to add to the body of knowledge that will be useful to both policymakers and tax management practitioners in raising tax revenues in a country in relation to changes in its economic growth.

2.0. Data Sources and Model Estimation

2.1. Data sources

The data used in this study range from the year 1996 to 2020. The data on tax revenue was obtained from the Tanzania Revenue Authority (TRA) and that on economic factors, i.e., GDP and GDP per capita and structural factors proxied by the agriculture sector, industrial sector, and trade volume (volume of export and import as a percentage of GDP) were sourced from World Development Indicators (WDI). Institutional factors proxied by control of corruption using a

scale ranging from -2.5 (weak in controlling corruption) to 2.5 (strong in controlling corruption) and regulatory quality expressed on a scale of 0 (low regulatory quality) and 12 (high regulatory quality) were sourced from World Governance Indicators (WGI). On the other hand, the dependent variable, i.e., tax revenue as a percent of GDP was generated by using tax revenue (numerator) and a percent of GDP (denominator). This ratio makes it easy to make an effective assessment of the revenues of the country especially considering that it shows potential taxation in response to the country's economy.

2.2. Model Estimation

In the estimation of parameters regarding the model to assess the factors influencing tax productivity performance. The study included economic factors (GDP, GDP per capita), institutional factors (control of corruption and regulatory quality), and productive specialization (agriculture share on GDP, industrial sector on GDP, trade openness on GDP i.e., import and export as a percent of GDP). We employed time series analysis of the multivariate regression model using the Ordinary Least Square (OLS) method. The equation was linearized by taking the double logarithms of the variables in the model as used by Castro, and Camarillo (2014), Chilima (2016), Anware (2014), Zarra-Nezhad and Moradi (2016) and Obachew *et al*. (2018).

$$TRGDP_{it} = \beta_0 + \beta_1 lnGDP_t + \beta_2 lnGDP_t + \beta_3 lnAgrGDP_t + \beta_4 lnIndGDP_t + \beta_5 lnexpGDP_t + \beta_6 lnimpGDP_t + \beta_7 CORR_t + \beta_8 REQUAL_t + \varepsilon_t \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(1)$$

Where: TRGDP meaning tax revenue performance as a percent of GDP as a proxy of tax productivity performance, ln GDP is the logarithm of gross domestic product, lnAgrGDP is the logarithm of agriculture share on GDP, lnIndGDP is the logarithm of the industrial sector on GDP, lnGDPperCapita is the logarithm of gross domestic product per capital, lnexpGDP is the logarithm of the share of export on GDP, lnimpGDP is the logarithm of the share of import on GDP, institutional variables were presented by control of corruption (CORR) and Regulatory Quality (REQUAL). T is the time variable. B0 is the constant value, ε_t is the error term, and β_1 to β_8, represents the coefficients of the variables.

3.0. Results and Discussion
3.1. Results

Before further analysis, we employed preliminary tests such as normality, heteroskedasticity, serial autocorrelation, multicollinearity (Table 1), and stationarity tests on the data to ensure that the results are reliable. Violation of these assumptions would result into spurious results hence unreliable (Gujarat, 2003; Wooldridge, 2006). All the preliminary tests were examined and revealed the data to be reliable for further analysis except for multicollinearity. Except for the economic factors lnGDP and lnGDPpercapita, the results from the remaining variables used in the study showed that the variables did not have a close relationship to affect one another, hence, we decided to drop one variable lnGDPpercapita, and remained with lnGDP as a proxy of the economic factor influencing the dependent variable to

remove multicollinearity problem as proposed by Gujarat (2003) that the

multicollinearity problem can be resolved by dropping a variable.

Table 1. Multicollinearity Test Results

Variable	Indicators	VIF	1/VIF
Economic factors	lnGDP	144.23	0.0069
	lnGDPperCapita	144.23	0.0069
	Mean VIF	144.23	
Structural factors	lnimpGDP	4.62	0.217
	lnexpGDP	4.44	0.225
	lnAgrGDP	2.65	0.377
	lnIndGDP	2.43	0.411
	Mean VIF	3.53	
Institutional factors	CORR	1.24	0.808
	REQUAL	1.24	0.808
	Mean VIF	1.24	

Source: Author(s) computation (2022).

Table 2. Summary of Multivariate Regression using Ordinary Least Square (OLS) Regression results

Variables	Model 1
	0.1204***
lnGDP	(0.043)
lnAgrGDP	0.4703***
	(0.137)
lnIndGDP	0.2495
	(0.211)
lnimpGDP	0.0761
	(0.065)
lnexpGDP	0.0235
	(0.099)
Control of Corruption	-0.0085
	(0.056)
Regulatory Quality	0.554***
	(0.130)
Constant	-2.9084
	(0.593)
Observations	22
Prob>F	0.0000
R-Squared	0.8671
Adjusted R-Squared	0.8007

Note: *** $\rho < 0.01$, ** $\rho < 0.05$, * $\rho < 0.10$ Robust standard errors in paranthesis ( )

The results from the multivariate regression using Ordinary Least Square (OLS) regression reveal that gross domestic product (lnGDP) is a proxy of the economic factor, the share of agriculture on GDP a proxy of structural factors, and Regulatory Quality a proxy of institutional factors is all positive and

have a significant relationship with the dependent variable, i.e., total tax as a percent of GDP. On the other hand, all the remaining variables such as the share of the industrial sector on GDP, export as a percent of GDP, import as a percent of GDP, and control of corruption were insignificant factors in influencing the dependent variable. The results further revealed that control of corruption has a negative relationship with the dependent variable implying that once corruption decreases will lead to an increase in tax productivity performance due to an increase in tax revenue collection though not statistically significant.

Overall, the model is significant as the P-value (Prob>F = 0.0000) is less than 5%. Furthermore, the R-squared is 86.71 % implying that the included variables in the model can explain the dependent variables by 86.71% ceteris paribus, and the remaining 13.29 % can be explained by other factors not included in the model. The results in Table 2 show the coefficients and standard errors of the variables included in the model.

3.2. Discussion of Findings

On structural factors, our findings revealed that the share of the agriculture sector in GDP had a positive and significant influence on the dependent variable (tax revenue as a percentage of GDP). The remaining variables such as the share of the industrial sector on GDP, import and export as a percent of GDP though had a positive effect on tax productivity performance but were all insignificant factors influencing the dependent variable. The findings of the study demonstrate that in Tanzania, the agricultural sector has more contribution to tax revenue as a

percentage of GDP than the industrial sector and trade (i.e., importation, exportation). The findings show that, an improvement in the agriculture sector may widen the tax base as the sector engages a larger percentage of the country's population, providing employment opportunities to 67 % of the country's population and contributing to 30% of the country's GDP (Mdegela *et al.*, 2021). According to Tefere and Teera (2018), agricultural activities in developing countries including Tanzania are traditionally conducted and are basically for subsistence. Nevertheless, Tanzania has to formalize the sector to enable effective collections of tax revenue and widen the tax base from the sector, such as formalization of agricultural value chains, promoting public-private partnerships for the manufacture and distribution of fertilizer as well as the markets where agro-dealers do business. The wider the tax base and the more effective the tax collection systems the more tax will be collected, which in turn will reduce the financial gap and enable the government to finance its social obligations effectively without depending on external assistance.

On the other hand, the study reveals that the industrial sector in Tanzania has an insignificant relationship with tax revenue as a percentage of GDP. Comparatively to industrialized nations globally, the contribution of the industrial sector to tax revenue as a percentage of GDP in Tanzania is considered to be negligible. This is due to several factors, including the country's low industrial base and its unfavorable environment for industrial development, i.e., its legal and physical infrastructures, technological backwardness, financial

hindrances and administrative constraints (Joseph, 2022) which hinder the development of industries within the country. Therefore, an insignificant relationship between the share of the industrial sector to GDP and tax productivity performance was expected. These findings are in contrast with Piancastelli and Thirlwall (2021) who commented that, the industrial sector is a foundational factor for economic growth because it facilitates the achievement of economies of scale, which will result in a sharp rise in both employment and production. Our findings are in line with the results by Castro and Camarillo (2014) who found an insignificant relationship between trade volume (export and import) and tax to GDP ratio but contrary to the agricultural sector which turned out to have a negative effect while the industrial sector had a positive sign on tax revenue, both sectors were statistically significant at the 10 percent level.

Another factor considered is the institutional environment which is a critical element for attracting investors within and outside the country as it will facilitate long-term growth and development in various sectors of the economy (Yeboua, 2020). The influx of investors in the host country accelerates the widening of the tax base and tax revenue in return, hence, considering the institutional environment as a determinant of tax productivity is essential. In this study, we used two indicators, i.e., control of corruption and regulatory quality to access institutional variables on tax productivity performance in Tanzania. We found that of the two variables, only regulatory quality had a positive and significant

influence on tax productivity performance while control of corruption had a negative and insignificant effect on the dependent variable, implying that once corruption decreases will lead to an increase in tax revenue collection. In line with our findings, Zarra-Nezhad and Moradi (2016) included democracy as an institutional indicator to be a significant factor influencing tax revenue in developing and emerging countries. Once a country is democratic, it will attract investors, increase productivity, and accelerate economic growth as a result of an increase in tax revenue as the tax base is widened. Minh Ha *et al*. (2022) used civil liberties as a proxy for institutional factors found to be insignificant in influencing tax revenue. In the same vein, Castro and Camarillo (2014) had a different conclusion in terms of institutional variables, they employed civil liberties and political rights and found them to hurt tax productivity, the former being statistically significant at a 10 percent level of significance. These results confirm that taxpayers prefer an institutional environment that is friendly, institutions that enhance fair regulation of rules within the working environment. This stimulates voluntary compliance with tax laws and regulations and tax attitudes among taxpayers.

4.0. Conclusion and Recommendations

The main aim of this study was to examine the determinants of tax productivity performance in Tanzania using secondary data from 1996 to 2020. The study used tax revenue as a percent of GDP as a proxy for tax productivity performance as a dependent variable while economic, structural, and

institutional factors were used as independent variables. Our results showed that GDP, a proxy of economic factors, the share of agriculture on GDP a proxy of structural factors, and regulatory quality, and a proxy of institutional factors are all positive and have a significant relationship with the dependent variable, i.e., tax revenue as a percent of GDP. On the other hand, all the remaining variables, i.e., industrial sector, trade volume (export and import share of GDP), and control of corruption were insignificant factors influencing the dependent variable. Due to these findings, it can be concluded that the agricultural sector as an economic sector can provide a broader tax base enabling tax authorities to collect more taxes. This is because that the activity is done by the largest percentage of the country's population. Opportunities within the agricultural sector especially the sale of agricultural products can enable authorities to collect more taxes and increase tax productivity. On the other hand, improving institutional factors (through regulatory quality) will hasten tax revenue productivity performance because taxpayers will voluntarily pay tax, reduce tax evasion and accelerate a better functioning environment for the economy. As a result, tax revenue productivity will be improved. Curbing challenges hindering the development of the industrial sector is also paramount towards improving the sector and widening the tax base, this will guarantee a sustainable contribution of the sector towards tax productivity performance.

References

Ali, M., Fjeldstad, O., and Sjursen, I. (2014). To pay or not to pay? Citizens' attitudes toward taxation in Kenya, Tanzania, Uganda and South Africa. *World Development, 64*, 828-842.

Anware, N. (2014). Determinants of tax revenue performances in Ethiopia. *mini research paper*.

Barro, R. J. (1990). *Government spending in a simple model of endogenous growth.* J Politic Econ Univ Chicago Press.

Binh, T., and Lien, N. P. (2019). The impact of tax rate, compliance burden and corruption control on tax ratio: Evidence from emerging Asian countries from 2004 to 2015. *New Zealand Journal of taxational and policy, 25*(3), 285-307.

Castro, G., and Camarillo, D. B. (2014). Determinants of tax revenue in OECD countries over the period 2001-2011. *Contaduría y Administración*, 35-59.

Chilima, I. Y. (2014). Determinants of tax revenue performance in Malawi: Evidence of Dynamic and Inference by ARDL Modelling. *Yokohama Journal of Social Science*, 53-75.

Eilu, E. (2018). Adoption of electronic fiscal devices (EFDs) for value-added tax (VAT) collection in Kenya and Tanzania: a systematic review. . *The African Journal of Information and Communication, 22*, pp.111-134.

Gujarat, D. N. (2003). *Basic Econometric* (4th International Edition ed. ed.). USA: McGraw-Hill.

Johansson, Å., Heady, C., Arnold, J. M., Brys, B., and Vartia, L. (2008). Taxation and economic growth. *Economic Department Working Paper No. 620*, 1-85.

Jones, L., Manuelli, R., and Rossi, P. (1993). Optimal taxation in

models of endogenous growth. *J Polit Econ , 101*(3), 485–517.

Joseph, E. (2022). Financial Sector Development and Industrialization in Tanzania. *Tanzania Journal of Development Studies, 20*(2), 1–26.

King, R., and Rebelo, S. (1990). Public policy and economic growth: developing neoclassical implications. *Journal of Political Economy, 98*(5), 26-50.

Kinyondo, A., and Byaro, M. (2019). Does Citizen's Trust in Government Increase Willingness to Pay Taxes in Tanzania? A Case Study of Mtwara, Lindi and Dar es Salaam Regions. *African Journal of Economic Review, VII*(I), 176-187.

Lotz, J. R., and Morss, E. (1967). Measuring Tax Effort in Developing Countries. *IMF Staff Papers, 14*(4), 478-497.

Mdegela, R. H. (2021). Antimicrobial use, residues, resistance and governance in the food and agriculture sectors, Tanzania. *Antibiotics, 10*(4), 454.

Minh Ha, N., Tan Minh, P., and Quoc Binh, Q. (2022). The determinants of tax revenue: A study of Southeast Asia. *Cogent Economics and Finance*, 1-18. doi:https://doi.org/10.1080/23322039.2022.2026660.

Moore, M., Prichard, W., and Fjeldstad, O.-H. (2018). *Taxing Africa.* London: Zed Books.

Myles, G. D. (2000). Taxation and economic growth . *Fiscal Studies, 21*(1), 141–168. doi:https://doi.org/10.1016/0264-9993(93)90021-7

Neog, Y., and Gaur, A. (2020). Tax structure and economic growth:

a study of selected Indian states. *Economic Structures, 9*(38), 1-12. doi:https://doi.org/10.1186/s40008-020-00215-3

Ng'eni, F. (2016). Tax Administration in Tanzania: An Assessment of Factors Affecting Tax Morale and Voluntary Tax Compliance towards Effective Tax Administration. *International Journal of Finance and Accounting, 5*(2), 90-97. doi:10.5923/j.ijfa.20160502.03

Ng'eni, F., and Chalam, G. (2016). Role of Internal Control in Fiscal Decentralized Environment in Tanzanian Local Government Authorities (LGAs): An Empirical Analysis. *International Journal in Management and Social Science, 4*(12), pp.181-196.

Nguyen-Phuong, L., Thi Phuong, N. N., and Thi Thu, H. D. (2022). Determinants of Tax Revenue: A Comparison Between Asian-7 Plus China and 8-European Countries. *International Journal of Business and Society, 23*(1), 244-259.

Obachew, N., Debela, K. L., and Shibiru, W. (2018). Determinants of tax revenue in Ethiopia. *Economics, 6*(6), 58.

Olaoye, C. O., Ogunleye, S. A., and Solanke, F. T. (2018). Tax audit and tax productivity in Lagos state, Nigeria. *Asian Journal of Accounting Research, 3*(2), 202-210.

Piancastelli, M., and Thirlwall, A. (2021). The determinants of tax revenue and tax efforts in developed and developing countries: Theory and new evidence 1996-2015. *Nova Economia, 30*(3), 871-892. DOI:

http://dx.doi.org/10.1590/010
3-6351/5788

Semboja, J., and Msafiri, D. (2022). *The Performance of Tax Revenues in Tanzania: An attempt at explanation.* Dar es Salaam: REPOA.

Sonia, S., and Suparmu, H. (2019). Factors Influencing Tax Avoidance. *Advances in Economics, Business and Management Research, 73*, 238-243.

Terefe, K. D., and Teera, J. (2018). Determinants of tax revenue in East African countries: An application of multivariate panel data cointegration analysis. *Journal of Economics and International Finance, 10*(11), 134-155. doi:10.5897/JEIF2018.0924

TRA. (2022). *Tanzania Revenue Authority.* Retrieved November 19, 2022, from https://www.tra.go.tz/index.php/laws

WDI. (2022). *World Bank Development Indicators* . Retrieved November 19, 2022, from http://data.worldbank.org

Wooldridge, J. M. (2006). *Introductory Econometric: A Modern Approach* (International Student edition ed ed.). Canada: Thomson South-Western.

Yeboua, K. (2020). Foreign Direct Investment and Economic Growth in Africa: New Empirical Approach on the Role of Institutional Development. *Journal of African Business*, 1-18.

Zarra-Nezhad, M. A., and Moradi, M. (2016). Determinants of tax revenue: Does liberalization boost or decline it? *Journal of Economic Cooperation and Development, 37*(2), 103.